Active Transportation Study Final Report

INTRODUCTION

ConnectSF is a multi-agency collaborative process to build an effective, equitable, and sustainable transportation system for San Francisco's future.

Through the ConnectSF process, the city will identify policies, major transportation investments, and modal strategies, and land use opportunities that will help us reach our priorities, goals, and aspirations as a city. The Active Transportation Study (ATS) was developed as part of the Streets and Freeways Study to inform policy and investment recommendations for the citywide bicycle network. **For the purposes of this study, "active transportation/active mobility" refers to most methods of traveling outside of automobiles and mass transit. This is inclusive of personal mobility devices of all kinds: bicycles, wheelchairs, scooters, rollerblades, e-bikes and e-scooters, motorized wheelchairs, and more. The ATS does not include pedestrian-specific analysis, but is inclusive of the pedestrian mode on facilities like Class I multi-use paths.**

The purpose of this work is to identify a long-range vision of citywide active transportation corridors, in similar level of detail to the Transit Strategy and Streets and Freeway Strategy, to account for existing demand and future 50-year needs. These corridors represent connections that are a priority to increase attractiveness of bicycling and other emerging forms of personal mobility. The citywide preferred network option envisions not only improving conditions on existing corridors, but also closing gaps in the existing network, improving access to active modes, and development of supportive facilities. Bicycling as a mode of transportation is and will continue to be a critical component of San Francisco's multi-modal transportation network due to factors including expected population growth, capacity constraints on key streets and transit routes, and the ability of a bike network to serve as a non-auto release valve for the transit network during emergency conditions such as earthquakes, power-outages, or pandemics. **The network identified in the Active Transportation Study is not inclusive of a fully realized active transportation network across the City, but instead is meant to identify corridors for priority emphasis and investment to best achieve City goals for equity, safety, and mode-shift.**

EXECUTIVE SUMMARY

In order to develop a long-range vision of priority active transportation corridors for San Francisco, the ATS team chose to analyze two elements: the geography of an active transportation trip and the infrastructure used to make it.

The ATS started broadly with corridors identified within the larger ConnectSF program, then added more corridors specific to existing patterns of travel and the layout of the current bike network. With these corridors as a basis, the team established new geographic units of analysis: zones, corridors, and corridor segments for active transportation. The establishment of zones were dictated by factors such as topography and physical barriers (e.g. freeways), and the borders of each zone established dividing lines for corridor segments.

The ATS defines three main typologies of dedicated infrastructure for active transportation. Typologies are broad categories of bike network infrastructure; each has its potential benefits and represents an array of possible treatments. Each typology establishes minimum acceptable thresholds for infrastructure quality in order to achieve ConnectSF goals. The three typologies are:

- **Best Practice Bike Networks** - Physically separated/protected bike lanes, meant to provide direct routes.
- **Car-Free Streets** - Significant or complete restrictions on vehicle access, with a focus on placemaking for residential/neighborhood streets.
- **Mobility Hubs** - Bike networks supporting access to regional transit hubs, including supportive infrastructure to support greater adoption of electric mobility devices

Various metrics were analyzed at the corridor segment level (see Table 2) to establish a baseline active transportation network which identified priority areas for investment and the typology best suited to each corridor and segment. The team used this foundation to develop three network options tied to different ConnectSF goal areas, shown below. Corridors and their associated typologies were assigned weights related to these goal areas, resulting in three distinct network builds emphasizing different outcomes:

- **Maximum Mode Shift**: bike network investments focused on high job/population areas or areas with high projected growth. Bike network investments prioritize fast and direct commute trips.
- **Vision Zero**: bike network investments focused on the High Injury Network. Bike network investments prioritize car-free streets, encouraging more short trips and street transformation.
- **Equity Priority Communities**: bike network investments prioritize access to mobility, especially in Equity Priority Communities. Access should emphasize connections to Muni Rapid lines and regional transit for low-income communities.

The project team then evaluated the network builds across seven metrics, each scored on a 1-5 scale, to determine their performance (see Table 3). The evaluation resulted in close outcomes in final scores across the three networks:

Maximum Mode Shift Network Build:	**22.0**
Vision Zero Network Build:	**23.2**
Equity Priority Communities Network Build:	**23.9**

The Equity Priority Communities (EPC) Network Build performed slightly better during the evaluation and is the ATS project team's recommended network, representing 80 miles of corridor. The preferred network alternative is shown in Figure 1, overlaid with the SFMTA 2021 Recommended Bike Routes map, providing context to how the preferred network alternative complements and builds off the existing bike network. Street-specific infrastructure improvements, both within the corridors of the preferred network alternative and elsewhere in the city, is not covered through the ATS. Street-specific recommendations will be handled through the upcoming 2022 Active Communities Plan, with the ATS acting as a foundational document to that public-facing, fine-grained work.

In response to executive feedback and to fill a gap in the recommended Network Build, an additional corridor was added on the Westside between the Great Highway and 19th Avenue extending from Lincoln Way to Vicente Street. The loop surrounding Lake Merced was also included.

Figure 1: Equity Priority Communities Network Build with the 2021 SFMTA Recommended Bike Routes and rapid transit stations overlaid

WHY IS THE BIKE NETWORK IMPORTANT?

Active transportation on a high-quality bike network offers a myriad of benefits to cities, communities, and individuals.

- Livability: In contrast to cars, active mobility is a space efficient mode requiring little space and thus can help reduce roadway congestion.
- Affordability: Active modes are low-cost ways to get around the city.
- Sustainability: Active transportation offers ways to get around that do not contribute to greenhouse gas emissions.
- Health: Active transportation is beneficial to health. A San Francisco Bay Area study found that increasing walking and biking from 4 to 24 minutes a day on average would reduce cardiovascular disease and diabetes by 14%.[1]
- Safety: Designing streets for active transportation can help improve safety for all roadway users, reducing injuries and fatalities on our streets and helping us achieve the goal of Vision Zero.

These are just a few of the benefits of continuing to develop a high-quality, safe active transportation network in San Francisco, and important to achieving the Vision goals of the ConnectSF program.

NEEDS OF OUR CURRENT SYSTEM

Historic Successes

The City of San Francisco has been a national leader in the design and implementation of best-practices bicycle infrastructure, boasting a 447-mile bike network with 172 miles in that network qualifying as high-quality, low-stress bikeways.

- Infrastructure
  - The SFMTA's Quick-Build program rapidly delivers high-quality protected bikeways in high-demand locations.
  - The number of bike racks in the city has almost doubled over the last five years to more than 6,000.
- Safety and Livability
  - San Francisco in 2013 was one of the earliest adopters of Vision Zero in the United States.
  - During the COVID-19 pandemic, the Slow Streets program has created a transformational network of car-free spaces.
  - Bicycling mode share increased from 2.3% in 2006 to 4.4% in 2014.
  - San Francisco achieved Platinum status as a Walk Friendly Community in 2019.
  - San Francisco achieved Gold status as a Bicycle Friendly Community in 2016.

[1] Maizlish N, Woodcock J, Co S, Ostro B, Fanai A, Fairley D. Health cobenefits and transportation-related reductions in greenhouse gas emissions in the San Francisco Bay area. Am J Public Health. 2013 Apr;103(4):703-9. doi: 10.2105/AJPH.2012.300939. Epub 2013 Feb 14. PMID: 23409903; PMCID: PMC3673232.

Problem Statement

Despite San Francisco's progress, many challenges remain.

- ***Recent decline in bike mode share.*** From a high of 4.4% in 2014, bicycle mode share has declined to 3.8% (American Community Survey 2019 1-year estimates).
- ***Injuries and fatalities trending in the wrong direction.*** After the introduction of Vision Zero in 2013, the city saw a decline in serious injuries and fatalities; but that trend is again moving in the wrong direction, from a low of 20 traffic fatalities in 2017 to 29 traffic fatalities in 2020.
- ***Increasing roadway conflicts.*** The rise of Transportation Network Companies (TNCs) and delivery services have resulted in drivers treating bike lanes as loading zones, increasing safety risks and discouraging bicycling by all but the most fearless.
- ***Disparities in the system.*** Equity Priority Communities have 12% fewer high-quality bike facilities than the city average[2], resulting in less connectivity and less access to jobs, services. This disparity is exacerbated by negative perceptions in some communities with bicycle infrastructure.
- ***Changing dynamics under the pandemic.*** COVID-19 has placed incredible strain on the transit systems of both the City and the region; transit's limited capacity, and the reticence of riders to return to transit, demands new alternatives to car trips which are attractive and feasible to a wider portion of the population.
- ***Proliferation of new types of mobility devices.*** The past decade has seen an explosion in new types of personal mobility devices: bikeshare, e-bikes, scootershare, electric skateboards, hoverboards, and other assistive mobility devices that can legally use the bike network. A future bike network needs to accommodate these devices and facilitate connections with other low-carbon modes of transportation to meet climate goals.

In looking at the long-range future, the ConnectSF Statement of Needs found that even with the currently planned transportation investments, the most sustainable modes of walking, biking and transit are not expected to increase relative to automobile travel by the year 2050. In other words, the City of San Francisco will fall short of reaching its goal to have 80% of trips taken by low-carbon modes unless more dramatic action is taken.

The Active Transportation Study begins to address these present-day and future issues by setting forth a long-range, corridor-level vision of active transportation connections of the city that will make active modes a more convenient and accessible option for more trips for a broader range of the public.

STUDY APPROACH

The Active Transportation Study sought to develop a high-level, conceptual framework for delivering active transportation improvements throughout the city. Through the ATS, staff is recommending potential improvement typologies in wide corridors serving various parts of the city (not on specific streets). SFMTA staff will conduct identification of specific streets and facility design in the upcoming Active Communities Plan, SFMTA's first citywide bike plan since 2009. As bike networks are made up

[2] SFMTA, 2019 Bike Program Report, p. 15, https://www.sfmta.com/sites/default/files/reports-and-documents/2019/06/sfmta_2019_bike_program_report.pdf

of many types of facilities, the first task for the ATS team was to establish which types of facilities should be used in a future visionary network.

Active Transportation Typologies

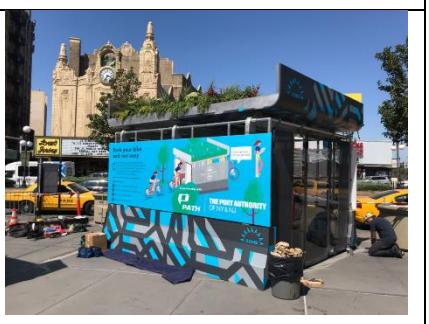
There are many types of active transportation facilities within a bike network, including Class I bike paths, Class II bike lanes, Class III bike routes, and Class IV separated bikeways. Even within these classes, there is wide variation in the way facilities are designed and implemented – largely based on the context of an individual street. Class II bike lanes can have buffers from vehicle lanes or green paint to increase visibility; Class III bike routes can have sharrows or traffic calming devices to lower auto speeds; Class IV separated bikeways can have protected intersections or signals dedicated for bicycle traffic.

Rather than attempting to prescribe specific bikeway treatments across a visionary network, the ATS team instead developed a series of "Active Transportation Typologies". These "typologies", documented in the Active Transportation Typologies Memo and shown in Table 1 below, represent a broad array of potential infrastructure solutions within each typology, grouped around specific policy goals. This provides planners and decision-makers with a broad palate of choices when pursuing projects in the future and allows for flexibility in the public process.

When first considering "typologies" for the ATS, the team established a minimum baseline of infrastructure acceptable for a visionary network meant to achieve mode shift, safety, and climate action goals in the ConnectSF vision statement. All the potential infrastructure applications within the three typologies should be assumed to represent a level of safety, quality, and comfort meeting this minimum baseline.

The three typologies support travel by active modes and capture different approaches for changing the way San Franciscans use and experience streets while using bikes or personal mobility devices. These typologies are the building blocks of the network build options (which will be discussed later in the report) and any future bike network in San Francisco will include a mixture of all three typologies.

Table 1 – Descriptions of Active Transportation Typologies

Typology	*What is it?*	*Potential benefits*	*Visual example*
Best practices bike network	A high-quality and low-stress network for bikes using current best practices. This includes bike paths, protected bike lanes, and neighborways that prioritize safety and comfort.	Safe, comfortable, and direct routes for people of all ages and abilities.	
Car-free street	A citywide network of streets closed to, or heavily restricting, vehicular traffic. Includes both quiet neighborhood streets as well as transit malls shared with buses and streetcars. Curbs are lowered or eliminated, creating shared space that can include seating, trees, public art, and play space.	Maximum safety benefits by reducing exposure to vehicles. Open space and play areas for neighborhoods that promote community resiliency. More reliable transit service on streets limiting private vehicles.	
Mobility Hub	A bike network focused on access to Mobility Hubs at regional transit stations. Mobility Hubs expand access to transit trips and include options for safe storage/parking, electric charging, and bikeshare/scootershare. Assumes a broad range of personal mobility devices, including types not yet widely available.	Encourages trip-chaining with transit, especially in areas where bike trips are not competitive with driving. A broad range of electric mobility makes the bike network accessible for more residents. Topography and hills are less of a barrier for active mobility.	

Geographies for Analysis

The Active Transportation Study builds a long-range vision for active transportation and identifies priorities for future active transportation improvements. The units for building this long-range vision are “zones”, “corridors”, and “corridor segments”.

The project team utilized geographic areas, dubbed “zones,” meant to capture how active transportation users may travel within the city – with boundaries largely based around topography, neighborhoods, and physical barriers to active modes. By buildings zones around these natural “catchment areas”, the ATS can conduct more fine-grained analysis of changes in network

conditions, trip type, and trip length in different communities – with most trips taken in a given zone utilizing the same segments of the bike network.

Corridors and corridor segments are the building blocks of the ATS network build options and answer the question of "where" investments should be directed in the city. Since corridors are long and cover large areas of the city, it may not be appropriate to recommend the same typology along an entire corridor. Some sections of a corridor may have streets that are steeper, or some sections of the corridor may not have access to a rapid transit station. Therefore, each corridor is broken up into segments corresponding with the zones it passes through. Each corridor segment then has a recommended typology signifying the main type of investment that should be prioritized for this portion of the corridor.

The project team used three geographies, described in greater depth in the Data Framework Memo:

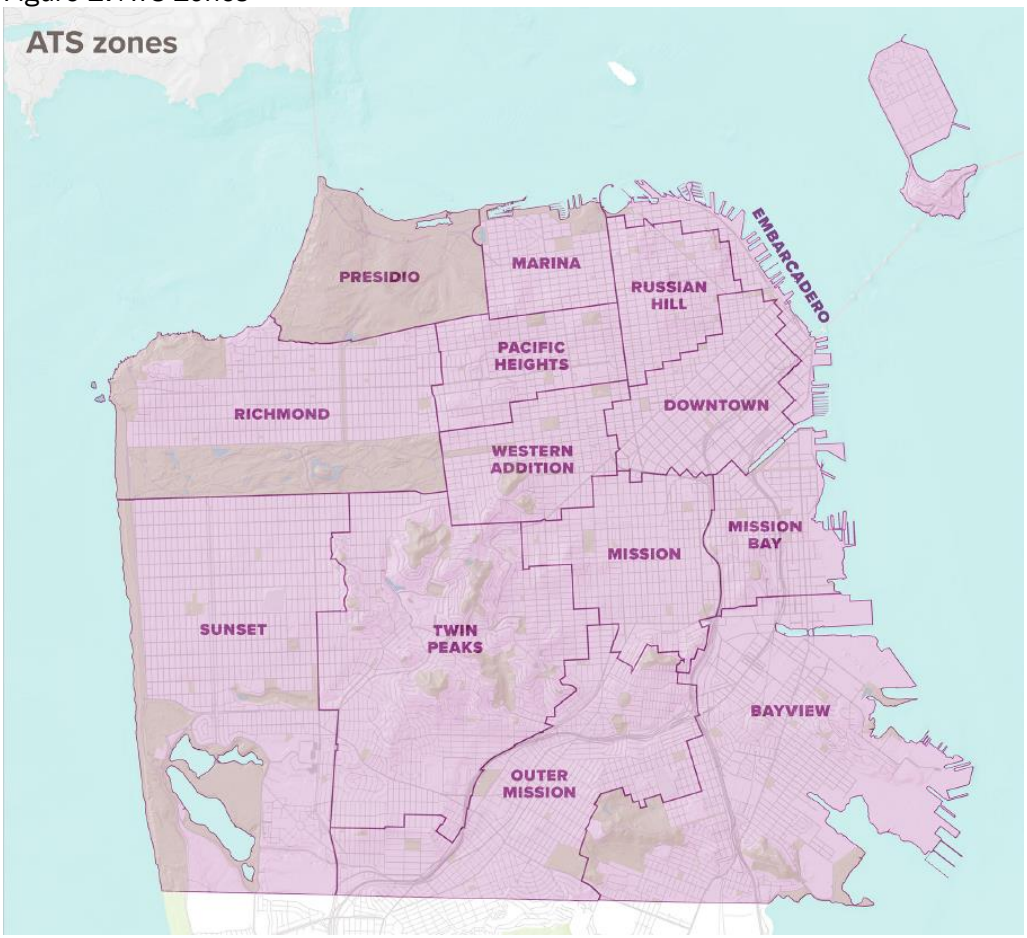
- **Zones**: Geographic area meant to encompass a topographical "watershed" for bicycle trips; an area where typical bicycle trips are likely to converge on a concentrated number of key routes due to natural barriers. The boundaries of zones run along the boundaries of transportation analysis zones (TAZs). There can be more than one corridor in any given zone. The ATS team established 15 zones across the City, shown in Figure 2
- **Corridors**: Active transportation corridors across the city defined by a quarter-mile buffer around a street, seen in Figure 3. Corridors can be analyzed for the populations within them and the impacts of potential network treatments, but their true impact must be measured within the context of the full ATS network.
- **Corridor segments**: Corridors divided by Zone, seen in Figure 4; meant to provide a more contextual look at the communities and demographics along each corridor. Corridor segments are the base unit for the application of Typologies. Corridors, assembled from Corridor Segments, can thus contain a range of Typologies.

Creating Corridors, Corridor Segments and Zones

Zones

For the Active Transportation Study, San Francisco was divided into 15 geographic zones. ATS zones, built off of other ConnectSF work, capture the factors of neighborhood travel (such as steep slopes, transit availability, and physical barriers) which greatly influence mode choice and routes taken. This analysis mainly considered physical characteristics of neighborhoods and did not consider demographics of neighborhoods. Demographic factors were considered in later stages of analysis for the network builds, but not in establishing zone boundaries. The exact boundaries of ATS zones were determined by Traffic Analysis Zones (TAZs), which were used for all ConnectSF predictive modeling. Methodology for establishing Zones is documented in the Zone Methodology Memo.

Figure 2: ATS Zones



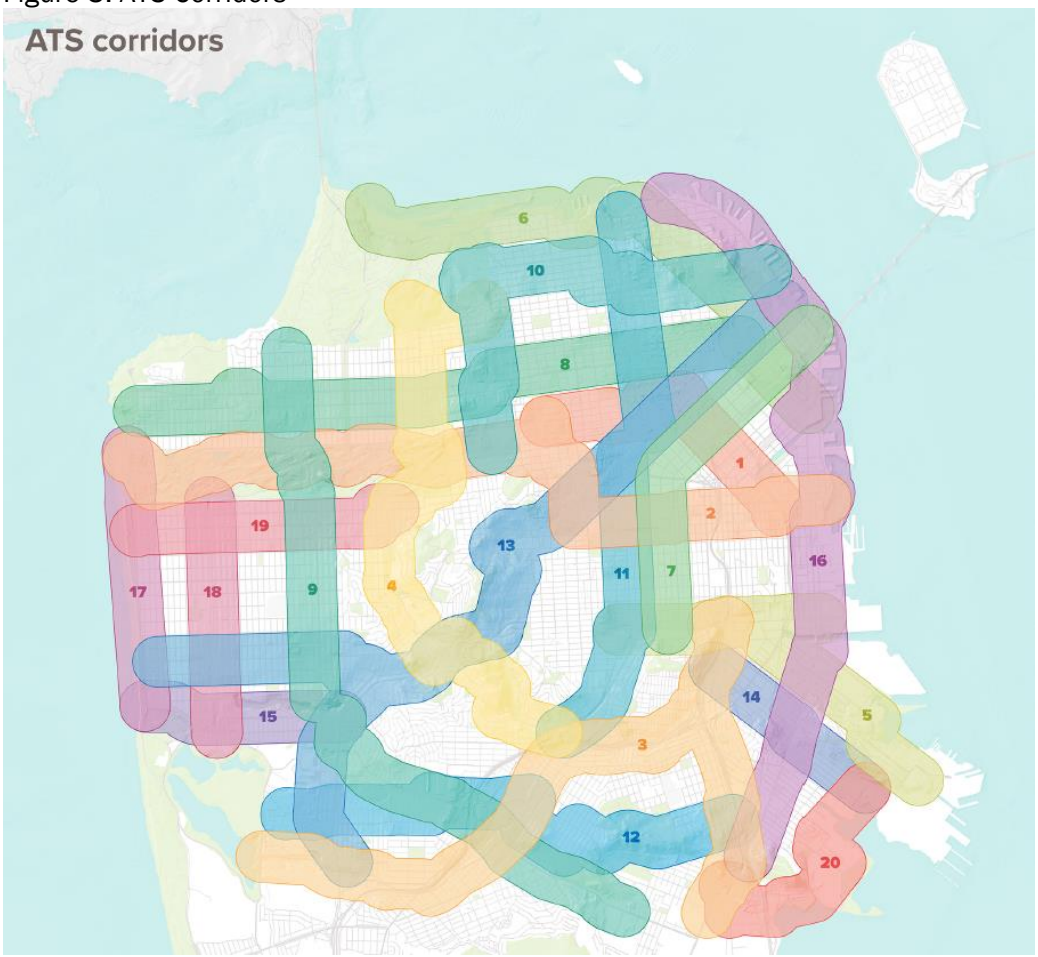
Corridors

The Active Transportation Study includes 20 corridors spanning across the city, each of which has a quarter-mile buffer. The corridors are meant to capture logical paths of travel via bike or other active modes within the city.

The project team carried out a suitability analysis to establish the ATS corridors, documented in the Corridor Suitability Memo. This suitability analysis built off previous ConnectSF analysis, including review of the existing bike network, the SFMTA Bicycle Comfort Index (2017), existing bicycle mode share (from the 2019 American Community Survey), identified bicycle infrastructure projects in the SFMTA Capital Improvements Program (CIP), identified bicycle infrastructure projects in other long-range planning documents, network development analysis in the Transit Corridors Study, and analysis conducted by SFMTA's transportation engineering team.

Overlapping corridors were combined and consolidated during suitability analysis to eliminate redundancy, generating logical, lengthier corridors that traverse multiple ATS zones. The result was the creation of 20 corridors and 49 corridor segments (subsets of corridors).

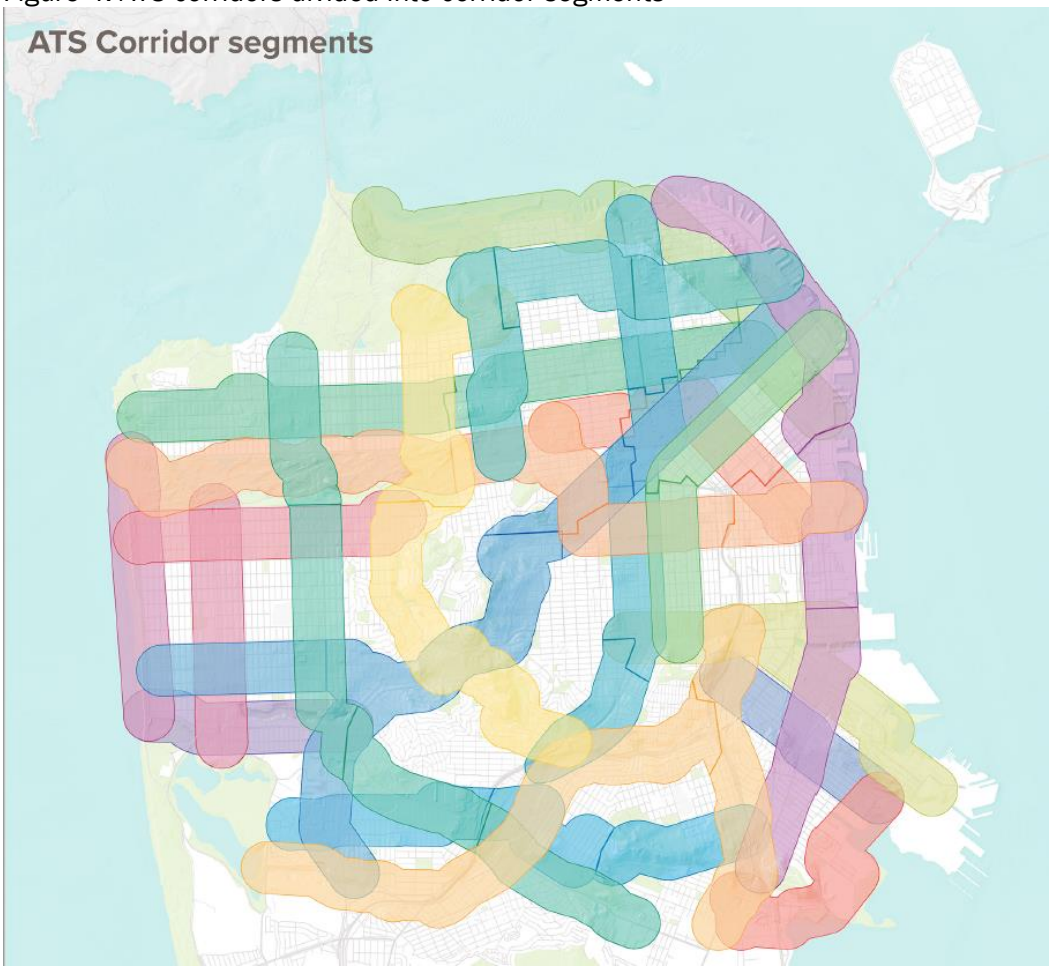
Figure 3: ATS Corridors



Corridor Segments

The 20 ATS corridors are divided into 49 total corridor segments, with zone boundaries acting as the dividing lines between segments. To arrive at the final boundaries for the corridor segments, the project team conducted an analysis to determine the Traffic Analysis Zones (TAZs) that would be included or excluded from the quarter-mile buffer making up each corridor. Because many metrics for the ATS (see Table 2) are analyzed at the TAZ level, and corridor segments are the critical unit for network analysis, it was essential that each corridor segment be defined at the TAZ level as well. During this analysis, some corridor segment boundaries were modified for clarity or ease of analysis. Methodology for finalizing corridor segments is documented in the Corridor Segmentation and TAZ Allocation Memo.

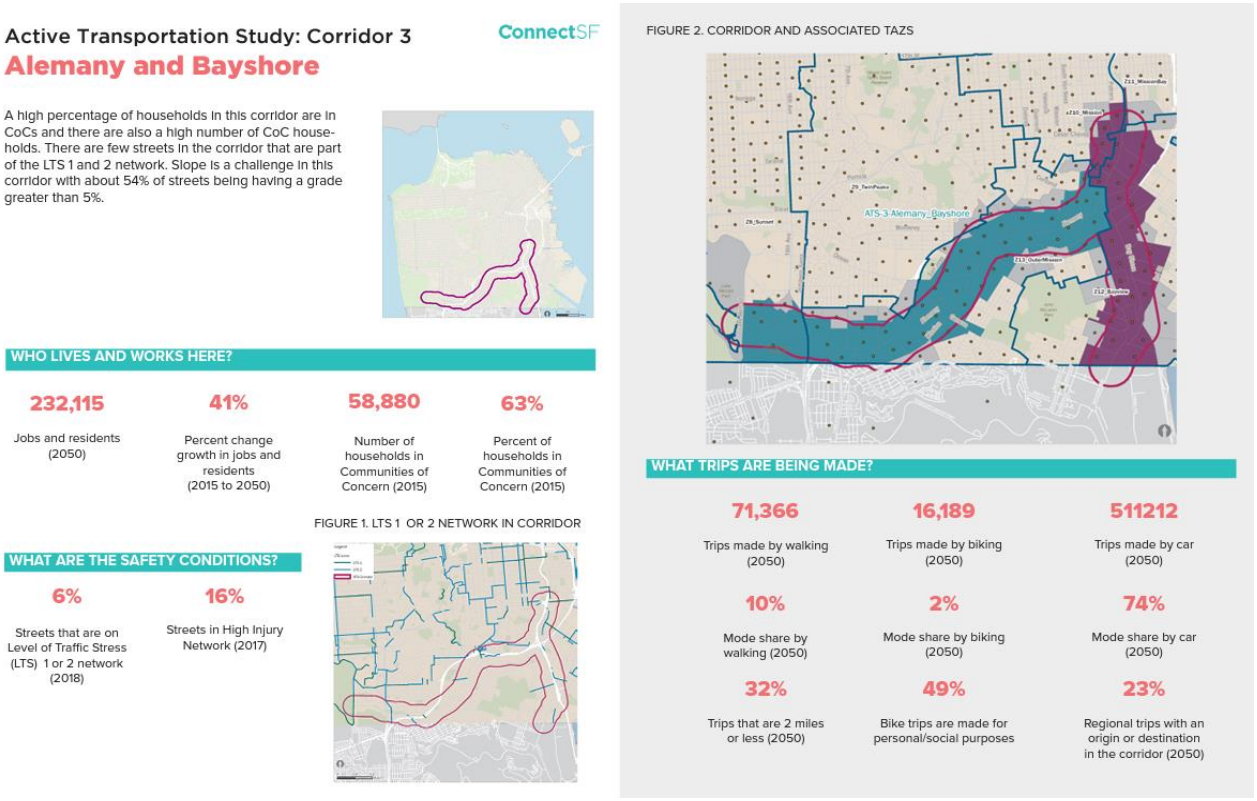
Figure 4: ATS corridors divided into corridor segments



Corridor and Zone Profiles

Corridors and neighborhoods around the city vary by density, active transportation network quality, topography, trip-making patterns and other factors. In order to have a better understanding of the populations and conditions within each geography, the ATS team developed profiles for each of the established corridors and zones – see memos for ATS Zone Profiles and ATS Corridor Profiles. Zone and corridor profiles include both existing data and modeled data for 2050 for trips originating/ending within each geography and the trips traveling through each geography. Profiles for each corridor and zone are meant to provide valuable information and context for current conditions, the modeled future, and network typologies that may best align with the needs and opportunities of a given corridor or zone.

Figure 5: Corridor Profile for Corridor 3 – Alemany and Bayshore



Profiles allowed comparisons between corridors and zones to identify areas with the greatest need or potential for mode shift to active modes. The profiles also help to identify corridor segments that may best align with one of the three active transportation typologies. For example, understanding where there is high vehicle congestion and transit crowding in the future helps identify a need for active transportation as an alternative mode. This data-driven step was critical to later analysis, as it provided characteristics to the corridors and corridor segments that allowed the team to assemble differentiated networks. The table below shows the metrics that were included in the profiles, documented in more depth in the Data Profiles Memo.

Table 2 – Corridor and Zone Profile Metrics

ConnectSF Goal	Profiles Metric
Equity	Percent of households in Equity Priority Communities
	Number of Equity Priority Community Households
	Percent of households with access to key destinations within 500 feet of Level of Traffic Stress 1 or 2 network
Environmental Sustainability	Mode share for walking, biking, transit, and driving trips (2050)
	Number of trips for walking, biking, and transit (2050)
	Percent of population within ¼ mile of a Muni Rapid stop
	Map of congested streets within geography
Economic Vitality	Number of Jobs and residents (2050)
	Percent change in growth of jobs and population between 2015 and 2050
	Percent of total trips in the geography that are regional trips (2050)
	Map locations of regional transit stations within geography
	Maps of transit crowding for PM peak period within corridors and zones
Safety and Livability	Percent of streets included in the High Injury Network
	Percent of trips in 2050 that are two miles or less
	Percent of streets categorized as Level of Traffic Stress 1 or 2 quality in 2019 Bike Comfort Index
	Percent of bike trips within geography that are made for a Personal or Social purpose
	Percent of streets within geography that have a slope at or above 5%

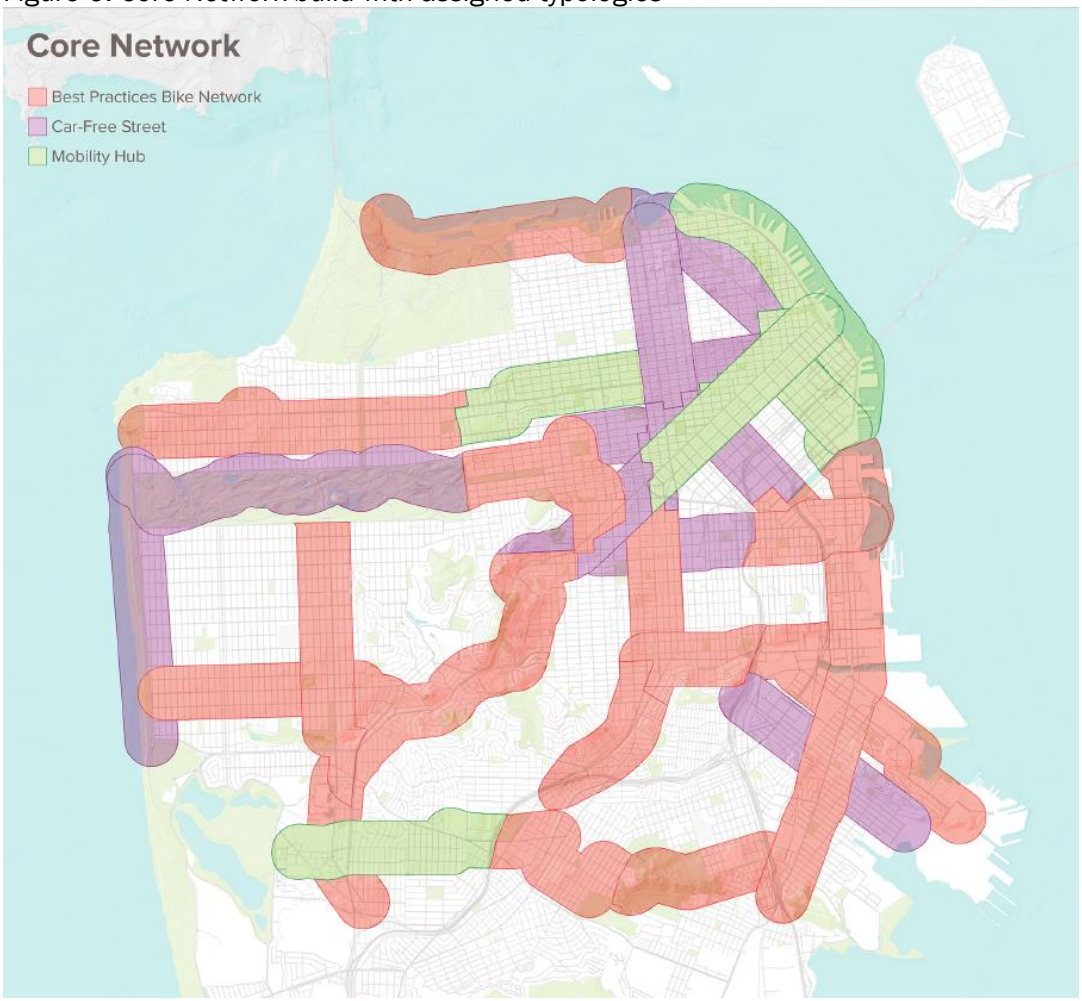
Creating the Core Network

While many corridors in the city could be considered for future active transportation network, the ATS team sought to identify the highest priority corridors as the foundation for a preferred network option. The project team started by developing a "Core Network" from which network variations would be based, depicted in Figure 6. The Core Network represents the corridors in the city with the greatest need or the greatest potential for mode shift to active modes based on the data from the Zone & Corridor Profiles. The Core Network was developed as a foundation to ensure all high priority corridors would be represented across all Network Build options and that each Network Build option would be functional and connected on a citywide level. The development of the Core Network is documented in the Network Builds Development Memo.

Staff selected metrics that had the highest correlation with potential positive outcomes for current best-practice bike network infrastructure. Some examples of these metrics include population located in Equity Priority Communities or percentage of streets that are part of the Vision Zero's High Injury Network. After identifying gaps in the existing bikeway network and reviewing corridor performance by key metrics, staff then evaluated the Core Network for geographic coverage. If staff identified parts of the city that were not served well by the corridors that came out of the initial analysis, staff considered additional corridors or corridor segments that performed well by the key metrics. **In reviewing the profiles and metrics of all 20 ATS corridors, staff narrowed down the core network to 10 corridors and one corridor segment.**

Corridor segments were assigned one of the three bike network typologies based on the correlation between metrics in the Corridor and Zone Profiles and the ConnectSF goals each typology best supports.

Figure 6: Core Network build with assigned typologies



Creating Network Build Options

Using the Core Network as a foundation, the ATS team developed three Network Build themes originally identified in the ATS scope of work to pursue different (but complementary) outcome goals: mode shift, safety, and furthering equitable access to active transportation infrastructure and transit. By optimizing the Core Network around these distinct thematic goals, the ATS team was able to develop three different Network Builds based on alignment with key metrics. Each of these three Network Builds were developed to be comparable in scale, cost, and impact. The development of the three Network Build Options are documented in the Network Builds Development Memo. The Three Network Builds themes are:

- **Maximum Mode Shift**: bike network investments focused on high job/population areas or areas with high projected growth. Bike network investments prioritize fast and direct commute trips.
- **Vision Zero**: bike network investments focused on the High Injury Network. Bike network investments prioritize car-free streets, encouraging more short trips and street transformation.
- **Equity Priority Communities**: bike network investments prioritize access to mobility, especially in Equity Priority Communities. Access should emphasize connections to Muni Rapid lines and regional transit for low-income communities.

In order to develop the different network builds, the first step taken by the ATS team was to revisit the corridor selection in the Core Network. By applying theme-specific metrics to all corridors, the team identified for inclusion corridors and/or corridor segments from the original corridors map that were not included in the Core Network, creating more differentiation for analysis & comparison. The metrics prioritized for each build are listed below:

- **Maximum Mode Shift:** Walk and bike mode shares, 2050 jobs/population, increase in jobs and population from 2015 to 2050, and percent of short trips two miles or less.
- **Vision Zero:** Percentage of streets on High Injury Network.
- **Equity Priority Communities:** Equity Priority Community coverage.

After establishing differentiated networks for each network build, the ATS team conducted analysis for re-assigning typologies across the network to better conform with the goals of each network build option. The method for establishing typologies in the Core Network was modified for each theme, emphasizing increased application of Mobility Hubs, Car Free Streets, or Best Practice bike networks. The team did so by providing more weight to the metrics that indicated suitability for a given typology. The changes in emphasis are described below:

- **Maximum Mode Shift**: De-emphasize Car Free Streets (as a proxy for emphasizing Best Practice Bike Networks), emphasize Mobility Hubs
- **Vision Zero**: Emphasize Car Free Streets, no change to Mobility Hubs
- **Equity Priority Communities Access**: De-emphasize Car Free Streets, emphasize Mobility Hubs.

This weighting allowed for the selection of one bike network typology on a given corridor segment in one network build option, and a different bike network typology on the same corridor segment in a different network build option. The three resulting Network Builds are shown below.

Figure 7: Maximum Mode Shift network build option with assigned typologies

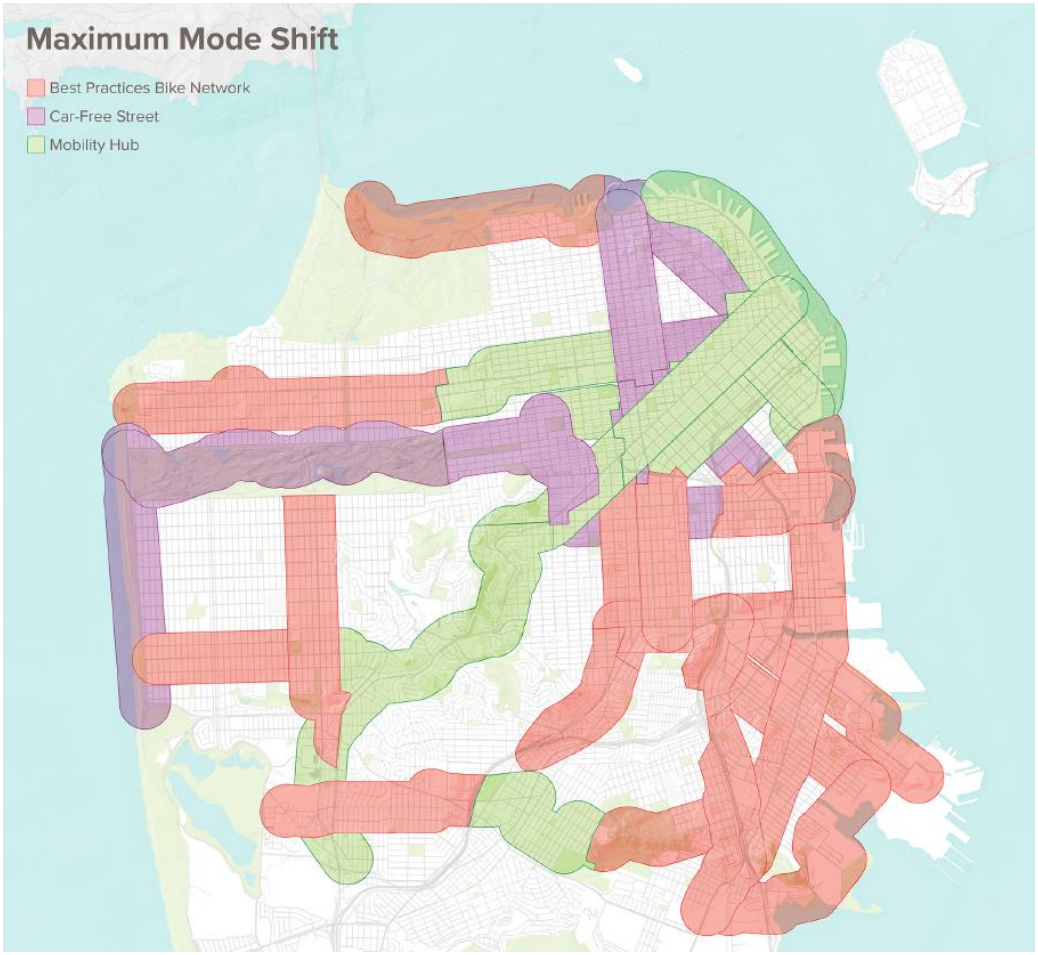


Figure 8: Vision Zero network build option with assigned typologies

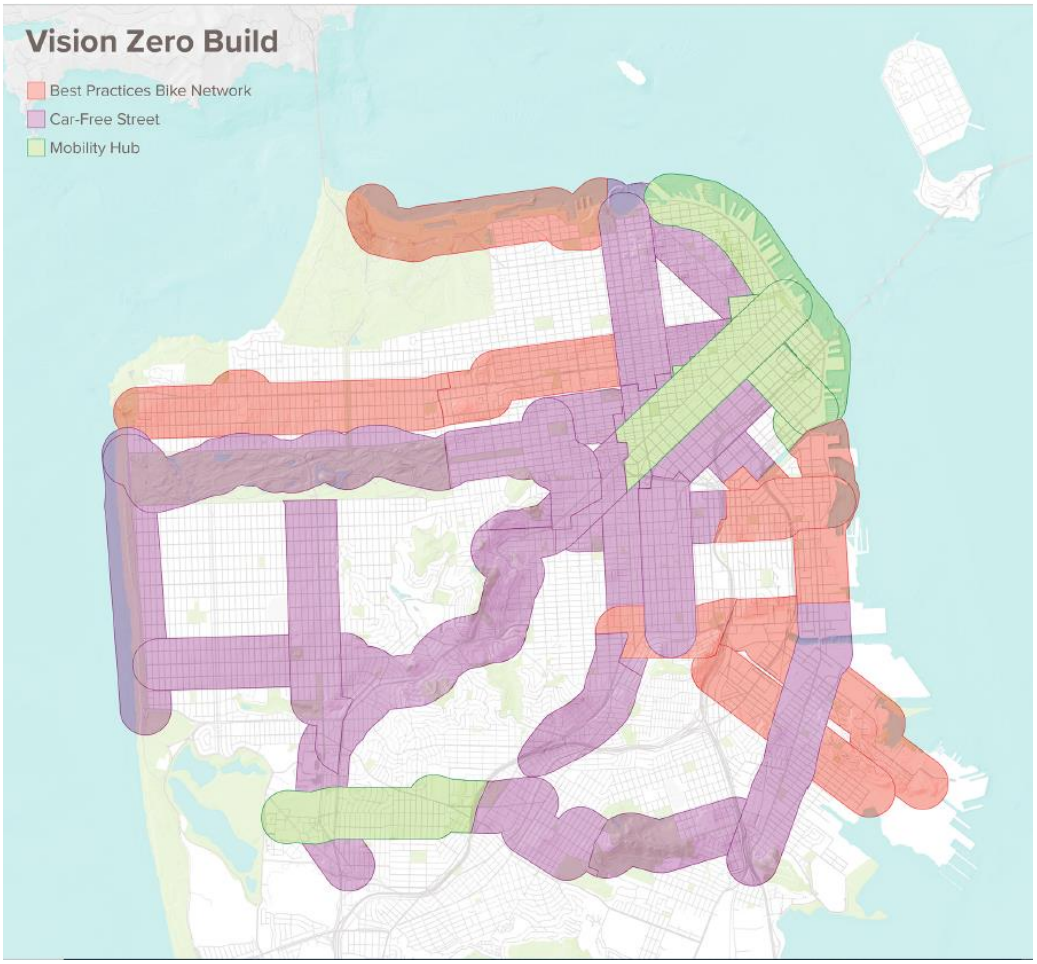
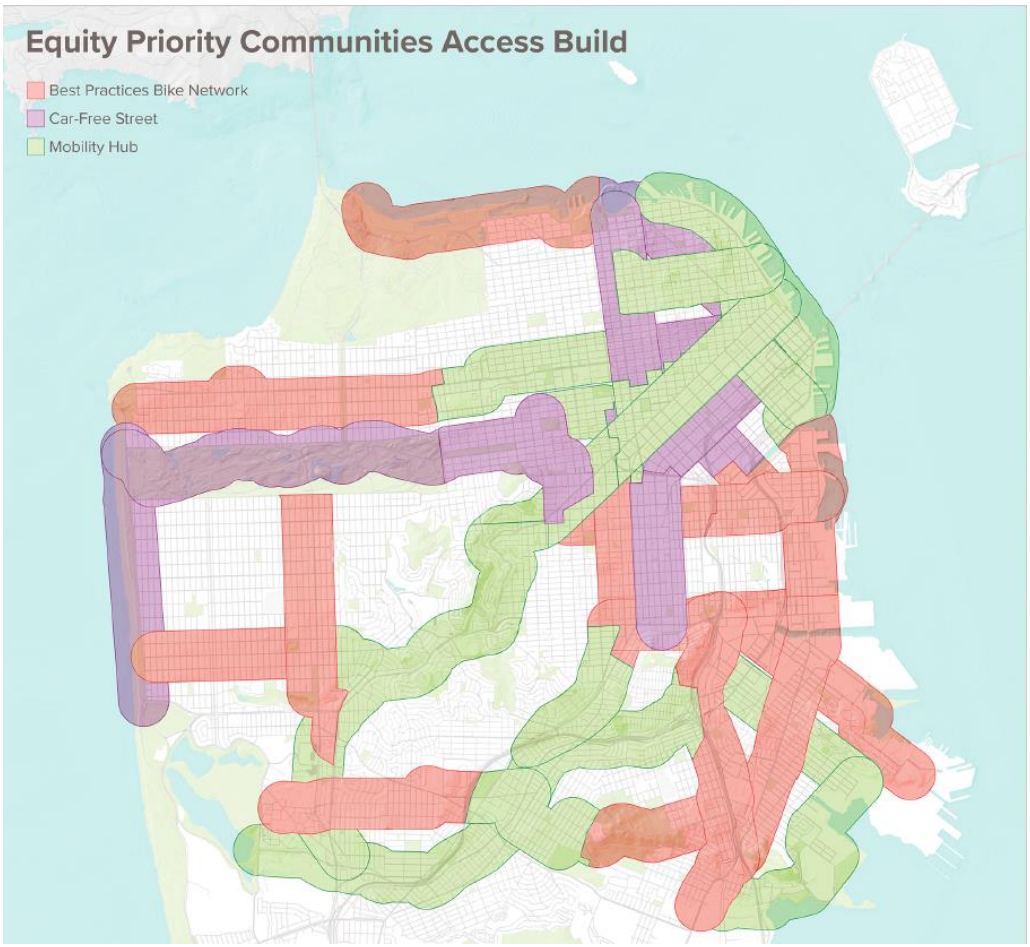


Figure 9: Equity Priority Communities network build option with assigned typologies



Evaluation of network builds (Network Scenario Analysis)

The team developed an evaluation framework to score and prioritize the three network builds for the purpose of selecting a single preferred network option. This preferred network option will be included in the ongoing update of the San Francisco Transportation Element. A detailed description of the evaluation process can be found in the Evaluation Framework Methodology Memo.

Metrics were developed that corresponded with each of the ConnectSF goals. Each network build was evaluated based on its potential to bring about active transportation benefits, such as access to jobs and activity centers.

Public input was gathered on bike network typologies through an online survey during summer 2021. The online survey, which included questions for other components of the Streets and Freeways Study, was an opportunity for the project team to solicit feedback from the general public on typologies and which typologies are needed for building a complete active transportation network. Survey respondents were asked about the importance of the primary goal behind each bike network typology considered in the Active Transportation Study. Survey results showed that there was very little differentiation between survey respondents' rating of each typology. Based on the survey results, the project team applied a weighting scheme to represent the close results from public input.

This weighting was applied to the scores of each metric for each network build before considering the overall score for selection purposes.

Table 3 – Summary of Network Build Evaluation

ConnectSF Goal Area	Metric	Mode Shift Network Build	Vision Zero Network Build	Equity Access Network Build
Environmental Sustainability	Coverage of High-Growth Areas	3.6	3.1	3.9
Equity	Coverage of High-Growth Areas in Equity Priority Communities	3.4	3.6	3.9
Environmental Sustainability	Coverage of High Short-Trip/High Car-Trip Areas	3.1	3.3	3.2
Safety & Livability	Coverage of the High Injury Network	2.4	3.1	2.8
Equity	Coverage of the High Injury Network in Equity Priority Communities	2.6	3.3	3.2
Economic Vitality	Level of Traffic Stress 1 or 2 Access to Regional/Rapid Transit	3.2	3.8	3.8
Economic Vitality	Level of Traffic Stress 1 or 2 Access to Activity & Job Centers	3.7	3.0	3.1
	Combined Score	**22**	**23.2**	**23.9**

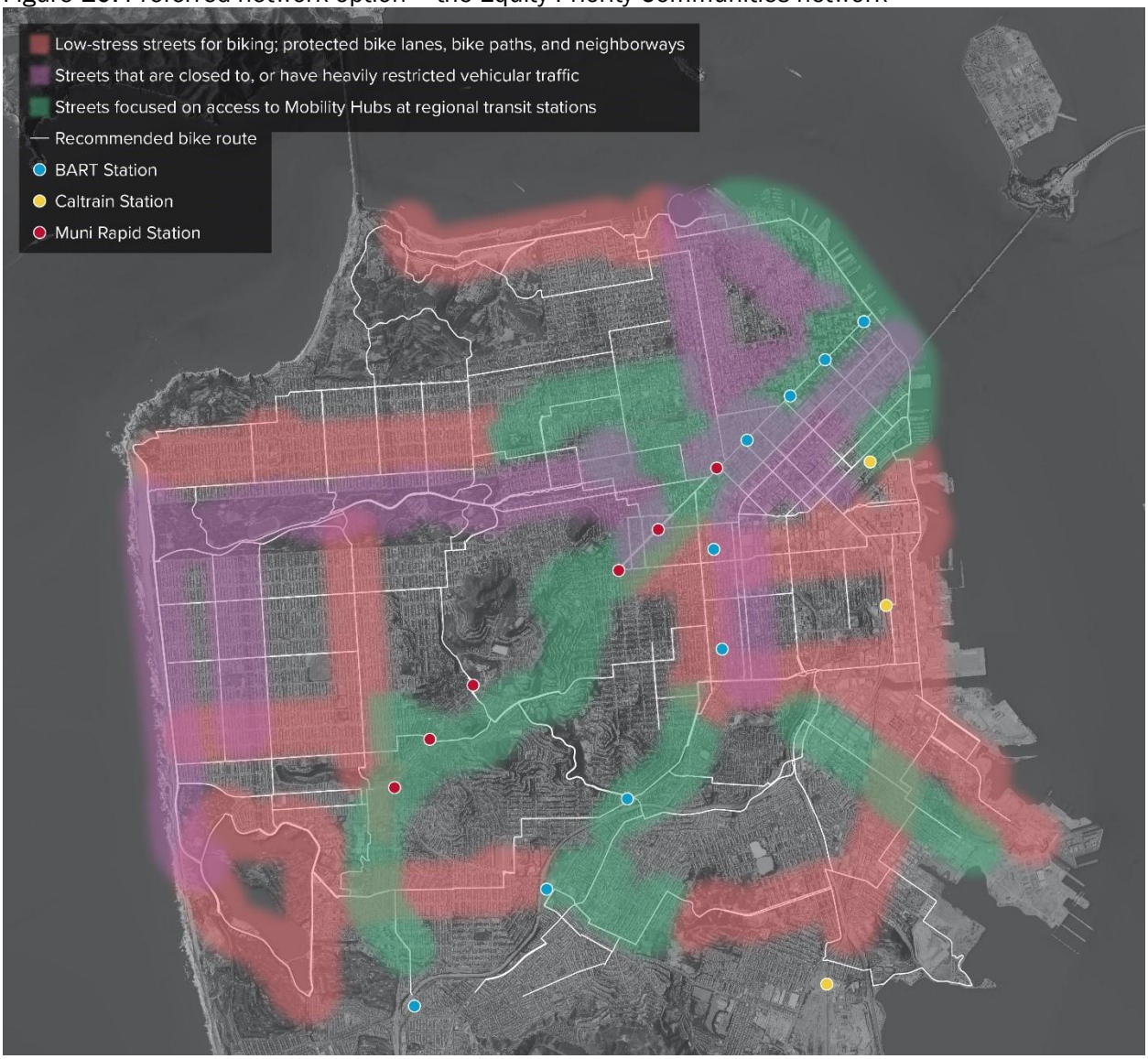
OUR RECOMMENDATIONS

After scoring and weighting, the Equity/Mobility Access Network emerged as the preferred network option due to its higher score compared to the other two network builds because it:

- Prioritizes bike network development in high-growth areas as well as Equity Priority Communities
- Prioritizes infrastructure on the High Injury Network, especially in Equity Priority Communities
- Prioritizes access to existing or future rapid transit through a variety of active transportation options
- Has the largest total mileage and citywide coverage of all three network build options

At a director's meeting in March 2022, directors Tumlin and Chang noted gaps in the recommended Network Build. In response, additional corridors were added on the Westside; one between the Great Highway and 19th Avenue extending from Lincoln Way to Vicente Street, indicated as the Car-Free Streets typology given the use of neighborways in the Sunset; and another around the perimeter of Lake Merced, indicated as the Best-Practice Bike Networks typology given planned development in the area.

Figure 10: Preferred network option – the Equity Priority Communities network



NEXT STEPS AND CONCLUSION

The Equity/Mobility Access Network preferred option represents the culmination of the Active Transportation Study effort over a period of almost 2 years. The project has had to account for many constraints and challenges along the way, the COVID pandemic not least among them. But the vision and outcome it represents has stayed true to the original intent of the project: create a visionary

future network that can maximize mode-shift toward non-auto options, reduce traffic injuries and fatalities, and contribute to a more equitable city.

The Preferred Network option selected through the Active Transportation Study, the Equity Access Network, will now be integrated into ongoing and future planning efforts. Most notably, the Equity/Mobility Access Network will be included in:

- **The SF Transportation Element Update** - The San Francisco Planning Department is in the midst of a multi-year update of the San Francisco General Plan. The Transportation Element is one component of the General Plan and is meant to guide transportation projects and investment into the future in a way that is integrated with land use. The SF Transportation Element Update will include the Equity/Mobility Access build as part of San Francisco's transportation network and it will be evaluated as part of its environmental review process.
- **The San Francisco Transportation Plan (SFTP)** – Led and developed by the San Francisco County Transportation Authority, the SFTP is the countywide, long-range investment and policy blueprint for San Francisco's transportation system through 2050. By integrating the Equity/Mobility Access Network into the SFTP, future planning, design, and implementation will be included in the transportation funding plans that use local revenues and leveraging for implementation.
- **The Active Communities Plan** - Led by the SFMTA, the Active Communities Plan will be San Francisco's first update of the citywide bicycle master plan since 2009. The Equity/Mobility Access Network will not only provide a foundation for future analytical efforts conducted under the Active Communities Plan, but also a visionary future network used to guide network development recommendations within the plan process.