ALAMEDACTC.ORG

Alameda County Transportation Commission

ALAMEDA COUNTY NEEDS ASSESSMENT

2020 Countywide Transportation Plan

PREPARED FOR

ALAMEDA County Transportation Commission

ISSUED BY

FEHR & PEERS

DECEMBER 2020

Downtown Berkeley BART Plaza

Bancroft Avenue, City of Berkeley

TRANSPORTATION NEEDS VARY ACROSS THE COUNTY

The transportation needs of Alameda County residents depend on not only when, why, and how they travel, but also where they are located. While some needs are consistent across the county, the diversity of land use and transportation contexts in Alameda County means that there is also substantial variability in the needs and concerns of individual communities. As a result, Alameda CTC divides the county into four planning areas to allow for more refined analysis and tailored improvements during the planning process. Planning area definitions are used for assessment purposes only, and are not political units or funding designations.

NORTH PLANNING AREA
663,200 residents
224,000 jobs

Alameda
Albany
Berkeley
Emeryville
Oakland
Piedmont

CENTRAL PLANNING AREA
388,300 residents
97,700 jobs

Ashland
Cherryland
Castro Valley
Hayward
San Leandro
San Lorenzo

SOUTH PLANNING AREA
354,000 residents
73,800 jobs

Fremont
Newark
Union City

EAST PLANNING AREA
229,000 residents
72,600 jobs

Dublin
Livermore
Pleasanton

Based on findings from previous countywide modal plans, this chapter summarizes the current conditions and major challenges in low-income and communities of color and opportunities for five different uses of the transportation system. Within each section, needs are assessed first on a countywide level and then specific to each planning area.

CBTP Study Areas (pg. 4)
Active Transportation (pg. 10)
Transit (pg. 20)
Arterials (pg. 30)
Freeways (pg. 40)
Goods Movement (pg. 50)

IMPACTS FROM THE COVID-19 PANDEMIC

The COVID-19 pandemic and shelter-in-place orders have affected the health, economy, and travel patterns of Alameda County in 2020. Although long-term impacts are uncertain, the needs identified in this chapter are likely to continue to be broadly relevant as the county emerges from the crisis. The effects of the pandemic have highlighted the importance of a resilient transportation system that meets the needs of all residents and workers, especially the most vulnerable.

San Leandro BART Station

UNDERSTANDING MOBILITY AND ACCESS NEEDS IN LOW-INCOME AND COMMUNITIES OF COLOR

The Metropolitan Transportation Commission (MTC) identifies communities that contain a high concentration of low-income households, in addition to a high concentration of households of color or high concentrations of several other characteristics that indicate additional focus is warranted. Understanding the needs of these communities is critical to equitable countywide planning, and Alameda CTC developed a Countywide Community-Based Transportation Plan (CBTP) to assess transportation needs within these communities in 2020. MTC designates these communities as Communities of Concern (CoCs), and the CBTP groups CoCs into CBTP Study Areas.

Developing the CBTP involved the following three key efforts:

- **Baseline Conditions** - Analysis of current conditions to understand the current transportation characteristics of the CBTP Study Areas.
- **Analysis of Past Planning Efforts** - Review of recent planning and outreach activities that have been conducted in the CBTP Study Areas.
- **Community Engagement** - Outreach to gain an understanding of transportation needs directly from the communities in the CBTP Study Areas. This consisted of a countywide poll conducted in 2019, intercept surveys at pop-up events within the CBTP Study Areas, and interviews with community-based organizations.

This chapter of the Needs Assessment summarizes the findings of the CBTP by planning area. Detailed descriptions of the process and findings can be found in the full CBTP.

HOW ARE COMMUNITIES OF CONCERN SELECTED?

MTC designates CoCs by comparing select economic and demographic characteristics in a community to regional thresholds, based on US Census data. CoCs are those that meet thresholds for multiple factors, including containing a high proportion of low-income households. The criteria and threshold levels are shown below. For this study, the 2012-2016 American Community Survey data was used.

All CoCs must contain:

Low-Income Residents
30%+

...and contain either:

Minority Residents
70%+

...or at least 3 of the following:

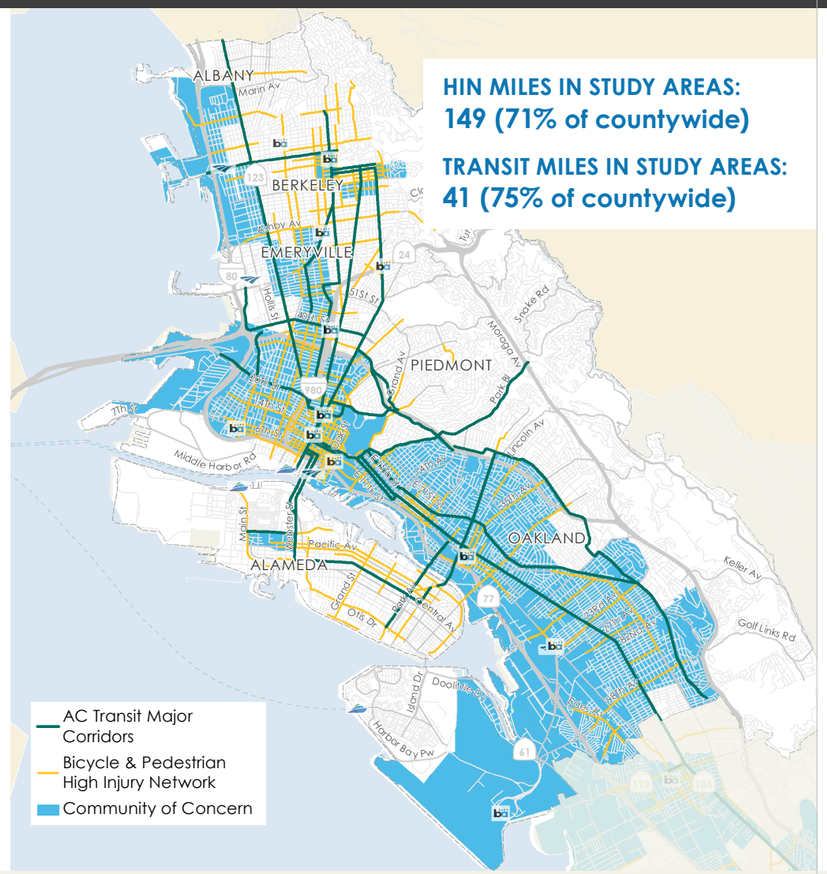
- **Limited English Proficiency** 12%+
- **Residents Over Age 75** 10%+
- **Zero-Vehicle Households** 10%+
- **Single-Parent Families** 20%+
- **Disabled Residents** 12%+
- **Rent-Burdened Households** 15%+

NORTH PLANNING AREA

CBTP Study Areas

NORTH PLANNING AREA CBTP TRANSPORTATION NEEDS

- Improved Safety for Pedestrians and Cyclists
- Improved Access to Frequent and Affordable Transit
- Reduced Impacts on Communities from Truck Traffic and Parking



HIN MILES IN STUDY AREAS:
149 (71% of countywide)

TRANSIT MILES IN STUDY AREAS:
41 (75% of countywide)

NORTH PLANNING AREA CBTP STUDY AREA CHARACTERISTICS

295,000
RESIDENTS IN COMMUNITIES OF CONCERN

% MEETS THRESHOLD

% DOES NOT MEET THRESHOLD

53% LOW-INCOME RESIDENTS

83% MINORITY RESIDENTS

17% RESIDENTS OVER AGE 75

4% LIMITED ENGLISH PROFICIENT RESIDENTS

24% ZERO-VEHICLE HOUSEHOLDS

13% DISABLED RESIDENTS

28% SINGLE-PARENT FAMILIES

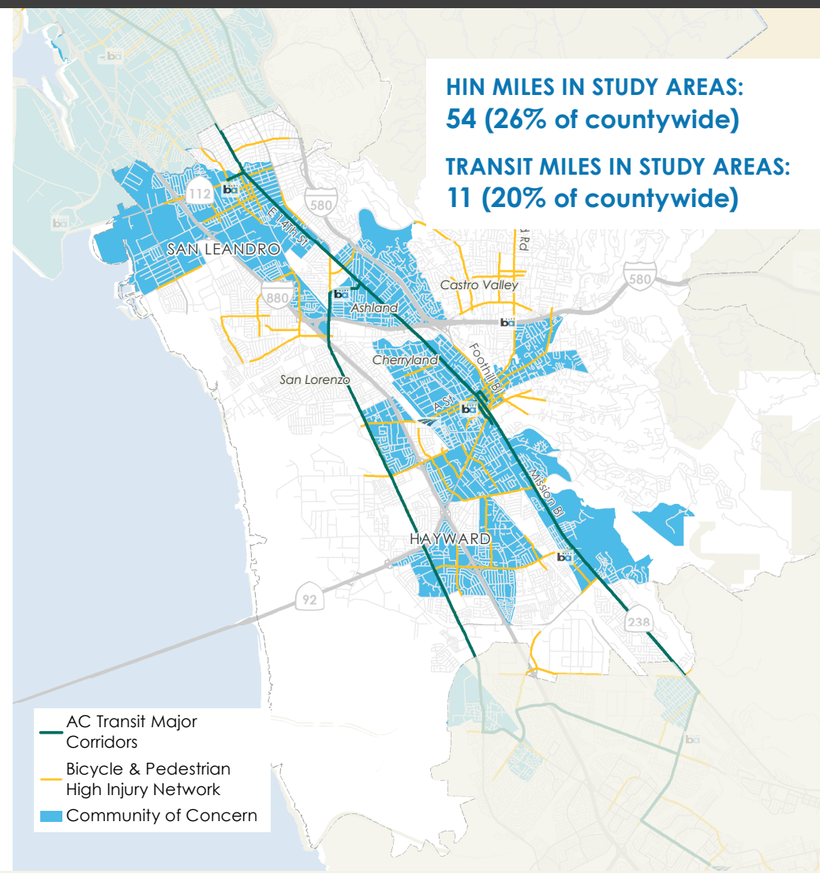
24% RENT-BURDENED HOUSEHOLDS

CENTRAL PLANNING AREA

CBTP Study Areas

CENTRAL PLANNING AREA CBTP TRANSPORTATION NEEDS

- Improved Access to Frequent and Affordable Transit
- Improved Personal Safety for Pedestrians and Cyclists



HIN MILES IN STUDY AREAS:
54 (26% of countywide)

TRANSIT MILES IN STUDY AREAS:
11 (20% of countywide)

CENTRAL PLANNING AREA CBTP STUDY AREA CHARACTERISTICS

175,000
RESIDENTS IN COMMUNITIES OF CONCERN

% MEETS THRESHOLD

% DOES NOT MEET THRESHOLD

39% LOW-INCOME RESIDENTS

84% MINORITY RESIDENTS

4% RESIDENTS OVER AGE 75

16% LIMITED ENGLISH PROFICIENT RESIDENTS

9% ZERO-VEHICLE HOUSEHOLDS

10% DISABLED RESIDENTS

24% SINGLE-PARENT FAMILIES

17% RENT-BURDENED HOUSEHOLDS

SOUTH PLANNING AREA

CBTP Study Areas

SOUTH PLANNING AREA CBTP TRANSPORTATION NEEDS

- Less Traffic and/or Smoother Traffic Flow
- Improved Transit Services
- Improved Safety for Pedestrians and Cyclists

SOUTH PLANNING AREA CBTP STUDY AREA CHARACTERISTICS

18,000 RESIDENTS IN COMMUNITIES OF CONCERN

% MEETS THRESHOLD

% DOES NOT MEET THRESHOLD

36% LOW-INCOME RESIDENTS

5% ZERO-VEHICLE HOUSEHOLDS

88% MINORITY RESIDENTS

8% DISABLED RESIDENTS

5% RESIDENTS OVER AGE 75

16% SINGLE-PARENT FAMILIES

10% LIMITED ENGLISH PROFICIENT RESIDENTS

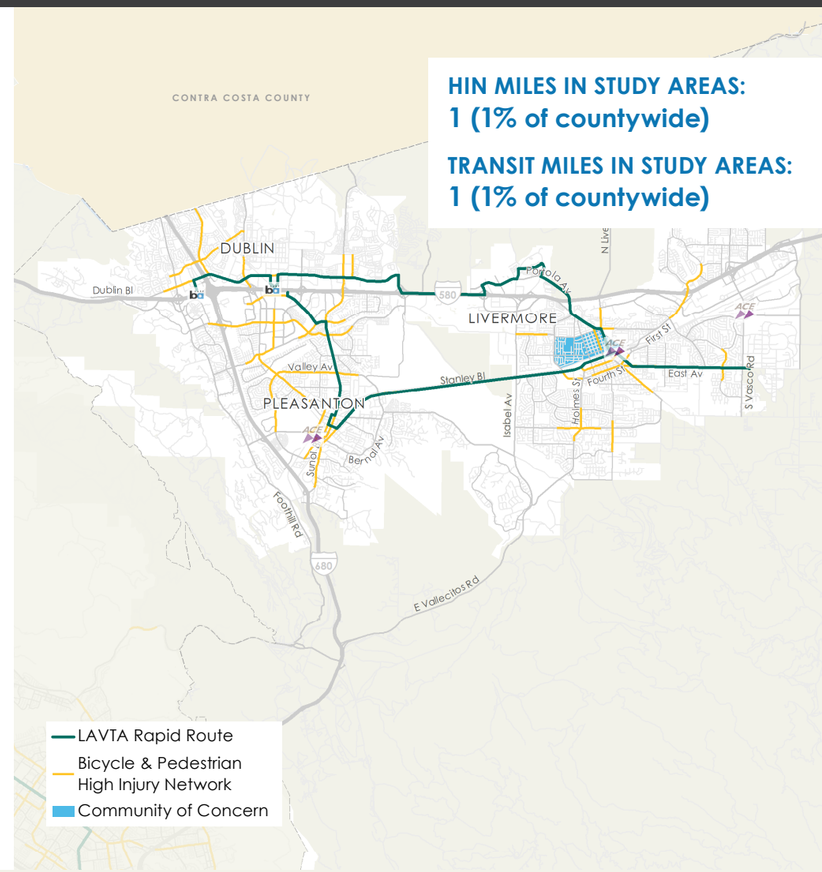
13% RENT-BURDENED HOUSEHOLDS

EAST PLANNING AREA

CBTP Study Areas

EAST PLANNING AREA CBTP TRANSPORTATION NEEDS

- Improved Transit Services
- Improved Bicycle Infrastructure



EAST PLANNING AREA CBTP STUDY AREA CHARACTERISTICS

6,000 RESIDENTS IN COMMUNITIES OF CONCERN

% MEETS THRESHOLD

% DOES NOT MEET THRESHOLD

41% LOW-INCOME RESIDENTS

4% ZERO-VEHICLE HOUSEHOLDS

60% MINORITY RESIDENTS

7% DISABLED RESIDENTS

2% RESIDENTS OVER AGE 75

22% SINGLE-PARENT FAMILIES

16% LIMITED ENGLISH PROFICIENT RESIDENTS

17% RENT-BURDENED HOUSEHOLDS

Active Transportation

COUNTYWIDE CONSIDERATIONS

MANY PEOPLE WALK & BIKE

Walking and biking make up 5% of all work trips in Alameda County—the second highest active mode share of all Bay Area counties.

SAFETY IS A TOP CONCERN

Statewide, Alameda County was ranked 5th worst for pedestrian collisions and 9th worst for bicycle collisions by the California Office of Traffic Safety.

CONNECTIVITY IS CRITICAL

Disconnected networks of streets and trails hinder people of all ages and abilities from walking and biking to meet their daily needs.

CHALLENGES AND NEEDS

SAFETY

About 65 percent of pedestrian and 59 percent of bike injury collisions occur on just four percent of roads.

GAPS

Gaps in the protected pedestrian and bicycle network across the county limits access for people of all ages and abilities.

AT-GRADE RAIL CROSSINGS

At-grade rail crossings create safety challenges for people walk and biking, especially near schools

FIRST/LAST MILE CONNECTIONS

Limited first/last mile connections to major destinations, including transit stops, pose challenges to safe and convenient walking and bicycling.

ACCESS

Many destinations are located on arterials with high traffic stress. Sidewalks and curb ramps need to be enhanced to meet ADA compliance.

INFRASTRUCTURE FOR ALL AGES AND ABILITIES

Many bikeways and walkways are not comfortable for people of a wide range of abilities and ages, which can discourage people from walking and biking at all.

BARRIERS

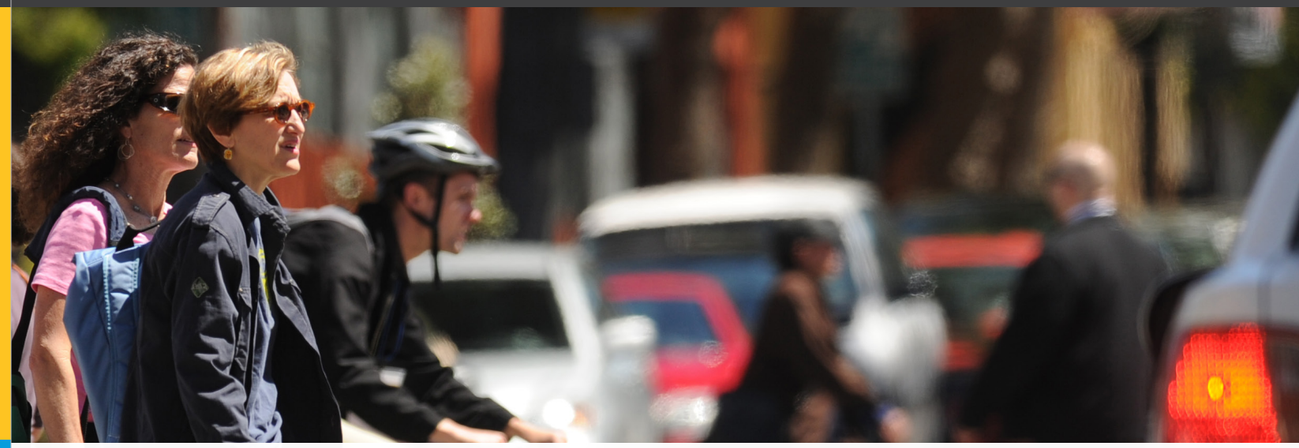
Physical barriers, such as freeways and hills, create safety and comfort challenges for bicyclists and pedestrians.

SAFE ROUTES TO SCHOOLS

Around 1/4 of countywide school trips are made on foot. However, safety and connectivity enhancements are needed.

UNCOMFORTABLE ENVIRONMENT

High stress crossings of major arterials and gaps in multijurisdictional trails create barriers to safe and convenient travel along the regional trail network.



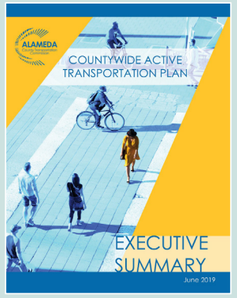
KEY TERMS

All Ages and Abilities: Describes walking and biking infrastructure that is designed for everyone, including children, the elderly, people with disabilities, and people riding a bike for the first time. Examples include separated bike lanes, slow streets, and safe crossings, all of which help people feel safer and more comfortable walking and biking.

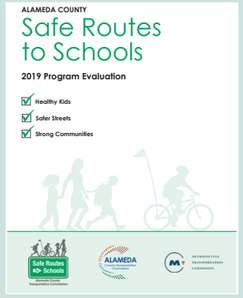
High Injury Network (HIN): A high percentage of collisions involving people walking and biking occur on a small number of streets. The streets with the most collisions and/or most severe collisions are identified as the HIN, which can help focus safety improvements where they will have the biggest impact. A countywide HIN was developed as part of the 2019 Countywide Active Transportation Plan.

PLANS AND DATA INFORMING NEEDS

Countywide Active Transportation Plan (2019)



Safe Routes to Schools 2019 Program Evaluation



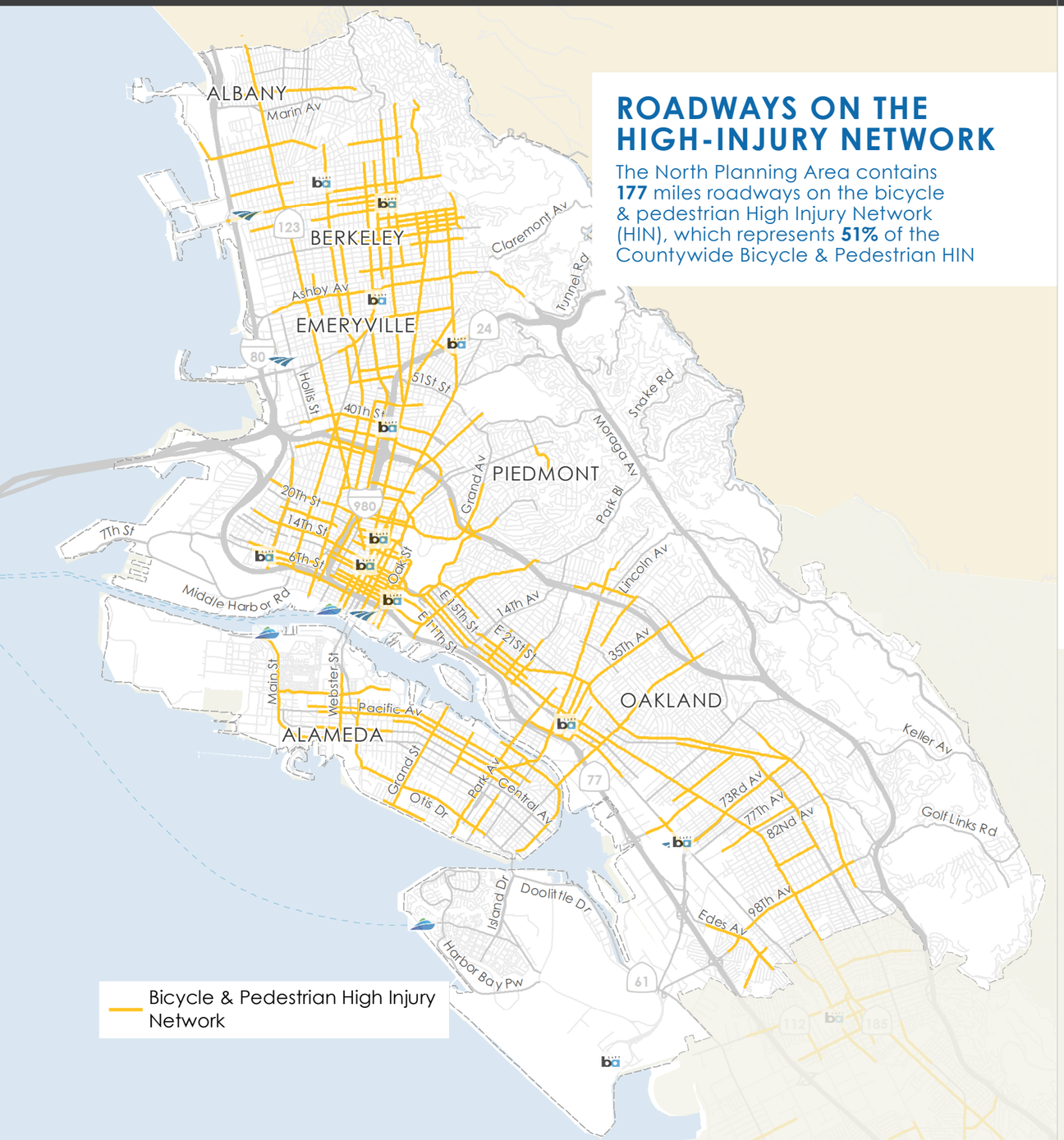
Other Data Sources

BART Station Profile Survey, 2015

U.S. Census, ACS 5-Year, 2014-2018

Active Transportation

NORTH PLANNING AREA



ROADWAYS ON THE HIGH-INJURY NETWORK

The North Planning Area contains **177** miles roadways on the bicycle & pedestrian High Injury Network (HIN), which represents **51%** of the Countywide Bicycle & Pedestrian HIN

Dense residential and employment centers in the North Planning Area allow more people to live near where they work, shop, and play. This results in the highest share of residents in the county who walk or bike to work. The street network is well-connected, making it convenient to walk and bike to many destinations. The North Planning Area has the low-stress bike facility mileage in the county, which also contributes to the large number of biking trips. The North Planning Area accounts for more than half of the countywide High Injury Network, due in part to the high numbers of walking and biking trips and overall population density in the area.

EXISTING BICYCLE NETWORK CONNECTIVITY[13]

Very Good Connectivity

ON-STREET BIKEWAYS

202 miles

RESIDENTS WHO WALK OR BIKE TO WORK

7% 4%

TYPICAL EXISTING WALKABILITY[14]

Very Walkable

DESIGNATED TRAILS

108 miles

BART RIDERS WHO WALK OR BIKE TO BART

46% 10%

NORTH PLANNING AREA ACTIVE TRANSPORTATION CHALLENGES AND NEEDS

Walking and Biking Safety

Over half of Alameda County's High-Injury Network mileage is in North County

Bicycle Network Gaps

There are gaps in all ages and abilities bicycle and pedestrian networks

At-Grade Rail Crossings

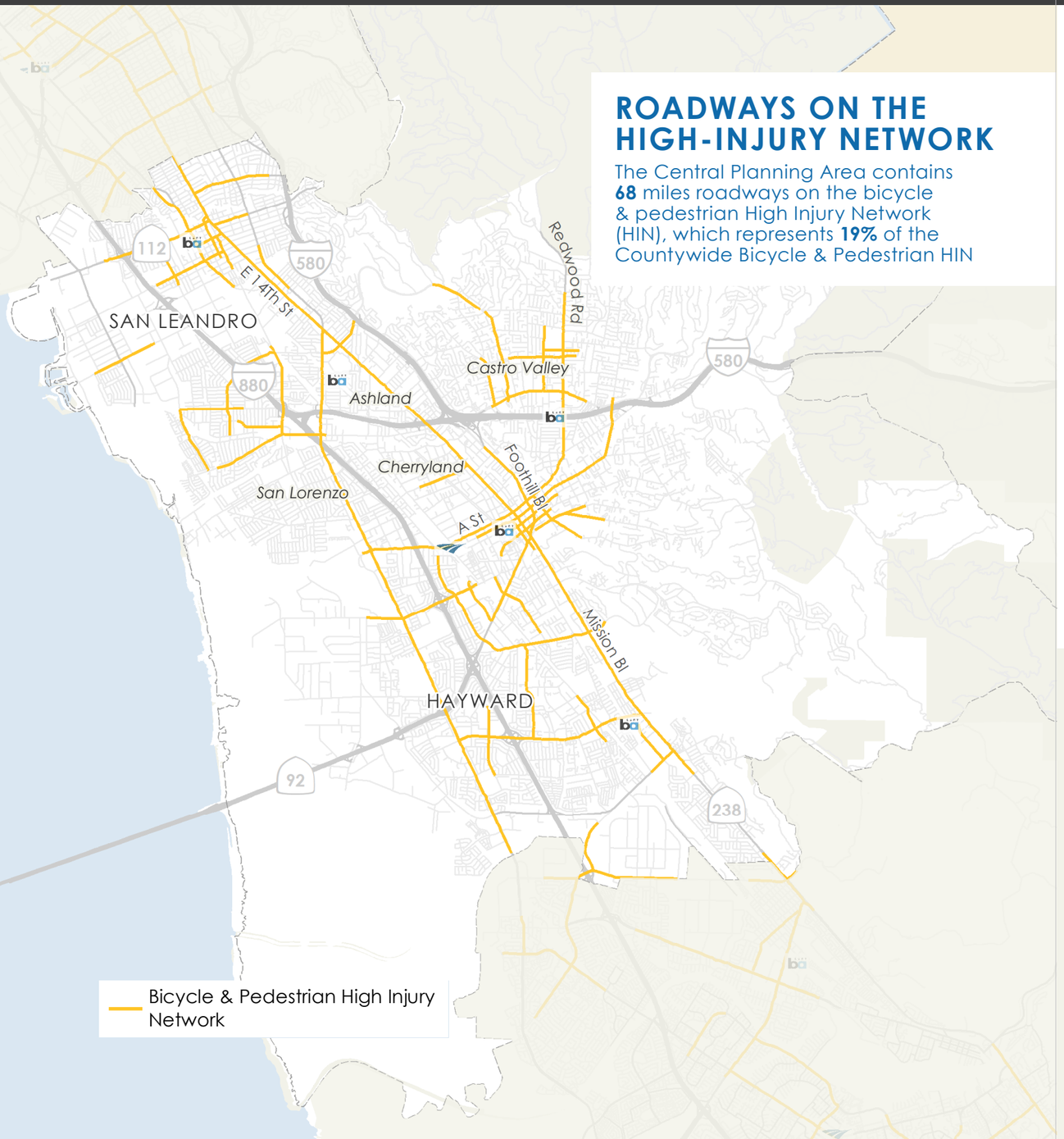
At-grade rail crossings pose safety concerns for bicyclists and pedestrians

First/Last Mile Connections

There are limited first/last-mile connections to rail stations and ferry terminals

Active Transportation

CENTRAL PLANNING AREA



ROADWAYS ON THE HIGH-INJURY NETWORK

The Central Planning Area contains **68** miles roadways on the bicycle & pedestrian High Injury Network (HIN), which represents **19%** of the Countywide Bicycle & Pedestrian HIN

Outside of downtown areas in San Leandro and Hayward, the Central Planning Area is largely oriented around automobile travel. Wide roads with high travel speeds are typical, both of which increase traffic stress for people walking and biking, and the Central Planning Area contains fewer miles of on-street bikeways than elsewhere in the county. The flat terrain of San Leandro, San Lorenzo, and Hayward provide good opportunities for walking and biking, but safety remains a concern, with 19 percent of the county's HIN and many at-grade rail crossings. Although connectivity near BART stations is limited, 30 percent of riders walk to BART and seven percent bike, the second most in the county.

EXISTING BICYCLE NETWORK CONNECTIVITY[13]

Fair Connectivity

ON-STREET BIKEWAYS

129 miles

RESIDENTS WHO WALK OR BIKE TO WORK

2% <1%

TYPICAL EXISTING WALKABILITY[14]

Car Dependent

DESIGNATED TRAILS

40 miles

BART RIDERS WHO WALK OR BIKE TO BART

30% 7%

CENTRAL PLANNING AREA ACTIVE TRANSPORTATION CHALLENGES AND NEEDS

Uncomfortable Environment

Wide streets with high traffic volumes and speeds make walking and biking uncomfortable

Access

Access to arterial destinations is hindered by a limited bicycle and pedestrian network

Infrastructure for All Ages and Abilities

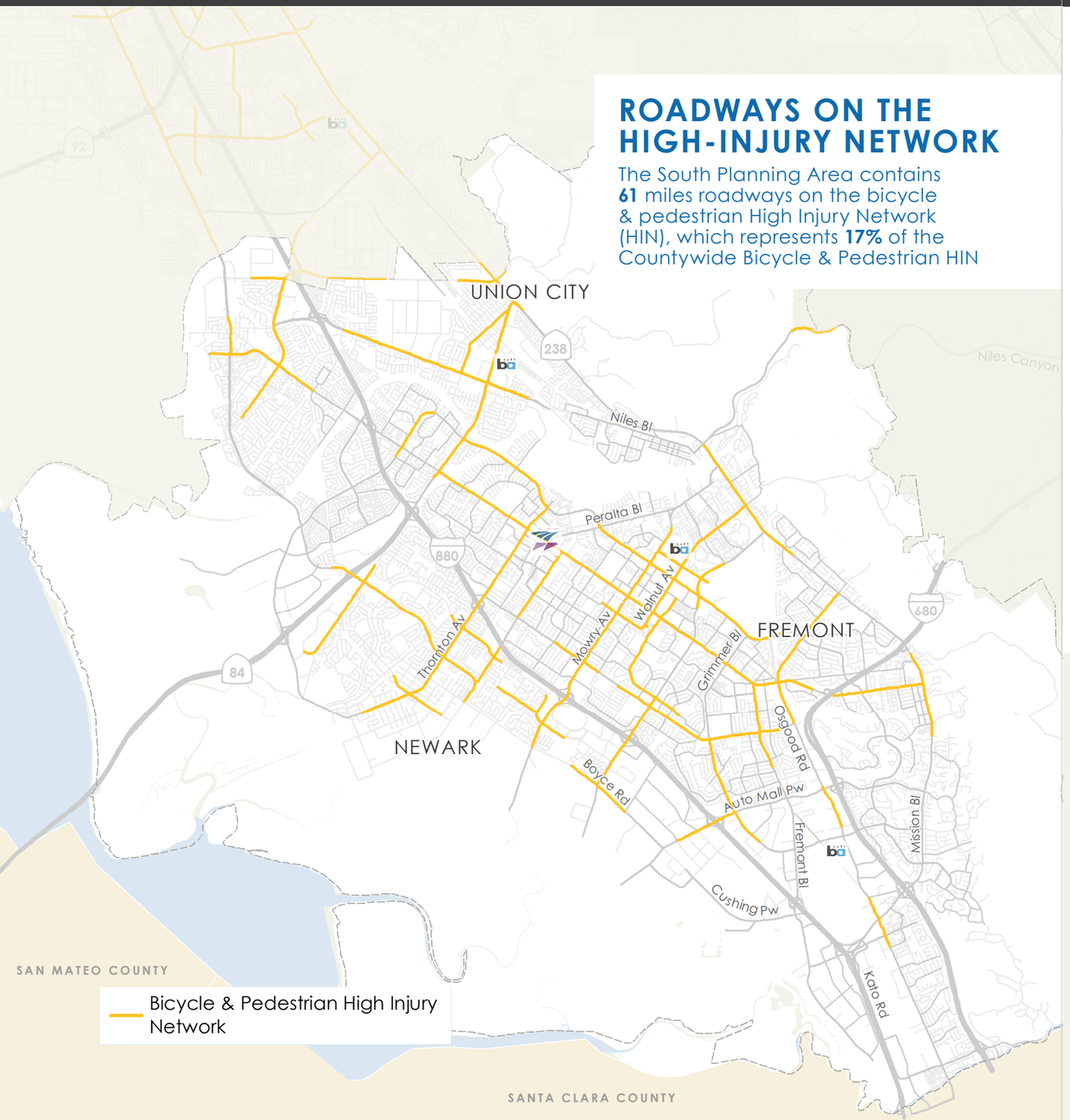
There are narrow sidewalks and a limited all ages and abilities bike network

At-Grade Rail Crossings

At-grade rail crossings pose safety challenges, particularly for students walking to school

Active Transportation

SOUTH PLANNING AREA



ROADWAYS ON THE HIGH-INJURY NETWORK

The South Planning Area contains **61** miles roadways on the bicycle & pedestrian High Injury Network (HIN), which represents **17%** of the Countywide Bicycle & Pedestrian HIN

Several neighborhoods in the South Planning Area have street grids that offer convenient walking and biking opportunities, though many destinations are far apart with physical barriers like freeways, rail, and waterways hindering access. The South Planning Area contains the second-most mileage of on-street bikeways in the county, but wide roadways with high volumes and travel speeds are typical, which can be uncomfortable unless low-stress infrastructure is present. Connectivity of the bike network is lower than elsewhere in the county, which results in a limited number of residents biking or walking to work or BART.

EXISTING BICYCLE NETWORK CONNECTIVITY[13]

Poor Connectivity

ON-STREET BIKEWAYS

173 miles

RESIDENTS WHO WALK OR BIKE TO WORK

1% <1%

TYPICAL EXISTING WALKABILITY[14]

Car Dependent

DESIGNATED TRAILS

36 miles

BART RIDERS WHO WALK OR BIKE TO BART

17% 4%

SOUTH PLANNING AREA ACTIVE TRANSPORTATION CHALLENGES AND NEEDS

Uncomfortable Environment

Wide streets with high traffic volumes and speeds make walking and biking uncomfortable

Safe Routes to Schools

Schools and shopping centers are located near high-volume intersections and interchanges

At-Grade Rail Crossings

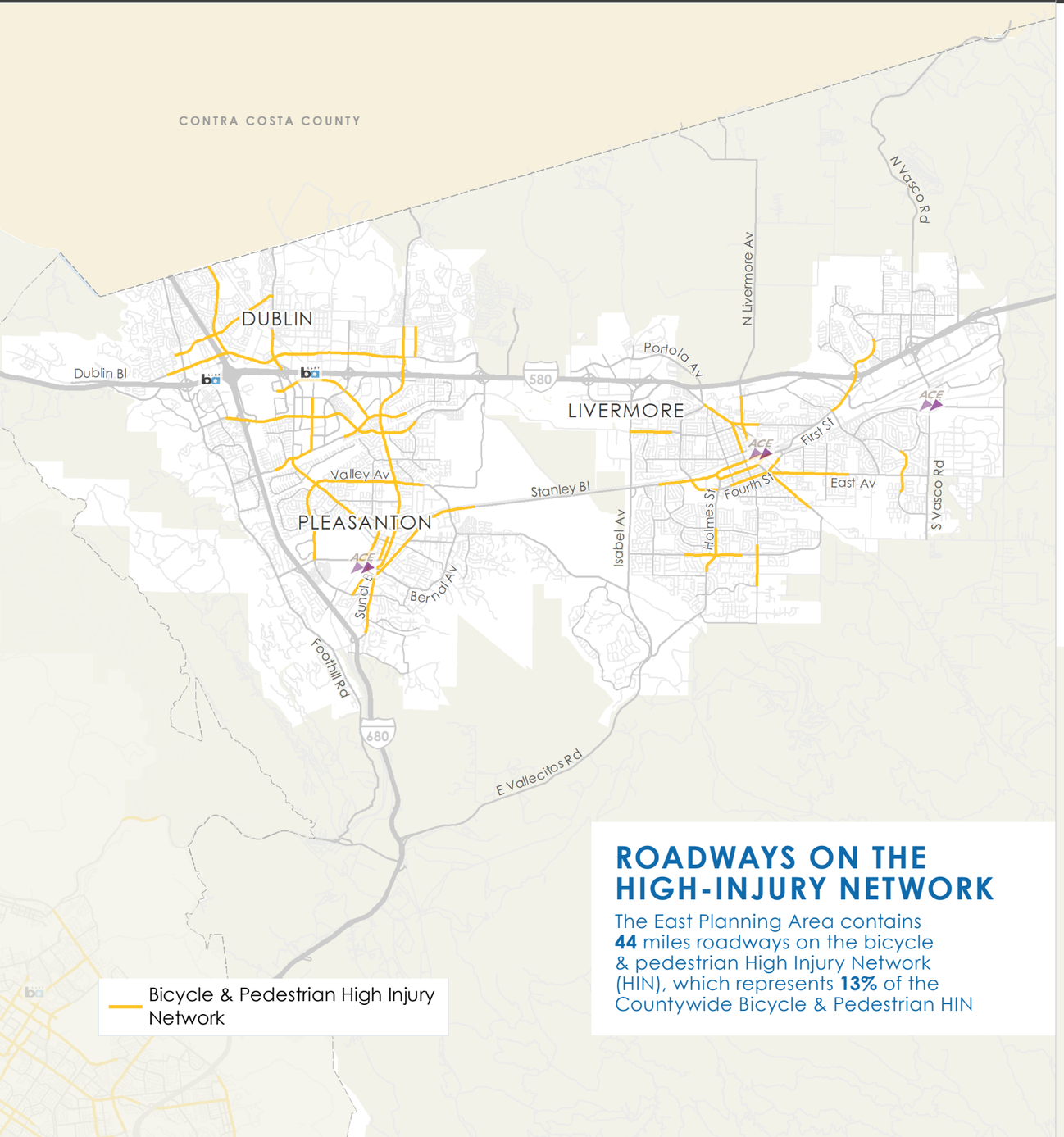
Interchanges and at-grade rail crossings pose concerns for bicyclists and pedestrians

Physical Barriers

Physical barriers hinder a continuous pedestrian and protected bicycle network

Active Transportation

EAST PLANNING AREA



ROADWAYS ON THE HIGH-INJURY NETWORK

The East Planning Area contains **44** miles roadways on the bicycle & pedestrian High Injury Network (HIN), which represents **13%** of the Countywide Bicycle & Pedestrian HIN

The East Planning Area contains highly walkable corridors in downtown areas, as well as several recreational biking opportunities, but physical barriers like freeways, rail, and waterways pose challenges to overall walking and biking connectivity. Roadways with high traffic volumes and speeds make biking and walking uncomfortable in many places, and the East Planning Area has a relatively limited number of on-street bikeways or off-street trails. The share of East Planning Area residents who walk or bike to work is limited, which can be attributed to long distances to access stations, greater availability of parking, and the barrier of the I-580 freeway.

EXISTING BICYCLE NETWORK CONNECTIVITY[13]

Fair Connectivity

ON-STREET BIKEWAYS

134 miles

RESIDENTS WHO WALK OR BIKE TO WORK

2% 1%

TYPICAL EXISTING WALKABILITY[14]

Car Dependent

DESIGNATED TRAILS

18 miles

BART RIDERS WHO WALK OR BIKE TO BART

10% 4%

EAST PLANNING AREA ACTIVE TRANSPORTATION CHALLENGES AND NEEDS

Uncomfortable Environment

Wide streets with high traffic volumes and speeds make walking and biking uncomfortable

Physical Barriers

Physical barriers hinder a continuous pedestrian and protected bicycle network

First/Last Mile Connections

There are limited bicycle and pedestrian connections to bus stops and rail stations

Safety on Rural Roads

Bicyclists travel on rural roads, which pose unique safety and design challenges.

Transit

COUNTYWIDE CONSIDERATIONS

INCREASES ACCESS FOR VULNERABLE USERS

Public transit plays a vital role in providing economic and social benefits. A healthy transit system improves access and mobility for vulnerable populations and reduces household travel costs.

IMPROVES ENVIRONMENTAL OUTCOMES

Taking transit reduces the need for a private vehicle, thereby reducing greenhouse gas emissions, energy consumption, and parking demand.

MAXIMIZES SYSTEM EFFICIENCY

Despite Alameda County's strong transit market, only 14% of commuters take transit to work. Facilitating mode shifts to transit alleviates congestion and improves the productivity of the transportation system.

CHALLENGES AND NEEDS

SPEED & RELIABILITY

Increasing countywide auto congestion results in increasingly slow and unreliable bus service.

CONNECTIONS TO TRANSIT

Some high-quality transit services lack safe and comfortable walking and biking connections.

INTERREGIONAL SERVICE

Service to Contra Costa and Santa Clara Counties and to the Peninsula is slow and infrequent despite high shares of regional trips.

FARE AFFORDABILITY

Different payment options and ticketing systems make the county's transit system difficult to use.

TRANSBAY CAPACITY

Existing transbay service operates at capacity during peak periods and demand is expected to increase, resulting in BART and bus overcrowding.

SERVICE INTEGRATION

There is little trip planning, information sharing, and schedule coordination between operators.

BUS OPERATIONS

Signal system upgrades throughout the county are needed to improve transit operations.

SERVICE FREQUENCY

While there are limited high-frequency transit routes, there are also significant coverage-frequency tradeoffs.

SUBURBAN LAND USE

Because most of the county is suburban, providing sufficient coverage through fixed-route transit service is challenging.

KEY TERMS

Coverage-Frequency Tradeoff: Transit operators must weigh the resources they invest providing high-frequency service to the highest-ridership corridors versus providing lower-frequency service to a larger geographical area.

Major Transit Stop: Designated by MTC as existing rail stations, ferry terminals served by bus or rail transit, or the intersection of two or more major bus routes with frequent service (every 15 minutes or less) during peak commute periods.

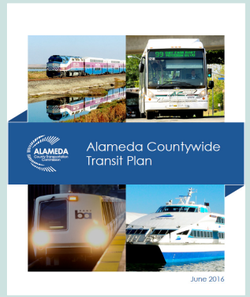
AC Transit Major Corridors: Corridors with high existing and potential bus transit ridership, identified by AC Transit as locations for additional investment.

Reliability: For riders to be able to rely on transit service, operators must consistently meet scheduled arrival times.

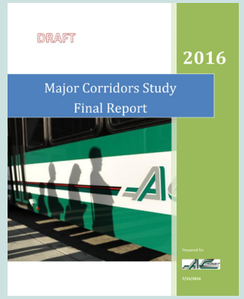
Transfer Coordination: At transfer locations, coordinated schedules between services reduce the wait time of transferring riders, reducing overall travel times.

PLANS AND DATA INFORMING NEEDS

Alameda Countywide Transit Plan (2016)



AC Transit Major Corridors Study (2016)



Other Data Sources

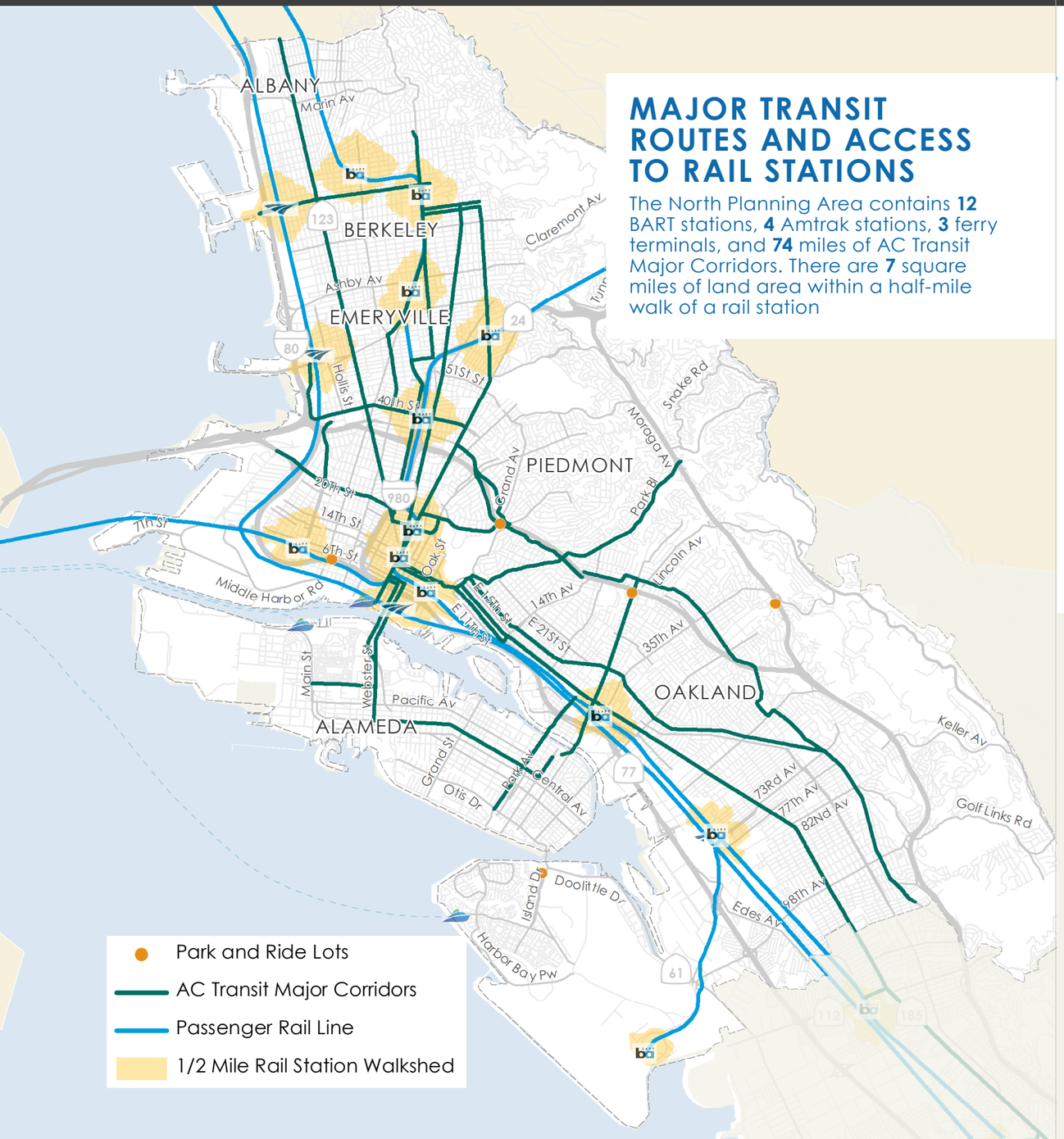
Local Transit Agency Interviews, 2020

BART Station Profile Survey, 2015

U.S. Census, ACS 5-Year, 2014-2018

Transit

NORTH PLANNING AREA



MAJOR TRANSIT ROUTES AND ACCESS TO RAIL STATIONS

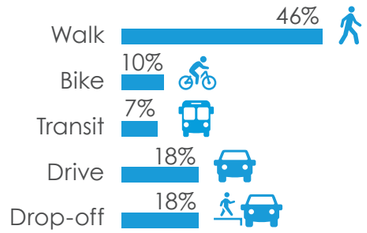
The North Planning Area contains **12** BART stations, **4** Amtrak stations, **3** ferry terminals, and **74** miles of AC Transit Major Corridors. There are **7** square miles of land area within a half-mile walk of a rail station

Due to its high population density and frequent and extensive transit service, the North Planning Area has the highest transit usage in the county. In addition to ferry and Capital Corridor service, the North Planning Areas contains nine of the 11 AC Transit Major Corridors, and its 12 BART stations collectively serve every line and destination in the system. The extensiveness of the transit network results in more residents living near high-frequency transit than elsewhere in the county, facilitating access without a car. During peak hours, BART trains regularly operate at or above capacity in the North Planning Area due to transbay travel demand, which is also served by AC Transit Transbay lines.

TRANSIT COMMUTE MODE SHARE

22%

HOW RIDERS ACCESS BART



NUMBER OF MAJOR TRANSIT STOPS

374

NORTH PLANNING AREA TRANSIT CHALLENGES AND NEEDS

Transbay Capacity

Existing transbay service operates at capacity during peak periods, with demand expected to rise

Speed & Reliability

Congestion on local roads and freeways negatively impacts bus travel times and reliability

Bus Operations

Operational improvements for bus transit require signal system upgrades

Fare Affordability

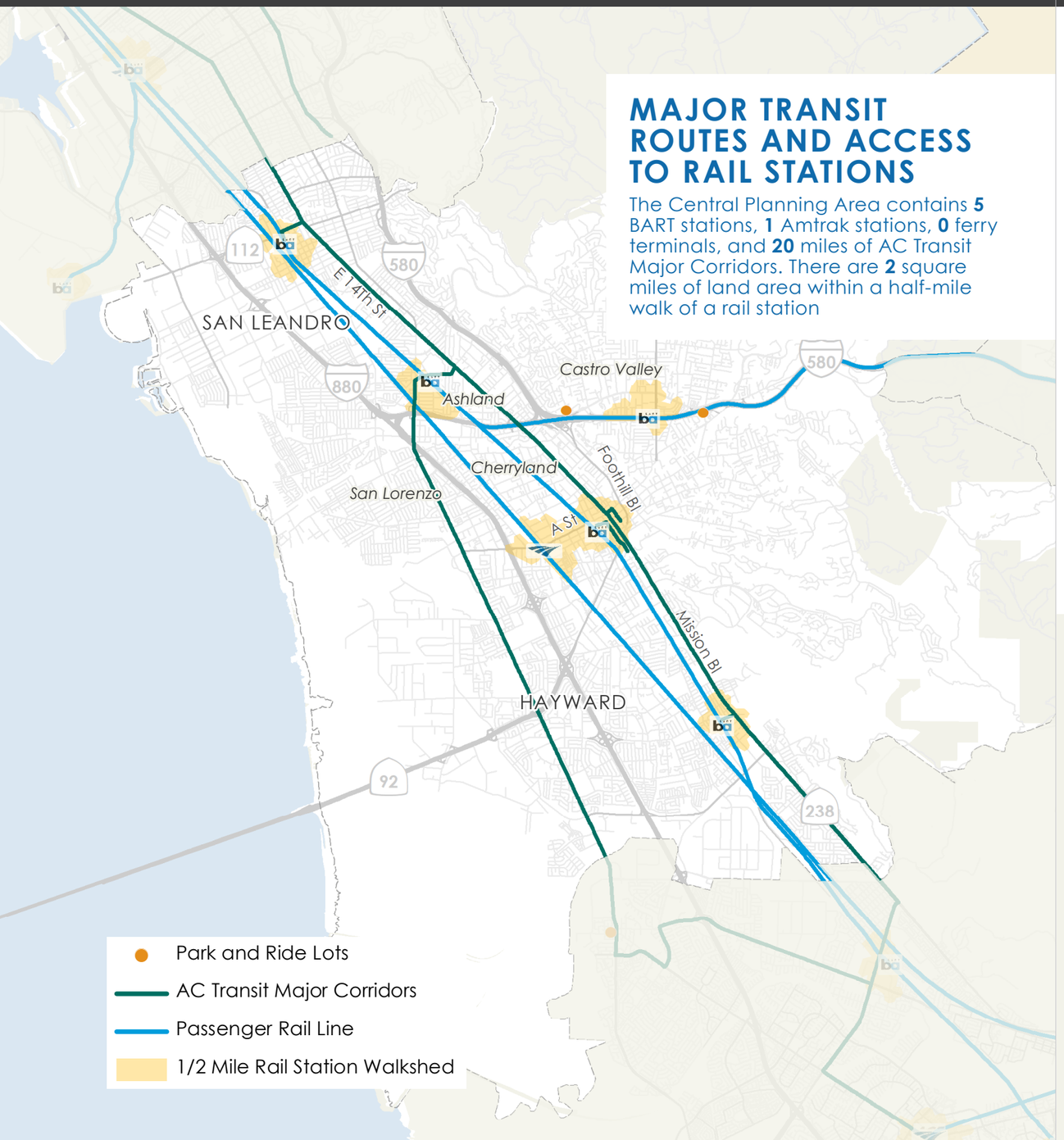
Low-income riders struggle with fare affordability, particularly for transfers

Connections to Transit

First/last-mile access to commuter rail and ferry terminals is lacking

Transit

CENTRAL PLANNING AREA



MAJOR TRANSIT ROUTES AND ACCESS TO RAIL STATIONS

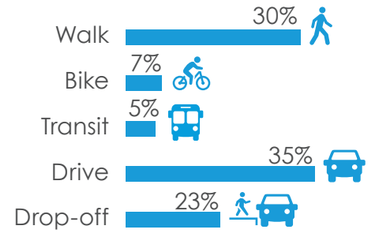
The Central Planning Area contains **5** BART stations, **1** Amtrak stations, **0** ferry terminals, and **20** miles of AC Transit Major Corridors. There are **2** square miles of land area within a half-mile walk of a rail station

The Central Planning Area is served by five BART stations and three AC Transit Major Corridors, second-most in the county. The use of transit for commuting is similar to the other primarily suburban planning areas, but BART riders in the Central Planning Area are more likely to access the station by walking, biking, or bus. Existing transit service in the Central Planning Area is primarily oriented north-south, and the urban hubs of Downtown San Leandro and Downtown Hayward are served by AC Transit along East 14th Street, Mission Boulevard, and Hesperian Boulevard, as well as by BART. The Central Planning Area is also served by a Capital Corridor station in Hayward.

TRANSIT COMMUTE MODE SHARE

10%

HOW RIDERS ACCESS BART



NUMBER OF MAJOR TRANSIT STOPS

14

CENTRAL PLANNING AREA TRANSIT CHALLENGES AND NEEDS

Suburban Land Use

Few corridors have enough density to support high-frequency transit

Service Frequency

High-frequency service coverage is limited, particularly for east-west travelers

Speed & Reliability

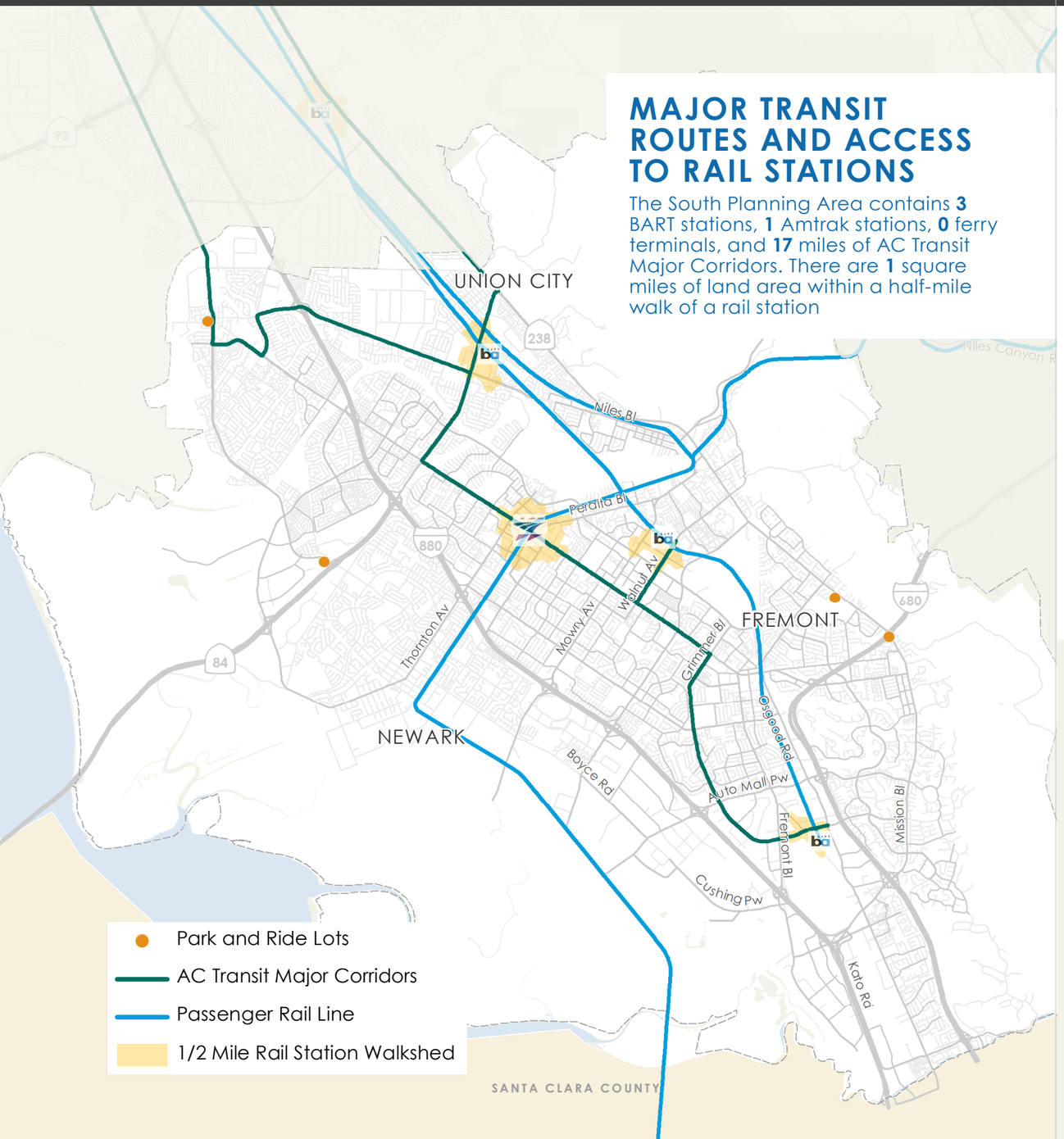
Peak hour congestion on major bus routes slows bus speeds and decreases reliability

Connections to Transit

Comfortable pedestrian and bicycle access to transit stops and stations is lacking

Transit

SOUTH PLANNING AREA



MAJOR TRANSIT ROUTES AND ACCESS TO RAIL STATIONS

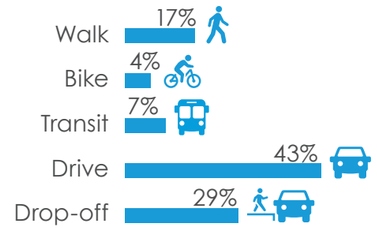
The South Planning Area contains **3** BART stations, **1** Amtrak stations, **0** ferry terminals, and **17** miles of AC Transit Major Corridors. There are **1** square miles of land area within a half-mile walk of a rail station

The South Planning area contains three BART station and two AC Transit Major Corridors, as well a commuter rail station at Centerville served by ACE and Capitol Corridor. Additionally, Union City Transit provides service primarily connecting Union Landing and the Union City BART Station. The South Planning Area contains fewer miles of AC Transit Major Corridors than elsewhere in the county, and bus transit service in the South Planning Area faces significant coverage-frequency trade-offs. All rail transit stations are located on the east side of the urban area, so a limited number of residents have proximity to high-frequency transit. The South Planning Area contains less area within one-half mile of a rail transit station than elsewhere in the county.

TRANSIT COMMUTE MODE SHARE

9%

HOW RIDERS ACCESS BART



NUMBER OF MAJOR TRANSIT STOPS

6

SOUTH PLANNING AREA TRANSIT CHALLENGES AND NEEDS

Suburban Land Use

Moderate- to low-density land use in much of South County makes high transit ridership difficult

Service Frequency

High-frequency service is limited with significant coverage-frequency tradeoffs

Connections to Transit

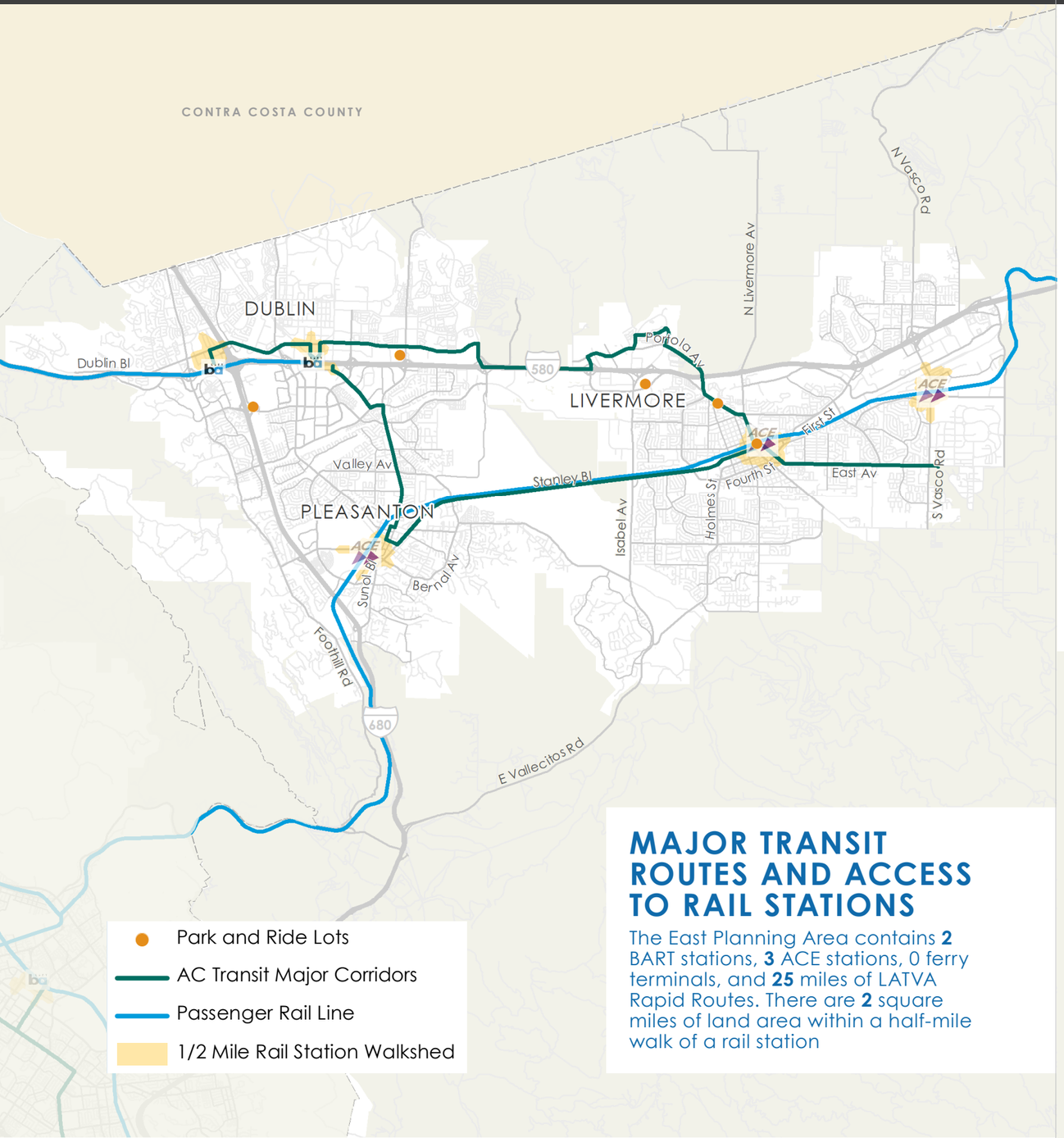
Comfortable pedestrian and bicycle access to transit stops and stations is lacking

Interregional Service

Long travel times and transfers are required to access most job centers on the Peninsula and in the South Bay

Transit

EAST PLANNING AREA



MAJOR TRANSIT ROUTES AND ACCESS TO RAIL STATIONS

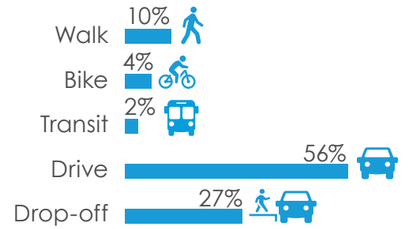
The East Planning Area contains **2** BART stations, **3** ACE stations, 0 ferry terminals, and **25** miles of LATVA Rapid Routes. There are **2** square miles of land area within a half-mile walk of a rail station

Generally lower density and more dispersed land uses and the location of both BART stations on the western edge of the planning area present unique access challenges to transit in the East Planning Area. Despite these challenges, the use of transit for commuting is similar to other planning areas. LAVTA provides bus service and has recently consolidated service to its two rapid routes. Most routes are oriented towards serving the BART stations and the Livermore Transit Center, though coordination between operators is limited. Most East Planning Area residents access BART stations by automobile, and LAVTA has partnered with ridehailing companies to facilitate the use of pooled vehicles to access stations. ACE also provides three stations in the East Planning Area.

TRANSIT COMMUTE MODE SHARE

9%

HOW RIDERS ACCESS BART



NUMBER OF MAJOR TRANSIT STOPS

5

EAST PLANNING AREA TRANSIT CHALLENGES AND NEEDS

Suburban Land Use

Moderate- to low-density land use in East County makes high transit ridership difficult

Service Frequency

Frequent service has limited coverage, and existing service is commute-oriented

Connections to Transit

First/last-mile access to transit stops and stations needs improvement

Service Integration

Schedules and transfer coordination is limited between different transit providers

Arterials

COUNTYWIDE CONSIDERATIONS

LINKS TO PRIORITY DEVELOPMENT AREAS

Arterials link the regional and local transportation networks to areas slated for concentrated, mixed use development.

SERVES EVERYONE

Alameda County's arterial network provides critical connectivity for bicyclists, pedestrians, transit riders, trucks, and cars.

INCREASING CONGESTION

Congestion on arterial roads continues to increase as a result of an improving regional economy and sustained job growth.

CHALLENGES AND NEEDS

FALLING TRAVEL SPEEDS

Morning and afternoon peak travel speeds on arterials decreased about 15 percent over the last four years.

LIMITED CONNECTIVITY

Limited connectivity of local street grids directs more traffic of all modes onto arterials.

SAFETY

Major arterials account for just 14% of road miles in Alameda County but account for 71% of the Automobile High Injury Network.

COMPETITION FOR SPACE

Transit vehicles, automobiles, bicycles, and trucks compete for roadway and curb space on arterials.

PLACEMAKING

Congestion on arterials negatively impacts the reliability of and travel time for bus service, as well as for cars and trucks.

MULTIMODAL RELIABILITY

Congestion on arterials reduces the reliability of bus transit service, as well as for cars and trucks.

ACCESS TO KEY DESTINATIONS

Many destinations are located on arterials with high traffic stress, but the active transportation network is disconnected.

UNCOMFORTABLE WALKING & BIKING ENVIRONMENT

Wide roadways and arterials with high volumes and vehicle speeds discourage walking and biking.

SPILLOVER CONGESTION

Congestion on freeways diverts trips onto adjacent arterials, which has been exacerbated by the proliferation of wayfinding smartphone apps.

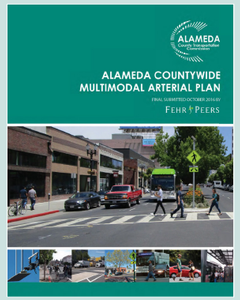
KEY TERMS

High Pedestrian Emphasis Zone: Areas identified in the Alameda Countywide Multimodal Arterial Plan as locations with high pedestrian volumes, near major activity centers, or where walking serves a critical transportation function. These areas are typically centered around major transit stops and commercial centers.

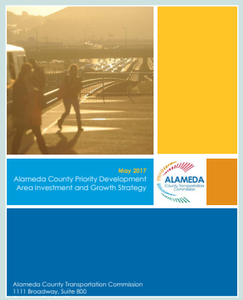
Priority Development Area (PDA): Areas identified and approved by local governments for future growth. These areas are typically accessible by transit and located near existing jobs and services and are approved by the Association of Bay Area Governments (ABAG).

PLANS AND DATA INFORMING NEEDS

Countywide Multimodal Arterial Plan (2016)



PDA Investment & Growth Strategy (2017)



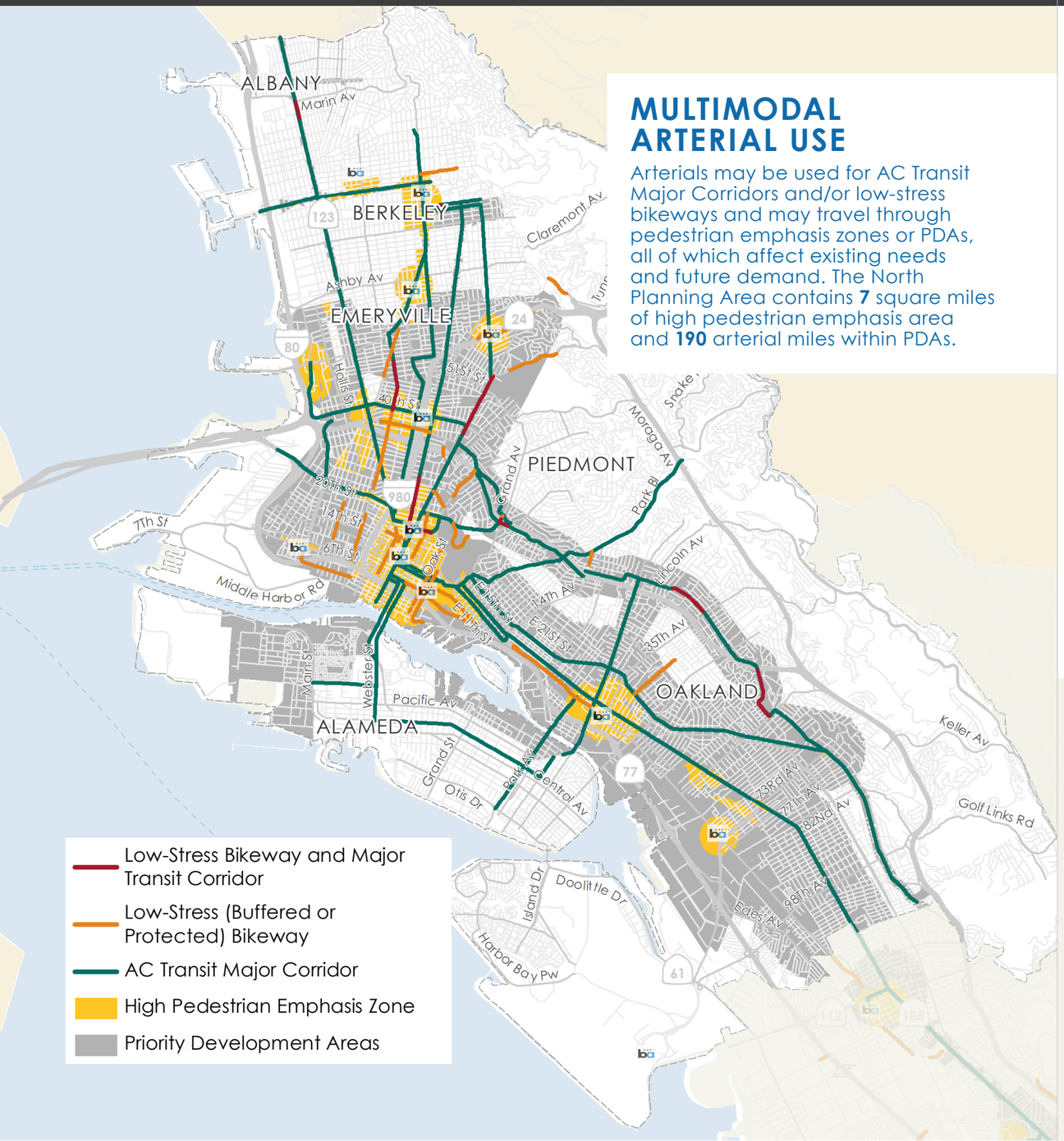
Other Data Sources

CTPP Place of Work, 2012-2016

Streetlight Origin-Destination Data, 2020

Arterials

NORTH PLANNING AREA



MULTIMODAL ARTERIAL USE

Arterials may be used for AC Transit Major Corridors and/or low-stress bikeways and may travel through pedestrian emphasis zones or PDAs, all of which affect existing needs and future demand. The North Planning Area contains **7** square miles of high pedestrian emphasis area and **190** arterial miles within PDAs.

Arterials in the North Planning area are typically four lanes wide with lower speeds than found elsewhere in the county. The arterial network also has a strong grid pattern, providing more direct routing that is conducive to bus transit, walking, and biking, and the North Planning Area has the highest share of arterial miles on AC Transit Major Corridors and more high pedestrian emphasis areas than elsewhere in the county. These factors, along with dense land uses that are planned to get denser through extensive PDAs, result in more residents who both live and work in the planning area commuting by bus, bike, or on foot than anywhere else in the county. With some major arterials also serving as options for long-distance travel parallel to freeways, competition for roadway space in the North Planning Area is very high.

ARTERIALS SERVING MULTI-MODAL NEEDS

27% of arterial miles are on AC Transit Major Corridors

3% of arterial miles include an all ages and abilities bikeway

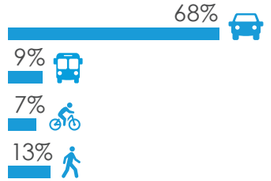
ANTICIPATED PORTION OF PLANNING AREA GROWTH IN PDAs

79% of jobs

88% of housing units

87% of households

TRAVEL MODE OF COMMUTERS WHO LIVE & WORK IN NORTH COUNTY



NORTH PLANNING AREA ARTERIALS CHALLENGES AND NEEDS

Multimodal Reliability

Congestion resulting from dense land uses impact multimodal reliability

Competition for Space

Competition for curb and roadway space force trade-offs between modes

Falling Travel Speeds

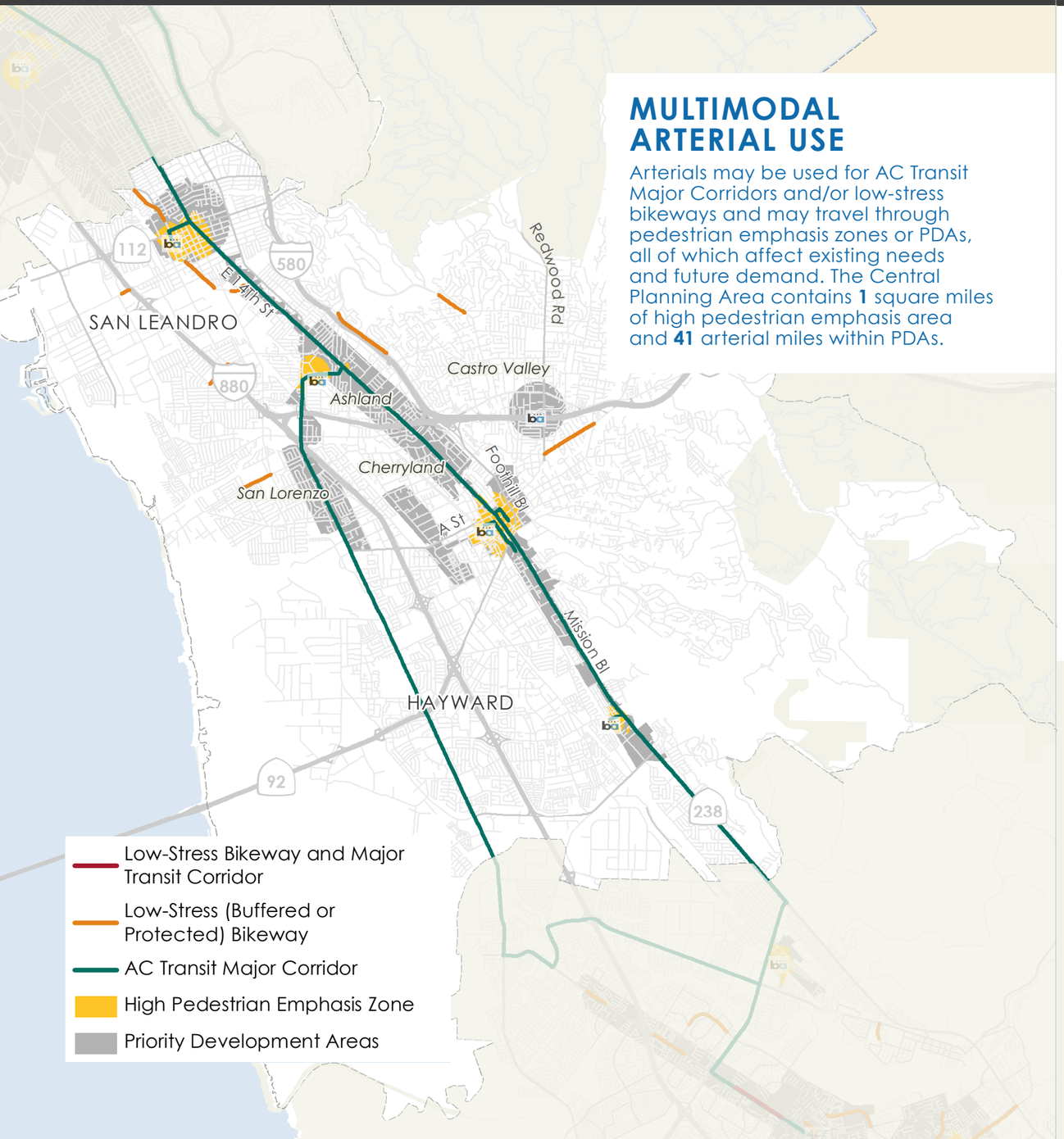
Heavy congestion during peak periods results in slow transit travel speeds

Safety

Crossing wide, auto-oriented arterials on foot or by bicycle can be difficult and feel unsafe

Arterials

CENTRAL PLANNING AREA



MULTIMODAL ARTERIAL USE

Arterials may be used for AC Transit Major Corridors and/or low-stress bikeways and may travel through pedestrian emphasis zones or PDAs, all of which affect existing needs and future demand. The Central Planning Area contains **1** square miles of high pedestrian emphasis area and **41** arterial miles within PDAs.

Arterials in the Central Planning Area are typically four to six lanes wide with relatively high speeds. Unlike other suburban areas of Alameda County, however, many arterials in the Central Planning Area travel through downtown areas where roadways may be narrower. Additionally, many arterials in the Central Planning Area have local businesses fronting the street and may directly interface with customers, employees, and other business functions. Low-stress bikeways on arterials are limited. PDAs in the Central Planning Area are primarily concentrated along arterials, particularly the East 14th Street/Mission Boulevard corridor, with the potential to significantly change this corridor's look and feel.

ARTERIALS SERVING MULTI-MODAL NEEDS

13% of arterial miles are on AC Transit Major Corridors

1% of arterial miles include an all ages and abilities bikeway

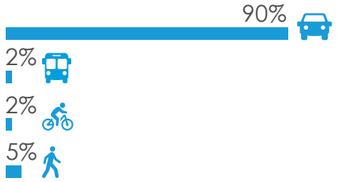
ANTICIPATED PORTION OF PLANNING AREA GROWTH IN PDAs

36% of jobs

39% of housing units

34% of households

TRAVEL MODE OF COMMUTERS WHO LIVE & WORK IN CENTRAL COUNTY



CENTRAL PLANNING AREA ARTERIALS CHALLENGES AND NEEDS

Competition for Space

Local business frontages result in demand for multiple uses of curb space

Place-making

Limited nighttime pedestrian-scale lighting contribute to placemaking and personal security challenges

Multimodal Reliability

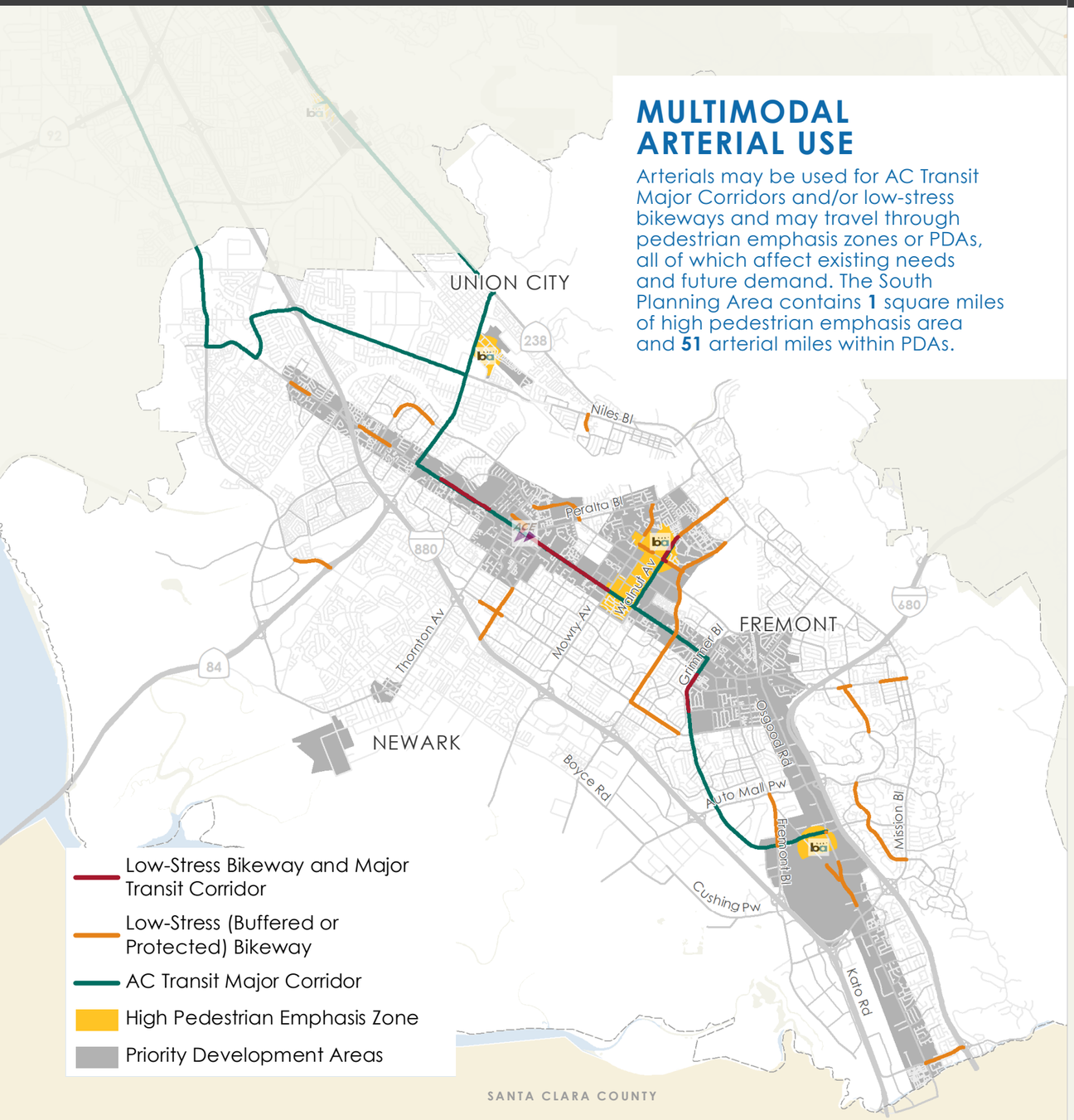
Increasing traffic, often from freeway spillover, results in reduced travel time reliability in downtown areas

Access to Key Destinations

Gaps in the walking/biking network limit access to bus stops and BART

Arterials

SOUTH PLANNING AREA



MULTIMODAL ARTERIAL USE

Arterials may be used for AC Transit Major Corridors and/or low-stress bikeways and may travel through pedestrian emphasis zones or PDAs, all of which affect existing needs and future demand. The South Planning Area contains **1** square miles of high pedestrian emphasis area and **51** arterial miles within PDAs.

Development patterns in the South Planning Area are primarily suburban, and arterials often contain six or more lanes with high posted speed limits. These features facilitate automobile travel on arterials, and most residents who both live and work in the South Planning Area travel by car. At the same time, the South Planning Area has a higher percentage of arterial miles that include an all ages and abilities bikeway than anywhere else the county. The importance of arterials to all modes in the South Planning Area is particularly heightened due to the limited connectivity and walkability of the local street network, which concentrates travel onto the arterial network. PDAs in the South Planning Area are connected by one long arterial corridor, which offers the potential for a consistent multimodal roadway.

ARTERIALS SERVING MULTI-MODAL NEEDS

9% of arterial miles are on AC Transit Major Corridors

5% of arterial miles include an all ages and abilities bikeway

ANTICIPATED PORTION OF PLANNING AREA GROWTH IN PDAs

66% of jobs

61% of housing units

61% of households

TRAVEL MODE OF COMMUTERS WHO LIVE & WORK IN SOUTH COUNTY

SOUTH PLANNING AREA ARTERIALS CHALLENGES AND NEEDS

Competition for Space

Limited connectivity of local streets increases use of arterials for all modes

Place-making

Surface parking lot frontages contribute to placemaking challenges

Spillover Congestion

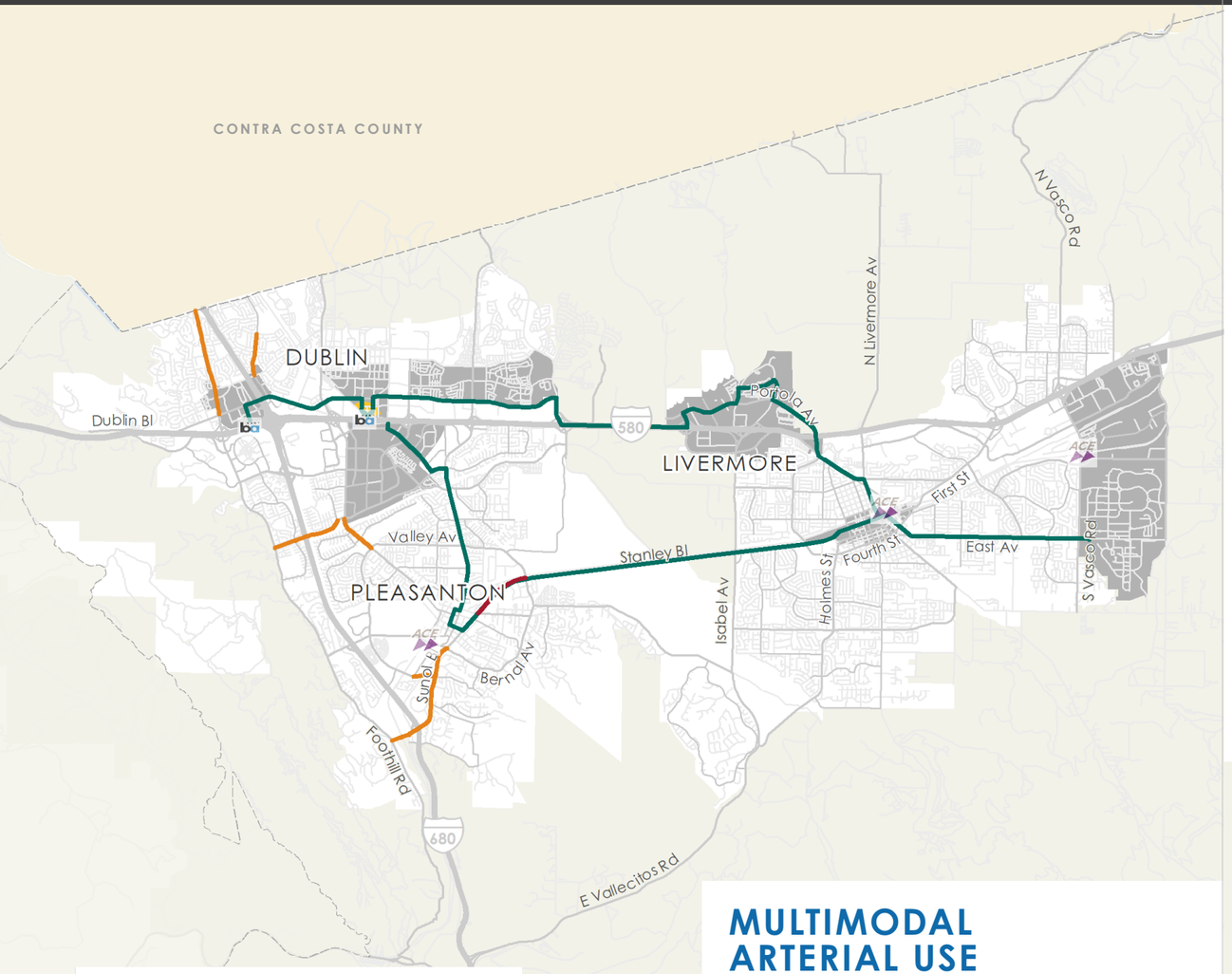
Heavy congestion is exacerbated by freeway spillovers

Uncomfortable Walking and Biking Environment

Wide roadways with high volumes and vehicle speeds discourage walking and biking

Arterials

EAST PLANNING AREA



MULTIMODAL ARTERIAL USE

Arterials may be used for LAVTA Rapid Routes and/or low-stress bikeways and may travel through pedestrian emphasis zones or PDAs, all of which affect existing needs and future demand. The South Planning Area contains **0.1** square miles of high pedestrian emphasis area and **33** arterial miles within PDAs.

The East Planning Area contains both developed suburban areas and rural environments, and the arterial network accordingly consists primarily of roads withsix or more lanes and high speeds, as well as two-lane rural routes. Automobiles are the predominant mode of transportation within the East Planning Area, although the arterial network contains a similar percentage of miles with a priority transit route or all ages and abilities bikeway as elsewhere in the county. Planned development in the East Planning Area is highly concentrated, as the relatively limited area designated for PDAs contains a high percentage of anticipated growth.

ARTERIALS SERVING MULTI-MODAL NEEDS

9% of arterial miles are on AC Transit Major Corridors

5% of arterial miles include an all ages and abilities bikeway

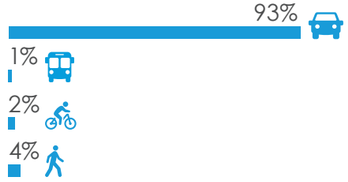
ANTICIPATED PORTION OF PLANNING AREA GROWTH IN PDAs

66% of jobs

61% of housing units

61% of households

TRAVEL MODE OF COMMUTERS WHO LIVE & WORK IN EAST COUNTY



EAST PLANNING AREA ARTERIALS CHALLENGES AND NEEDS

Access to Key Destinations

There is limited walking/biking access to bus stops and BART stations

Place-making

Surface parking lot frontages contribute to placemaking challenges

Spillover Congestion

Freeway traffic spills onto arterials resulting in unreliable travel times

Uncomfortable Walking and Biking Environment

Wide roadways with high volumes and vehicle speeds discourage walking and biking difficult

Freeways

COUNTYWIDE CONSIDERATIONS

ALAMEDA COUNTY IS AT THE CENTER OF THE BAY AREA FREEWAY NETWORK

Freeways have the highest amount of vehicle carrying capacity and facilitate access throughout the Bay Area and surrounding regions.

CONGESTION IS INCREASING

Alameda County has 140 miles of freeways and hosts half of the top 10 most congested freeway corridors in the Bay Area.

NUMBER OF COLLISIONS ARE INCREASING

Total collisions have increased 31% from Great Recession lows, leading to greater numbers of injuries and deaths on freeways.

CHALLENGES AND NEEDS

SAFETY

Freeway collisions are particularly likely to occur in the vicinity of congested interchanges, especially freeway-to-freeway interchanges.

PEAK HOUR TRAFFIC

About one-quarter of Alameda County's freeway network is congested during the evening peak. Queuing has increased on freeway interchanges, causing backups onto arterials.

GOOD MOVEMENT OPERATIONS

Congestion on freeways like the I-880 and I-80 impacts trucks heading to the Port of Oakland and impairs goods movement operations.

EMISSIONS

Due to the urbanized nature of most of Alameda County, the ability to build additional lane capacity on freeways is restricted.

SPILLOVER CONGESTION

Congestion on freeways often causes backups on connecting arterials, impacting the many types of road users that circulate on these major streets.

EXPRESS NETWORK GAPS

The managed lanes network is discontinuous and incomplete. There are 140 freeway miles over ten interstates and state routes, but only 39 miles of express lanes are operational.

CUT-THROUGH TRIPS

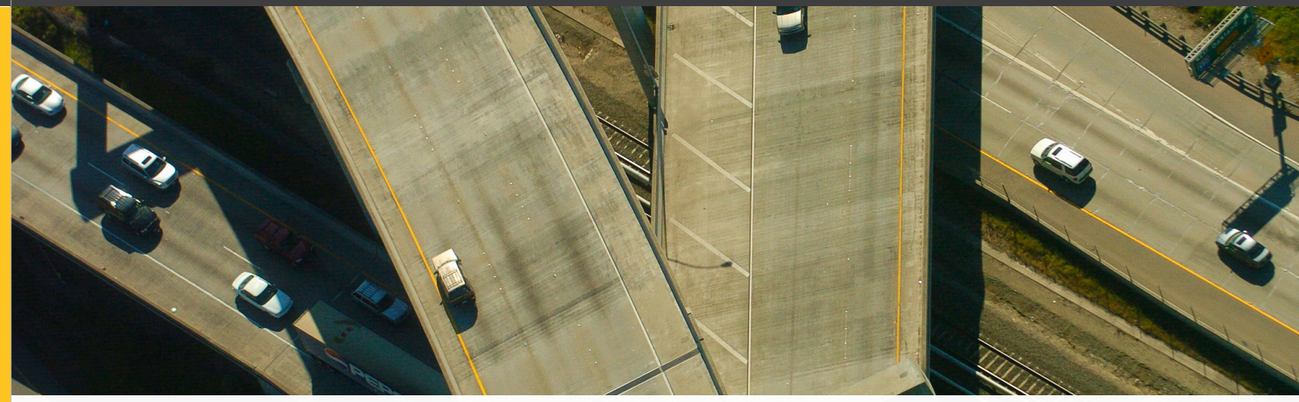
Increasing congestion on freeways is resulting in more cut-through automobile trips and traffic on local roads.

LIMITED ALTERNATIVES

There are limited non-SOV options to access external job centers on the Peninsula and in the South Bay.

FALLING TRANSIT SPEEDS

Substantial delays on key freeway corridors, such as the the Bay Bridge approach, impact Transbay and Express Buses.



KEY TERMS

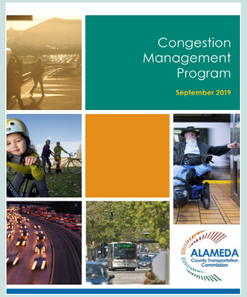
Spillover Congestion: A phenomenon where severe traffic congestion on freeways causes backups on local roadways as vehicle attempt to access on-ramps. This increases travel times on arterials and increases potential conflicts with bicyclists and pedestrians.

Express Lanes: Lanes on a freeway that are free to transit buses, carpoolers, vanpoolers, motorcycles, and eligible clean air vehicles but require solo drivers to pay tolls for use.

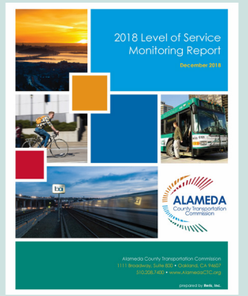
Level of Service (LOS): A representation of roadway congestion and delay. An LOS rating of E or F signifies major impacts to travel times, hindering drivers, transit riders, and goods movement users. LOS is no longer used to assess environment impacts, which now are based on Vehicles Miles Traveled (VMT).

PLANS AND DATA INFORMING NEEDS

Alameda County Congestion Management Program (2019)



Alameda County 2018 LOS Monitoring Report



Other Data Sources

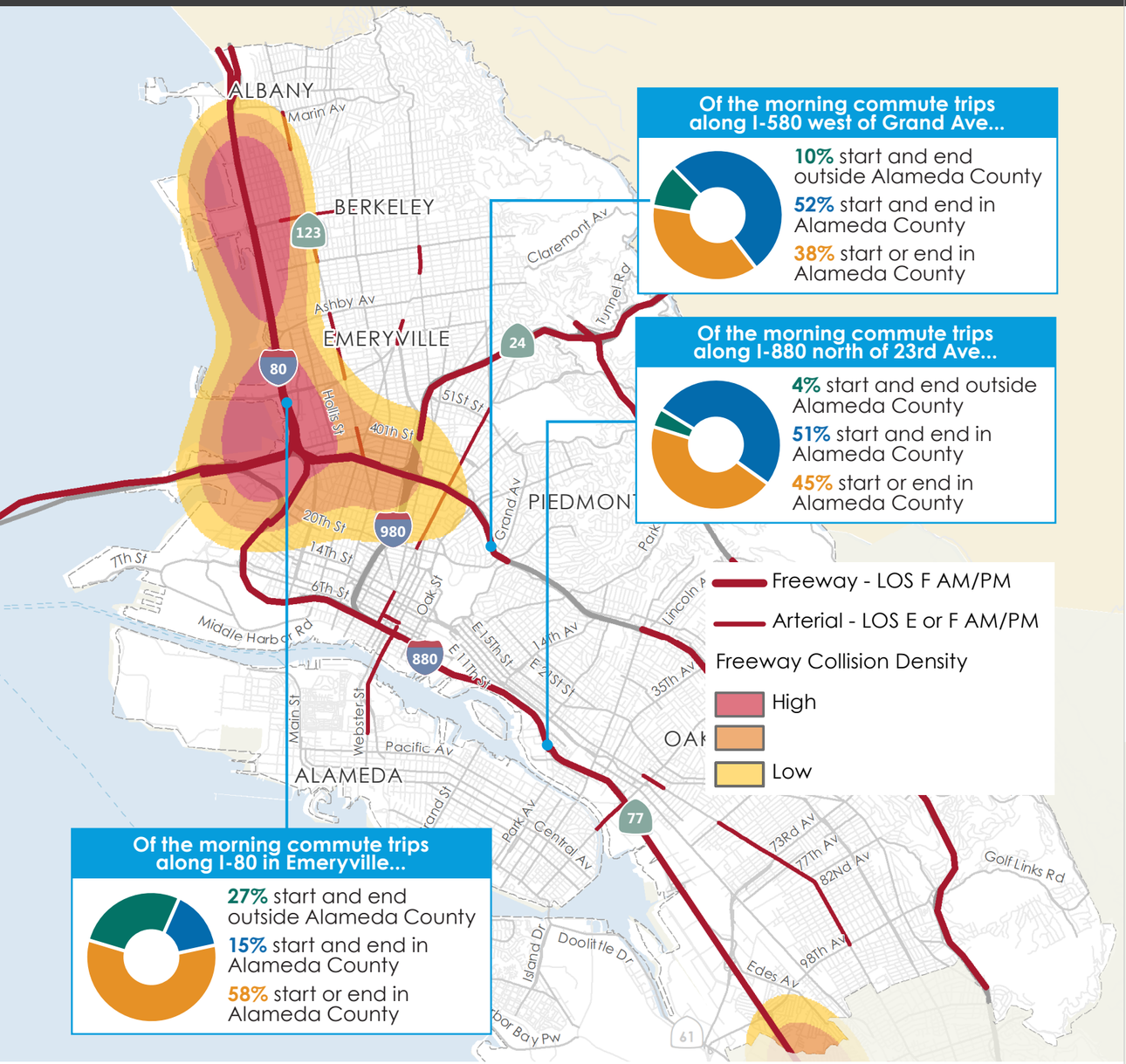
U.S. Census, ACS 5-Year, 2014-2018

CTPP Place of Work, 2012-2016

Streetlight Origin-Destination Data, 2020

Freeways

NORTH PLANNING AREA



Of the morning commute trips along I-580 west of Grand Ave...

10% start and end outside Alameda County
52% start and end in Alameda County
38% start or end in Alameda County

Of the morning commute trips along I-880 north of 23rd Ave...

4% start and end outside Alameda County
51% start and end in Alameda County
45% start or end in Alameda County

Of the morning commute trips along I-80 in Emeryville...

27% start and end outside Alameda County
15% start and end in Alameda County
58% start or end in Alameda County

FREEWAY COLLISIONS AND TRAFFIC PATTERNS

Driving is less prevalent in the North Planning Area than elsewhere in the county, but congestion is still high because the area is a major gateway to San Francisco and contains the county's largest employment center, Downtown Oakland. I-80 serves as the primary Alameda County gateway to San Francisco and West Contra Costa County, while SR-24 serves as the primary gateway to other areas of Contra Costa County. I-80 in the North Planning Area is consistently included in MTC's top 10 most congested corridors in the Bay Area. Except for the I-80 corridor, freeways in the North Planning Area carry limited pass-through trips and mostly serve travel entirely within Alameda County. The I-80 corridor, by contrast, primarily serves travel from outside the county to job centers in San Francisco and Oakland.

NORTH PLANNING AREA (PA) EMPLOYMENT FLOWS

164,090
North PA workers live outside the North PA

146,650
North PA residents work outside the North PA

37% of workers arriving in the North PA are from Contra Costa County
45% of workers leaving the North PA are headed to San Francisco
54% of employed residents of the North PA work in the North PA

RESIDENT COMMUTE MODE SHARE

Drive Alone **48%**

Carpool **10%**

NORTH PLANNING AREA FREEWAYS CHALLENGES AND NEEDS

Emissions

Heavy congestion increases emissions in communities along freeway corridors

Goods Movement Operations

Congestion on I-880 and I-80 impacts trucks heading to the Port

Safety

Congestion and complex operations approaching the Bay Bridge result in high collision densities on I-80 and I-580

Spillover Congestion

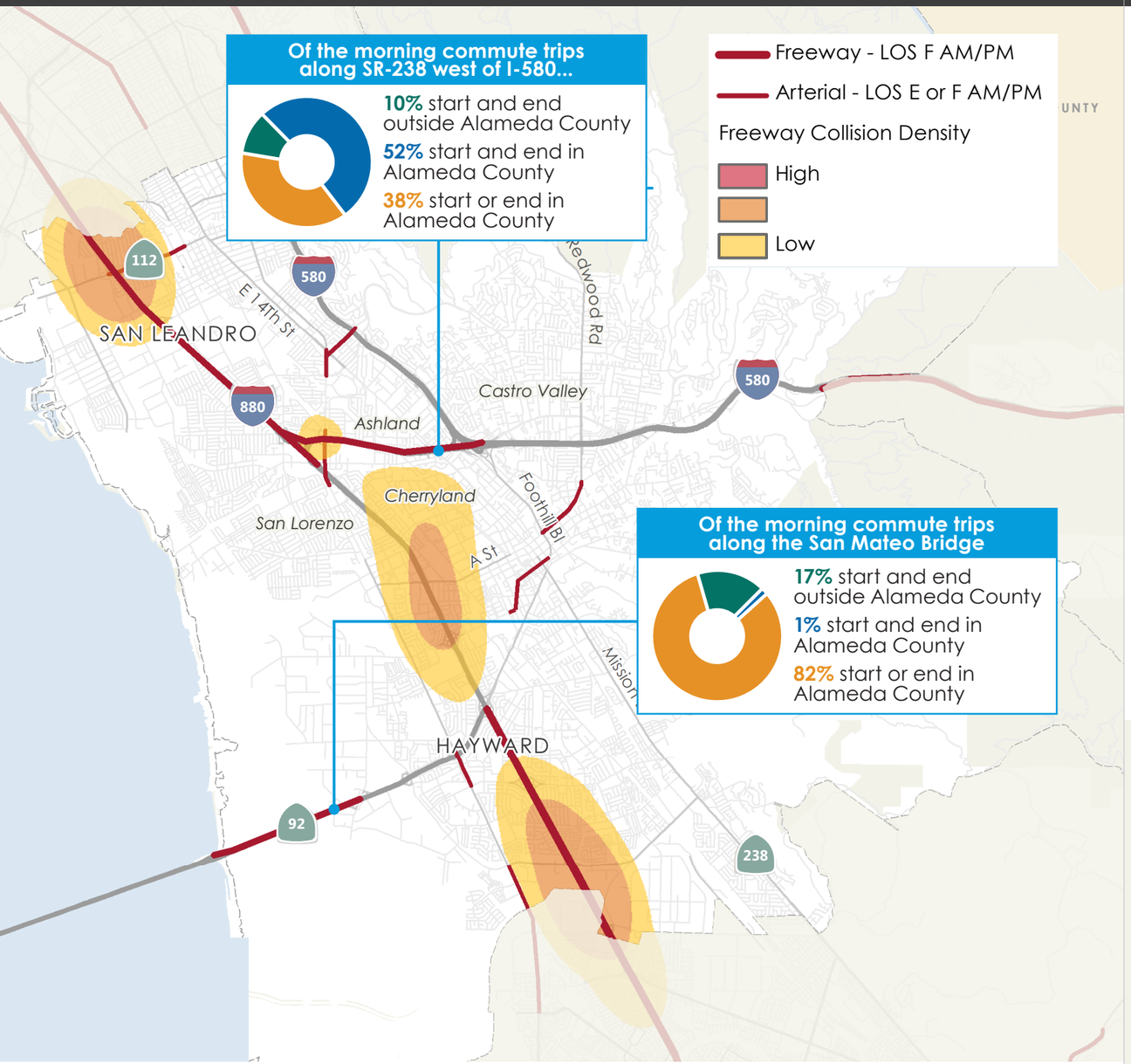
Spillover traffic onto parallel arterials results in long and unreliable travel times

Falling Transit Speeds

Substantial delays on Bay Bridge approach impact Transbay Buses

Freeways

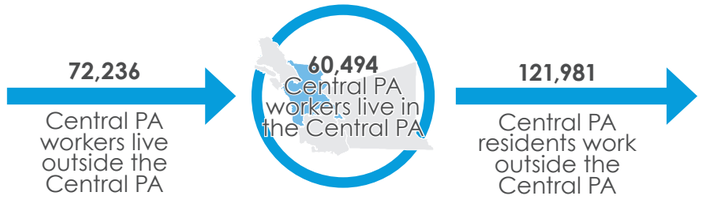
CENTRAL PLANNING AREA



FREEWAY COLLISIONS AND TRAFFIC PATTERNS

The four freeways in the Central Planning Area connect other parts of the county to each other, as well as to job centers on the Peninsula. In addition to being used as pass-throughs, the freeways are also heavily used by Central Planning Area residents, who have the highest share working outside their planning area of anywhere in the county. SR-92 serves as the primary gateway to San Mateo County via the San Mateo Bridge, and 39 percent of trips during the morning commute originate in the Central Planning Area. I-238 and I-880 are the most congested freeway corridors in the Central Planning Area, and these freeways are primarily used for trips within Alameda County.

CENTRAL PLANNING AREA (PA) EMPLOYMENT FLOWS



21% of workers arriving in the Central PA are from Oakland
21% of workers leaving the Central PA are headed to Oakland
33% of employed residents of the Central PA work in the Central PA

RESIDENT COMMUTE MODE SHARE

Drive Alone **71%**

Carpool **10%**

CENTRAL PLANNING AREA FREEWAYS CHALLENGES AND NEEDS

Cut-Through Trips

Cut-through trips from drivers trying to avoid congestion on freeways are increasing on local roads during peak commuting hours

Emissions

High truck volumes on I-880, I-238, and the eastern portion of I-580 cause wear-and-tear and pollution

Peak Hour Traffic

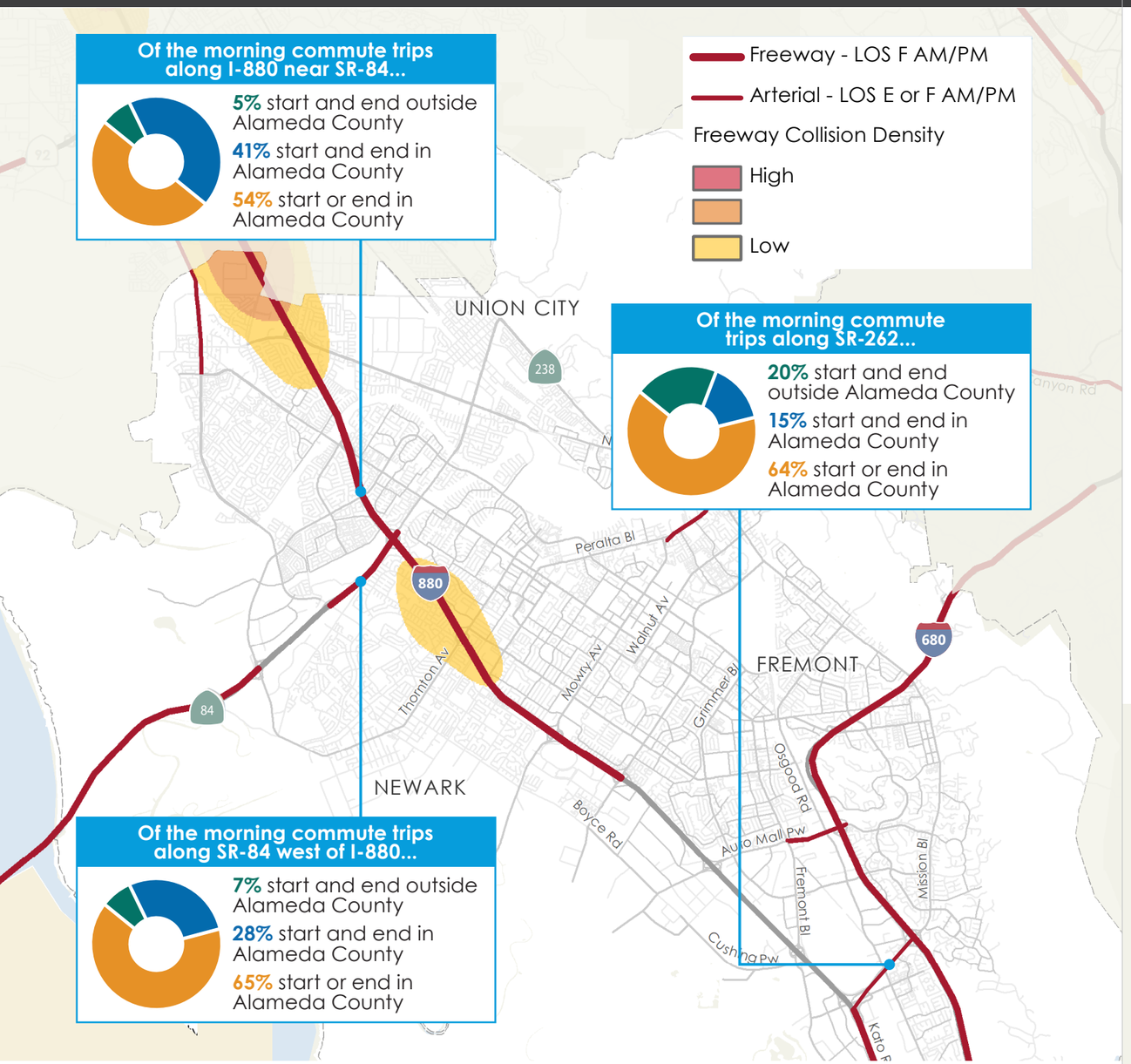
I-880 and I-238 experience heavy peak period congestion , particularly near their interchange

Safety

There are multiple hot spots with high collision densities along I-880

Freeways

SOUTH PLANNING AREA



FREEWAY COLLISIONS AND TRAFFIC PATTERNS

Freeways in the South Planning Area serve major employment centers in the South Bay, on the Peninsula, and within the planning area. SR-84 is a gateway to San Mateo County via the Dumbarton Bridge, while I-680 and I-880 are the primary gateways to Santa Clara County. The Dumbarton Bridge primarily serves trips involving Alameda County residents, and I-880 north of SR-84 mostly serves travel within the county. Although not currently designated as a freeway, SR-262 is a vital connection between I-880 and I-680, and congestion on SR-262 affects operations on those freeways as well. I-680 in the South Planning Area is consistently included in MTC's top 10 most congested corridors in the Bay Area.

SOUTH PLANNING AREA (PA) EMPLOYMENT FLOWS

33% of workers arriving in the South PA are from Santa Clara County
46% of workers leaving the South PA are headed to Santa Clara County
34% of employed residents of the South PA work in the Central PA

RESIDENT COMMUTE MODE SHARE

Drive Alone **72%**

Carpool **10%**

SOUTH PLANNING AREA FREEWAYS CHALLENGES AND NEEDS

Cut-Through Trips

Cut-through trips from drivers trying to avoid congestion on freeways are increasing on local roads during peak commuting hours

Limited Alternatives

There are limited commute alternative to jobs in the Peninsula and the South Bay, which increases demand on freeways

Peak Hour Traffic

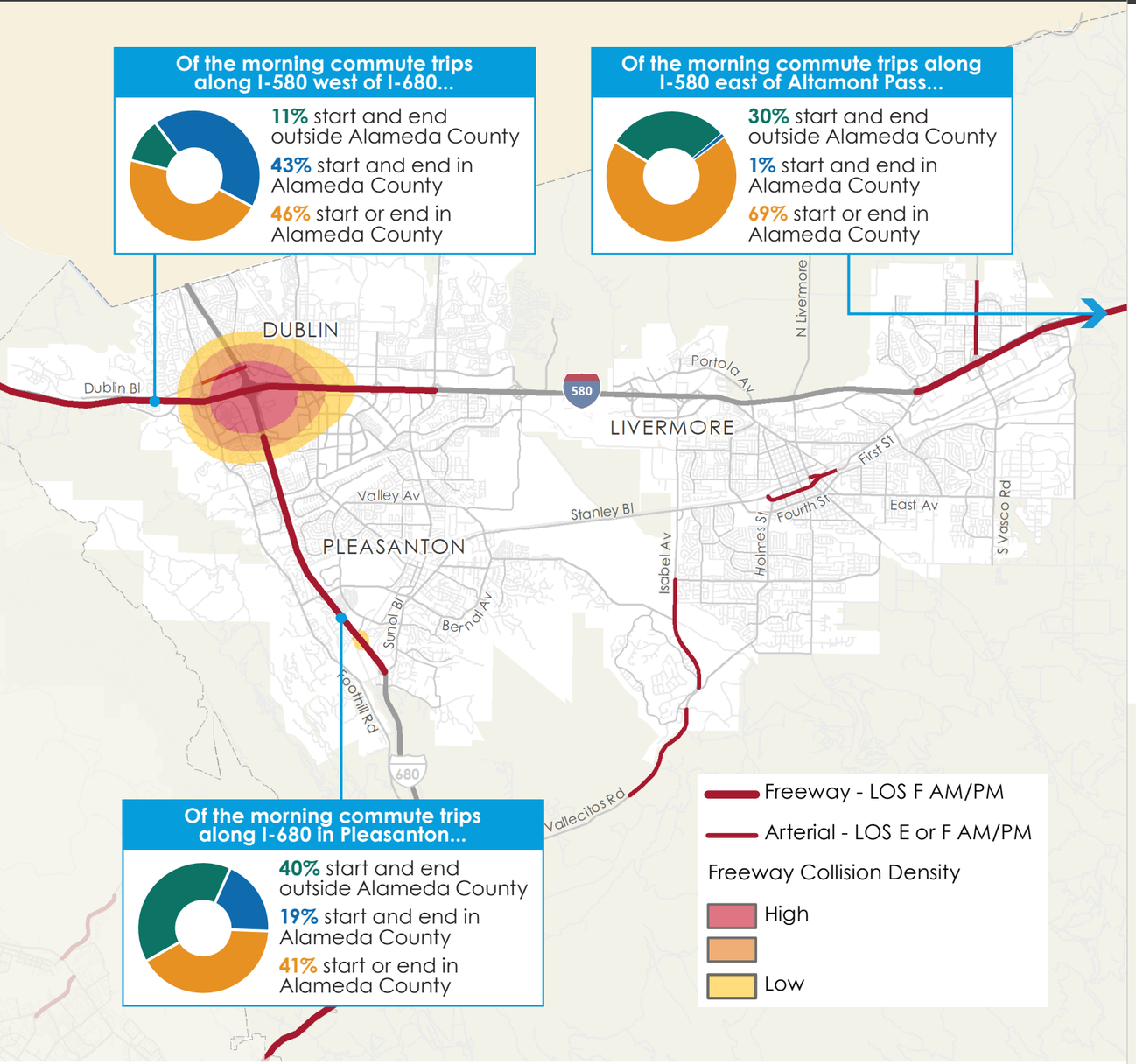
I-680 experiences heavy peak period congestion related to travel to and from South Bay job centers, and congestion on I-880 is centered near the Dumbarton Bridge

Spillover Congestion

Heavy congestion on along SR 262 creates backups onto I-880 and I-680

Freeways

EAST PLANNING AREA



FREEWAY COLLISIONS AND TRAFFIC PATTERNS

The East Planning Area is served by two freeway corridors: I-580 and I-680. I-580 serves as the primary Alameda County gateway to San Joaquin County, while I-680 serves as a gateway to Contra Costa County and southern Alameda County. The I-580 segment at the Altamont Pass and I-680 segment in Pleasanton serve a high proportion of traffic that passes through Alameda County entirely on its way to job centers in the South Bay and on the Peninsula. Commuters driving through the East Planning Area represent 30 percent and 40 percent of traffic at these locations, respectively, during the morning peak period. On I-580 east of Dublin, the pass-through traffic is similar to other freeways in the county. I-580 is heavy utilized by trucks traveling into and out of Alameda County.

EAST PLANNING AREA (PA) EMPLOYMENT FLOWS

28% of workers arriving in the South PA are from Santa Clara County
22% of workers leaving the South PA are headed to Santa Clara County
45% of employed residents of the South PA work in the Central PA

RESIDENT COMMUTE MODE SHARE

Drive Alone **73%**

Carpool **8%**

EAST PLANNING AREA FREEWAYS CHALLENGES AND NEEDS

Cut-Through Trips

Cut-through trips are increasing on local and rural roads during peak commuting hours

Limited Alternatives

There are limited commute alternatives to I-680 and eastern I-580

Network Gaps

The express lane network along East Planning Area freeways is disconnected

Peak Hour Traffic

Traffic on I-580 eastbound is intensifying during the PM peak period

Safety

A substantial bottleneck at the I-580/I-680 interchange results in high collision density

Goods Movement

COUNTYWIDE CONSIDERATIONS

CRITICAL TO ECONOMIC VITALITY
About one-third of the County's jobs come from goods movement-dependent industries, and Transportation, Warehousing, and Utilities was the fastest-growing employment sector in the East Bay in 2018.

INCREASING REGIONAL DEMAND
Bay Area international trade volumes are expected to grow from 66 million tons in 2012 to 159 million tons by 2040. In 2018, the Port of Oakland handled $50 billion of goods, which is expected to triple by 2040.

AFFECTS ALL MODES OF TRAVEL
Truck traffic moves about 81% of goods by tonnage in Alameda County, and rail is responsible of moving about 8%. These uses share roadway space and rail corridors with other travelers moving through the County.

CHALLENGES AND NEEDS

ROADWAY CONGESTION/ RELIABILITY
Congestion hinders goods movement operations and scheduling due to reduced travel time reliability.

TRUCK ROUTE PRESERVATION
The Port of Oakland and agricultural producers, particularly in East County, require truck routes to maintain access to and from consumers.

NEGATIVE IMPACT ON NEIGHBORHOODS
Use of local streets causes conflicts with other modes, while noise and pollution adversely impacts surrounding neighborhoods.

PORT TERMINAL DELAY
Large maritime vessels create surges of trucks at the port, which results in heavy delays.

CONSTRAINED RAIL CAPACITY
Limited ability to increase rail capacity constraints planned operational improvements in shared rail corridors.

AT-GRADE RAIL CROSSING SAFETY
Increased rail corridor operations may decrease safety and vehicle operations at at-grade rail crossings.

LAND USE CONFLICTS
Many PDAs in the county are adjacent to freight rail tracks, and some industrial areas are prime for redevelopment.

HIGH TRUCK DENSITY
High truck densities contribute to roadway wear and tear and environmental impacts.

EMISSIONS
Particulate matter and nitrogen oxides emitted from goods movement can create significant health risks of residents.

KEY TERMS

Average Annual Daily Traffic (AADT): The average number of vehicles on a roadway each day over the course of a year. AADT provides information on truck volumes.

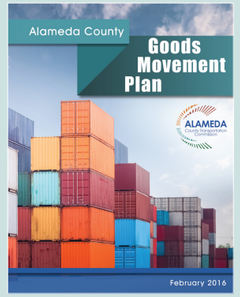
Rail Subdivisions: Rail subdivisions are sections of a rail network. There are seven rail subdivision in Alameda County: Martinez, Niles, Oakland, Coast, Warm Springs, Canyon, and Tracy.

Constrained Rail Capacity: Without improvements to operation efficiencies, a growing demand for goods with a fixed mileage of railroad tracks results in rail capacity constraints.

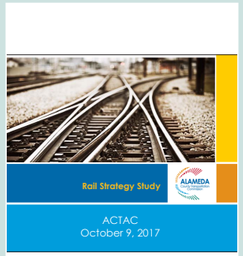
At-Grade Crossings: Intersections where a railroad crosses a roadway at the same level, as opposed to crossing over or under using an overpass or tunnel.

PLANS AND DATA INFORMING NEEDS

Alameda County Goods Movement Plan (2016)



Alameda County Rail Strategy Study (2017)



Other Data Sources

Caltrans AADT Databook, 2017

Goods Movement

NORTH PLANNING AREA

FREIGHT VOLUMES AND INDUSTRIAL LAND USES

1. **I-80/ASHBY**
   9,000 Trucks (AADT)
2. **I-880 AT OAKLAND/MADISON**
   16,000 Trucks (AADT)

A. **MARTINEZ SUBDIVISION**
   18 Freight Trains/Day
   42 Passenger Trains/Day

B. **NILES SUBDIVISION**
   16 Freight Trains/Day
   16 Passenger Trains/Day

C. **OAKLAND SUBDIVISION**
   <1 Freight Trains/Day

The Port of Oakland and Oakland International Airport in the North Planning Area represent Alameda County's two international gateways for goods movement. The Port of Oakland is one of the largest container ports in the United States, with freight traffic expected to double by 2040. The Martinez subdivision rail line that travels through the Port carries the highest freight rail volumes in Alameda County, in addition to 42 passenger trains per day. I-880 carries high truck volumes to and from the Port, and the North Planning Area contains more arterial truck routes than anywhere else in the county.

AREA OF INDUSTRIAL USES:
7 square miles

FREIGHT RAIL TRACKS:
21 miles

ARTERIAL TRUCK ROUTES:
35 miles

NORTH PLANNING AREA GOODS MOVEMENT CHALLENGES AND NEEDS

Constrained Rail Capacity
Rail capacity constraints limit the ease of goods movement operations

Land Use Conflicts
Industrial businesses and associated truck traffic in close proximity to neighborhoods poses challenges to air quality, roadway design, and development

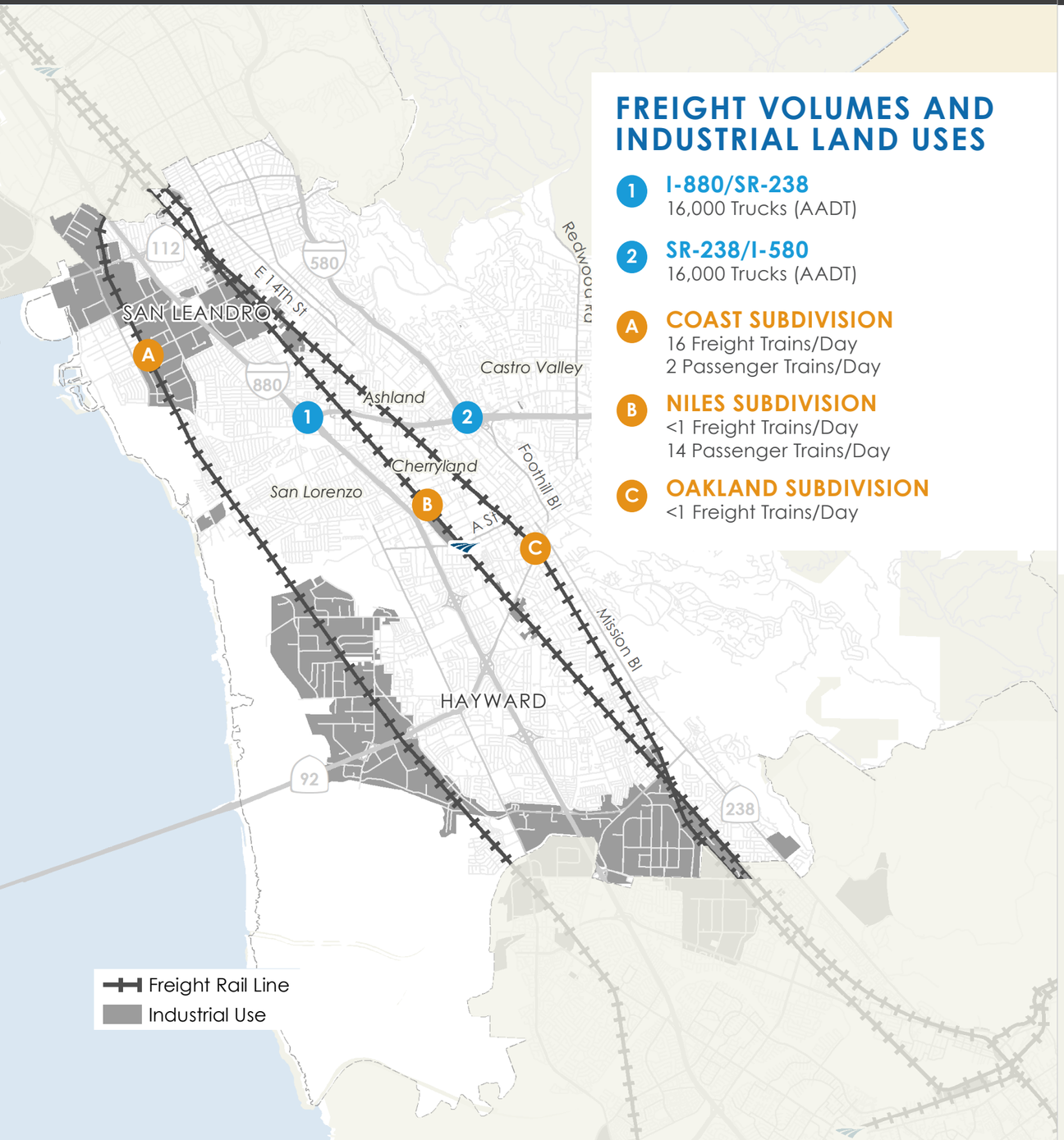
Negative Impact on Neighborhoods
Emissions, safety, and parking challenges impact West Oakland and communities along freeway and rail corridors

Port Terminal Delay
Truck queueing, delay, and freeway access challenges hinder operations at the Port of Oakland

Roadway Congestion/ Reliability
High delays and variable travel times on I-80 and I-880

Goods Movement

CENTRAL PLANNING AREA



FREIGHT VOLUMES AND INDUSTRIAL LAND USES

1 **I-880/SR-238**
16,000 Trucks (AADT)

2 **SR-238/I-580**
16,000 Trucks (AADT)

A **COAST SUBDIVISION**
16 Freight Trains/Day
2 Passenger Trains/Day

B **NILES SUBDIVISION**
<1 Freight Trains/Day
14 Passenger Trains/Day

C **OAKLAND SUBDIVISION**
<1 Freight Trains/Day

The Central Planning Area contains a large amount of industrial land, much of it related to ancillary services for the Port. This land is concentrated along the Coast subdivision rail line or near I-880, and those facilities accordingly carry high levels of freight rail and truck traffic. Arterials in the Central Planning Area are also heavily utilized for goods movement, with the second-most arterial truck route mileage in the county. Although the Central Planning Area also contains a high mileage of freight rail tracks, the Niles and Oakland subdivision rail lines are infrequently used for goods movement.

AREA OF INDUSTRIAL USES:
8 square miles

FREIGHT RAIL TRACKS:
34 miles

ARTERIAL TRUCK ROUTES:
29 miles

CENTRAL PLANNING AREA GOODS MOVEMENT CHALLENGES AND NEEDS

Constrained Rail Capacity
Rail capacity constraints limit goods movement operations

Roadway Conditions and Emissions
High truck volumes cause wear-and-tear and exacerbate environmental concerns

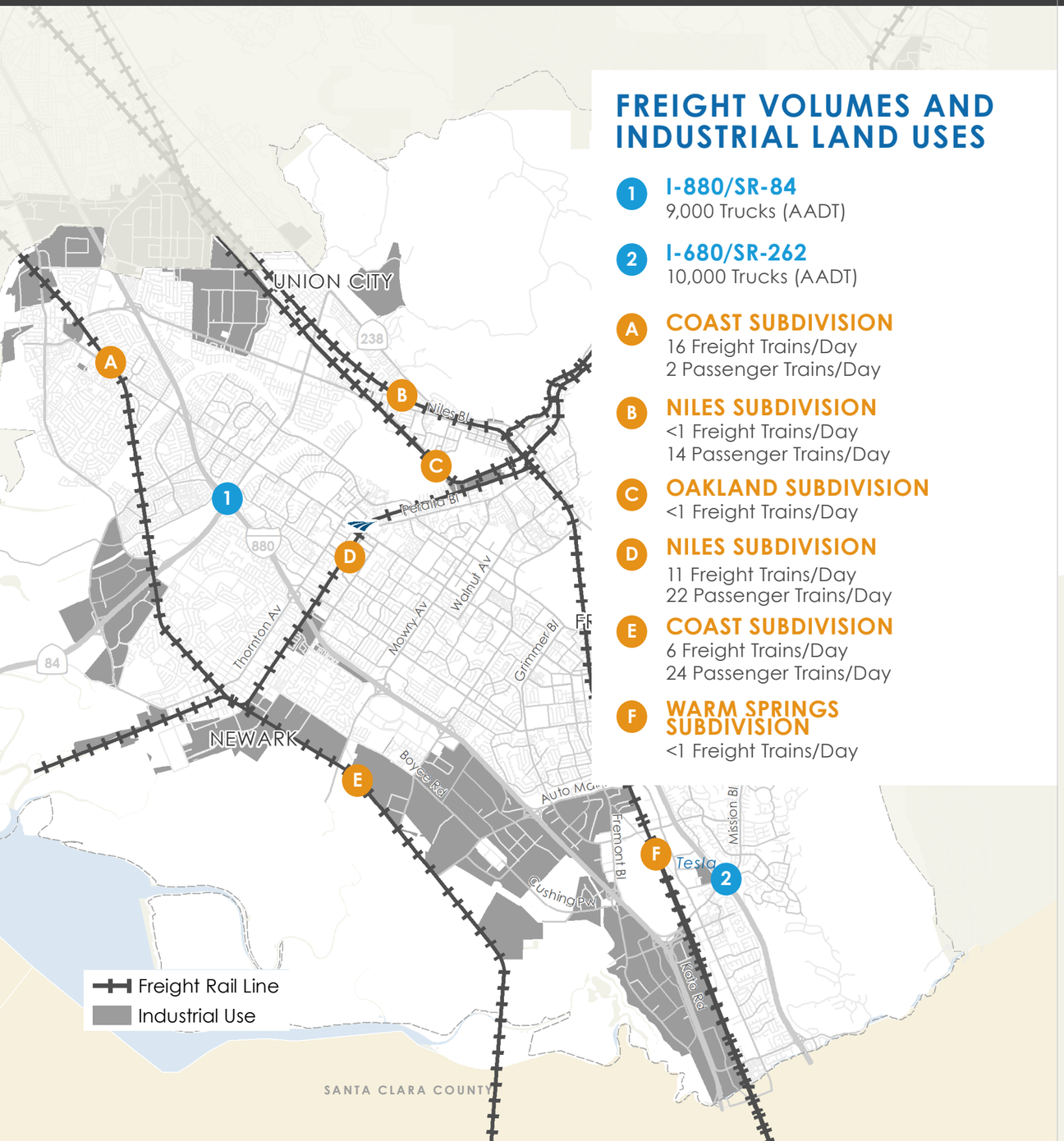
Negative Impact on Neighborhoods
Truck parking, congestion, emissions, and safety challenges impact nearby communities

Roadway Congestion/ Reliability
Substantial delays increase trucking costs along I-880 and I-238 during peak periods

At-Grade Rail Crossing Safety
At-grade rail crossings pose safety concerns for pedestrians and bicyclists

Goods Movement

SOUTH PLANNING AREA



FREIGHT VOLUMES AND INDUSTRIAL LAND USES

1 I-880/SR-84
9,000 Trucks (AADT)

2 I-680/SR-262
10,000 Trucks (AADT)

A COAST SUBDIVISION
16 Freight Trains/Day
2 Passenger Trains/Day

B NILES SUBDIVISION
<1 Freight Trains/Day
14 Passenger Trains/Day

C OAKLAND SUBDIVISION
<1 Freight Trains/Day

D NILES SUBDIVISION
11 Freight Trains/Day
22 Passenger Trains/Day

E COAST SUBDIVISION
6 Freight Trains/Day
24 Passenger Trains/Day

F WARM SPRINGS SUBDIVISION
<1 Freight Trains/Day

With several freight generators and industrial areas, the South Planning Area contains more land for industrial uses than anywhere else in the county. Goods movement in the South Planning Area heavily utilizes freight rail tracks, with the most overall mileage in the county and both the Coast and Niles subdivision rail lines carrying substantial freight traffic. The Niles Junction near Alameda Creek is a major rail intersection, where the Niles, Oakland, and Warm Springs subdivisions merge and diverge, resulting in capacity issues. I-880 is also heavily utilized by industrial users in the southern portion of the South Planning Area.

AREA OF INDUSTRIAL USES:
11 square miles

FREIGHT RAIL TRACKS:
42 miles

ARTERIAL TRUCK ROUTES:
16 miles

SOUTH PLANNING AREA GOODS MOVEMENT CHALLENGES AND NEEDS

Constrained Rail Capacity
Rail capacity constraints and alignment issues limit goods movement operations

Roadway Conditions and Emissions
High truck volumes cause wear-and-tear and exacerbate environmental concerns

Negative Impact on Neighborhoods
Truck parking, congestion, and emissions impact nearby communities

Roadway Congestion/ Reliability
Substantial delays increase trucking costs along I-880 and I-680 during peak periods

At-Grade Rail Crossing Safety
At-grade rail crossings pose safety concerns for pedestrians and bicyclists

Goods Movement

EAST PLANNING AREA

FREIGHT VOLUMES AND INDUSTRIAL LAND USES

1 **I-580/FIRST STREET**
21,000 Trucks

2 **I-580/SR-205**
14,000 Trucks

A **OAKLAND SUBDIVISION**
11 Freight Trains/Day
8 Passenger Trains/Day

The East Planning Area serves as a major through route for goods travelling between the Bay Area, Central Valley, and beyond, and I-580 in Livermore carries the highest truck volumes in the county. Moreover, unlike elsewhere in the county, goods movement generation in the East Planning Area primarily consists of wineries and smaller agricultural producers instead of industrial uses, which results in substantial truck traffic on rural roads. There are some industrial uses in the East Planning Area, which are mostly located near the Oakland subdivision rail line or I-580.

AREA OF INDUSTRIAL USES:
3 square miles

FREIGHT RAIL TRACKS:
30 miles

ARTERIAL TRUCK ROUTES:
23 miles

SOUTH PLANNING AREA GOODS MOVEMENT CHALLENGES AND NEEDS

High Truck Density

There is a very high density of trucks on I-580 at First Street in Livermore

Negative Impact on Neighborhoods

Congestion and safety challenges impact nearby communities

Roadway Congestion/ Reliability

Substantial delays afflict I-580 during peak periods

Truck Route Preservation

Truck routes to and from East Planning Area agricultural producers should be maintained