District 4 Mobility Study

San Francisco
County Transportation
Authority

Draft Report

Acknowledgements

The District 4 Mobility Study was funded through the San Francisco County Transportation Authority's (Transportation Authority) Neighborhood Transportation Improvement Program (NTIP) at the request of Commissioner Gordon Mar. 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.

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1. Introduction

In late 2019, Transportation Authority Board Member Gordon Mar requested that the Transportation Authority conduct the District 4 Mobility Study to explore ways to increase walking, biking and transit use in the Outer Sunset and Parkside neighborhoods in order to:

- improve health and safety,
- increase livability,
- support a thriving local economy, and
- address climate change locally.

Transportation Authority staff collaborated with the San Francisco Municipal Transportation Agency (SFMTA) on the study. The study was also conducted as part of Board Member Mar's Sunset Forward initiative, a collaboration with the San Francisco Planning Department, the San Francisco County Transportation Authority, and the District 4 Youth and Families Network, a coalition of non-profit community-based organizations in the Sunset District.

1.1 | RELATED SUNSET TRANSPORTATION PLANNING EFFORTS

The study team reviewed past studies that have addressed District 4 transportation goals and needs. Below are the sources reviewed:

- Sunset District Blueprint, July 2014
- Sunset District Blueprint Update, 2017
- Improving West Side Transit Access, 2016
- Ocean Beach Master Plan, 2012
- San Francisco Municipal Transportation Agency (SFMTA) – Sloat/Skyline Intersection Alternatives Analysis, 2017
- SF Planning – Golden Gate Park Edges Study, 2018
- District Supervisor Mar's Office – Sunset District Transit Survey, 2019
- SFMTA – SF Streets Map of Active Project, 2019
- Other Active Related Efforts such as the SFMTA Capital Improvement Plan and Planning Department's housing efforts.

The following key issues are mentioned across multiple sources:

- Issues with **transit reliability** arose in the Sunset District Blueprint, Improving West Side Transit Access study and the Supervisor's Sunset Transit Survey. Projects responding to this issue include the Taraval Street Improvement Project, 28 19th Avenue Rapid Project, and the potential 29 Rapid planning effort.

- The Sunset District Blueprint and Sunset Transit Survey highlighted **pedestrian and bicycle safety issues** and many existing projects (like the Sloat / Skyline Intersection Alternatives Analysis) are responding to these.

1.2 | OUTREACH PROCESS

Outreach was a critical element of the planning process and was conducted over two phases:

- Phase 1 gathered input from District 4 residents on their transportation needs.
- Phase 2 presented recommendations to address the needs identified in Phase 1 and through technical analysis.

Due to the COVID-19 pandemic, the study team was limited to virtual engagement methods to solicit input. The study team commenced the first phase of outreach with a virtual Town Hall event in May 2020 hosted by Board Member Mar and attended by about 175 participants. As part of the first round of outreach in Summer 2020, the study team solicited feedback from the public on the challenges that they see in walking, biking, and using transit for different types of trips. Feedback was also collected using: 1) a survey available in English, Chinese, Spanish, and Filipino and 2) two focus groups conducted in Chinese (Cantonese).

The second round of outreach focused on getting feedback on potential solutions developed by the project team. The study team held a virtual Open House together with Board Member Mar in March 2021 that was attended by around 190 people. Project staff introduced potential solutions and gathered high-level feedback from participants. Throughout the event, checkpoints were held to provide participants an opportunity to share questions and comments and to engage with poll questions.

Project staff also hosted a merchant-focused community forum to facilitate a discussion on community needs in the second phase of outreach. The event was hosted in collaboration with merchant leaders from District 4 and Vas Kiniris with NEXTSF. The merchant leaders represented the Taraval, Judah, Irving, and Noriega corridors. There were approximately 15 attendees who participated in this outreach event.

Outreach findings are integrated into the sections below. More detail on outreach can also be found in the Outreach Appendix A.

Themes we heard during the event:

- Businesses have benefited from parklets during the pandemic
- Concern with impact of roadway construction on businesses

2. District 4 Transportation Needs

The project team used a combination of technical analysis and public outreach to understand transportation needs in District 4.

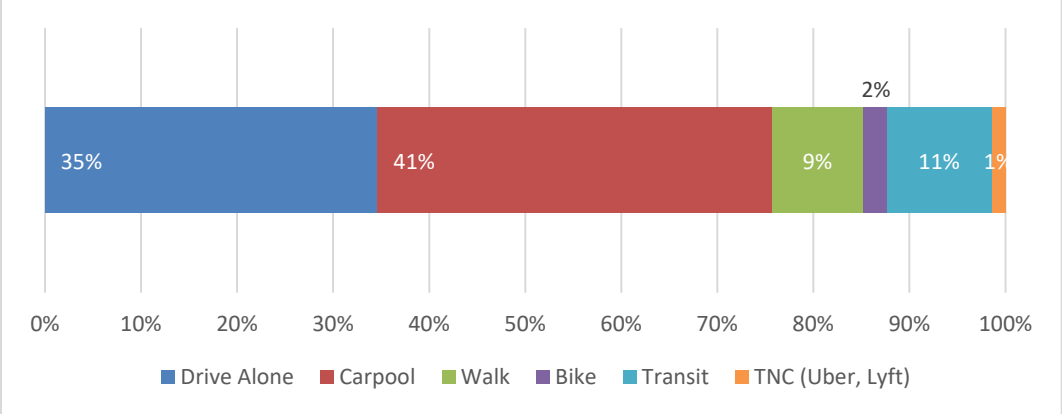
2.1 | TRAVEL MARKET ANALYSIS

The project team used the Transportation Authority's travel demand model known as the San Francisco Chained Activity Modeling Process (SF-CHAMP) to understand trips of all modes to, from and within District 4. The model results summarized represent trips taken on an average weekday pre-COVID (2015).

OVERALL MODE SHARE

SF-CHAMP estimates that there are about 345,000 daily weekday trips starting or ending in District 4. Of all those trips, about 76% are driving trips with 35% being completed with single-occupant vehicles. This is among the highest drive mode share rates in the city.

Figure A. Mode Share of Trips to, from, or within District 4



LARGEST TRIP MARKETS

As a next step, the study team identified common origins or destinations of trips that have one end in District 4. Focusing on the trip markets with the largest numbers helped identify where there may be opportunities to make the most impact on mode choice. Figure B is a map of the geographies used for the market analysis within San Francisco. Regional trip market geographies analyzed were San Mateo County, Santa Clara County, North Bay (Marin, Sonoma, Napa, and Solano Counties combined), and East Bay (Alameda and Contra Costa Counties combined).

Figure B. Map of Trip Markets within San Francisco

The largest trip market by far are trips within District 4. Those are then followed by trips to/from San Mateo County and the Richmond District, on the west side.

Table 1. Trips with One End in District 4

ORIGIN/DESTINATION	NUMBER OF TRIPS	PERCENT OF TOTAL TRIPS
District 4	65,605	19%
San Mateo County	39,868	12%
Richmond (includes Golden Gate Park)	34,450	10%
Inner Sunset	28,847	8%
Downtown	25,406	7%
Hill Districts	22,964	7%
Western Market	19,807	6%
Parkmerced	18,125	5%
Outer Mission/Ingleside	14,910	4%
Mission/Potrero/Mission Bay/Dogpatch	13,161	4%
Marina/N. Heights	12,671	4%
East Bay	10,296	3%
Noe/Glen/Bernal	8,506	2%
South of Market	7,792	2%
N. Beach/Chinatown	6,983	2%
North Bay	6,734	2%
Bayshore	6,547	2%
Santa Clara County	2,511	1%
Total	345,183	

MODE SHARE BY TRIP MARKET

Figure C shows the mode share of the three largest trip markets. For trips within District 4, a large share of trips is taken by walking but the transit share was only about 4%. This is much lower than the citywide transit mode share (20%) and the overall District 4 transit share (10%). Trips between District 4 and San Mateo County are almost entirely by car (96%), as are trips between District 4 and the Richmond District (83%). These three markets combined with trips to nearby Inner Sunset account for almost 50% of all District 4 trips.

Figure C. Mode share of Largest Trip Markets for District 4 Trips

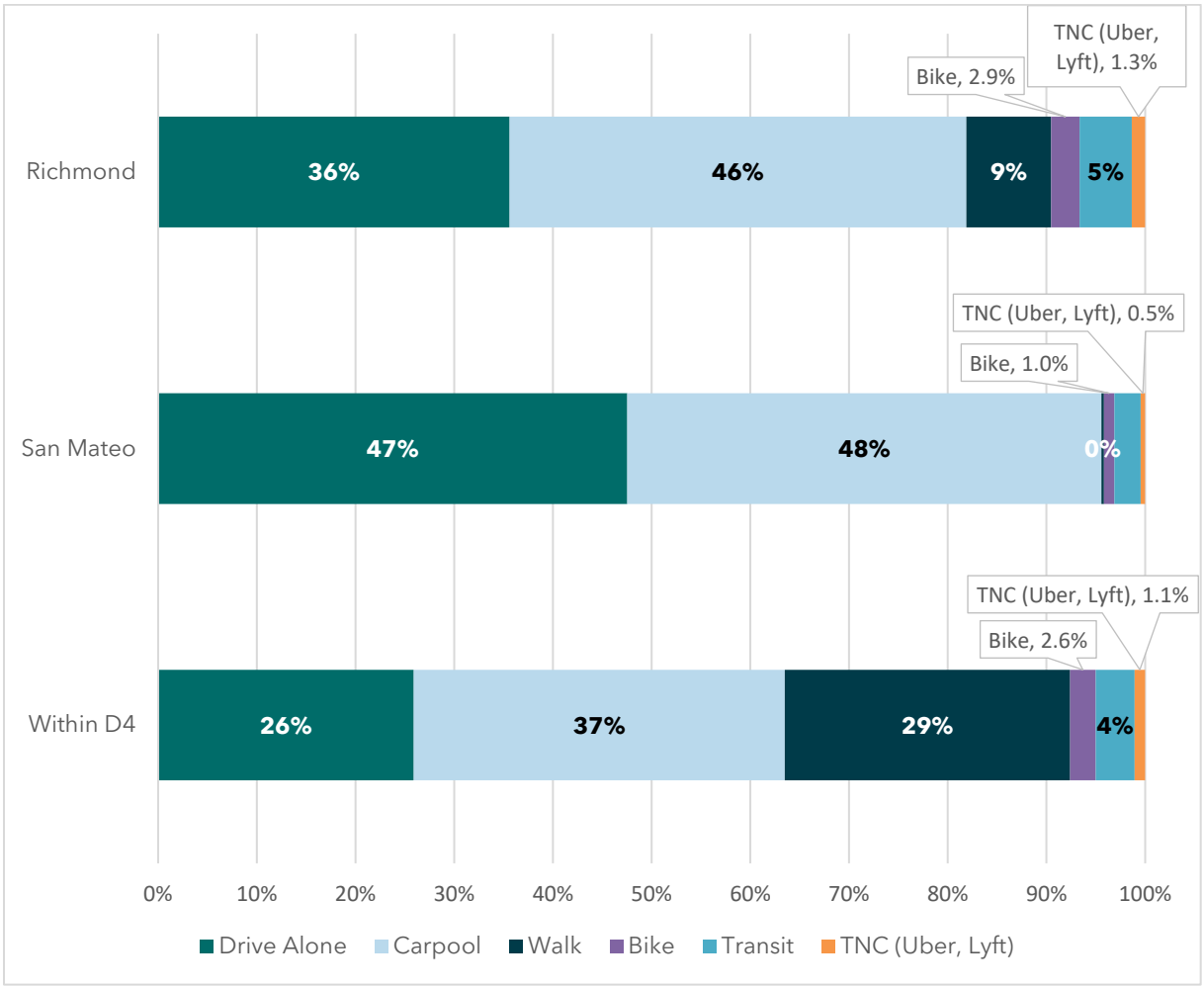
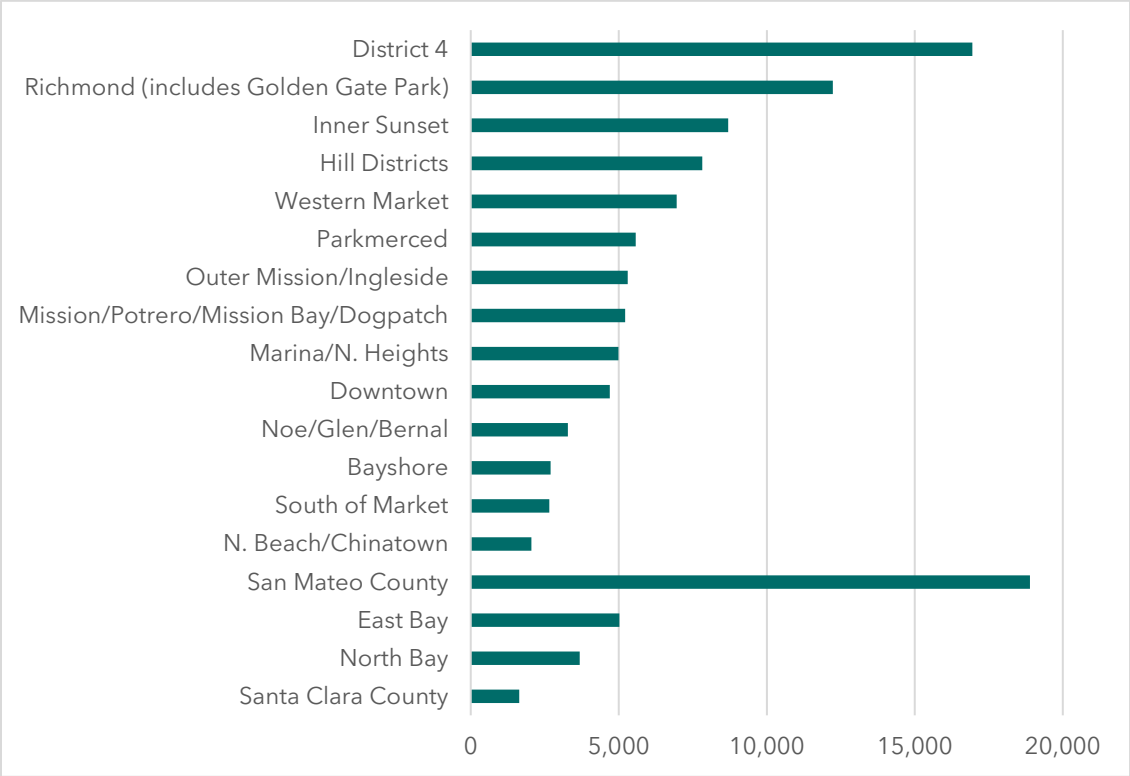


Figure D shows the number of drive alone trips by market.

Figure D. Drive Alone Trips to and From District 4



There are almost 19,000 drive alone trips on an average weekday between District 4 and San Mateo County, almost half of all trips in that market and the single biggest drive alone trip market associated with District 4. In looking at the destinations, staff found that these trips are dispersed across San Mateo County, with some concentrations in the northern parts of the county in areas closest to District 4, such as Daly City Westlake and Broadmoor.

There are also many drive alone trips between District 4 and other parts of San Francisco:

- After San Mateo County, the next largest drive alone trip market is for trips occurring within District 4 with about 17,000 trips. This represents 26% of trips in that market.
- There are almost 12,000 drive alone trips between District 4 and the Richmond District, with a 36% mode share in that market.
- About 8,700 drive alone trips are between District 4 and the adjacent Inner Sunset. These represent 30% of trips in that market.

Looking at trips within District 4 and to the Richmond and Inner Sunset, there are over 37,000 total trips being taken by solo drivers.

KEY FINDINGS

- The single biggest vehicle trip market is between District 4 and San Mateo County. Due to the dispersed nature of San Mateo County destinations, transit service improvements are probably best focused on the northern part of San Mateo County where there are more trips to District 4. Carpool network development for Highway 1/I-280 may also be effective in incentivizing high-occupancy vehicle use, and more reliable travel, particularly in the peak period.
- There are about 17,000 daily drive alone trips that occur just within District 4 and low levels of transit use (4%). Enhancing transit, walking, and biking infrastructure may help create feasible options to automobile travel within the District 4, especially for short trips (shorter than 3 miles) which are the majority of daily trips in San Francisco.
- There are over 20,000 drive alone trips between District 4 and the Richmond and Inner Sunset. North-south transit connections are limited and warrant further planning and investment.

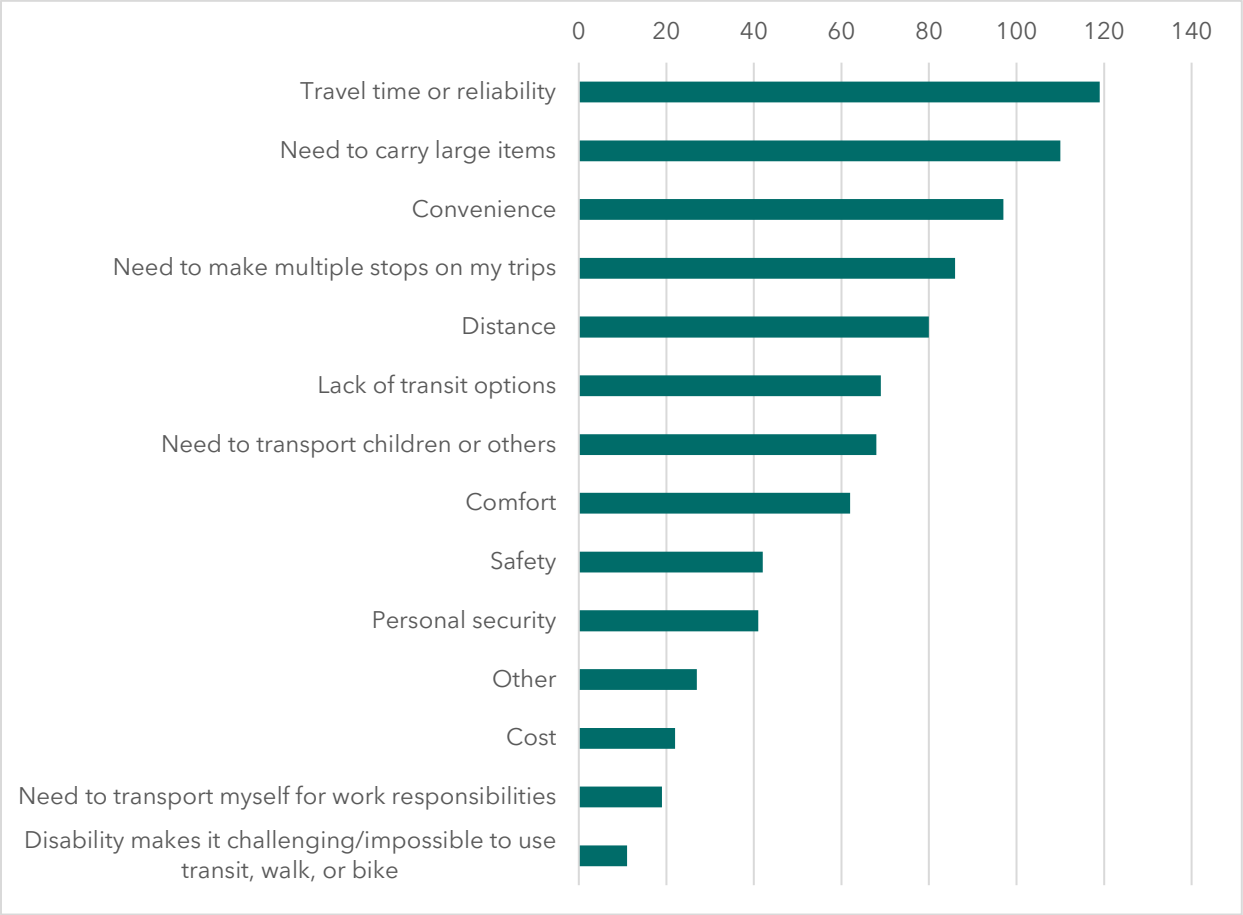
More detail about the Travel Market Analysis can be found in Appendix B.

2.2 | PUBLIC INPUT ON TRAVEL MARKETS AND NEEDS

TRIPS WITHIN DISTRICT 4

The public outreach survey confirmed the significant presence of driving for trips and provided additional information about why these trip choices were made. Of the 280 survey participants, about 64% reported that they always or sometimes drive for trips within District 4. Figure E. Factors in traveler "Drive" mode choice for trips within District 4 reveals the thinking behind this choice. Travel time and reliability was the most common reason they chose to drive. Many participants also cited the need to carry large items and convenience as other reasons.

Figure E. Factors in traveler "Drive" mode choice for trips within District 4



TRIPS BETWEEN DISTRICT 4 AND ELSEWHERE IN SAN FRANCISCO

Figure F summarizes District 4 travelers' responses to a question about their main destinations elsewhere in the city. Many survey participants are often travelling to Downtown, Northwest, and Center parts of the city. North, Southwest, and East were the next most traveled to areas of the city (see Figure G for the map provided to survey respondents).

Figure F. San Francisco Destinations of Survey Respondents

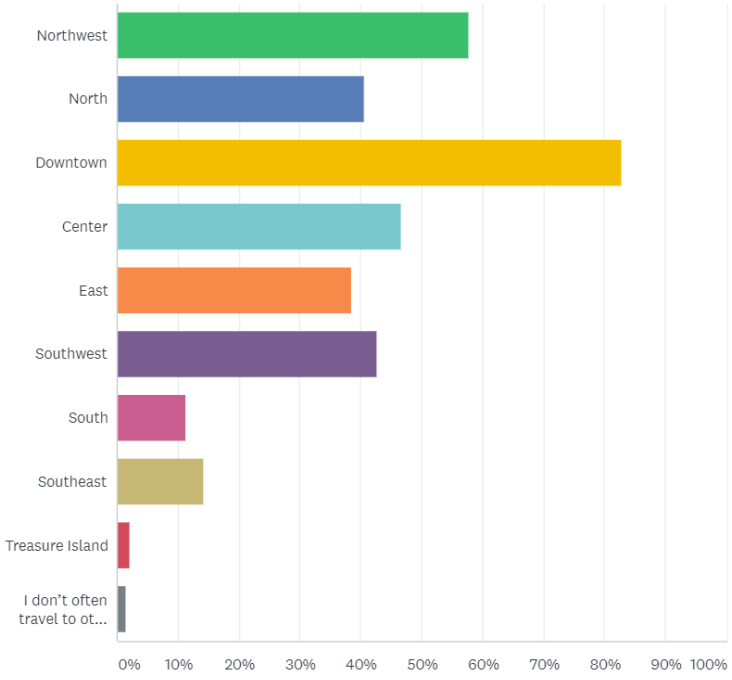
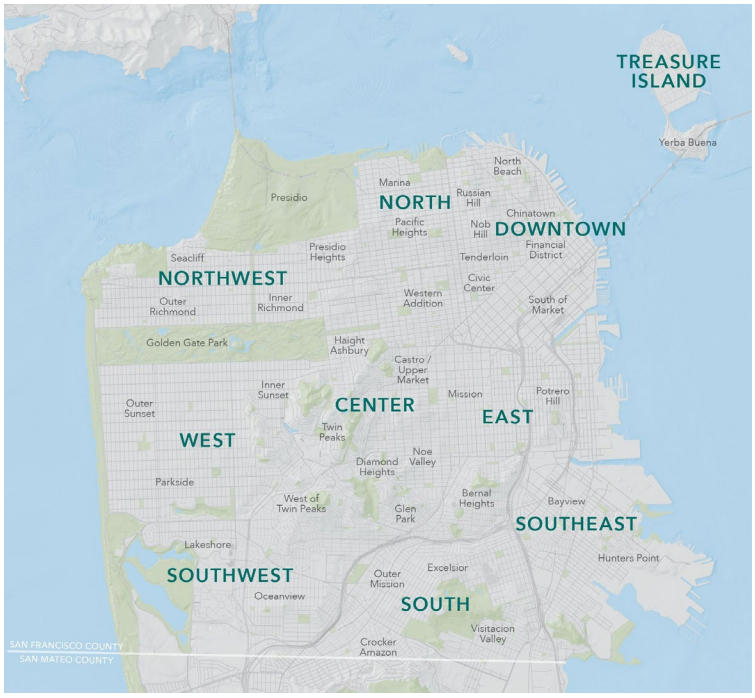
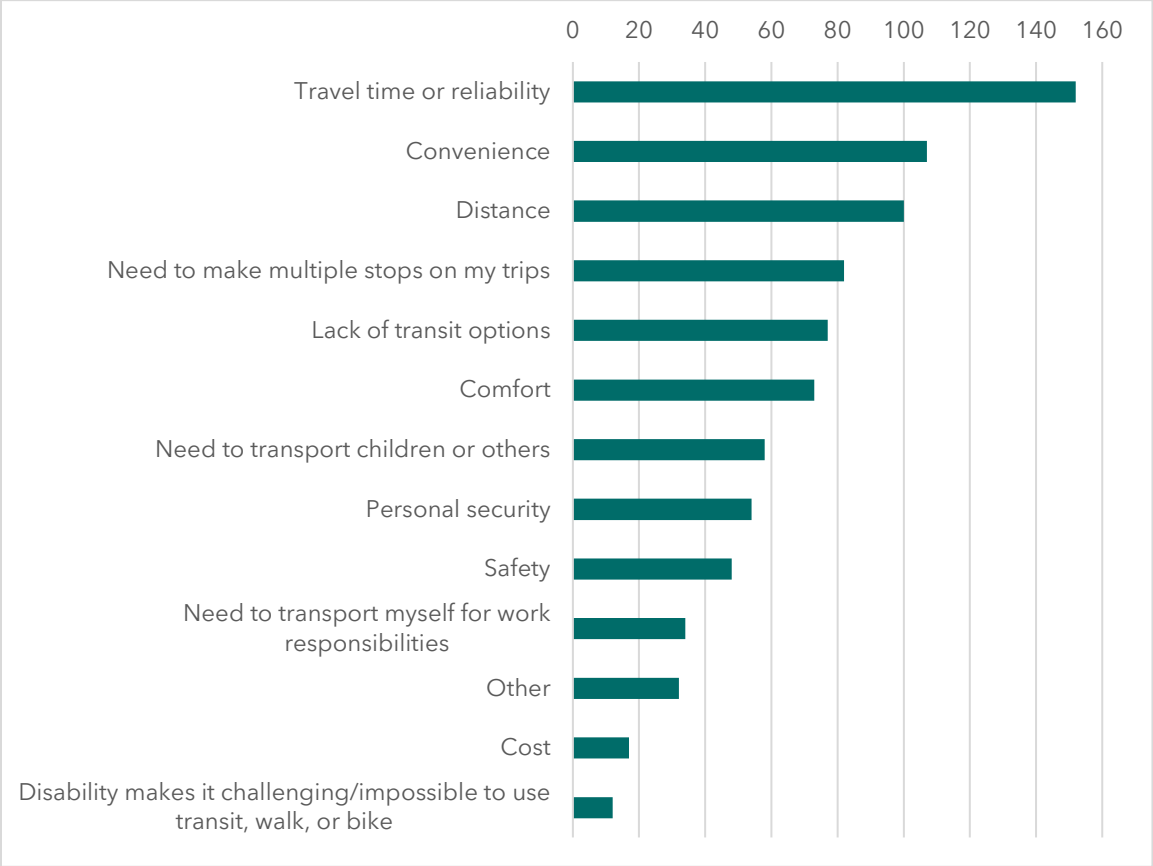


Figure G. Map of San Francisco Destinations in Survey



When asked about these trips to other parts of San Francisco, about 66% of survey participants stated they always or sometimes drive. Similar to trips within District 4, travel time/reliability and convenience were among the top reasons cited as the reason for driving for these trips.

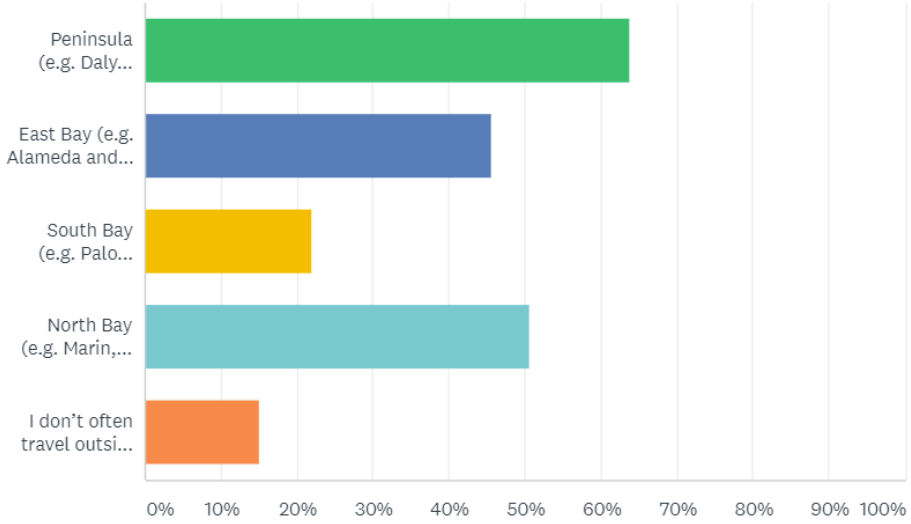
Figure H. Factors in traveler "Drive" mode choice for trips elsewhere in San Francisco



TRIPS BETWEEN DISTRICT 4 AND ELSEWHERE IN THE REGION

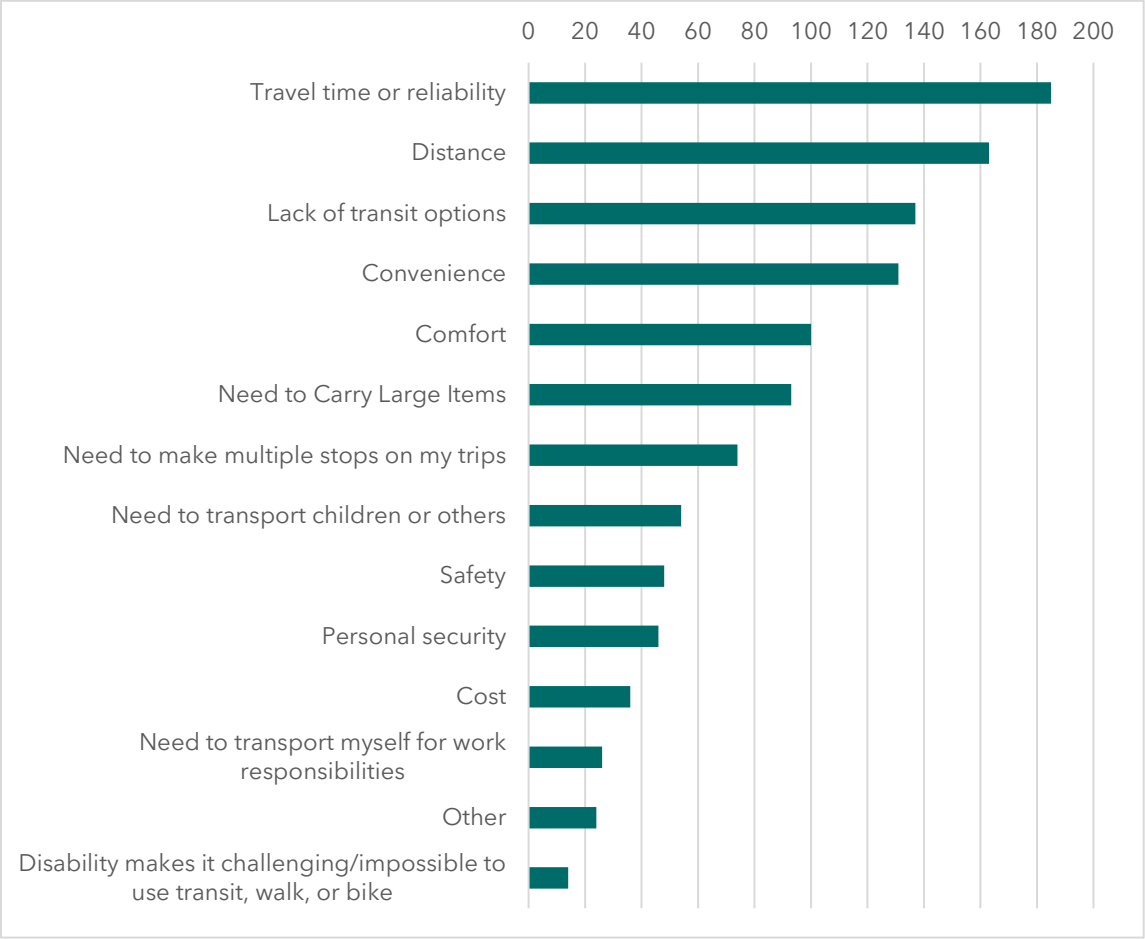
Consistent with the travel market analysis (described in the next chapter), staff found that many survey participants often travel to the Peninsula (Figure I). The North Bay and East Bay were cited as other parts of the region that participants travel to.

Figure I. District 4 Traveler Regional Destinations



About 87% of survey participants said that they always or sometimes drive for trips outside of San Francisco. Similar to the other two trip markets asked about, participants cited travel time and reliability as the reason for choosing driving for these trips (Figure J).

Figure J. Factors in traveler "Drive" mode choice for regional trips



SUMMARY OF CHALLENGES

Across the various travel markets, several factors rose to the top of the issues that influenced mode choice, including:

- Travel time or reliability was consistently the top cited factor for District 4 residents to choose to drive.
- Convenience was also a top cited factor for survey respondents who often drive for trips.
- Increasing transit options and speeds will be important to make transit more competitive with other modes to address the above challenges.
- Specific to local trips within District 4, the need to carry large items was another challenge cited by respondents.
- For trips to other parts of San Francisco, distance was also cited as a challenge to using alternative modes to driving.

- For regional trips from District 4, respondents noted distance and the lack of transit options as challenges.

The two Chinese focus groups raised similar common themes regarding public transit as those stated in the survey results:

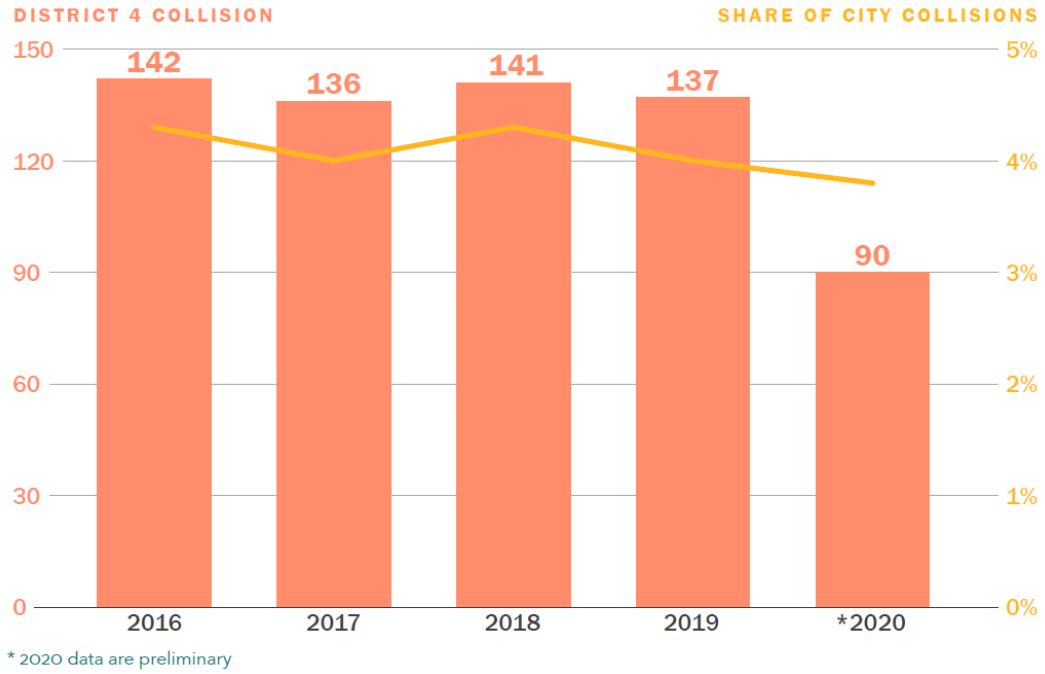
- Transit service challenges
  - Not enough buses
  - Infrequent transit
  - Delays because of technical issues (especially on the N Judah)
  - Crowding, especially during commute times
- Difficulties carrying groceries on transit

2.3 | TRANSPORTATION SAFETY

Transportation safety has been a priority for Board Member Mar. The District 4 Office has been working closely with SFMTA to implement daylighting throughout the district. Daylighting improves visibility between pedestrians and drivers at crosswalks.

District 4 has generally lower levels of traffic collisions than other parts of the City (Figure K). Overall collisions have held steady in District 4 until the pandemic when they declined significantly, similar to the City as a whole. District 4 has under 4.5% of all collisions in the City, but is close to 9% of the total city population.

Figure K. Traffic Safety Collisions in District 4



Vision Zero High Injury Network corridors in the district include portions of Lincoln Way, 19th Avenue, Sloat Boulevard, Sunset Boulevard and Taraval Street. Various projects that include safety elements are planned or are being implemented on 19th Avenue, Sloat Boulevard and Taraval Street. While Lincoln Way has the second highest number of collisions among District 4 the high-injury network streets, and warrants a focused planning and design effort to address the corridor's safety needs. Improving safety on Sunset Boulevard should also be a focus in the planned 29R Muni Forward project.

Table 2. 2016-2020 Collisions within District 4 on High-Injury Network Streets

STREET	COLLISONS
19th Avenue	87
Lincoln Way	70
Sloat Blvd	43
Sunset Blvd	39
Taraval Street	29

LINCOLN WAY

One area of significant safety concern is Lincoln Way. In 2018, the Planning Department looked at existing conditions around the edges of Golden Gate Park. One of the key findings was that many intersections had limited pedestrian safety design features.

- Intersections with formal park entrances and bus stops have the basic safety provisions. Quality of safety measures at bus stops varies, with lower quality conditions on the south edge (Lincoln).
- There are many portions along Lincoln where there are no sidewalks on the park side or they are in need of repair.
- About 12 intersections (44%) along the corridor are not controlled (without a stop sign or traffic signal) and could benefit from pedestrian safety features

A large portion of Lincoln Way is part of the Vision Zero High Injury Network. From 2018 to 2020, there were 85 collisions along Lincoln Way, averaging about 29 collisions a year. About 59% of those collisions occurred on the District 4 portions of Lincoln Way. Key intersections on Lincoln Way that had the highest collisions were 7th, 9th, 19th, 25th, and 41st Avenues.

Collision data from 2006 to 2017 for the whole length of Lincoln Way between Great Highway and Arguello indicates greater risk for vulnerable users, with 51 pedestrian collisions and 46 bicycle collisions during this period. [1]

Two fatal collisions occurred on Lincoln Way in recent years leading to the deaths of a motorcyclist in 2015 and a pedestrian and motorcyclist in 2020.[2] While this study did not do a comprehensive review of collision factors across these incidents, speed is likely a significant contributing factor as it is on the parallel route of Fulton Street along the northern edge of Golden Gate Park.

Vehicle Speeds

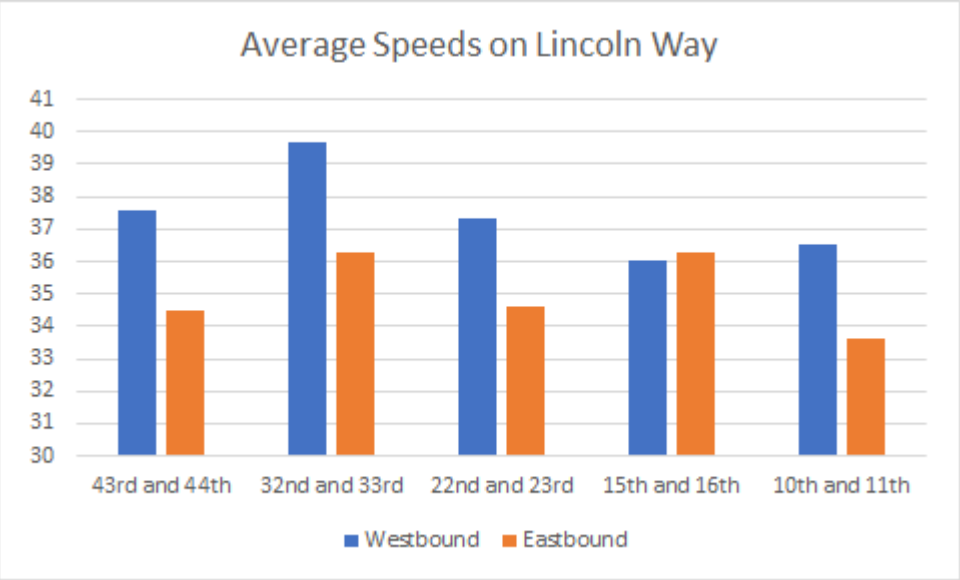
Staff examined vehicle speed survey data taken by SFMTA along the Lincoln corridor in 2017. The posted speed limit on Lincoln Way has since been lowered to 30 miles per hour.

Speeds of vehicles traveling westbound were slightly higher in the outer avenue locations. Speeds heading eastbound were lower, most likely due to increasing congestion in the more inland parts of the corridor.

[1] SFCTA Safety Map, http://safety.sfcta.org

[2] https://sfgov.org/scorecards/transportation/traffic-fatalities

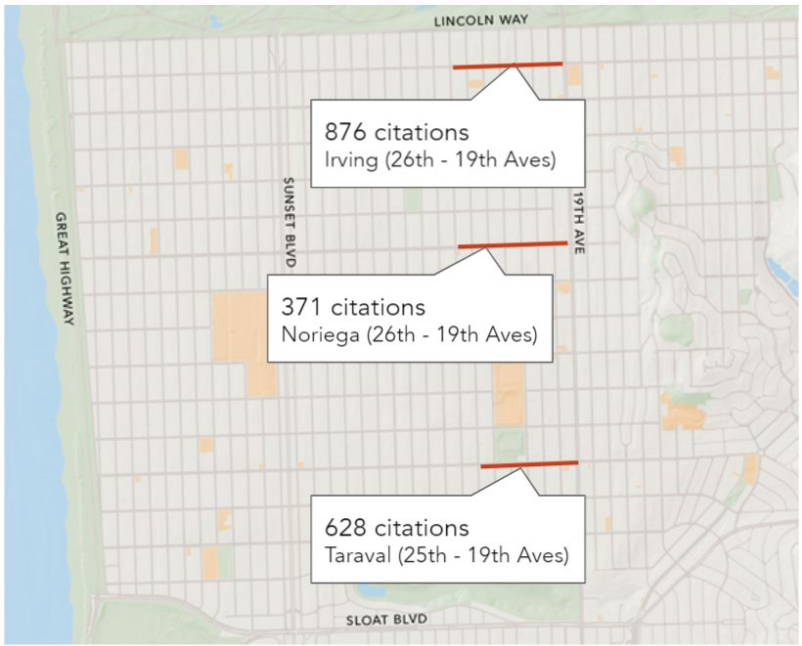
Figure L. Average Speeds on Lincoln Way (2017)



Double Parking in Commercial Districts

Double parking in commercial corridors can present safety issues for bicyclists and pedestrians and cause delays for transit and drivers as well as deter access to stores. Figure N shows hot spots for double parking citations along the inner portions of the Irving, Noriega and Taraval commercial corridors.

Figure M. Double Parking Hot Spots (citations from 2009-2019)



3. Recommendations

As the travel market analysis showed, there are a large number of District 4 driving trips occurring within District 4 or to areas close by like the Richmond District, Inner Sunset, and northern Peninsula. The solutions developed by staff are focused on improving walking, biking, and transit for these types of trips.

3.1 | DISTRICT 4 FAMILY NEIGHBORWAY NETWORK

ABOUT NEIGHBORWAYS

Neighborways are residential streets designed to give priority for people, young and old, to walk, bike, and play. Neighborways make streets feel quiet, safe, and inviting with street design measures tailored to each neighborhood. As part of this study, the team developed a network of potential neighborways.

POTENTIAL DESIGN TREATMENTS

There are a number of design strategies that can be applied to the neighborway network to make streets feel quiet, safe, and inviting. The combination of design treatments will be tailored for each neighborhood through the follow-up design phase beginning this year. The streets we are recommending for further study will not necessarily include every design element, which will be applied as appropriate throughout the neighborhood. There are three types of treatments:

1) speed reduction: speed humps or tables and raised crosswalks.

2) marking space for bicycling: such as bike lanes and sharrows. The use of bike lanes would depend on the geometry and characteristics of the street. In some cases, the streets we considered for the neighborway network already have existing bike infrastructure.

3) managing vehicle volumes: restricting vehicle traffic using signs or physical barriers.

Below are descriptions of some of the treatments that may be applied to the neighborway network.

Figure N. Speed humps reduce vehicle speeds

Figure O. Raised crosswalks slow vehicles in areas of significant pedestrian presence

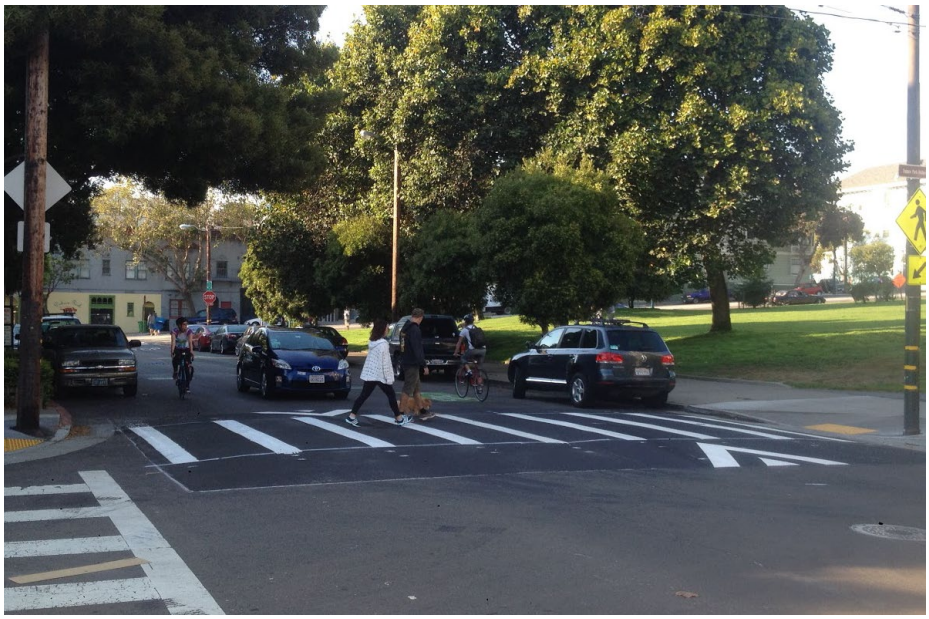


Figure P. Bike lanes designate a portion of the roadway for bicycle use.

Figure Q. Sharrows indicate the sharing of lanes between bicycles and vehicles.

Figure R. Traffic diverters limit vehicle traffic on a street.

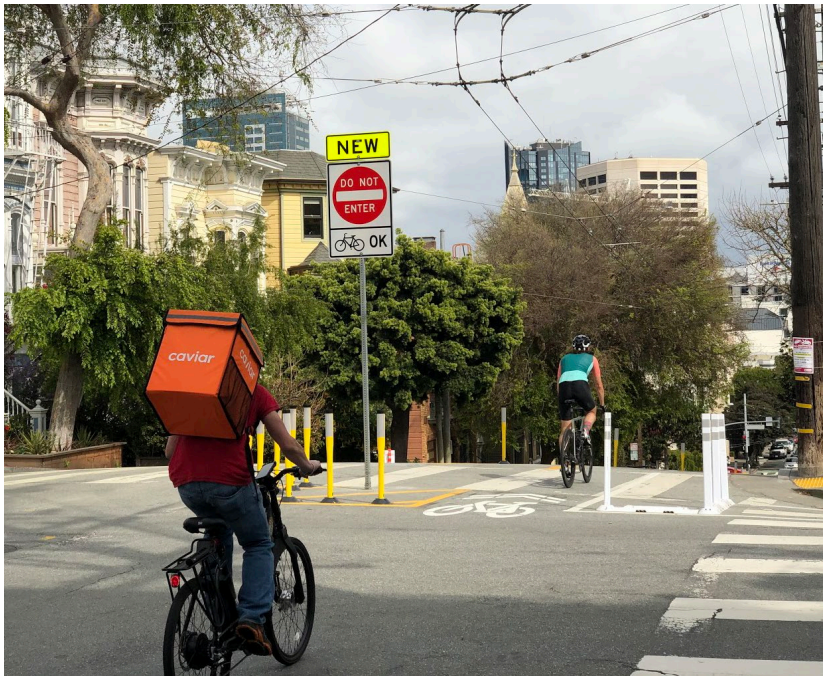


Figure S. Turn restrictions can reduce potential conflicts thus improving safety for pedestrians and bicyclists.

POTENTIAL NEIGHBORWAYS

To identify corridors in District 4 that are suited to becoming a neighborway, SFMTA analyzed and considered the following feasibility criteria, including required minimum criteria and desirable characteristics. Minimum criteria that must be met include:

- Within the jurisdiction of the SFMTA
- On a residential street
- Not on a Muni route. This also includes non-revenue routes, which are streets that are not on the Muni service map but they are used to get buses and trains in and out of service, turn around points, and streets frequently used for transit re-routes.
- Not on an emergency service corridor - these are major streets frequently used and constitute the bulk of a responder's trip to their destination
- Not on a street that primarily operates one-way

Additional desirable characteristics for neighborways include:

- Connections to bikeways
- Connections to public spaces and parks
- Streets that are relatively flat
- Few intersections with traffic signals along the corridor
- A continuous and linear route
- A route that is at least 4-6 blocks long

Given the above criteria and desirable characteristics, several streets were initially identified as potential neighborway streets (Figure U).

Figure T. Streets Considered as Potential Neighborways

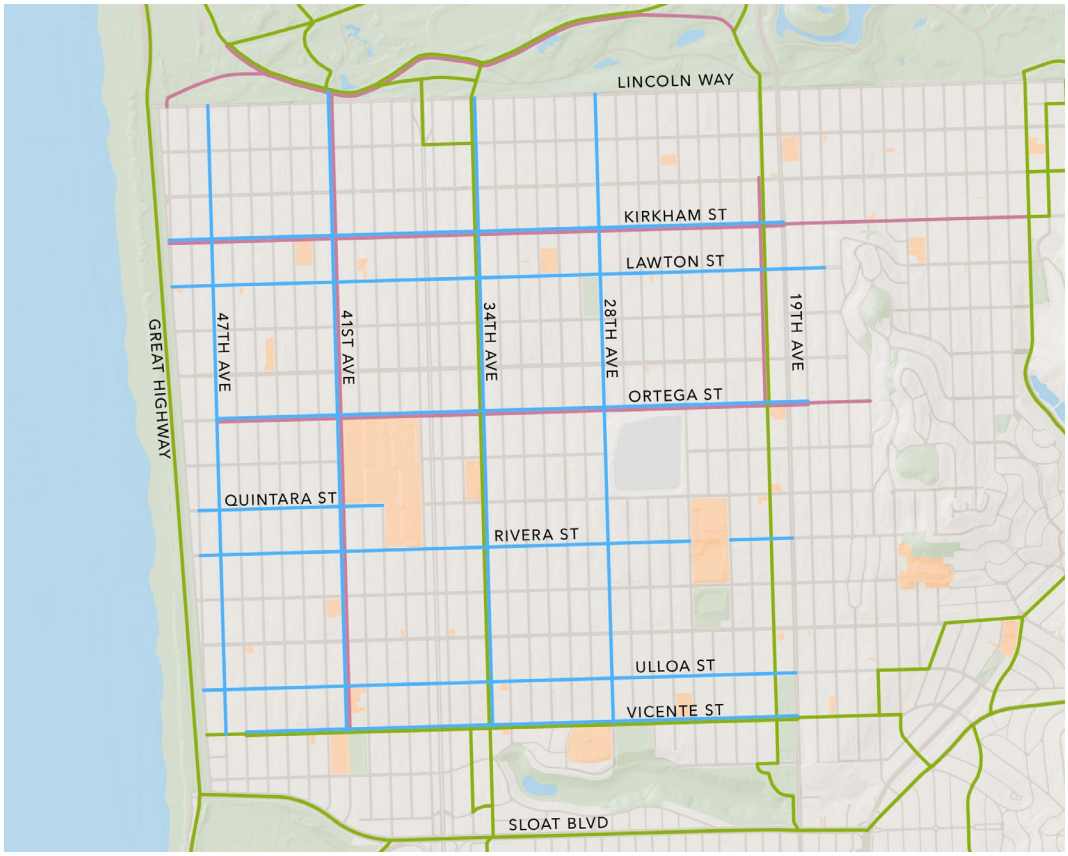


Table 3. Streets Considered as Potential Neighborways

NORTH-SOUTH STREETS	EAST-WEST STREETS
• 47th Ave or 48th Ave • 41st Ave • 37th Ave, 36th Ave, or 34th Ave • 29th Ave or 28th Ave	• Kirkham or Lawton • Ortega • Quintara or Rivera • Ulloa or Vicente

With these potential corridor options, the District 4 family neighborway network is expected to be four east-west routes and five north-south routes including 20th Avenue which has already been designated a neighborway.

OUTREACH FEEDBACK

During the March 2021 Open House, participants were asked "Which types of connections/destinations are most important to you for the family neighborway network?" Respondents could select more than one answer.

Over half of poll participants stated a desire to access commercial districts in the area through the neighborway network, with about 45% stating a desire to access open space/parks. Connections to the bike network beyond the Sunset was cited by 30%, and schools by 29%.

During outreach, we received comments that touched on a number of topics related to neighborways:

- Safety on the neighborways: concerns about drivers disregarding turn restrictions and signage or questioned how turning and other vehicle restrictions will be enforced.
- Bicycle infrastructure: concern with the safety of sharrows and desire for bike lanes and bike parking.
- Usage of potential neighborway: experience not seeing many people using Slow Streets in the Sunset during the pandemic.
- Traffic diversion: concerns about vehicle access if there are traffic diversion treatments.
- Impact on school commutes and the need to work with parents in the area

At our merchant outreach event, some participants also expressed concerns with vehicle access issues that they have experienced under the current Slow Streets program and neighborway design treatments that restrict vehicles. Merchants expressed challenges with congestion and road closures for delivery vehicles, employees, and customers during the pandemic.

SELECTING A PREFERRED NEIGHBORWAY NETWORK

In order to identify the neighborway network for further outreach and design, we reviewed the corridor options relative to how they provide improved walking and bicycling access to:

- Commercial corridors
- Parks & open space
- Schools
- Existing bike routes or connections

Below is the summary of that evaluation. Staff considered the above factors and compared different north-south and east-west streets in different parts of the district.

North-South Streets

On the far west side of the district, between 48th & 47th Avenues, we find that 47th Avenue offers more connectivity to open space and access to more commercial areas.

Table 4. Neighborway Evaluation: 48th & 47th Avenues

	48TH AVE	47TH AVE
Commercial Corridor Access	Judah	Judah, Noriega, Taraval
Park & Open Space Access	No access, uncontrolled Lincoln crossing	Narrow path into Golden Gate Park, leads to paved east-west corridor of MLK at Bernice Rodgers, uncontrolled Lincoln crossing Through connection to SF Zoo
Schools	1 school within 1 block	1 school within 1 block
Existing Bike Route or Connections	None	None
Recommended		✓

Moving eastward, 41st Avenue is the only street in this part of the district that meets the minimum criteria. In evaluating it in relation to desired connections, it offers good access to commercial corridors, open spaces, and schools.

Table 5 Neighborway Evaluation: 41st Avenue

	41ST AVE
Commercial Corridor Access	Irving, Taraval
Park & Open Space Access	Clear roadway and pathway access into Golden Gate Park along Chain of Lakes Blvd. South Sunset Fields
Schools	4 schools directly on street 2 schools within 1 block

Existing Bike Route or Connections	Connects to Chain of Lakes bike route. Slow Street during pandemic.
Recommended	✓

In the middle of the district, close to Sunset Boulevard there were three streets considered for the neighborway network: 37th, 36th and 34th Avenues. Between the three, 34th Avenue offers the opportunity to address desired connections.

Table 6. Neighborway Evaluation: 37th, 36th and 34th Avenues

	37TH AVE	36TH AVE	34TH AVE
Commercial Corridor Access	None	None	Taraval
Park & Open Space Access	Able to connect to Golden Gate Park on paved path on west side of Sunset under Lincoln	None	Signalized Golden Gate Park entrance leading to Polo Fields. Stern Grove
Schools	1 school directly on street 2 schools within 1 block	1 school directly on street 1 school within 1 block	1 school directly on street 2 schools within 1 block
Existing Bike Route	No	No	Bike route with white painted sharrows
Recommended			✓

On the middle eastern end of the district, the study team considered between 29th and 28th Avenues. Both streets offer similar connectivity and access to desired destinations. Through the evaluation, the team found that 28th Avenue provided slightly more direct access to schools and a commercial area along Judah Street.

Table 7. Neighborway Evaluation: 29th and 28th Avenues

	29TH AVE	28TH AVE

Commercial Corridor Access	Taraval	Taraval, Judah (minor)
Park & Open Space Access	Parkside Square, Stern Grove, Sunset Rec Center	Parkside Square, Stern Grove, Sunset Rec Center
Schools	1 school directly on street 1 school within 1 block	2 schools directly on street
Existing Bike Route or Connections	No	No
Recommended		✓

East-West Streets

Transitioning to east-west streets, Kirkham and Lawton are the northern most streets in the district that meet the criteria. Kirkham has the advantage of already having a bike lane and proximity to the Judah commercial corridor while Lawton offers connection to more schools as well as the Sunset Recreation Center.

Table 8 Neighborway Evaluation: Kirkham and Lawton

	KIRKHAM	LAWTON
Commercial Corridor Access	Judah	None
Park & Open Space Access	None	Sunset Rec Center
Schools	1 school directly on street 3 schools within 1 block	5 school directly on street 1 school within 1 block
Existing Bike Route or Connections	Bike lane Slow Street during pandemic.	No
Recommended	✓	

Similar to 41st Avenue among the north-south streets, Ortega was the east-west street in this part of the district that the neighborway criteria. While it does not connect to parks and open spaces, it is one block from the Noriega commercial corridor, has a number of schools along the street and an existing bike lane.

Table 9 Neighborway Evaluation: Ortega

	ORTEGA
Commercial Corridor Access	Noriega
Park & Open Space Access	None
Schools	3 schools directly on street 1 school within 1 block
Existing Bike Route or Connections	Bike lane Slow Street during pandemic.
Recommended	✓

In the middle-southern area of the district, the study team considered between Quintara and Rivera Streets. Both streets have similar access to key destinations but Quintara is not a through street through the district and the potential extent of Rivera is longer and makes for a more connected neighborway network.

Table 10 Neighborway Evaluation: Quintara and Rivera

	QUINTARA	RIVERA
Commercial Corridor Access	None	None
Park & Open Space Access	None	None
Schools	1 school directly on street	2 schools directly on street 1 school within 1 block
Existing Bike Route or Connections	No	No
Recommended		✓

On the southern end of the district, staff considered between Ulloa and Vicente Streets. While Ulloa is closer to Taraval Streets, Vicente has more park/open space and school destination connections.

Table 11 Neighborway Evaluation: Ulloa and Vicente

	ULLOA	VICENTE
Commercial Corridor Access	Taraval	None
Park & Open Space Access	Larsen Park	Parkside Square, South Sunset Fields, Larsen Park
Schools	1 school directly on street 5 schools within 1 block	5 schools directly on street
Existing Bike Route or Connections	No	No
Recommended		✓

RECOMMENDATION

Based on the evaluation, the following streets are recommended for the District 4 Neighborway Network:

Table 12 Recommended Neighborway Network Streets

NORTH-SOUTH STREETS	EAST-WEST STREETS
• 47th Ave • 41st Ave • 34th Ave • 28th Ave	• Kirkham • Ortega • Rivera • Vicente

Figure U. Recommended Neighborway Network

In the next phase of planning, SFMTA will undertake further study and outreach to confirm the network of neighborway streets, inform the extents of each corridor, and develop specific design treatments to be applied along neighborway network corridors. Considering the public feedback we received specific to the neighborway network concept, outreach beyond immediate residents/neighbors should be conducted if vehicle restrictions are being considered as a treatment option for a corridor.

Bikeshare Expansion

Separate from the District 4 Mobility Study, Lyft/Bay Wheels has been working closely with staff at SFMTA, Board Member Mar and community members to expand bikeshare to the Sunset. They have been conducting analysis and outreach over the past year to identify over a dozen locations to install bikeshare stations in the area. Lyft and the SFMTA have identified priority locations, based on community input. Lyft will continue to conduct localized outreach for proposed locations and bring them to

an SFMTA Public Hearing in the Fall of 2021 for additional public input before permitting and installation.

3.2 | SAFETY IMPROVEMENTS ON LINCOLN WAY

The goal of this solution is to improve overall roadway safety on Lincoln Way especially for people walking and biking between the Sunset District and Golden Gate Park. Crossing Lincoln Way is also a challenge for pedestrians walking to and from bus stops on the northern side of the street.

RECENT IMPROVEMENTS TO LINCOLN WAY

Following the 2017 speed survey on Lincoln Way, SFMTA reduced the speed limit on the corridor from 35 to 30 mph. The following year, the Recreation and Park Department and Public Works started the Golden Gate Park: 9th Ave and Lincoln Way Improvement Project in an effort to improve the connection between the Inner Sunset neighborhood and Golden Gate Park in San Francisco. This work included a number of safety improvements to Lincoln Way at 9th Avenue such as additional "No left turn" signs to strengthen existing turn restrictions, a bulbout on the southwest corner of the intersection, continental (high-visibility and striped) crosswalks, and upgrades and improved phasing to the traffic signals with a focus on reducing the potential for conflicts between right-turning vehicles and pedestrians crossing the street.

In 2019, SFMTA developed the Inner Sunset Curb Management Project which resulted in improvements for the Inner Sunset portion of the Lincoln Way corridor. Safety improvements included implementing or extending pedestrian visibility red zones (daylighting) at four locations on Lincoln Way from 9th to 12th Avenues.

Despite these recent improvements, there is an opportunity to consider additional traffic calming measures for the entire corridor to reduce speeds and support even safer conditions for all road users, similar to the Fulton Street Safety and Transit Project, north of Golden Gate Park, which has similar needs and conditions.

TOOLBOX OF TRAFFIC CALMING AND SAFETY STRATEGIES

The study team considered a number of traffic calming and capital improvement strategies to improve safety in the corridor. These improvements not only improve safety for pedestrians but also can make roadway conditions safer for all users.

Figure V. Daylighting improves pedestrian visibility at crosswalks and corner intersections but may require the removal of a parking space.

Figure W. Painted safety zones slow down vehicles that are turning at the intersection and improve visibility between drivers and pedestrians.

Figure X. Advanced limit lines are painted lines before crosswalks to signal to mark where drivers should stop and prevent them from encroaching onto the crosswalk.

Figure Y. A road diet converts a four-lane street to a three-lane street with a center turn lane.

OUTREACH FEEDBACK

In regard to Lincoln Way, people during outreach spoke of the following issues:

- Arterial crossings: concerns about safety of crossing Lincoln by foot or bike.
- Driver behavior: concerns about speeding vehicles or drivers not following signage.

Some people cited safety concerns at specific Lincoln Way intersections. These included:

- 3rd Avenue

- 5th Avenue
- 9th Avenue
- 23rd Avenue
- 27th Avenue
- 30th Avenue
- 41st Avenue
- 47th Avenue
- 48th Avenue

RECOMMENDATION

There are 25 intersections on Lincoln Way between Great Highway and Arguello with crosswalks. Staff recommends prioritizing infrastructure safety improvements to the five intersections with the highest number of collisions:

- 7th Avenue
- 9th Avenue
- 19th Avenue
- 25th Avenue
- 41st Avenue

Further study, similar to that conducted for the Fulton Street Safety and Transit Project, can provide an understanding of specific treatments that can be applied at the five priority intersections and 21 other pedestrian crossings along Lincoln.

As mentioned earlier, there are already plans for improvements at 9th Avenue through the Public Works' 9th Avenue & Lincoln Way Improvement Project. SFMTA is also considering signalization of 41st Avenue and Lincoln, and this project has been named in their most recent Capital Plan. As part of the 28 19th Avenue Rapid Project, Public Works is installing a pedestrian bulb on the southwest corner at 19th Avenue. This improves pedestrian safety for those crossing 19th Avenue but not Lincoln Way.

3.3 | IMPROVING ACCESS AND SAFETY ON KEY COMMERCIAL CORRIDORS

As part of our outreach, we also heard that it was challenging to access commercial corridors in District 4 by walking, biking and transit from other parts of the district. This concept focuses on how to improve access to and safety in the district's key commercial corridors.

NEW CURBSIDE GENERAL LOADING ZONES

SFMTA is considering a new General Loading zone to address the double parking issue identified in the needs section. These proposed zones are intended for very short-term 5-minute loading on blocks that have a lot of commercial activity. These zones would provide a place for people in non-commercial vehicles to pull over

quickly to pick up an order at a business or drop something off rather than double parking in the street. Small business owners could also use these zones to unload goods from their own vehicles which is currently prohibited in yellow loading zones without commercial plates. Businesses can apply together and must have significant demand for loading in order to qualify.

Outreach Feedback

Open House participants indicated that they would be about 33% likely and very likely to use a curbside loading zone in order to quickly access businesses on a commercial corridor. Participants of the merchant forum expressed interest in this solution.

Recommendation

During the pandemic, there have been temporary versions of these zones as part of the Shared Spaces program (Figure Z. Signage for a temporary curbside pick-up zone during the pandemic). Pending legislative approval for this type of curb use on a permanent basis, businesses would be able to apply through the Color Curb Program and pay a non-refundable application fee as well as an installation fee if approved for one of these General Loading zones. See the SFMTA Color Curb webpage for more details.

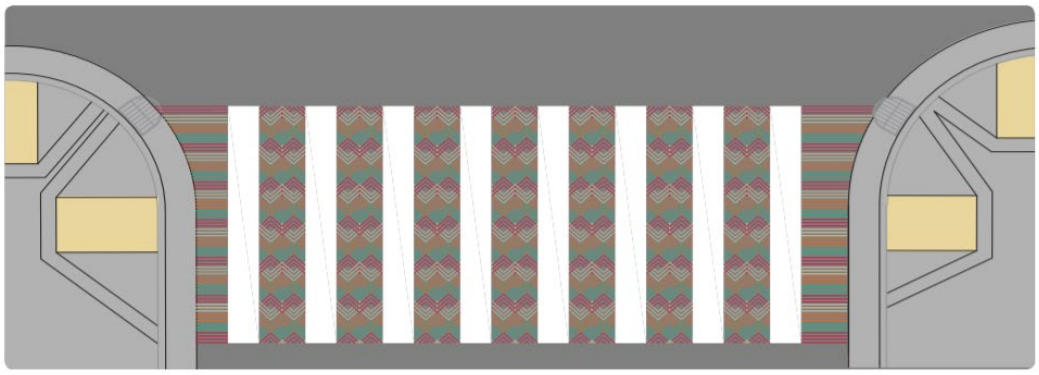
Figure Z. Signage for a temporary curbside pick-up zone during the pandemic

DECORATIVE CROSSWALKS

During our outreach with merchants, there was a desire for safety and placemaking amenities for commercial corridors. One of the new ideas that emerged was to paint

decorative crosswalks in commercial corridors. This type of treatment can support placemaking and distinguish distinct commercial corridors.

Figure AA. Conceptual Design of a Decorative Crosswalk for 6th Street Pedestrian Project



Recommendation

Staff recommends pursuing painted crosswalks in key commercial corridors in District 4. In the Better Streets Plan, the Planning Department provides guidance on special intersection paving treatments. This guidance states that the treatments should:

- Use integrated color, texture, and pattern. Potential materials include but are not limited to colored and stamped asphalt, poured concrete, and stone or concrete pavers
- Provide a surface that does not cause discomfort due to excessive vibration to those using wheelchairs or other assistive mobility devices
- Use stable, durable, and slip resistant materials
- Include edging treatments to visually contrast with the primary material and with the asphalt roadway
- Include crosswalk striping (parallel white lines) on the outer edge of the crossing

COMMUNITY SHUTTLE

In order to provide an alternative to driving and improve access to commercial corridors, staff explored the idea of a community shuttle to provide short distant rides in the district and other nearby destinations. It can also be an opportunity fill in transit gaps or help people get to major transit connections.

Other neighborhoods in the city have been developing plans to pilot or utilize community shuttles. The study team looked to examples of pilot or planned services under development for the Treasure Island and Bayview-Hunters Point neighborhoods.

For Treasure Island and Yerba Buena Island, the shuttle is focused on providing transportation alternatives because of the major redevelopment of the island and a toll on vehicles that will be implemented for vehicles traveling on and off the Islands. For this project, staff have considered starting with an on-demand service and transitioning to a fixed route when demand increased as new development gets added. The funding for the Treasure Island shuttle is unique in that development subsidies are committed to support this and other transportation improvements, and a congestion toll will also be collected.

The Bayview Community Shuttle will focus on improving access between the neighborhood and connections to regional transit (BART and Caltrain), community services, and grocery stores. For this service, SFMTA is considering providing a flexible way to arrange trips through a personal device (via a GPS smartphone-based application or telephone) or via a tri-lingual call center to pair riders and drivers in real time.

In both cases, the shuttle service is expected to be provided through a third-party vendor in coordination with SFMTA. Details about the operations requires further study and will be dependent on the type of service desired.

The study team also looked to an example outside of the San Francisco. Sacramento Regional Transit's (SacRT) Smart Ride Microtransit Pilot project is different from the San Francisco examples as it is a service provided by the public transit operator. Similar to the Treasure Island and Bayview proposed designs, SacRT uses a dynamic routing and request system. SacRT has implemented this pilot project in various zones around the region using public grants and its own funding sources to high customer satisfaction. There are other potential funding sources for the District 4 potential shuttle to utilize. These are discussed further in the Funding and Implementation chapter.

Outreach Feedback

During our March 2021 Open House event, poll participants identified commercial corridors as the top destinations (60%) for a community shuttle to serve. The second highest demand was to major transit connections (37%), followed by access to open spaces and parks (31%). Additionally, a majority of participants indicated this service would be most useful during the day at off-peak hours. There was also a comment asking the city to ensure that a shuttle be made accessible for people with disabilities as it could be a resource to those who don't drive to access neighborhood groceries, services, and recreation.

Recommendation

Staff is recommending this concept for further study and a potential pilot project to test ridership demand and mode shift potential, following public involvement, service

design and business casing analysis. The examples of Treasure Island, Bayview and SacRT represent a range of approaches for a community shuttle, all of which do or would likely incorporate new technology features such as flexible routing and app-based scheduling, in coordination with or directly managed by SFMTA/Muni. The further study of a District 4 community shuttle can explore these open questions such as routes, fare, operational options (alternative service providers and business models), and funding sources (fares, ads, parking benefit district/Business Improvement District, public grants).

3.4 | IMPROVING NORTH-SOUTH TRANSIT

SFMTA, along with the Transportation Authority and the Planning Department, have been developing long range planning concepts as part of the ConnectSF Transit Strategy. For ConnectSF, both Sunset Blvd and 19th Avenue are part of the proposed 5-Minute network, which is intended to provide fast, frequent, and prioritized transit service, with pedestrian safety and access enhancements. Achieving the five-minute network requires street improvements such as transit signal priority and lanes dedicated to buses.

On 19th Avenue, a pilot of high occupancy vehicle lanes that would benefit both buses and carpools is under consideration. This concept is being piloted first on Park Presidio Boulevard between Lake Street and Fulton Street and may be expanded in the future once ongoing utility work, resurfacing, and pedestrian safety improvements are complete on 19th Avenue. On Sunset Boulevard, this would likely include a bus only lane and transit priority.

The District 4 Mobility Study further examined these improvements in the local context. To supplement transit in the north-south market, the project team paired increased service on the 28 and 29 with a conceptual peninsula express bus that would serve: the Richmond, the Sunset, and the Northern Peninsula (Daly City, Colma, and South San Francisco). The findings of this analysis included:

- 4.5% increase in transit trips to, from and within District 4
- 2,100 more daily riders on 28/28R – 19th Avenue
- 11,600 more daily riders on 29/29R – Sunset Boulevard

Additional benefits include travel time savings and improved reliability for new and existing riders. We expect that bus speeds would increase on 19th Avenue by 6% to 7% and on Sunset Boulevard by 7% to 10% with transit priority in this corridor and increased traffic volumes with the Upper Great Highway closed.

In the public workshop, participants expressed some indication that they would increase their transit use if additional frequency was provided and new markets were served, including:

- **Express bus**. If there was an express bus between the Richmond, Sunset, and the Peninsula, participants indicated that they would be about 37% likely and very likely to consider taking transit instead of driving.
- **Improved north-south transit**. If the 29 and 28 bus lines came more frequently (about 5 minutes during commute times), participants indicated that they would be about 38% likely and very likely to consider taking transit instead of driving for short distance north-south trips.

RECOMMENDATION

Staff recommends developing a frequent network of bus routes to serve north-south travel on the west side of San Francisco to complement existing east-west routes (N, L, and 7). This would focus on frequency and transit priority improvements to the 28 and 29 lines (including 28R and proposed 29R), as well as exploration of an express bus service between the northern Peninsula, the Sunset district, and Richmond district.

Staff also recommends continuing to explore options for local and inter-neighborhood transit:

- Local trips may be well served by more flexible transit service that serve local commercial districts and make connections to other east-west and north-south transit services. This could include an improved 18 line (more frequent, serving major destinations/transit hubs in the southwest part of San Francisco (e.g., City College, Daly City BART), piloting of a local Outer Sunset shuttle as described above or potentially re-examining the 66 Quintara route, potentially as a flexible service.
- Inter-neighborhood trips include significant connections between the Sunset and the Peninsula. There is also significant demand for trips between the Richmond and the Peninsula. Options for this service include reconfiguring or adding additional service layers to the 18 46th Ave bus route to either connect at Daly City or serve select northern Peninsula destinations, or working with SamTrans to develop a route that provides this connectivity.

4. Funding and Implementation

Each of the recommendations identified as part of the District 4 Mobility study has a unique path for implementation. The proposed projects are likely to draw upon a variety of local funding sources and potential regional or state grants. The projects also include a mix of capital investments and mobility projects (like the proposed transit improvements and the community shuttle) that would require ongoing operational funding.

4.1 | COSTS AND FUNDING SOURCES

Implementation of recommendations in this study will depend on available funding and timing of funds. In Table 12. Estimated Costs and Potential Funding Sources for Study Concepts, staff identified a number of potential funding sources for study concept recommendations.

Table 13. Estimated Costs and Potential Funding Sources for Study Concepts

CONCEPT	ESTIMATED COST RANGE	POTENTIAL FUNDING SOURCES
District 4 Neighborway Network	Design: $275K Implementation: $850K	Design • Prop K (funding already approved by Transportation Authority Board in June 2021) Implementation • Prop K Bicycle Circulation/Safety • Caltrans Active Transportation Program • General Fund
Lincoln Way Safety Improvements	Planning: $85K Implementation: $120K (paint) $0.3 – $2.1M (41st Avenue improvements)	• Prop K Traffic Calming • Prop K Pedestrian Circulation/Safety • Prop K Bicycle Circulation/Safety • Transportation Network Companies Tax (TNC Tax) • Prop AA Vehicle Registration Fee • General Fund • Regional/State/Federal Grants
Decorative Crosswalks in commercial areas	~$20K per crosswalk	• Prop K Pedestrian Circulation/Safety for restriping • General Fund
5-minute Loading Zone	Pick up zones are cost neutral.	Businesses will be expected to pay a fee to be considered. Another fee would be required for implementation and then a biennial fee to retain it. Fees may be similar to the fee schedule as other color codes.[3]
District 4 Community Shuttle	Additional Planning: ~$100K	Additional Planning • Caltrans Planning Grant

[3] SFMTA's fee schedule for established Color Curb Zones https://www.sfmta.com/services/new-color-curb

	Operations: $1-2.5M annually (depending on service)	• Prop K Transportation/Land Use General Fund k • Regional Priority Development Area Planning grants Operations Funding • Fares • General Fund • Transportation Fund for Clean Air Clean Mobility Options Voucher program • BAAQMD Pilot Trip Reduction Grant Program • State/Federal grants • Alternative sources (to be studied): ○ Advertising on shuttle ○ Establishing a business improvement district ○ Establishing a parking benefit district
Improvements to 28 and 29 bus lines	SFMTA's Fiscal Year 2021-2025 identified plan, design, and implementation costs of $8.6M for the 29 Sunset and $46.8M for the 28 19th Avenue (South of Golden Gate Park)	Improvements to the north-south Muni routes have been identified as part of the ConnectSF Transit Investment Strategy. SFMTA will be developing implementation strategies for the proposed 5 minute and frequent network.
Richmond-Sunset-Northern Peninsula Express Bus	TBD – further planning and coordination of transit agencies needs to be scoped	TBD based on scoping and operators involved

ABOUT FUNDING SOURCES

Local Sources

- Proposition K Transportation Sales Tax: Many of the recommended improvements would be eligible under Proposition K funding categories. These include Traffic Calming, Pedestrian Circulation and Safety, Bicycle Circulation/Safety, and Transportation/Land Use categories. Proposition K Neighborhood Transportation Improvement Program (NTIP) capital funds are often used to fund improvements as recommended through NTIP planning studies. There are District 4 capital funds available for improvements in the district.

- The Transportation Fund for Clean Air supports bicycle, pedestrian, and other transportation projects that help clean the air by cost effectively reducing motor vehicle emissions. The Transportation Authority is the designated County Program Manager for San Francisco and dedicates approximately $750,000 annually to projects.
- The Traffic Congestion Mitigation Tax (TNC Tax) funds bicycle and pedestrian safety improvements, including Quick-Builds, Safe Streets, Signals, and Maintenance categories. The Lincoln Way Safety Improvements may be eligible for funding under the Safe Streets or Quick-Build categories. . As a new fund source significantly impacted by the COVID-19 pandemic, initial revenues have been prioritized for Vision Zero Quick-Build projects.
- General Fund: As part of the annual citywide budget process, Supervisor Mar may request funding from the General Fund for various priorities in his district.

Regional and State Sources

- Pilot Trip Reduction Grant Program: The Bay Area Air Quality Management District (BAAQMD) to support the demonstration of new, innovative, cost-effective alternatives to fixed-route shuttle service in order to cost-effectively reduce commute-hour, single-occupancy vehicle trips in the Bay Area's highly impacted and priority development areas. Depending on the pilot design, this may be a funding opportunity for the community shuttle operations. The maximum grant funding is $1.5 million per project and may be used to support up to two years of operating costs.
- Clean Mobility Options Voucher Pilot Program: The California Air Resources Board (CARB) offers a statewide voucher-based funding program that supports zero-emission car-sharing, ride-sharing, bike-sharing, and innovative transit services for low-income and disadvantaged communities. Clean Mobility Options provides up to $1,000,000 in voucher funds per project to cover the costs for vehicles, infrastructure, planning, outreach, and operations. Funding supports comprehensive project costs for up to one year of design and development activities prior to the launch of projects and two years of project implementation, including infrastructure and outreach.
- Active Transportation Program: The state Department of Transportation (Caltrans) provides grants to encourage increased use of active modes of transportation. This may be a good source of supplement funding for implementation of the District 4 Neighborway Network.

Other Potential Sources

With the challenges of finding funding sources to operate a community shuttle, the study team recommends exploration of other creative sources of funding. These can

be explored as part of the further study of the potential community shuttle and business plan.

- Selling advertising: Revenues from advertising on the shuttle vehicles can be returned back to the continued operations of the vehicles.
- Establishing a business improvement district (BID) or community benefits district (CBD): Through a BID or CBD, businesses or property owners in an area would contribute to a fund that would be used towards improvements within a district. Creating a BID or CBD would require the coming together of a majority of property owners within a district and approval from the Board of Supervisors.
- Establishing a parking benefit district: A parking benefit district would allow a portion of parking meter revenues to be used towards improvements within the district it is collected. Currently, revenues from metered parking are returned to Muni per an amendment to the city charter through Proposition A which was passed in 2007. Creating a parking benefit district would require amending the city charter.

4.2 | IMPLEMENTATION PATHWAYS

Of the solutions presented in the study, there are some that have clear next steps.

Neighborway Network. The Transportation Authority has already recommended allocating Prop K funding to SFMTA to take the proposed neighborway network to the design phase this summer through September 2022. If the design phase is on schedule and funds are available, initial construction would begin in summer 2022 and conclude by December 2023.

Lincoln Way Safety Improvements. To advance this solution, SFMTA would need to request funding for further study similar to the Fulton Street Safety and Transit Project. There are many known sources of funding for the planning and eventual implementation of this type of work.

5-minute Loading Zone. The SFMTA Curb Management team is expected to pursue advancement of this solution. Implementation for this solution requires legislative approval to create this type of curb use on a permanent basis as part of the Color Curb Program. When the type of curb becomes officially part of the program, eligible businesses would be able to apply for a permit. SFMTA staff would conduct analysis to assess supply and demand of curb space in the area and make a determination. If determined to be appropriate, then it would advance through the legislation process for street changes. If approved, the curb would advance for installation.

Transit Improvements to 28 and 29 bus lines. SFMTA already has plans to study a 29 Rapid line. SFMTA is also considering transit priority improvements as part of the 28 19th Avenue Rapid Project.

CHALLENGES AND ISSUES

There are challenges to implementation of some of the recommendations of the study:

Decorative Crosswalks. When compared to standard striped intersections, these can be more costly. As a next step, SFMTA can conduct further outreach on the opportunities for commercial corridor locations for this strategy.

District 4 Community Shuttle. For the community shuttle, the next step would be to conduct further planning to define a potential shuttle service pilot and explore the business model options. Staff has identified several potential funding sources for further planning. In addition, grants are typically available for initial start-up and pilot phases but can be challenging to obtain. Even more challenging to fund are ongoing operations of community shuttles. Development of the potential service will require coordination with SFMTA as well as exploring other potential ongoing funding sources as mentioned in the previous section.

Peninsula Express Bus. Further coordination and planning by SFMTA and SamTrans are needed for this solution. Beyond studying the potential service, this may also require revisiting curbside pick-up and drop off rules that SFMTA has with regional partners.