



RESOLUTION ADOPTING THE SOMA FREEWAY RAMP INTERSECTION SAFETY STUDY PHASE 2 FINAL REPORT

WHEREAS, The purpose of the second phase of the SoMa Freeway Ramp Intersection Safety Study was to develop proposed improvements at ten freeway ramp intersections in the South of Market (SoMa) neighborhood with the goals of improving safety and access for all users, especially for the most vulnerable users; and

WHEREAS, All ten study intersections are located on San Francisco's Vision Zero High Injury Network, representing streets with disproportionately high rates of traffic injuries and fatalities; and

WHEREAS, The study recommends both near-term safety improvements and capital improvements that require more extensive reconstruction at each of the ten intersections; and

WHEREAS, The study recommendations are based on an analysis of collision histories at the study intersections, a toolbox of best practice design treatments, and input from community stakeholders; and

WHEREAS, The final report includes recommended implementation plans and potential funding sources to implement the proposed improvements as soon as possible; and

WHEREAS, At its June 26, 2019 meeting, the Citizens Advisory Committee considered and unanimously adopted a motion of support for the staff recommendation; now, therefore, be it

RESOLVED, That the Transportation Authority hereby adopts the enclosed SoMa Freeway Ramp Intersection Safety Study Phase 2 Final Report; and be it further

RESOLVED, That the Executive Director is hereby authorized to prepare the document for final publication and distribute the document to all relevant agencies and interested parties.

Enclosure:

1. SoMa Freeway Ramp Intersection Safety Study Phase 2 Final Report



Memorandum

Date: June 28, 2019
To: Transportation Authority Board
From: Eric Cordoba – Deputy Director for Capital Projects
Subject: 07/09/2019 Board Meeting: Adopt the SoMa Freeway Ramp Intersection Safety Study Phase 2 Final Report

<p>RECOMMENDATION <input type="checkbox"/> Information <input checked="" type="checkbox"/> Action</p> <p>Adopt the SoMa Freeway Ramp Intersection Safety Study Phase 2 Final Report</p> <p>SUMMARY</p> <p>The second phase of the SoMa Freeway Ramp Intersection Safety Study addresses safety issues at ten intersections in the South of Market (SoMa) neighborhood where freeway ramps meet city streets. The project team studied collision patterns and recommended near-term and capital improvements at ten ramp intersections in SoMa such as curb bulb-outs, traffic signal upgrades, lane reconfigurations, and new crosswalks. Public outreach to gather input on the designs included a multilingual survey, an open house, tabling, social media, and stakeholder meetings. Draft recommendations were also shared with the CAC in September 2018 and the Vision Zero Committee of the Board in October 2018. The Transportation Authority has since completed traffic analysis and worked with the San Francisco Municipal Transportation Agency (SFMTA) to develop cost estimates and identify funding and implementation next steps. Recommended improvement concepts for all ten intersections are shown in Attachment 1. The final report is included as an enclosure to this memorandum.</p>	<p><input type="checkbox"/> Fund Allocation</p> <p><input type="checkbox"/> Fund Programming</p> <p><input type="checkbox"/> Policy/Legislation</p> <p><input checked="" type="checkbox"/> Plan/Study</p> <p><input type="checkbox"/> Capital Project Oversight/Delivery</p> <p><input type="checkbox"/> Budget/Finance</p> <p><input type="checkbox"/> Contract/Agreement</p> <p><input type="checkbox"/> Procurement</p> <p><input type="checkbox"/> Other:</p> <hr/>
---	---

DISCUSSION

Background.

To improve safety at intersections in the SoMa neighborhood where freeway ramps meet city streets, the Transportation Authority has worked closely with SFMTA to recommend improvements at these intersections that would help meet the city’s Vision Zero traffic safety goal. The first phase of this effort, funded by the Prop K Neighborhood Transportation Improvement Program (NTIP) and completed in early 2018, recommended upgrades to five study intersections. SFMTA then included implementation of those improvements in its Capital Improvement Program for Fiscal Years 2019 to 2023. This second phase recommends safety and accessibility improvements at ten additional freeway ramp intersections in SoMa.

Study Goals and Methodology.

The primary goals of this study are to improve safety and access for all users, especially for the most vulnerable users, including pedestrians, bicyclists, and people with disabilities. Secondary goals include improving transportation circulation, accommodating planned neighborhood growth, supporting other planned transportation projects, and developing recommendations that are feasible to implement within as short a timeframe as possible.

The project team, comprised of Transportation Authority and SFMTA staff, selected ten freeway ramp intersections in SoMa to study based on an analysis of traffic collisions from 2012 to 2016, coordination to determine which intersections were already slated for improvements, and a determination of whether improvements could potentially improve conditions.

The selected ten intersections are:

- Mission, Otis, Duboce, & 13th streets (U.S. 101 NB off-ramp)
- South Van Ness Avenue & 13th Street (U.S. 101 SB on-ramp)
- 8th Street midblock between Bryant & Harrison streets (I-80 WB off-ramp)
- 8th Street & Bryant Street (I-80 WB off-ramp)
- 7th Street & Harrison Street (I-80 WB on-ramp)
- 7th Street midblock between Bryant & Harrison streets (I-80 EB off-ramp)
- 7th Street & Bryant Street (I-80 EB off-ramp)
- 6th Street & Brannan Street (I-280 NB off-ramp, I-280 SB on-ramp)
- Fremont Street midblock between Howard & Folsom streets (I-80 WB off-ramp)
- Essex Street and Harrison Street (I-80 EB on-ramp)

All ten intersections are on the City's Vision Zero High Injury Network. At each selected intersection, the project team analyzed collision reports to identify collision causes and patterns to inform potential design treatments.

Recommended Improvements.

The project team recommended a set of improvements at each intersection based on the collision analysis, opportunities to improve accessibility, traffic analysis, cost estimates, implementation timelines, and feedback received from public outreach. The recommended improvement concepts, shown for each intersection in Attachment 1, include:

- Sidewalk extensions (bulb-outs) to reduce turning speeds and shorten pedestrian crossings;
- Signal upgrades to improve visibility, add exclusive turn phases where needed, add flashing beacon signs at unsignalized crosswalks, and add leading pedestrian intervals;
- New crosswalks where they are currently missing;
- New wayfinding signage to reduce confusion and weaving;
- Improved lighting, particularly under freeway viaducts;

Agenda Item 8

- New protected bicycle lanes on key routes; and
- Reduction in the number of traffic lanes at select locations to calm traffic and provide space for other safety treatments.

The recommendations identified select near-term safety treatments at each intersection, such as pavement markings, signal timing changes, and signage upgrades, that could be implemented in two years or less depending on approvals needed. The remaining recommendations include capital improvements that involve more extensive reconstruction (i.e. concrete work or signal upgrades) and would require additional time to obtain approvals and funding to implement.

Public Outreach.

The project team conducted two major rounds of outreach during the study. The purpose of the first round, conducted in spring 2018, was to learn about users' experiences at the study intersections and their ideas to improve them before proposals were developed. During the second round in summer 2018, the project team shared draft design proposals to solicit feedback. In total, the project team contacted over 70 neighborhood groups, advocacy organizations, partner agencies, and employers. Outreach methods included a mailer to addresses near the intersections, an open house in July 2018, tabling at intersections and Sunday Streets, posters on the street, emails, a social media campaign, and meetings with stakeholder groups. The project team also solicited input through individual stakeholder meetings and a survey, which received over 800 responses. The survey, mailer, posters, handouts, and social media ads were provided in English, Chinese, Filipino, and Spanish and translation services were provided at the open house.

Stakeholders identified a range of safety and accessibility challenges at the intersections including traffic signal visibility, pedestrian and bicycle conditions, vehicle weaving, high-speed turning movements, and a lack of pedestrian crosswalks at some intersections. The design proposals received mostly positive feedback and the project team incorporated a number of stakeholder suggestions into the final recommendations.

Next Steps: Funding and Implementation.

The planning-level cost estimate for design, obtaining approvals, and construction of the improvements at all 10 intersections is approximately \$10.7 million. Of this, approximately \$250,000 represents the cost of the identified near-term improvements. The remaining costs are for capital improvements that involve more extensive reconstruction (i.e. concrete work or signal upgrades), which will take several years to implement.

SFMTA will lead the design and construction of the recommended improvements in coordination with San Francisco Public Works and Caltrans, which will need to approve many of the recommended treatments. SFMTA has committed to implement the recommended near-term improvements within two years, with the exception of improvements that require a longer Caltrans approval process. The Transportation Authority Board will consider final approval of a \$160,000 allocation of District 6 Neighborhood Transportation Improvement Program (NTIP) funds to implement the improvements at the first several intersections. For the remainder of the improvements, the project team identified multiple potential funding sources including but not limited to Prop K sales tax, Prop AA vehicle registration fee, Prop A and Prop B general funds, Interagency Plan Implementation Committee impact fees, Caltrans funds, the Highway Safety Improvement Program, the Active Transportation Program, One Bay Area Grant funds, and potential Transportation Network Company Tax revenue (pending approval).

Agenda Item 8

FINANCIAL IMPACT

The recommended action does not have an impact on the proposed Fiscal Year 2019/20 budget.

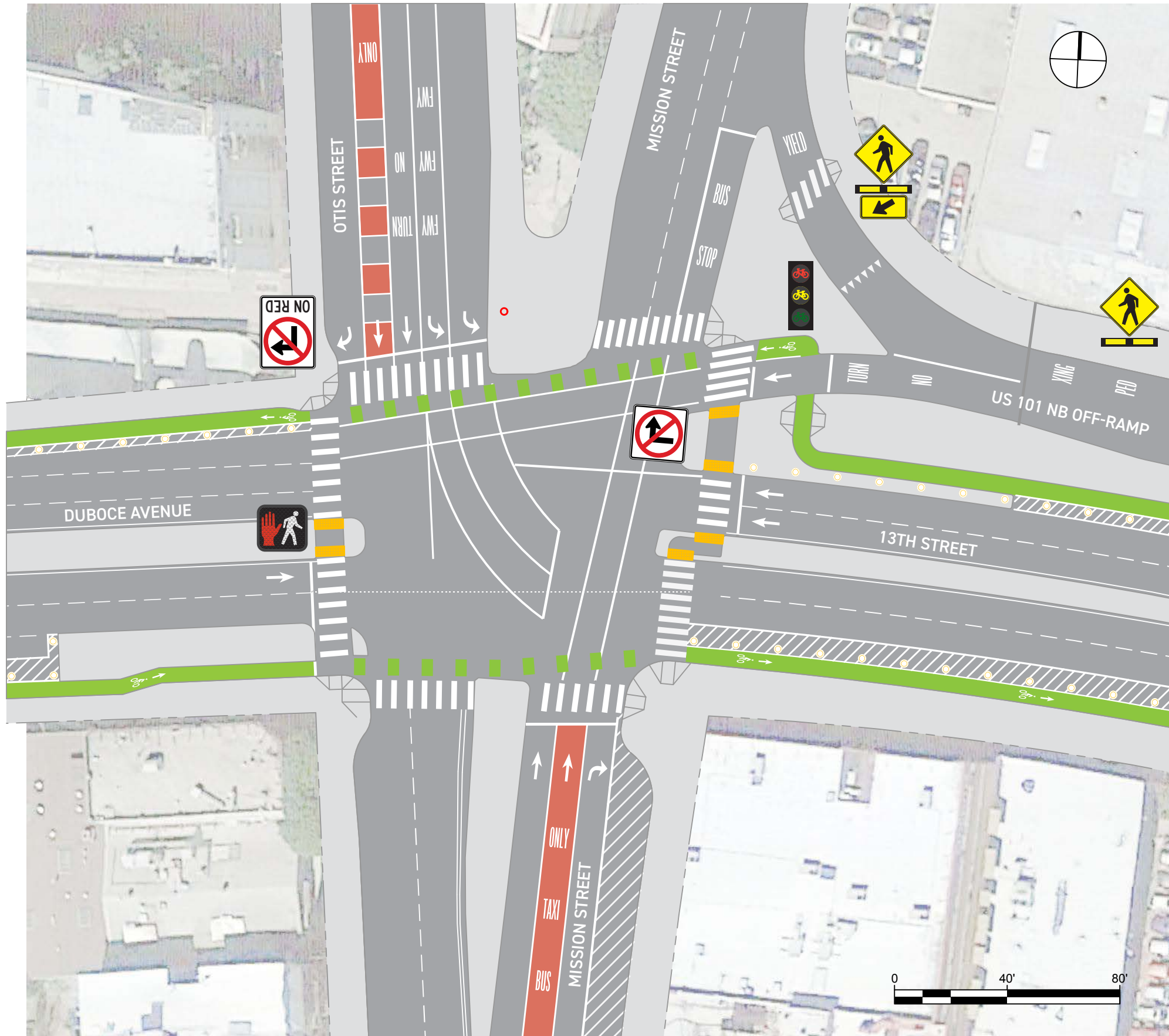
CAC POSITION

The CAC considered this item at its June 26, 2019 meeting and unanimously adopted a motion of support for the staff recommendation.

SUPPLEMENTAL MATERIALS

Attachment 1- Recommended Improvement Concept Plans

Enclosure – SoMa Freeway Ramp Intersection Safety Study (Phase 2) Final Report



MISSION STREET / 13TH STREET / US 101 NB OFF-RAMP

Alternative One-Way Otis Street

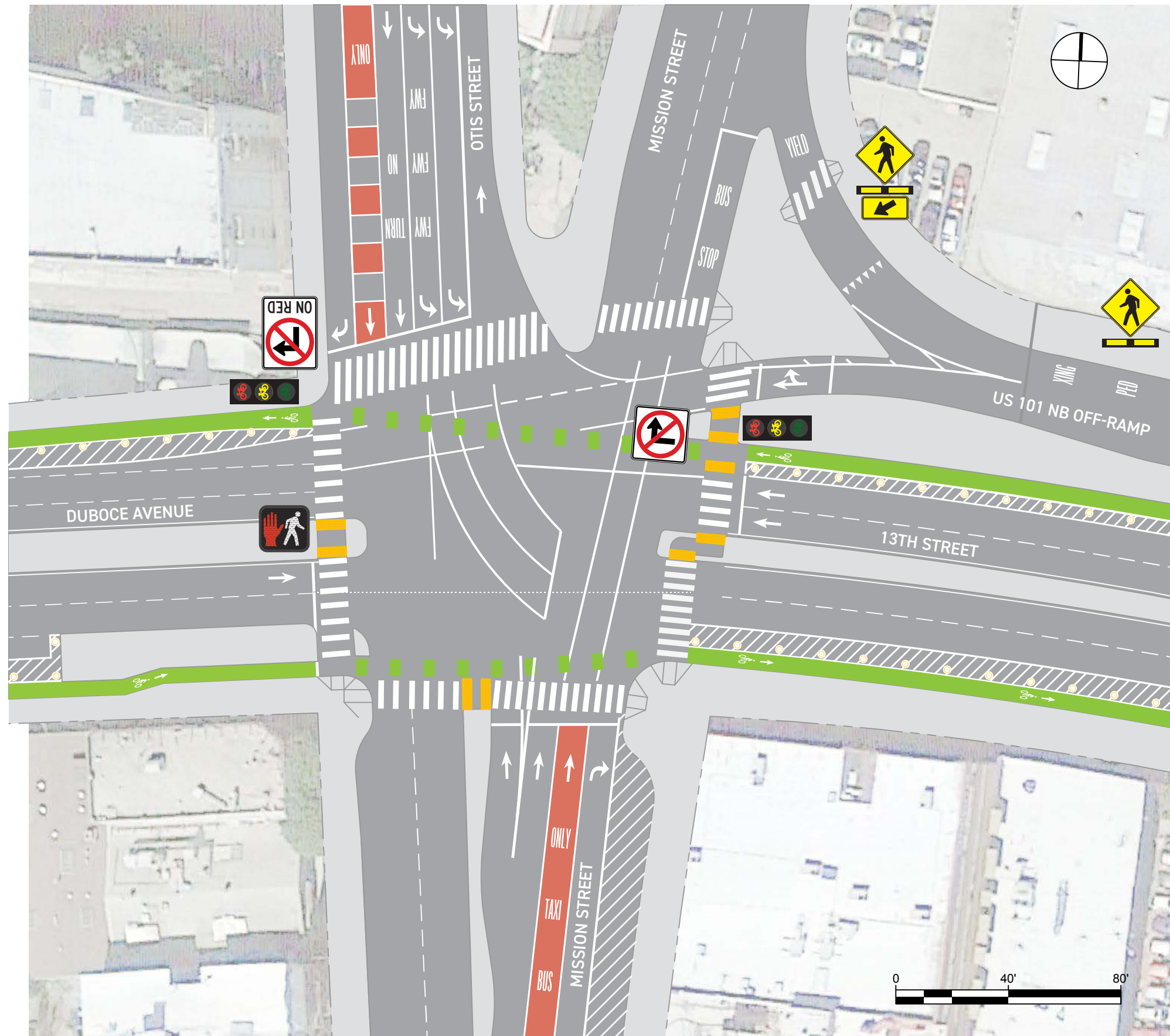
NOTES

Market Street Hub Project Improvements

- Protected cycle track on 13th and Duboce Avenue, channelize westbound bicycle lane and realign US 101 ramp to increase bicyclist visibility and reduce conflicts
- Remove U-turn from Otis St. to Mission St. to reduce number of traffic movements and conflicts

SoMa Freeway Ramp Intersection Safety Study Proposals

- Bulb-outs and curb ramps
- Median refuge islands for people crossing Duboce and 13th Street
- Pedestrian and traffic signal upgrades
- Brighter lighting under the bridge
- Accessible Pedestrian Signal (APS) for all crosswalks
- Crosswalk flashing beacons and signage on un-signalized off-ramp to Mission Street
- New crosswalk striping
- Bus-only lanes on Mission St. approaching the intersection
- Additional signal heads and signs for improved visibility



MISSION STREET / 13TH STREET / US 101 NB OFF-RAMP

Alternative Two-Way Otis Street

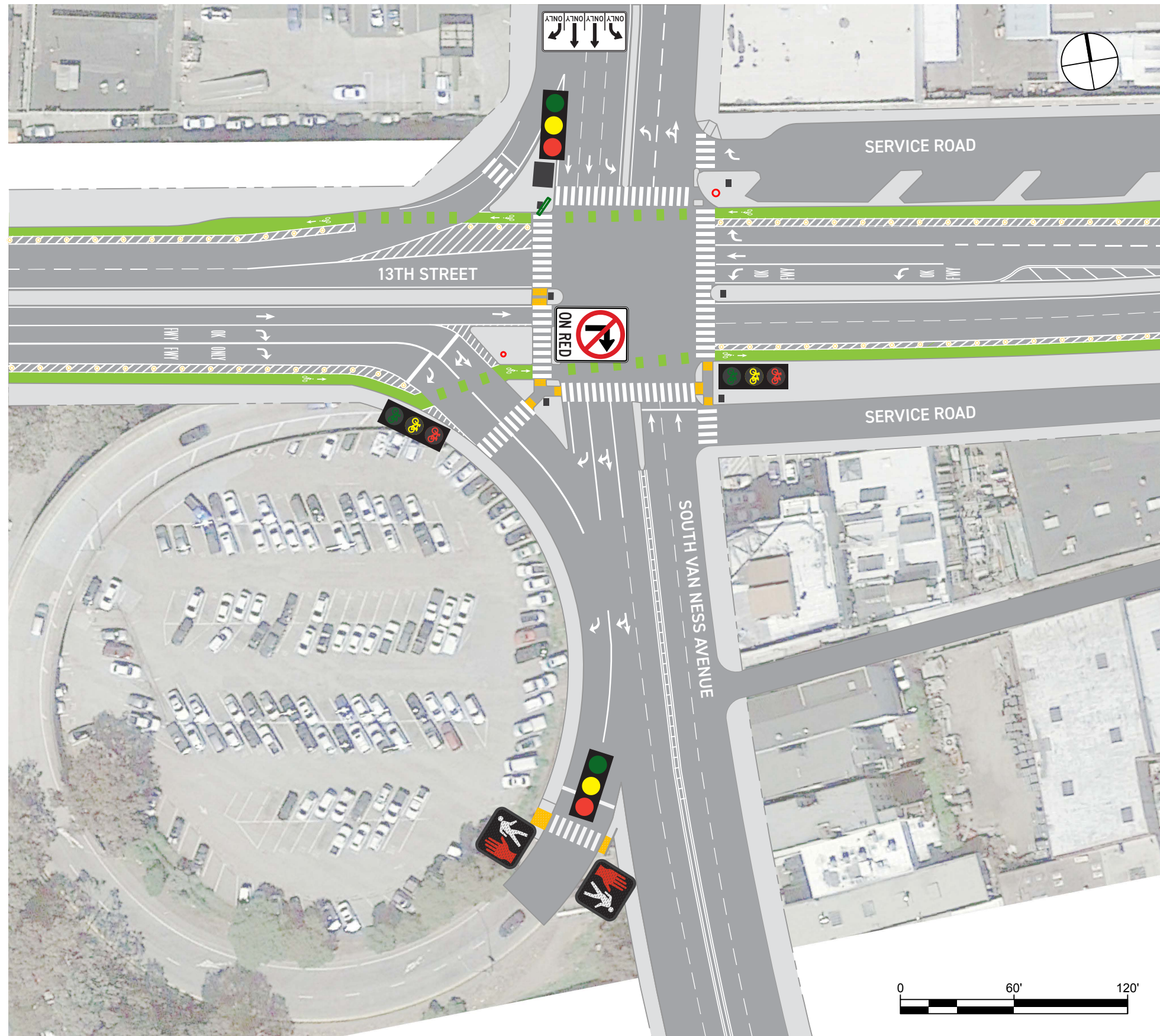
NOTES

Market Street Hub Project Improvements

- Protected cycle track on 13th and Duboce Avenue
- Two-way Otis Street. Modify Mission St. median and remove U-turn from Otis St. to Mission St. to accommodate traffic to Otis St.

SoMa Freeway Ramp Intersection Safety Study Proposals

- Bulb-outs and curb ramps
- Median refuge islands for people crossing Duboce and 13th Street
- Pedestrian and traffic signal upgrades
- Brighter lighting under the bridge
- Accessible Pedestrian Signal (APS) for all crosswalks
- Crosswalk flashing beacons and signage on un-signalized off-ramp to Mission Street
- New crosswalk striping
- Bus-only lanes on Mission St. approaching the intersection



SOUTH VAN NESS AVE / 13TH ST / US 101 SB ON-RAMP

NOTES

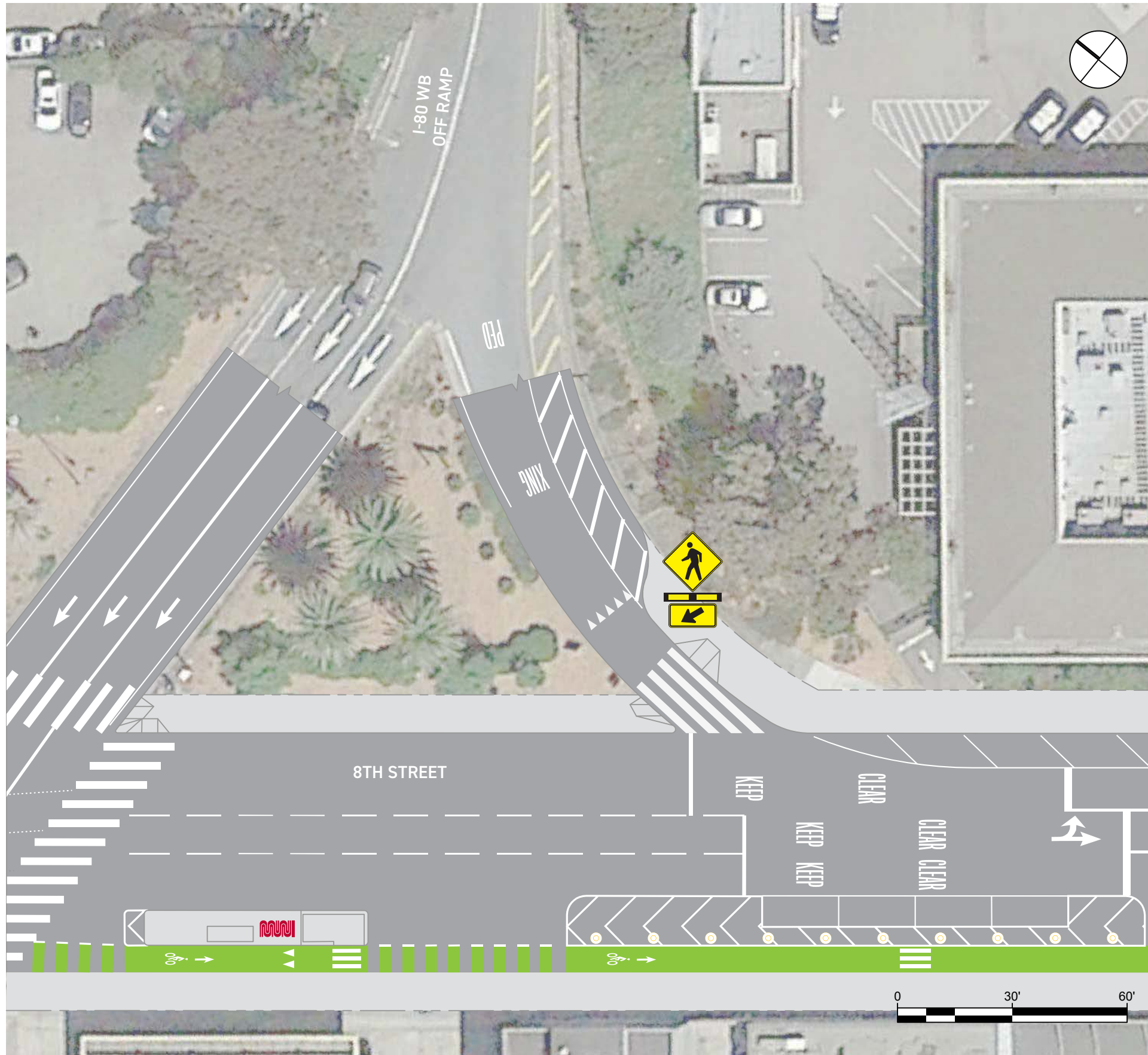
Market Street Hub Project Improvements

- Protected cycle track on 13th Street

SoMa Freeway Ramp Intersection Safety Study Proposals

- Bulb-outs and curb ramps
- Median refuge islands across 13th Street
- Pedestrian and traffic signal upgrades
- Brighter lighting under the bridge
- Protected left-turn from S Van Ness Ave. to 13th Street
- New sidewalk on west side of S Van Ness Ave.
- New traffic signal and pedestrian crosswalk at the US 101 freeway southbound on-ramp

8TH STREET (MIDBLOCK) / I-80 WB OFF-RAMP



NOTES

SFMTA 8th Street Safety Project Improvements

- Transit boarding island
- Protected bike lane

SoMa Freeway Ramp Intersection Safety Study Proposals

- Bulb-outs and curb ramps
- Crosswalk flashing beacons and signage
- Crosswalk striping and yield line upgrades
- Additional streetlighting



BRYANT STREET / 8TH STREET / I-80 EB ON-RAMP

(Capital Project)

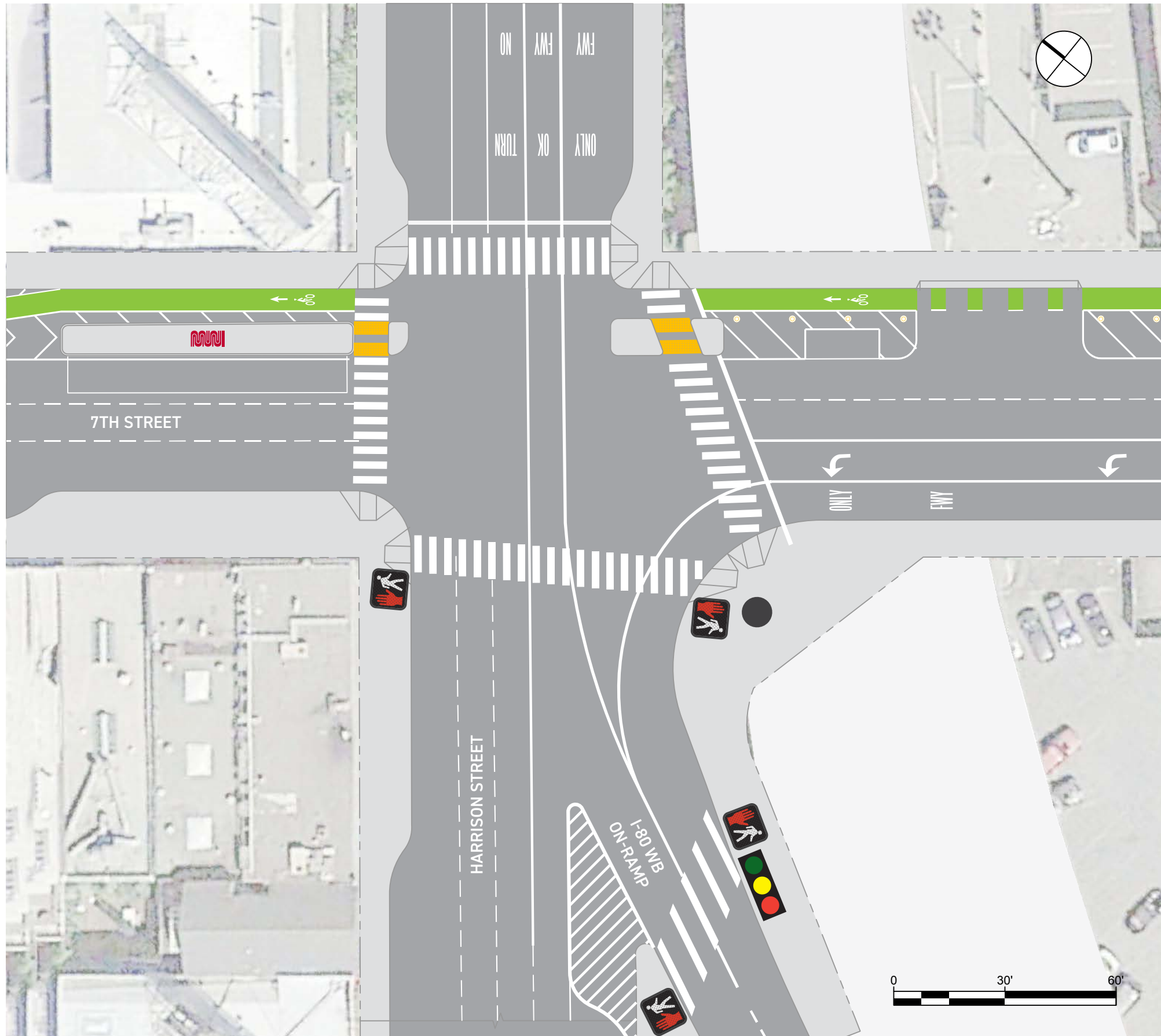
NOTES

SFMTA 8th Street Safety Project Phase 2 Project Improvements

- Protected bike lane on 8th Street
- Transit boarding island

SoMa Freeway Ramp Intersection Safety Study Proposals

- New crosswalk across Bryant Street with protected signal phase and Leading Pedestrian Interval (LPI)
- New sidewalk along north side of Bryant St., new crosswalk across on-ramp with new traffic signal
- Bulb-outs and curb ramps
- Median refuge island modification
- Crosswalk striping upgrades
- Overhead lane assignment signs
- New traffic signal upgrades to improve visibility



HARRISON STREET / 7TH STREET / I-80 WB ON-RAMP

(Capital Project)

NOTES

Caltrans I-80 On-Ramp Project Improvements

- New pedestrian signal at crosswalk across the I-80 on-ramp
- Upgraded traffic signals

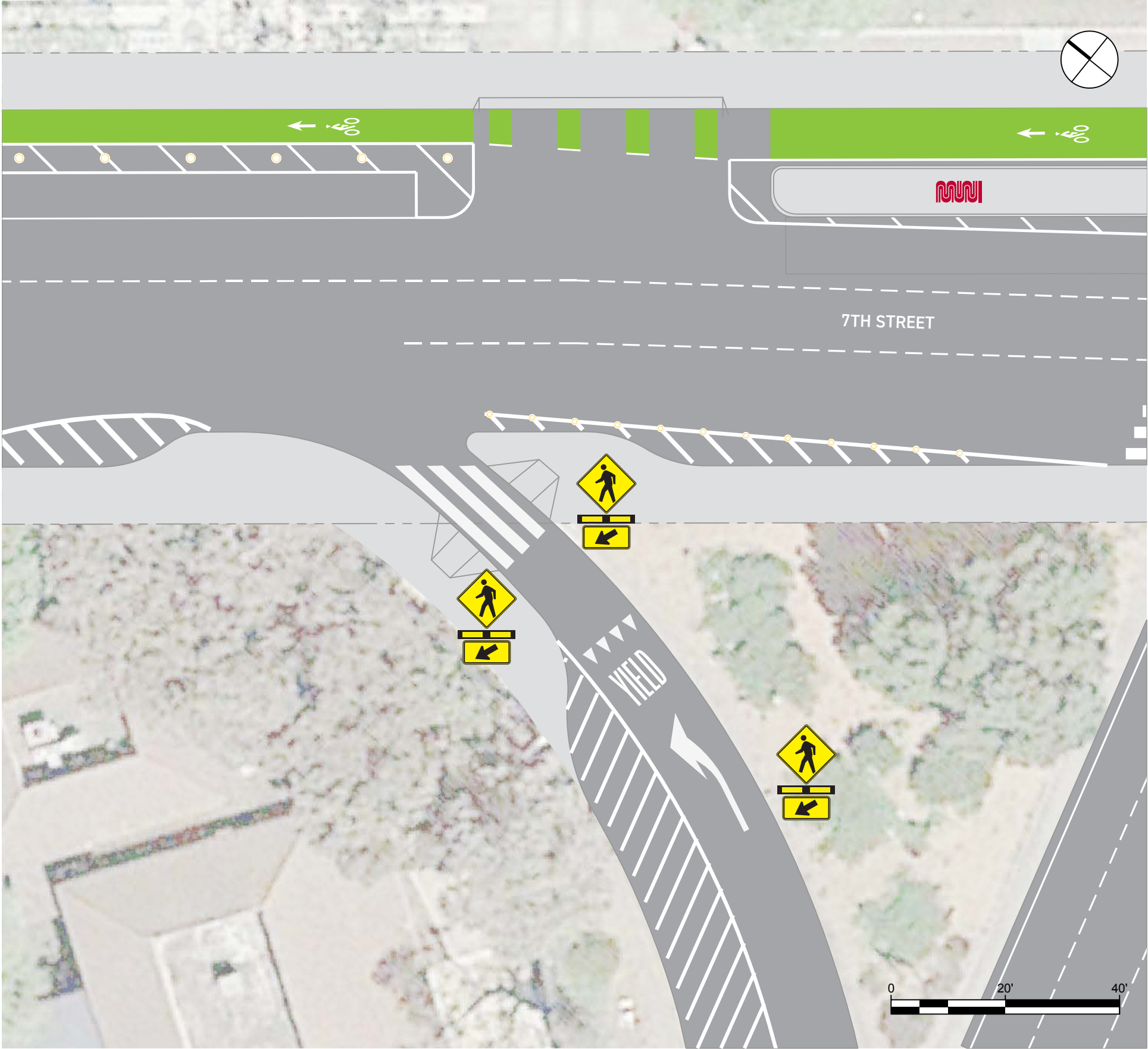
SFMTA 7th Street Bikeway Project Improvements

- Protected bike lane on 7th Street
- Transit boarding island

SoMa Freeway Ramp Intersection Safety Study Proposals

- New signalized pedestrian crosswalk across Harrison Street
- Median refuge islands across 7th Street
- Bulb-outs and curb ramps
- Bus bulb at south side of Harrison St. east of the intersection

7TH STREET (MIDBLOCK) / I-80 EB OFF-RAMP



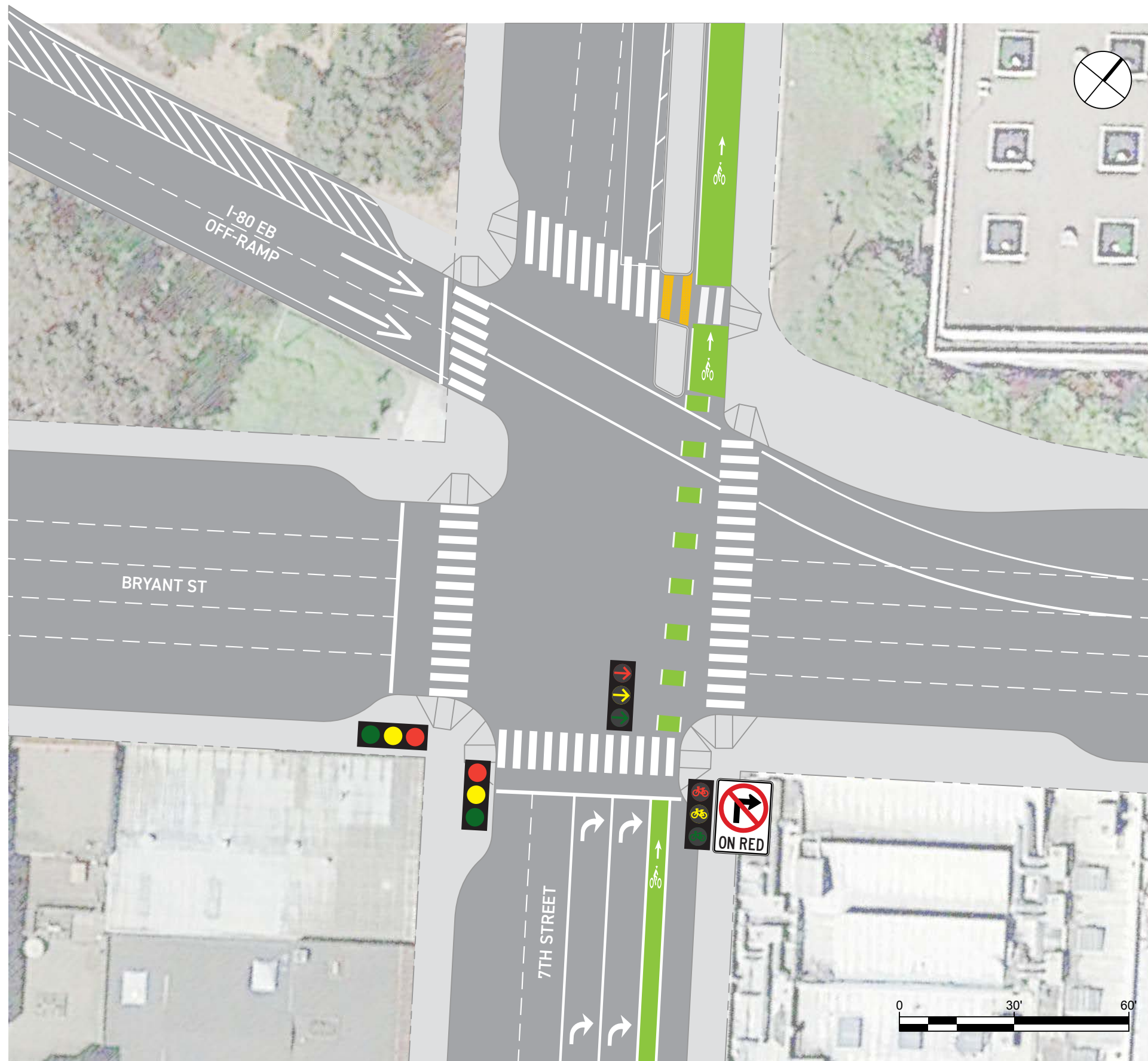
NOTES

SFMTA 7th Street Bike Lane Project Improvements

- Protected bike lane on 7th Street
- Transit boarding island

SoMa Freeway Ramp Intersection Safety Study Proposals

- Lane reduction from two to one at the I-80 off-ramp approach
- Bulb-outs and curb ramps
- Crosswalk flashing beacons and signage
- Crosswalk striping and yield line upgrades
- Recommended improvement will require Caltrans approval and Muni re-route options.



BRYANT STREET / 7TH STREET / I-80 EB OFF-RAMP

NOTES

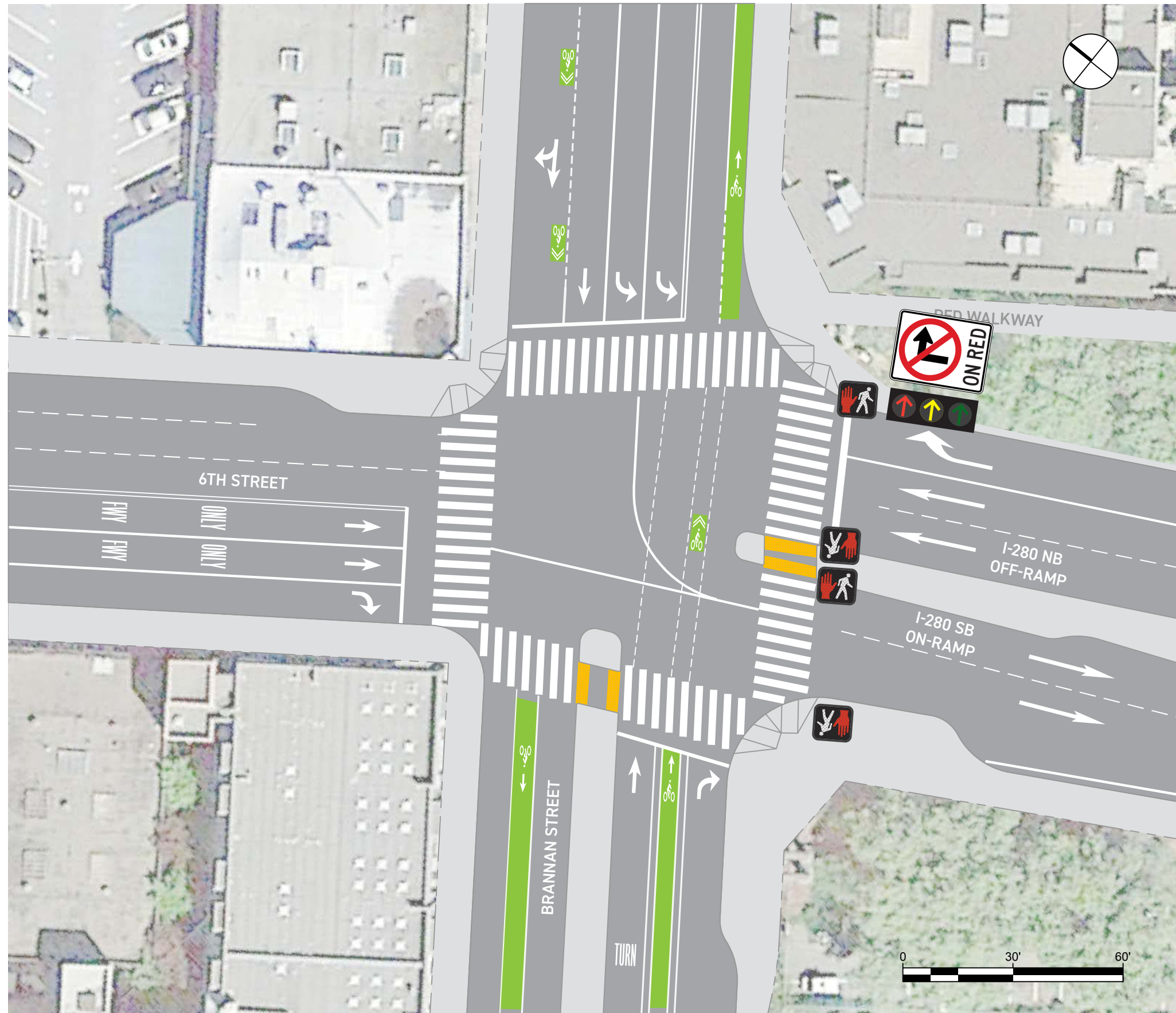
SFMTA 7th Street Bike Lane Project Improvements

- Protected bike lane on 7th Street

SoMa Freeway Ramp Intersection Safety Study Proposals

- Lane reduction from three to two on the I-80 offramp approach (requires Caltrans approval)
- Bulb-outs and curb ramps
- Crosswalk striping upgrades
- Bus bulb
- Additional traffic signal upgrades
- Additional pedestrian level lighting

BRANNAN STREET / 6TH STREET / I-280 ON/OFF-RAMP



NOTES

SFMTA 6th and Brannan Road Diet Project Improvements

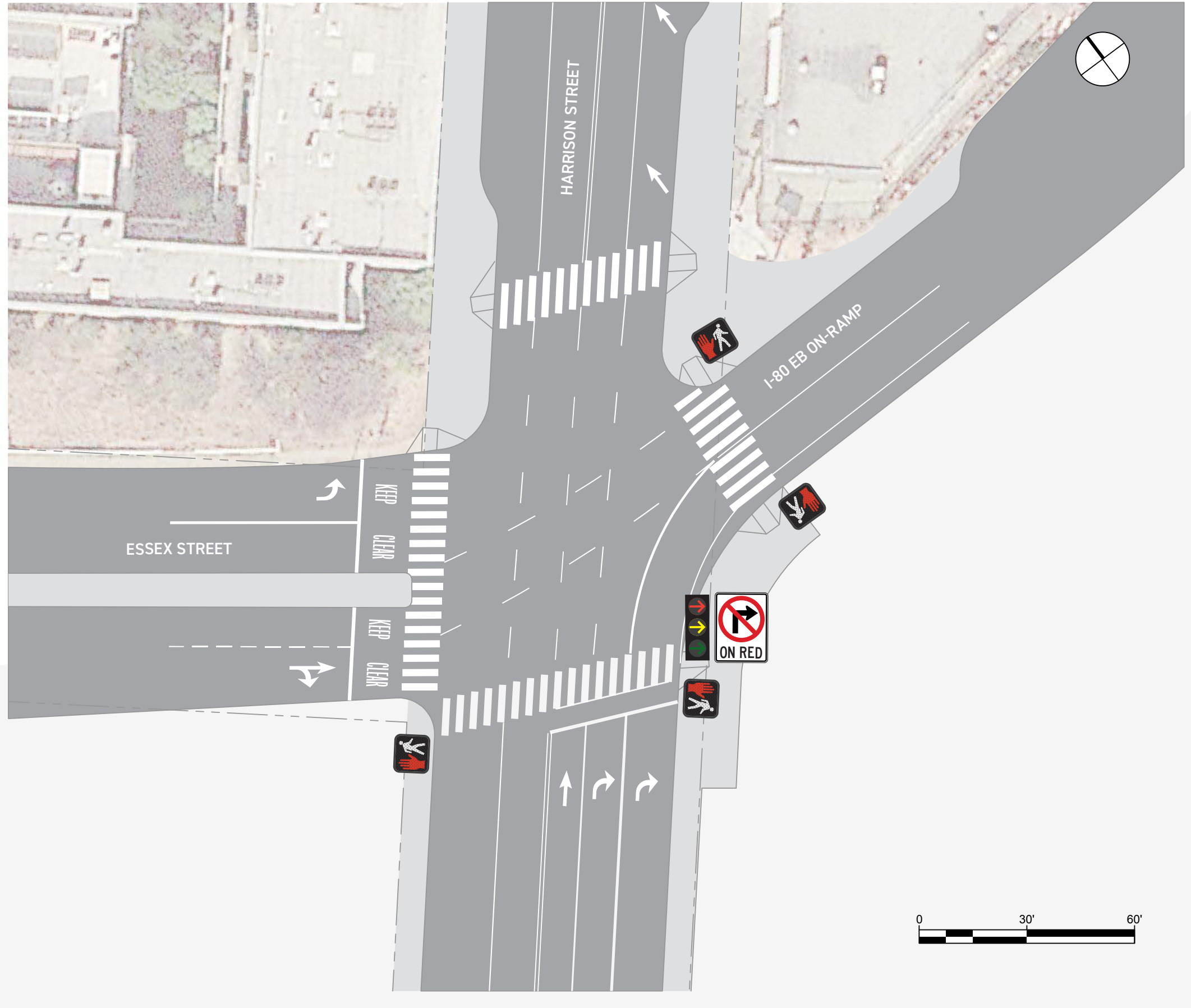
- Road diet and bike lanes on Brannan Street

SF Flower Mart Improvements

- Potential sidewalk widening on 6th Street
- Potential bike lane or cycle track on westbound Brannan Street

SoMa Freeway Ramp Intersection Safety Proposals

- Bulb-outs, curb ramps and median refuge islands
- New crosswalk and median refuge island across the I-280 approach
- Protected signal phase for Brannan crosswalk on east side of intersection
- Additional high-visibility crosswalks
- Traffic signal upgrades



HARRISON STREET / ESSEX STREET / I-80 EB ON-RAMP

NOTES

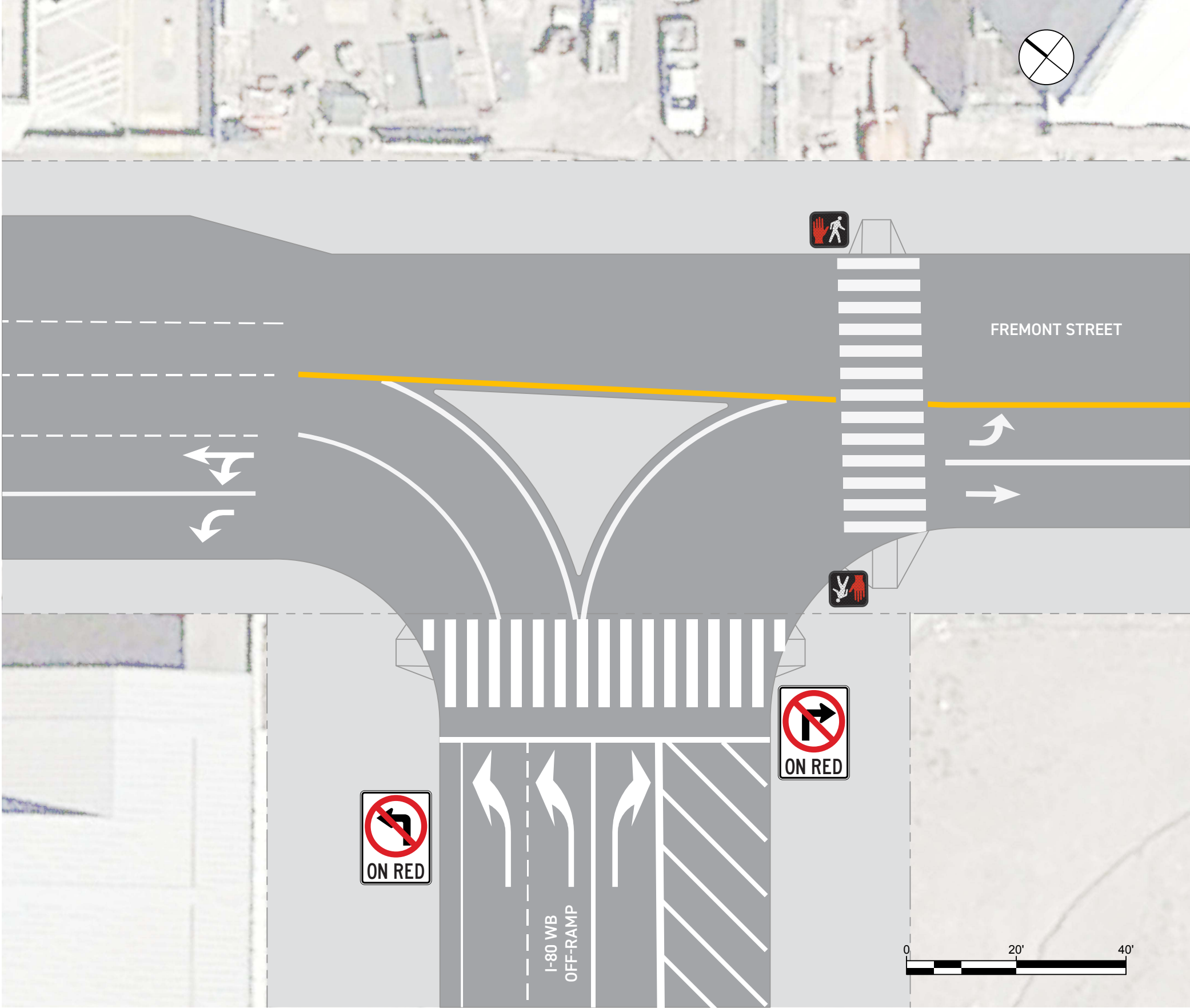
Improvements by Others

- Bulb-outs on Harrison Street by adjacent developments

SoMa Freeway Ramp Intersection Safety Study Proposals

- New protected crosswalks across Harrison Street and I-80 On-Ramp
- Bulb-outs and curb ramps
- New sidewalk on south side of Harrison St. west of the intersection
- Additional traffic signal upgrades

FREMONT STREET / I-80 WB OFF-RAMP



NOTES

SoMa Freeway Ramp Intersection Safety Study Proposals

- New crosswalk and pedestrian signals across Fremont Street
- Crosswalk striping and curb ramp upgrades
- Raised traffic splitter island