Item 8 Enclosure



District 1 NTIP Final Report

Improving safety for bicyclists and pedestrians in District 1







This project is funded through the San Francisco County Transportation Authority's Neighborhood Transportation Improvement Program (NTIP). The NTIP was established to fund community-based efforts in San Francisco neighborhoods, especially in underserved neighborhoods and areas with vulnerable populations (e.g. seniors, children, and/or people with disabilities). The NTIP is made possible with Proposition K local transportation sales tax funds.

The SFMTA would like to thank Commissioner Sandra Fewer and former Commissioner Eric Mar for supporting this District 1 NTIP Planning project. The SFMTA would also like to acknowledge our project partners, including San Francisco Public Works and the San Francisco County Transportation Authority. The final report was approved by the Transportation Authority Board on [pending May 23, 2017].

DISTRICT 1 NTIP PLANNING GRANT FINAL REPORT

PROJECT BACKGROUND

This project was recommended by former Commissioner Eric Mar for Proposition K local transportation sales tax funds from the San Francisco County Transportation Authority's NTIP Program. The NTIP is intended to strengthen project pipelines and advance the delivery of community-supported neighborhood-scale projects, especially in Communities of Concern and other underserved neighborhoods and areas with at-risk populations (e.g. seniors, children, and/or people with disabilities).

In March 2015, the Livable Streets Subdivision of the SFMTA received a grant of \$100K in District 1 NTIP Planning funds. The purpose of this funding was to engage the community, the Supervisor's Office and other relevant stakeholders to plan and develop conceptual designs to improve bicycle and pedestrian safety on north-south routes into Golden Gate Park in the Richmond District. This planning grant built on a past effort that began in 2014 with a series of community bike rides and walkthroughs with then-supervisor Eric Mar, the San Francisco Bicycle Coalition, and SFMTA Bicycle Spot Improvement Staff which focused on improving access to Golden Gate Park for people riding bikes.

ARGUELLO BOULEVARD PRIORITIZATION

The original funding breakdown of the grant was to devote a majority of funding (\$67K) to the Bike Strategy Corridors of 8th Avenue, 23rd Avenue, and 15th Avenue, and to devote the remaining \$33K of funding to planning for improvements on Arguello Boulevard. After the SFMTA received the planning grant and began data collection, the 2017-2021 SFMTA Capital Improvement Program (CIP) planning process allocated funding to future Bike Strategy Corridor Projects on 8th Avenue and 23rd Avenue. Also, following initial stakeholder interviews with Supervisor Mar's office and community residents, the SFMTA made the decision that a full corridor planning process was necessary to upgrade Arguello Boulevard from Fulton Street to West Pacific Avenue with bicycle and pedestrian safety upgrades. The original funding breakdown for Arguello was insufficient to allow for this level of planning and design, so the SFMTA dedicated a majority of this NTIP grant solely to Arguello Boulevard planning. The end result of this NTIP Planning grant was a community planning process regarding corridor-level improvements on Arguello Boulevard, a robust design process that considered multiple alternative designs, and the creation of a full set of conceptual designs. The SFMTA completed these conceptual designs in time to coordinate with a planned SF Public Works paving project set to repave Arguello Boulevard. Separate from this NTIP planning process is an ongoing effort by the SFMTA to install new signal hardware on Arguello Boulevard, including installing pedestrian countdown signals, new larger signal heads, and updated hardware.

Arguello Boulevard is a vital bicycle connection between The Presidio and the Golden Gate Bridge to the north, and Golden Gate Park to the south. Roosevelt Middle School lies at the corner of Arguello and Geary Boulevard, and Rossi Playground at the corner of Arguello and Anza Street is a major neighborhood attractor with a bustling pool, sport field, and playground complex. On a given weekday morning, Arguello is used by people biking south to Golden Gate Park and the popular Wiggle bike route, or by parents riding their children to school. The Arguello bikeway is a rare case in the city in that it experiences the highest ridership on weekends at midday with recreational riders biking to Golden Gate Park or the Presidio and the bridge. The San Francisco Department of Public Health has also

designated Arguello Boulevard as a High Injury Corridor for cyclists, with 41 traffic collisions involving a bicyclist from 2009 to 2015.

The SFTMA spent the remainder of planning funding (approximately \$15K) on data collection, predevelopment, and site visits for the upcoming 8th Avenue and 23rd Avenue Bike Strategy projects. These predevelopment activities aided the SFMTA in developing planning scopes for those upcoming projects. As of April 2017, the SFTMA is well underway with the 8th Avenue planning project, and is in the process of securing funding for the 23rd Avenue planning project, as part of the Central Richmond Neighborway project. The 8th Avenue project team has held several public events and is entering the detailed design phase, with a final public outreach event scheduled for summer 2017. The Central Richmond Neighborway project will begin outreach in Summer 2017.

DATA COLLECTION AND SITE VISITS April-June 2015

SFMTA Livable Streets project staff held a series of bike rides and walking site visits of the Arguello Boulevard, 8th Avenue, and 23rd Avenue corridors in April and May of 2015, observing the corridors at different times of day from a variety of different perspectives and taking special care to note the different priorities of drivers and transit riders in addition to people walking or biking. The project team also ordered traffic counts along the corridor and on adjacent or parallel streets to capture vehicle volumes, vehicle speeds, and bike/pedestrian volumes, and made a survey of existing SFMTA records regarding the history of improvements to the corridor.



SFMTA Livable Streets staff on the scene on Arguello Boulevard and 8th Avenue, May 2015.

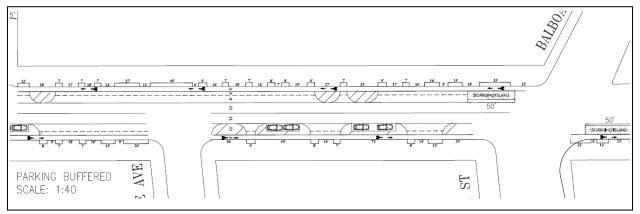
INITIAL CONCEPTUAL DESIGN June – November 2015

Following this initial data collection and some initial internal visioning for each project, the project team held a briefing with District 1 Supervisor Eric Mar in July 2015 to get his perspective on each corridor and to set a course for the outreach process. At this point, the project team decided to move forward with a full-corridor planning process for Arguello Boulevard under the direction of Supervisor Mar.

Livable Streets staff began the process of designing several alternatives for Arguello Boulevard at a conceptual level to conduct feasibility analyses on each alternative. At this stage, the project team performed internal review of project alternatives with other SFMTA departments including Muni

Operations, Muni Service Planning, Accessible Services, and Traffic Operations. This initial design and internal vetting is a vital step at this stage of the project to ensure that any options that are showcased to the community are technically feasible and fit within the goals of the organization.

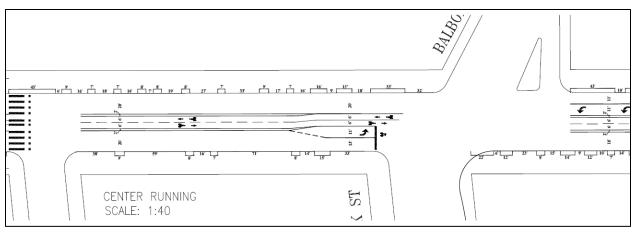
The design team initially considered two cycletrack, or separated bikeway design proposals as part of this initial design review process, but these designs were ultimately deemed infeasible. Project engineers created concept designs for these cycletrack options with the aim of creating a fully separated bikeway for the full corridor length. The first cycletrack option was a parking-protected bike lane with bike lanes running adjacent to the curb edge with a row of parked vehicles between the bike lane and the vehicular traffic lane.



Parking-protected bike lane concept for Arguello Boulevard.

Ultimately, this parking-protected bike lane design was deemed infeasible due to the plethora of private driveways on the east and west sides of Arguello Boulevard. Each driveway would require the removal of 10-15 feet of adjacent parking to provide visibility for bikes in the bike lane, meaning that this proposal would remove upwards of 75% of parking on the corridor and some blocks would be totally without parking. This level of parking loss was unacceptable due to parking and loading concerns and also because, without parking, the parking-protected bike lane concept does not accomplish the goal of protecting cyclists from moving vehicle traffic.

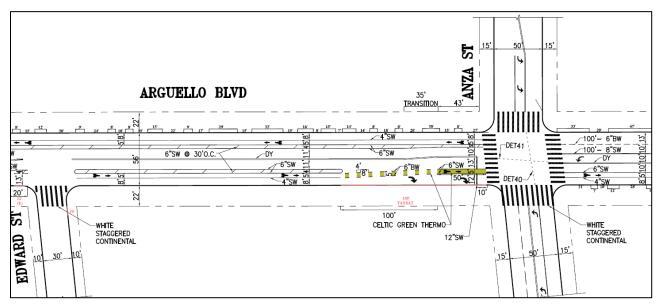
The second cycletrack concept studied at this phase was that of a center-running two-way cycletrack, a new concept for the City. This cycletrack would be built in the center of the roadway and would require new bicycle signals at all traffic lights in order to separate the vehicle left- and right-turn phases from bicycle through-movements. Arguello also sits at the junction of the Richmond and Laurel Heights/NOPA street grids which creates several complex offset or T intersections that would require specialized signal timing and infrastructure. Furthermore, recreational cyclists are major users of the Arguello Boulevard as a direct connection to the Presidio and the Golden Gate Bridge. SFMTA engineers came to the consensus that recreational cyclists would be incentivized to ride in vehicle travel lanes rather than incur the delay of riding in the narrower cycletrack and waiting at bike signals. The project team ultimately deemed this center-running cycletrack plan infeasible due to excessive cost-to-benefit ratio.



Center-running cycletrack concept for Arguello Boulevard

The project team concluded that the most cost-effective way to increase safety for cyclists on Arguello would be to provide a painted buffer zone adjacent to the existing bike lane. This could be accomplished by narrowing the existing 15-foot wide vehicle travel lanes. The city standard lane width for travel lanes with Muni routes is 11 feet. Arguello Boulevard was reduced from 4 lanes to 2 lanes with turn pockets at intersections in 2003 – these over-wide lane width were a relic of that past project.

The design team then looked at what could be done at intersections to increase separation between vehicle and bicycles. The 2003 road diet of Arguello also installed left-turn pockets at the approach to all intersections with the aim of improving vehicle flows through intersections. However, this was done as a uniform treatment that did not necessarily match up with current traffic counts on the corridor. The team reviewed traffic data to see where these left-turn pockets could potentially be removed to allow for bike lane buffers to extend through to intersections. Ultimately, this treatment only proved feasible on northbound Arguello Boulevard approaching Anza Street where left-turn volumes were approximately 1/10th of right-turn volumes. In this location, the project team found it was feasible to replace the left-turn pocket with a bike lane, an improved bike merge zone, and a right-turn pocket.



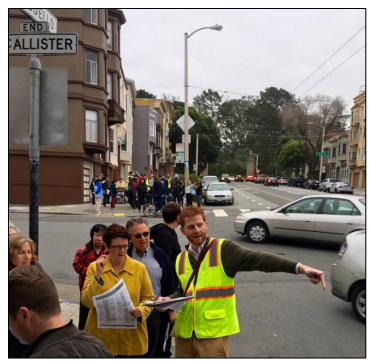
Detail of new turn lane and bike lane configuration on Arguello approaching Anza Street

COMMUNITY WALKTHROUGH #1 January 2016

Following this conceptual design process, the project team had the overall framework of a plan to reduce travel lane widths on Arguello in order to install a painted buffer zone adjacent to the bike lane, reconfigure selected turn lane configurations, and add other painted safety elements like high-visibility green paint, intersection crossing markings, and bus stop improvements. Additionally, the goal was to introduce a toolkit of pedestrian safety measures that could be installed along to corridor to respond to community concerns at specific locations. Armed with this concept plan and toolkit of safety improvements, the project team notified the community of a Public Community Walkthrough of the Arguello corridor to discuss the proposed plan in the field. A Community Walkthrough event was chosen over a typical Open House event in order to illustrate how the proposed improvements would actually look and feel on the street, and to be able to act out typical pedestrian and bicycle maneuvers in real-time. The SFMTA notified the neighborhood via a postcard sent to all residential and business addresses within one block of the Arguello corridor, along with email postings from the Supervisor's office and an update on the project website.



Postcard mailer for community walkthrough, January 2016.



SFMTA Staff explaining the project concept to the public at the corner of Arguello Boulevard and McAllister Street, January 2016

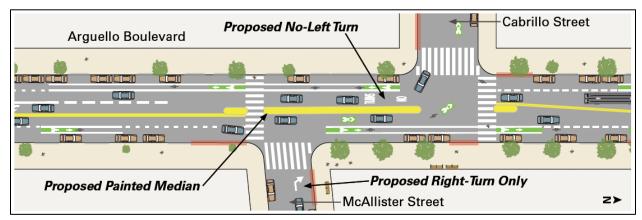
FINAL CONCEPTUAL DESIGN February – May 2016

The SFMTA project team utilized the input from the community walkthrough to conduct final conceptual design for Arguello Boulevard corridor improvements. The team applied the toolkit of traffic calming and bike/pedestrian safety measures to the locations highlighted in the walkthrough and performed internal review of these designs with SFMTA departments and design review committees. During this conceptual design, a new proposal surfaced for the intersection of McAllister Street and Arguello Boulevard – the installation of a median island to prohibit vehicles from turning left from southbound Arguello onto eastbound McAllister. This turn-prohibition and median would alleviate a vehicle-bicyclist conflict that was the direct cause of several severe bicycle/vehicle collisions. This proposal was not discussed at the first walkthrough, so the project team scheduled a follow-up walkthrough to specifically cover this new proposal, along with some other areas of community concern including the intersection of Arguello Boulevard and Cabrillo Street.

COMMUNITY WALKTHROUGH #2 May 2016

The SFMTA mailed out notification postcards for a second Public Community Walkthrough in May 2016, targeting the southern portion of Arguello Boulevard from Golden Gate Avenue to Fulton Street. This segment of roadway received the most comments regarding bicycle and pedestrian safety during the previous outreach efforts, and contained the intersection of McAllister/Arguello where the SFMTA was proposing a new median island and left-turn restriction. At this walkthrough, SFMTA notified

community members of the project proposal, took feedback on the new median island, and gathered input for proposed signal changes at Fulton Street and Cabrillo Street.



Graphic from the materials distributed at Walkthrough #2 showing proposed changes at McAllister Street

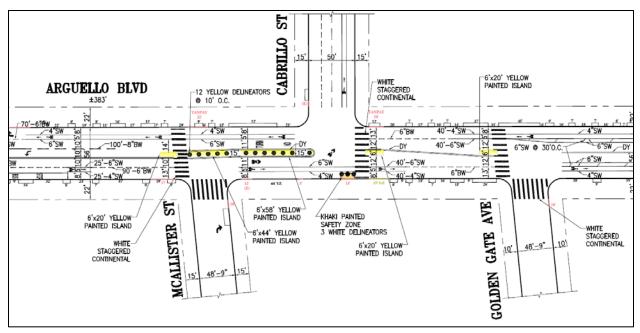
FINAL DESIGN AND LEGISLATION

May – August 2016

With support from the community, internal SFMTA departments, and the Supervisor's Office, the SFMTA moved forward with final design and legislation of near-term (paint-only) and long-term (concrete or signal infrastructure) improvements. The near term improvements consisted of:

- Painted buffer zone adjacent to bike lanes for full length of Arguello Boulevard from Fulton Street to West Pacific Avenue
- Repainting and reconfiguring of the Fulton/Arguello intersection to give cars on eastbound Fulton Street more room to wait while turning left onto Arguello Boulevard
- Lengthening the bus zone on northbound Arguello Boulevard north of Fulton Street to allow buses to pull completely over to the curb and deploy accessible ramp on sidewalk
- Painted median island on Arguello Boulevard from McAllister Street to Cabrillo Street and installation of No Left Turn signs and painted markings
- New green sharrows at the intersection of Arguello and Cabrillo Street, and new green sharrows on the "Presid-Wiggle" on Sacramento, Cherry, and Jackson Streets at the northern end of the corridor.
- New turn pocket configuration, bike lane, and merge zone on northbound Arguello at Anza Street
- Intersection crossing markings for bikes crossing Geary Boulevard
- Improved striping at the intersection of Arguello/Lake/Sacramento
- Various other painted upgrades to bike lanes, vehicle travel lanes, and bus zones on Arguello from Fulton to W. Pacific.

The SFTMA made the decision to move forward with near-term improvements ahead of the planned SF Public Works paving project in order to install vital safety improvements as quickly as possible on the corridor. The near-term striping plan is attached to this report at Appendix A. The SFMTA Board approved the near-term painted improvements at their meeting on August 16, 2016.

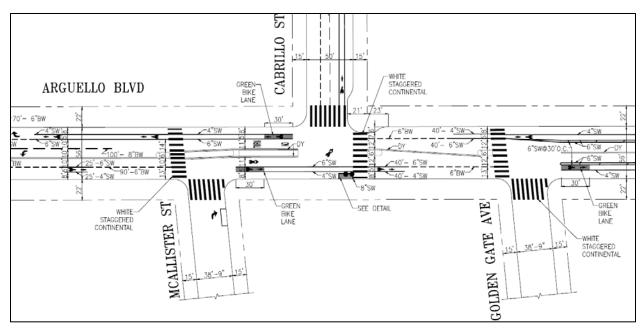


Detail of painted Median Island and other near-term improvements on Arguello Boulevard between Cabrillo Street and Golden Gate Avenue

Long-term improvements like new traffic signals or concrete corner bulb-outs would then be constructed with paving to achieve cost savings by joining the two infrastructure projects. Long-term improvements on Arguello Boulevard consist of:

- Upgrading painted pedestrian refuge islands at Arguello/McAllister, Arguello/Cabrillo, and Arguello/Golden Gate to full concrete pedestrian islands
- Installing a concrete median island on Arguello between McAllister Street and Cabrillo Street
- Installing a concrete bulb-out at the NW corner of Arguello/Cabrillo
- Installing a Rapid Rectangular Flashing Beacon at the north crosswalk at Arguello/Cabrillo
- Enlarging the floating pedestrian island at the NW corner of Arguello/Balboa

Arguello Boulevard long-term plans are attached to this document as Apprendix B. The SFMTA continued coordination work with Public Works regarding the long-term improvements and the SFMTA Board approved the long-term project on January 3, 2017.



Detail of concrete Median Island and other long-term improvements on Arguello Boulevard between Cabrillo Street and Golden Gate Avenue

NEAR-TERM PROJECT IMPLEMENTATION September – October 2016

The Transportation Authority allocated \$199,451 for implementation of near-term improvements on Arguello Boulevard in May, 2016. This funding included \$188,931 for the near-term painted improvements and \$10,520 for design of long-term improvements.

The SFMTA quickly coordinated with our Paint, Sign, and Parking Meter shops to implement the nearterm improvements in September 2016, beginning work less than one month following SFMTA Board Approval of the project. SFMTA Livable Streets engineering staff supported the shop's efforts in the field and coordinated the work over the course of several weeks on this complex 1.1 mile corridor project. Paint crews laid down the final touches in the first week of October, 2016.



Painted median island at the intersection of Arguello/McAllister



Green bike lane/mixing zone at the intersection of Arguello and Anza

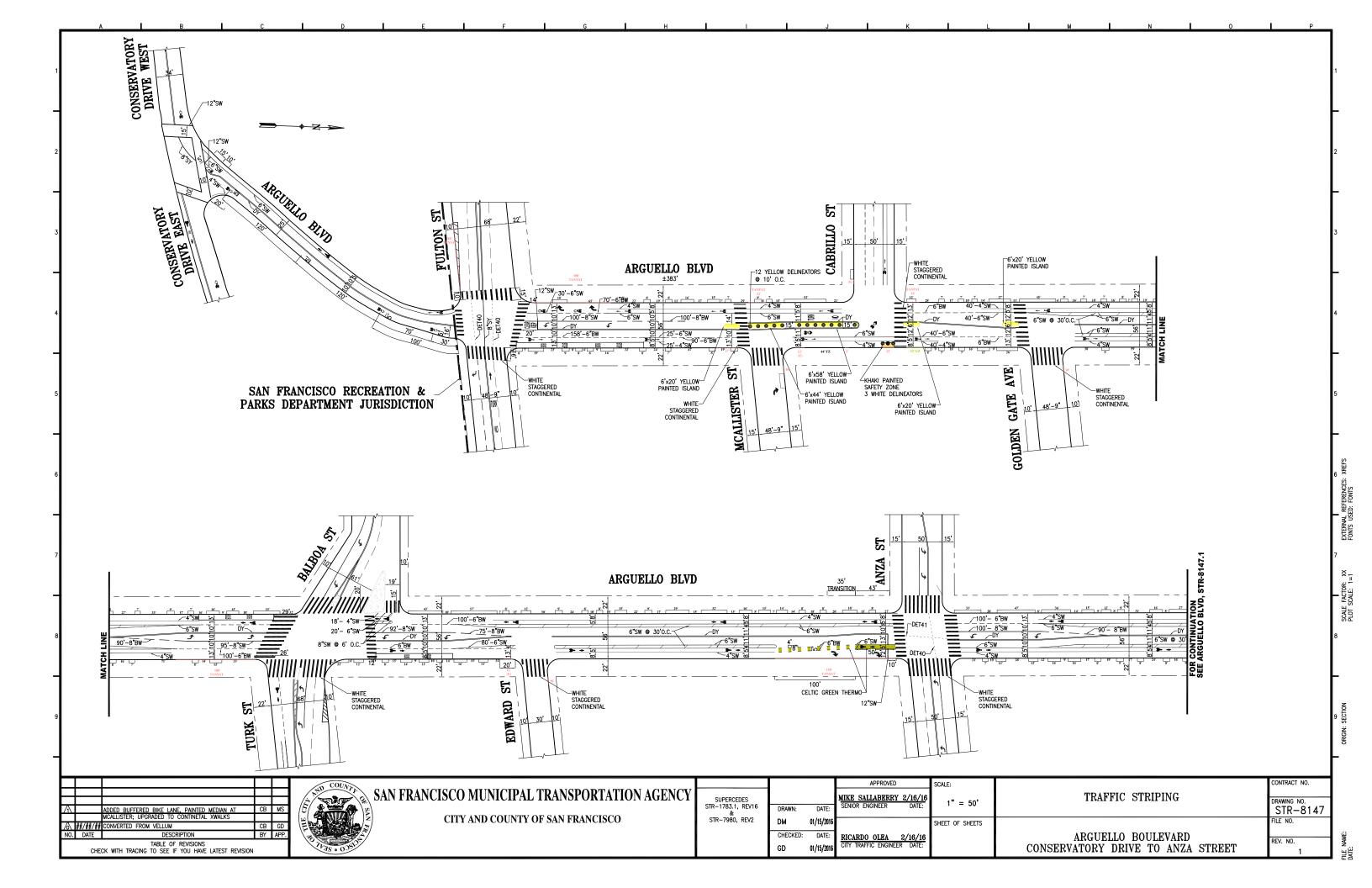


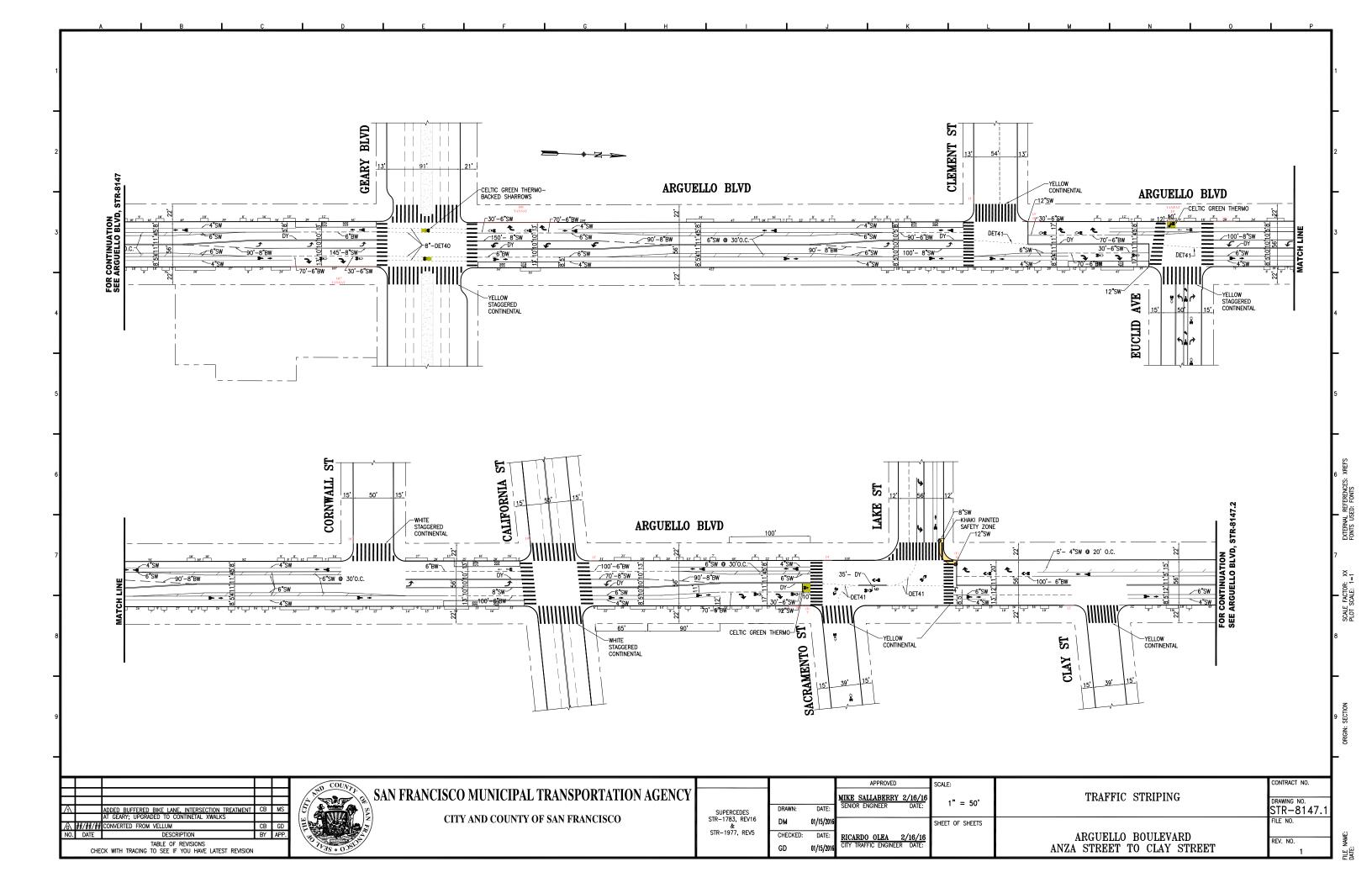
New buffered bike lane and green mixing zone treatment

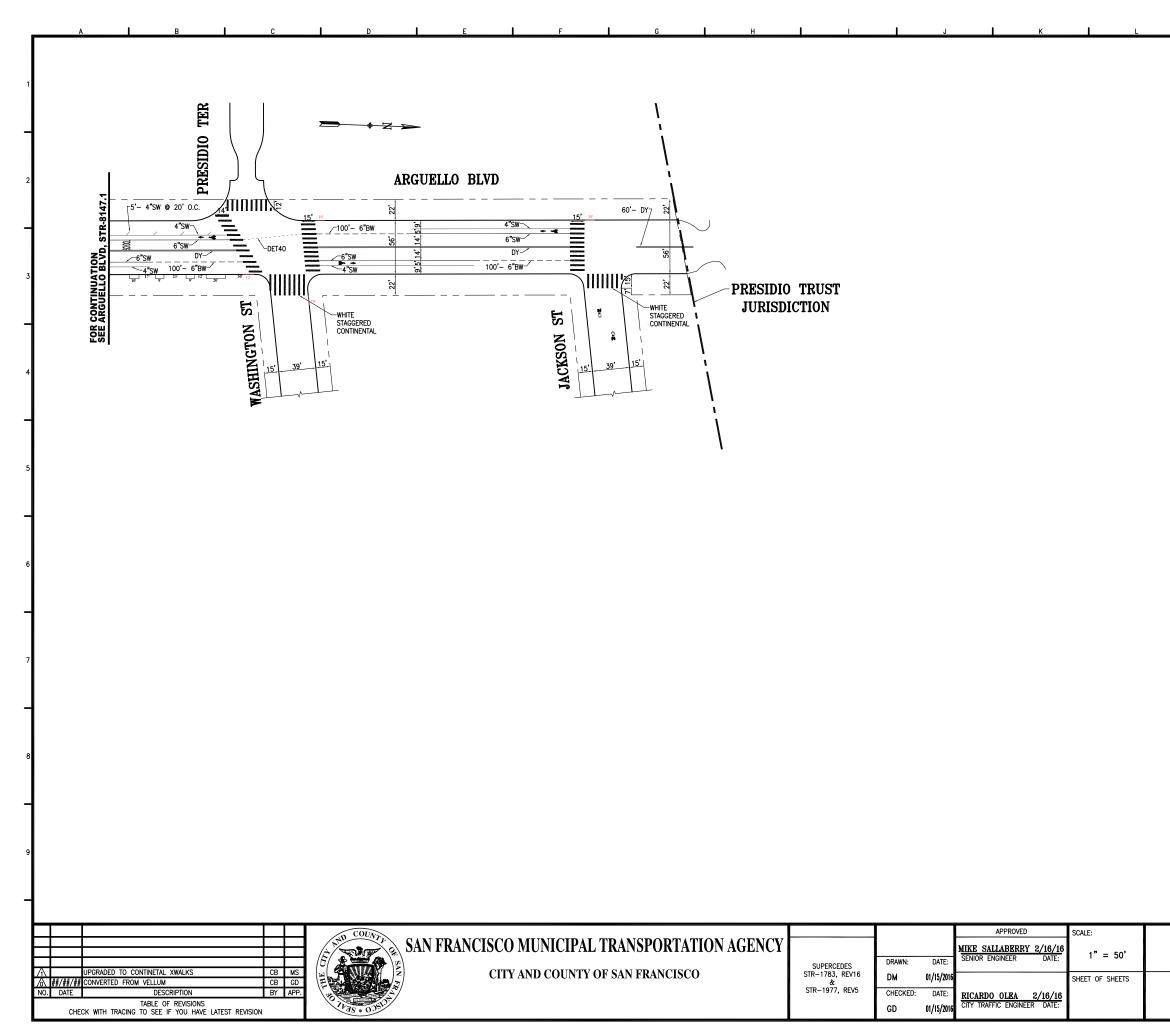
LONG-TERM PROJECT IMPLEMENTATION TBD 2017

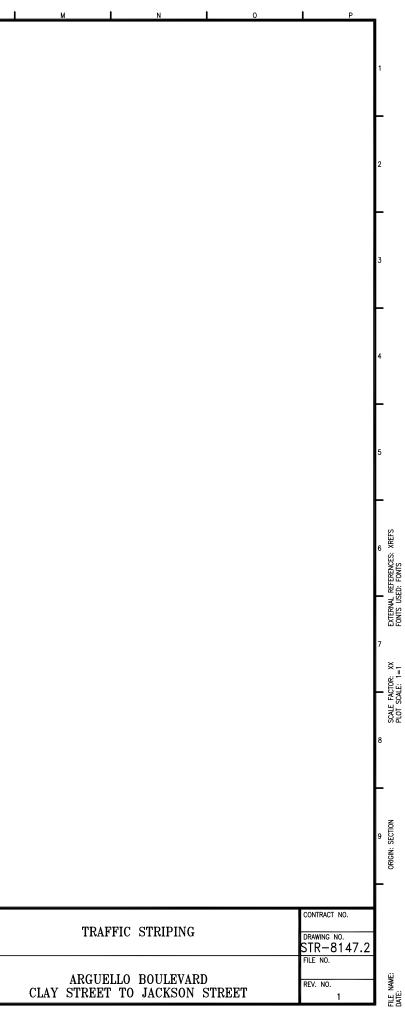
The goal of the long-term project was to pair up with the Public Works paving project to implement infrastructure changes along with paving. In March 2017, SFMTA secured \$308,000 in funding for this long-term construction work. The SFMTA Signals Group also received funding to upgrade traffic signals along Arguello with the planning paving project. This SF Public Works paving project was originally set to begin construction in summer 2017. In early 2017, SF Public Works notified the SFMTA that, due to recent funding developments, the schedule for the Arguello paving project was being pushed back and the project was on hold until Public Works could formulate a budget for fiscal year 2017-2018. Discussions regarding the schedule are ongoing and the SFMTA will continue to work with Public Works to coordinate this infrastructure project.

APPENDIX A – ARGUELLO BOULEVARD NEAR-TERM IMPROVEMENT PLAN

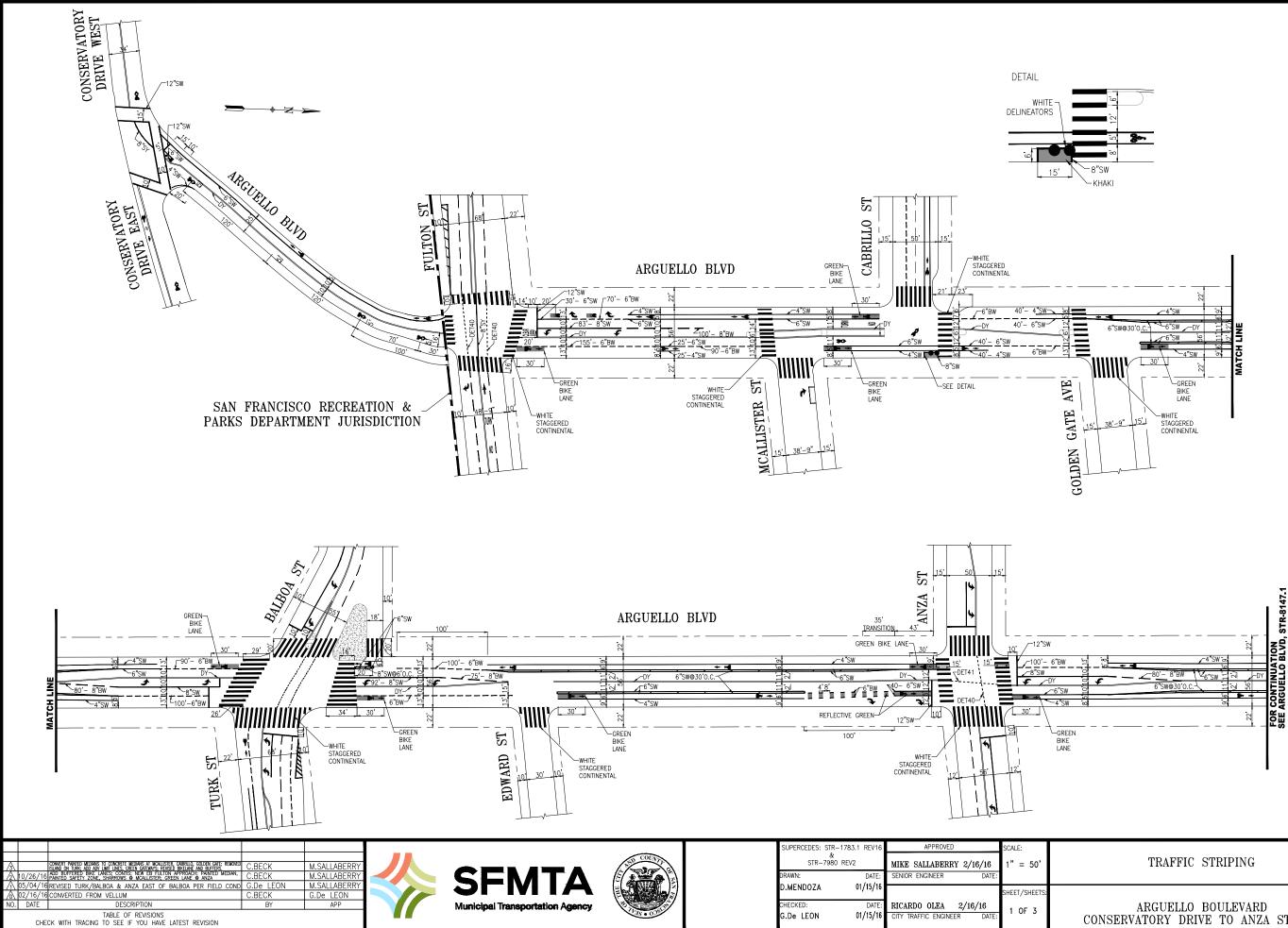


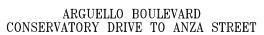






APPENDIX B – ARGUELLO BOULEVARD LONG-TERM IMPROVEMENT PLAN





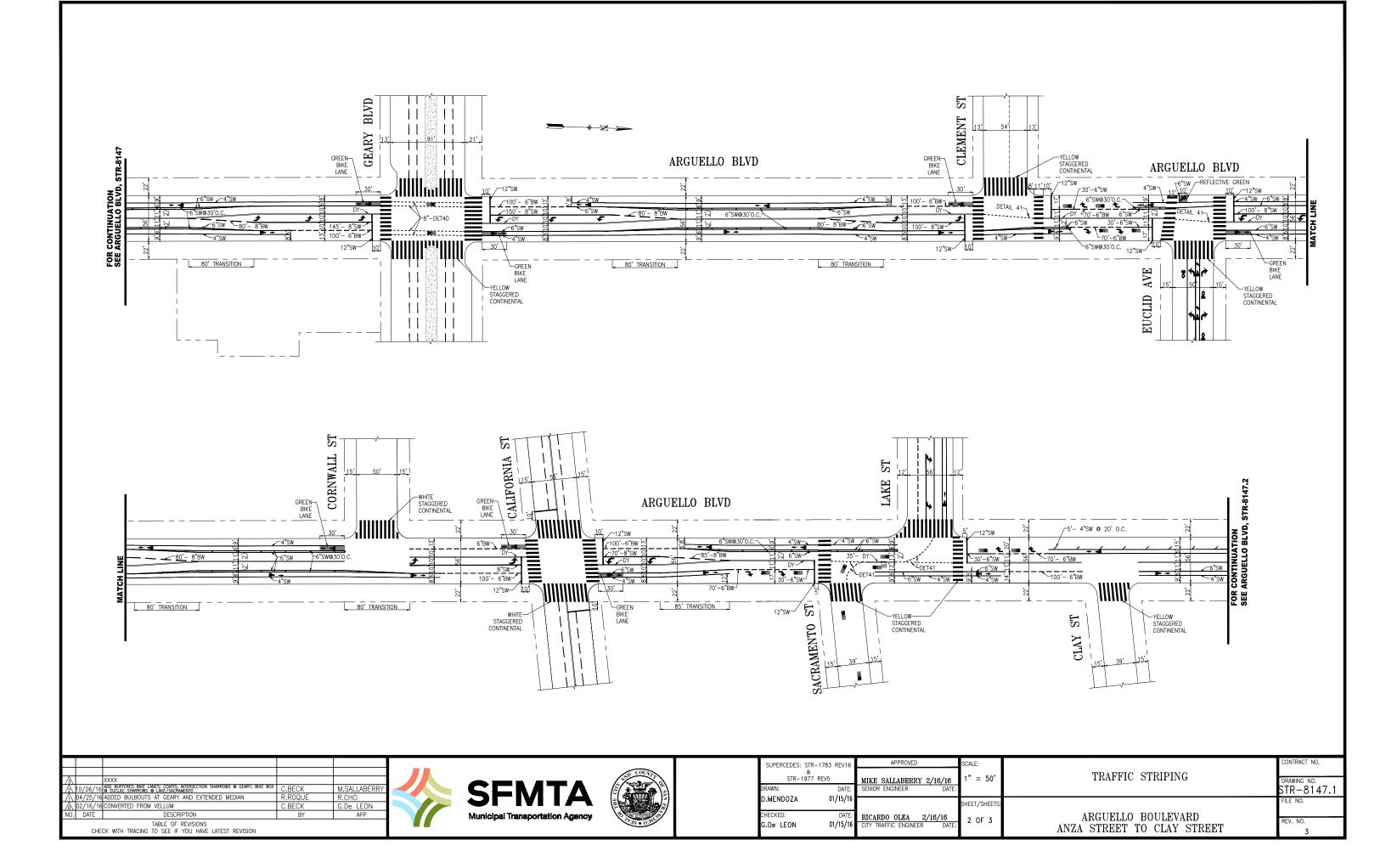
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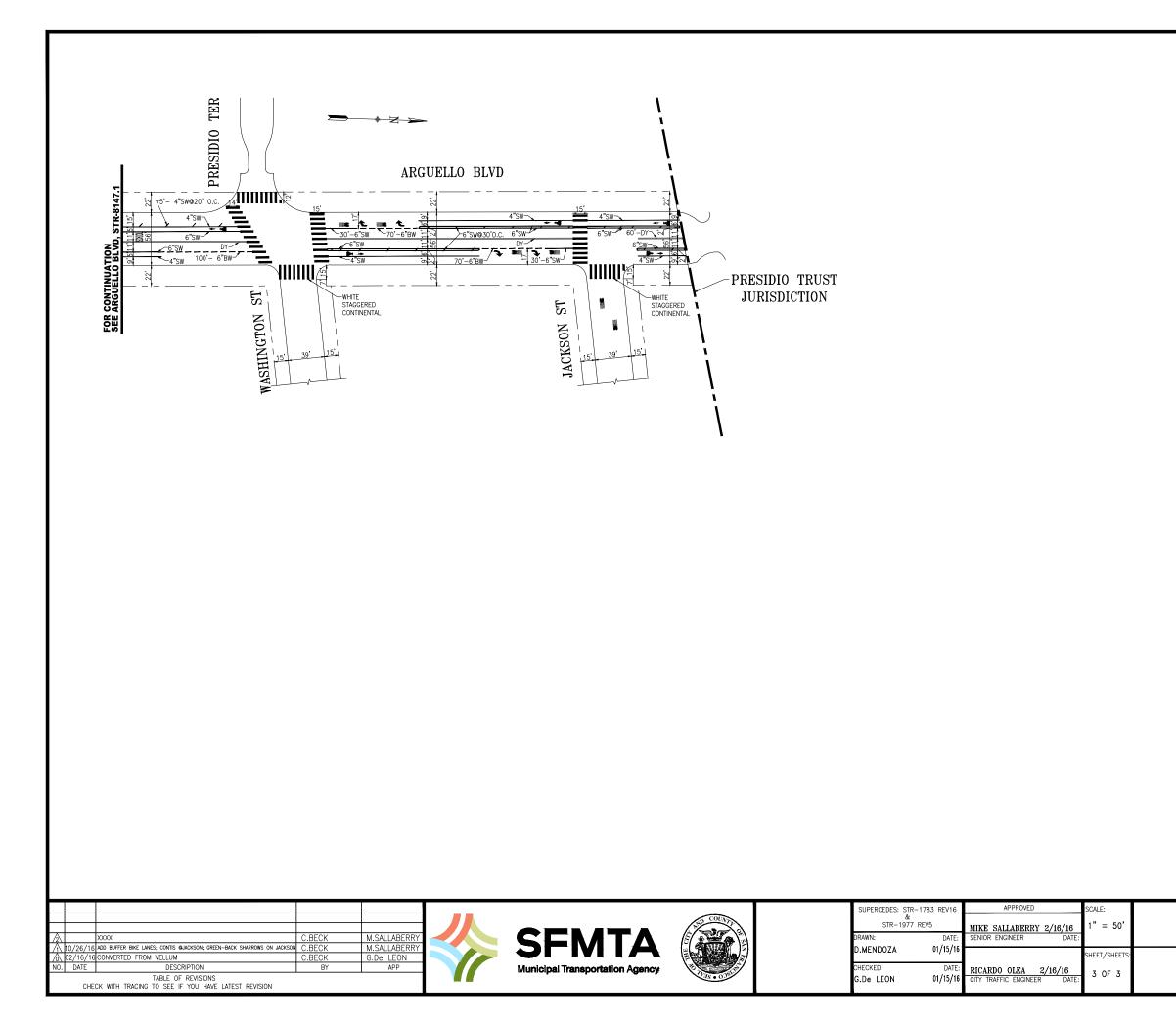
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APPENDIX C – ARGUELLO BOULEVARD OUTREACH MATERIALS



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Arguello Boulevard

Bicycle and Pedestian Safety Improvement Project



Safety upgrades are coming to Arguello Boulevard!

The SFMTA has been working with District Supervisor Eric Mar to address community input on safety for people walking and biking on Arguello Boulevard. This flyer is being sent to neighbors to notify you of this project and to direct you to our website where you can learn more and sign up to receive further updates. The SFTMA expects to implement roadway striping changes in late 2016. *Project website:* www.sfmta.com/arguello

Project Goals

Arguello Boulevard is an active and important connection in the Inner Richmond District. The Arguello corridor carries thousands of San Francisco residents every day, whether they are walking to Rossi Playground, dropping students off at Roosevelt Middle School, riding the 33 MUNI bus line, or biking to the Golden Gate Bridge.

This project will address community concerns surrounding safety for people biking and walking along Arguello Boulevard. Supervisor Mar provided funding for the SFMTA to explore safety improvements at specific locations that were identified by the Inner Richmond community.

This project will not reduce the vehicle capacity of the roadway and will remove only a minimal number of parking spaces to increase pedestrian visibility at intersections. The project will remove underutilized left turn pockets in favor of right-turn lanes and extended bike lanes to improve safety (left turns would still be allowed at most locations).

Proposed Project Elements

- **Daylighting at Intersections**: "Daylighting" increases the visibility of pedestrians by removing one parking space at the approach to crosswalks.
- New Continental Crosswalks: Brightly painted continental crosswalks increase pedestrian visibility and improve yielding.
- **Buffered Bike Lane:** The project will include a painted "buffer zone" alongside the existing bike lanes on Arguello Boulevard to further separate motor vehicles and bicycles.
- **Green Paint Treatments**: Strategic use of green paint will accentuate the bike lane, increase visibility of the bicycle facility, and keep cars from driving in/double parking in the bike lane.
- **Right Turn Lanes:** Right turn lanes for vehicles reduce the chance for collisions between right-turning vehicles and bicycles.

SFMTA Livable Streets Subdivision 1 South Van Ness Avenue, 7th Floor San Francisco, CA 94103



This project is made possible by the San Francisco County Transportation Authority through a grant of Proposition K Local Transportation Sales Tax Funds.

More Information Please visit our website: www.sfmta.com/arguello

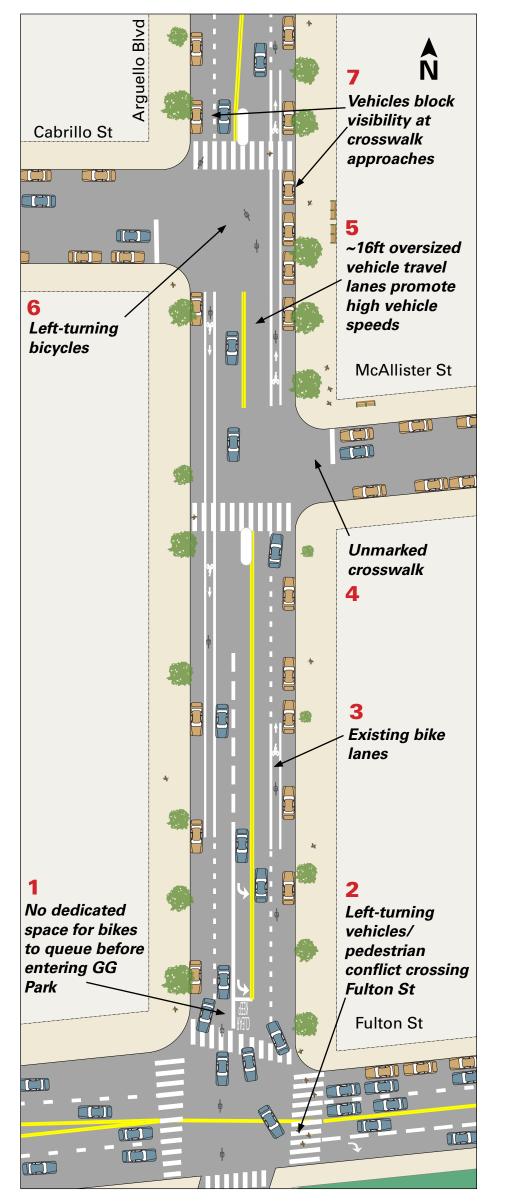




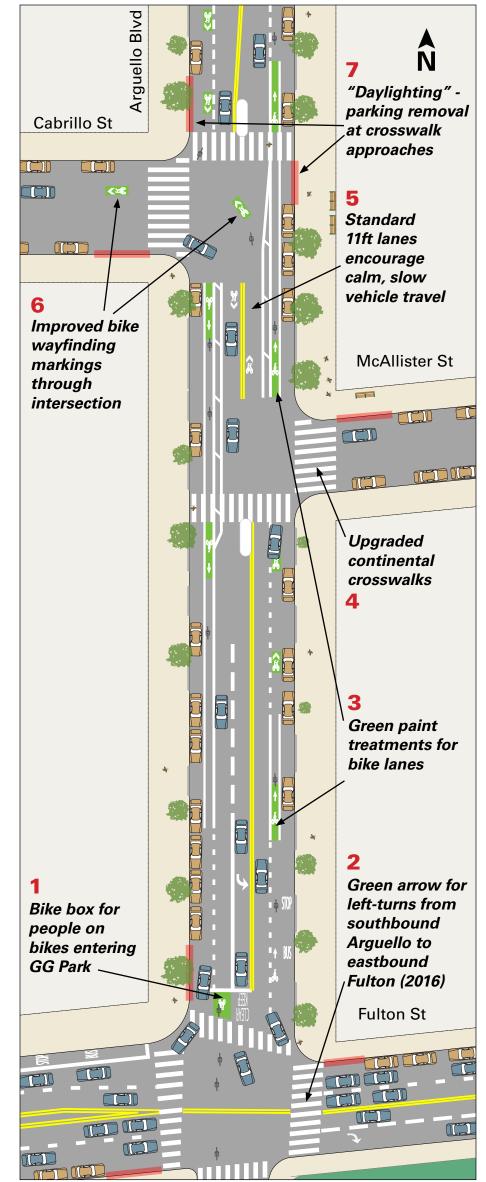
Arguello Boulevard

Bicycle and Pedestian Safety Improvement Project

EXISTING ROADWAY



PROPOSED ROADWAY DESIGN



Conceptual design, subject to change , not to scale

PROJECT TIMELINE

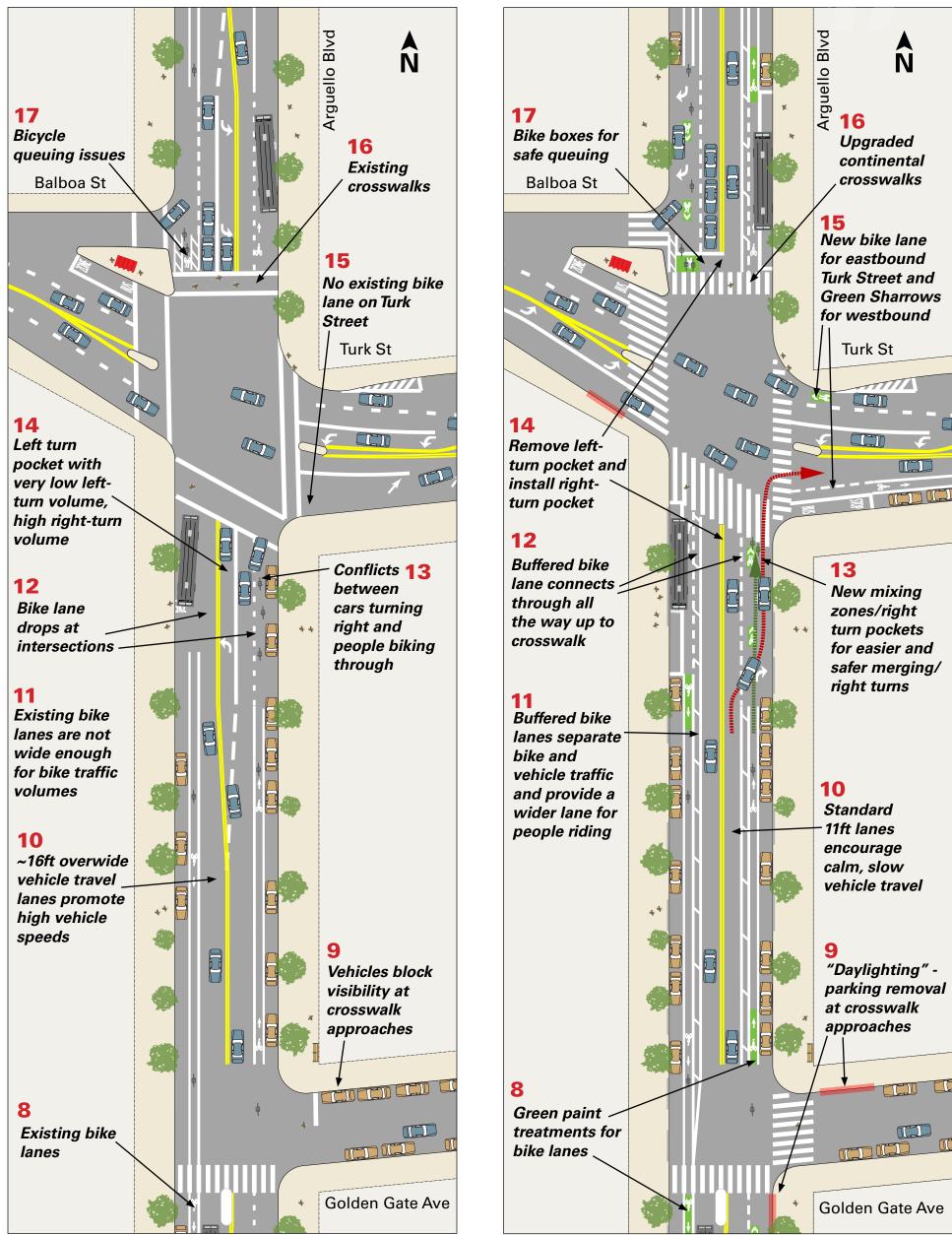
Arguello Blvd is tentatively slated to be repaved by SF Public Works in 2017. The SFMTA will work to implement the above paint and striping changes as quickly as possible with most changes to roadway striping expected by the end of 2016. Concurrent with the 2017 SFPW paving project, the SFMTA will install Pedestrian Countdown Signals at all signalized intersections on Arguello Boulevard and will investigate other signal upgrades. Other elements, including concrete bulbouts, islands, or other permanent upgrades will be considered as part of this 2017 paving project. Please email all suggestions or comments regarding traffic signals or concrete/sidewalk upgrades to charles.ream@sfmta. com.



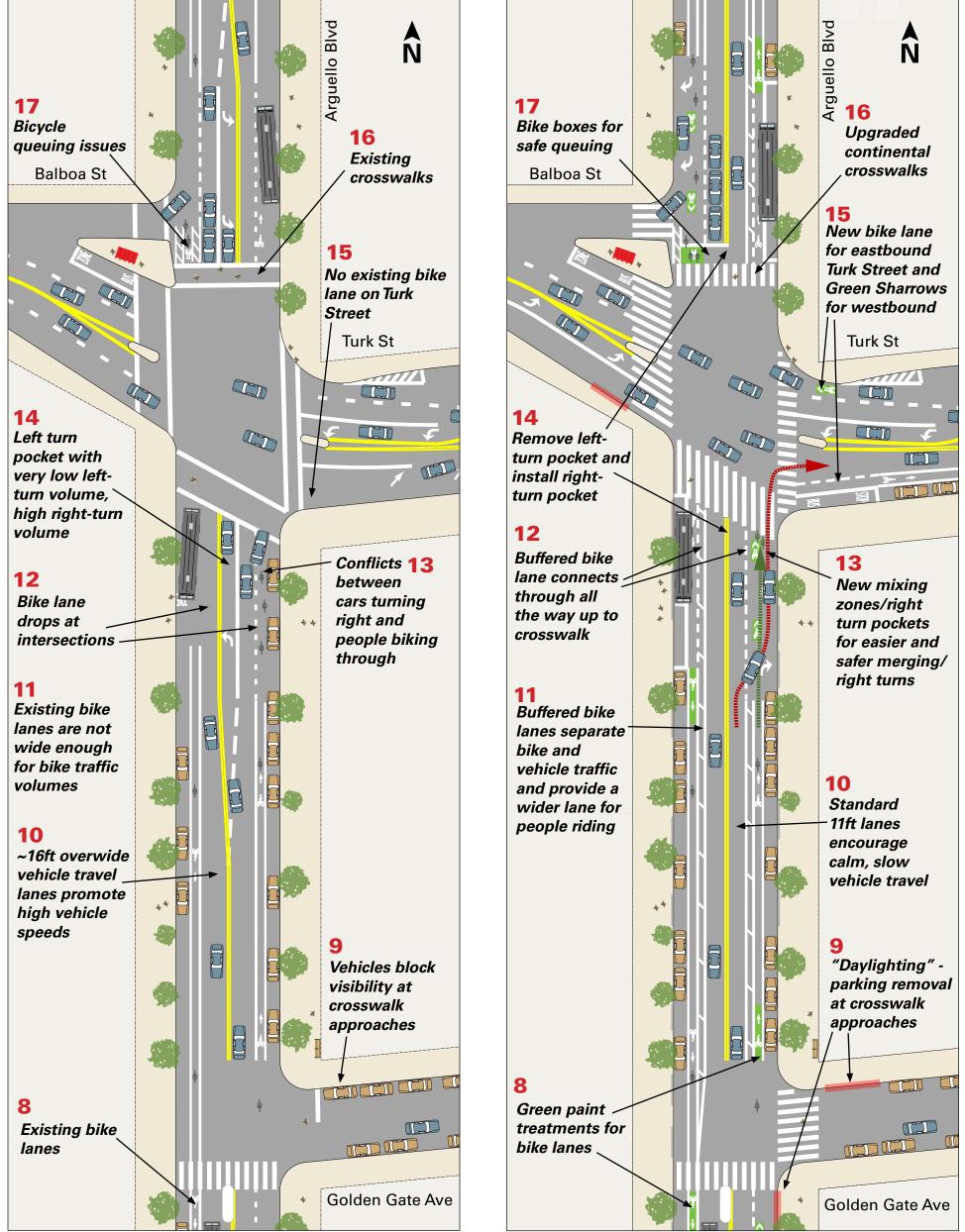
Arguello Boulevard

Bicycle and Pedestian Safety Improvement Project

EXISTING ROADWAY



PROPOSED ROADWAY DESIGN



Conceptual design, subject to change , not to scale

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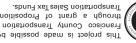
More Information Please visit our website: www.sfmta.com/arguello



San Francisco, CA 94103 1 South Van Ness Avenue, 7th Floor noisivibduS steets Subdivision

Please visit our website: www.stmta.com/arguello More Information

This project is made possible by the San Francisco County Transportation Kuthority through a grant of Propertion K Local



CIRCULATION CHANGES PROPOSED FOR MCALLISTER STREET Come join the SFMTA at a Community Walkthrough: Date/Time: Wednesday May 25, 2016, 6PM Location: Outside the Velo Rouge Cafe, 798 Arguello Blvd.





Arguello Boulevard

Bicycle and Pedestian Safety Improvement Project



Bicycle and Pedestian Safety Improvement Project

Circulation Changes Proposed at McAllister Street and Arguello Boulevard

The SFMTA is proposing a suite of safety upgrades for people walking and biking on Arguello Boulevard. For more information about the larger project or to sign up for the project email list, please visit www.sfmta.com/arguello. This notice is being mailed to notify you of proposed changes to the intersection of McAllister Street and Arguello Boulevard. These changes affect vehicle circulation on McAllister Street. The SFMTA invites you to attend a Community Walkthrough to discuss these changes on May 25, 2016 at 6PM outside the Velo Rouge Cafe at 798 Arguello Boulevard.



Background

The intersection of Arguello Boulevard and McAllister Street is a high-conflict location between people driving, biking, and walking with a history of collisions involving vehicles turning left onto McAllister Street. McAllister Street residents submitted a petition for traffic calming and speed reduction in 2014. The SFMTA measured and confirmed speeding on the street and installed a speed hump on McAllister Street between Parsons and Willard in 2015.

Proposed Changes (see above diagram)

- **No Left-Turn** from southbound Arguello Boulevard to eastbound McAllister Street.
- Construct a Painted Median in the center of Arguello Boulevard to block southbound left-turns. This painted median will act as a trial treatment to investigate the possibility of constructing a full concrete median when Arguello repaved in 2017.
- Establish **Right-Turn Only** for westbound vehicles on McAllister approaching Arguello Boulevard.

Benefits

- Reduced Traffic on McAllister Street: McAllister Street will be a calmer, low-traffic street with fewer vehicles traveling between Arguello Boulevard and Stanyan Street
- Fewer Conflicts at McAllister/Arguello: By prohibiting the southbound left turn, this change will remove an ongoing source of conflict between drivers and people walking and biking.
- Slower Speeds on Arguello Boulevard: The median on Arguello will slow the speed of drivers as they approach the crosswalks at Cabrillo and McAllister Streets.

Trade-offs

• **Circulation Changes**: McAllister Street residents who wish to get south to Fulton Street from McAllister Street will have to use Willard, Parsons, or Stanyan. McAllister Street residents who wish to get to McAllister Street from southbound Arguello Boulevard will have to use Golden Gate or Fulton.