The Future of Transportation on the Caltrain Corridor

11.30.16

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PENINSULA CALTRAIN CORRIDOR VISION PLAN

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SILICON VALLEY LEADERSHIP GROUP

Stanford

SAMCEDA
San Mateo County Economic Development Association

Today

What is happening

Vision

Recommendations

What is costs

How to pay for it

The Caltrain Corridor is home to the world's innovation economy – but its transportation system is falling short.

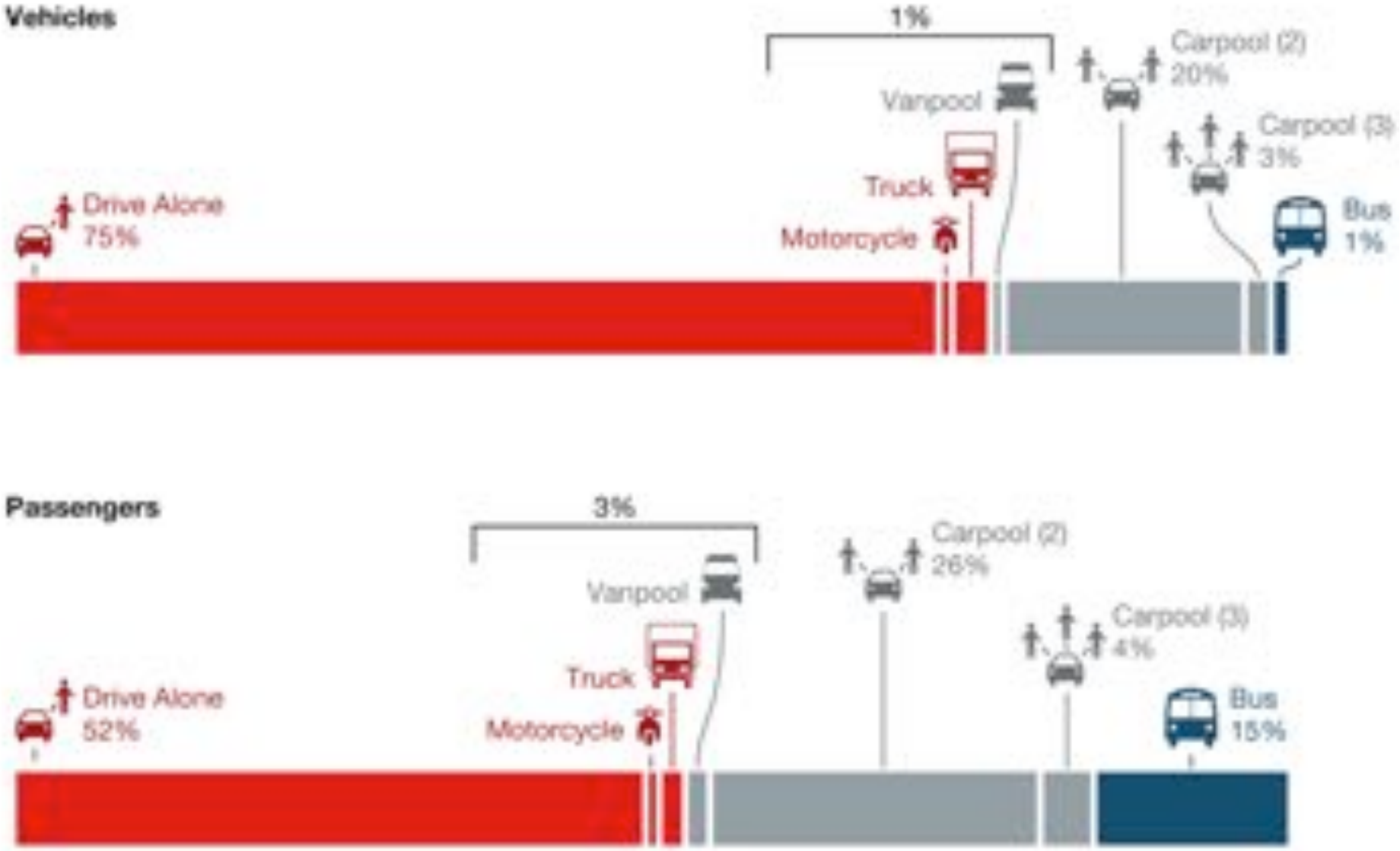
The Caltrain Corridor

Caltrain is increasingly crowded during peak hours

Caltrain's limited off-peak service makes transit less usable.

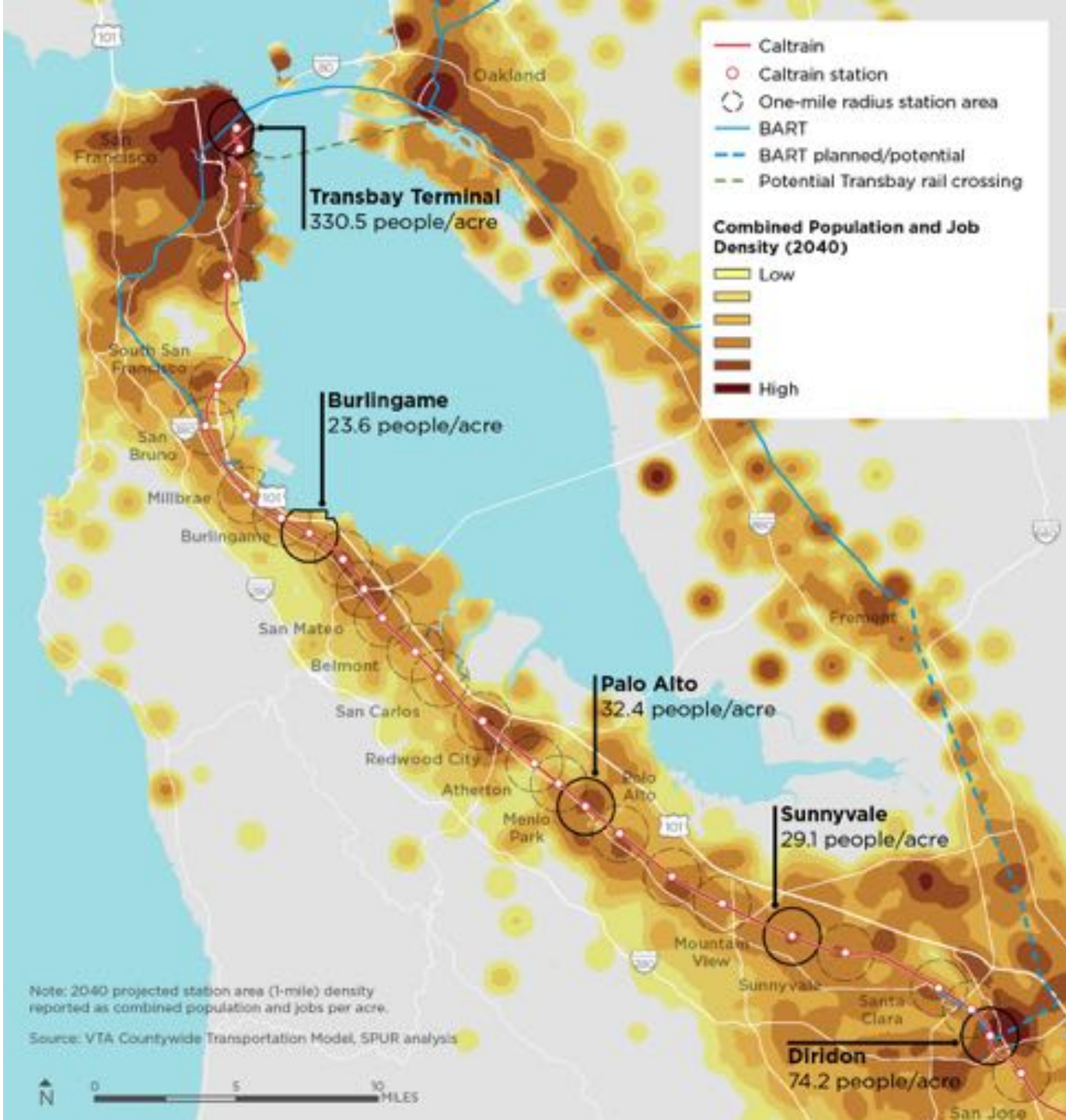
User of highway 101 face growing delays due to traffic and inefficiencies.

Single-occupancy vehicles take up most of the space on highway 101



Access to opportunity needs to grow.

As the region grows, we'll need to move more people.



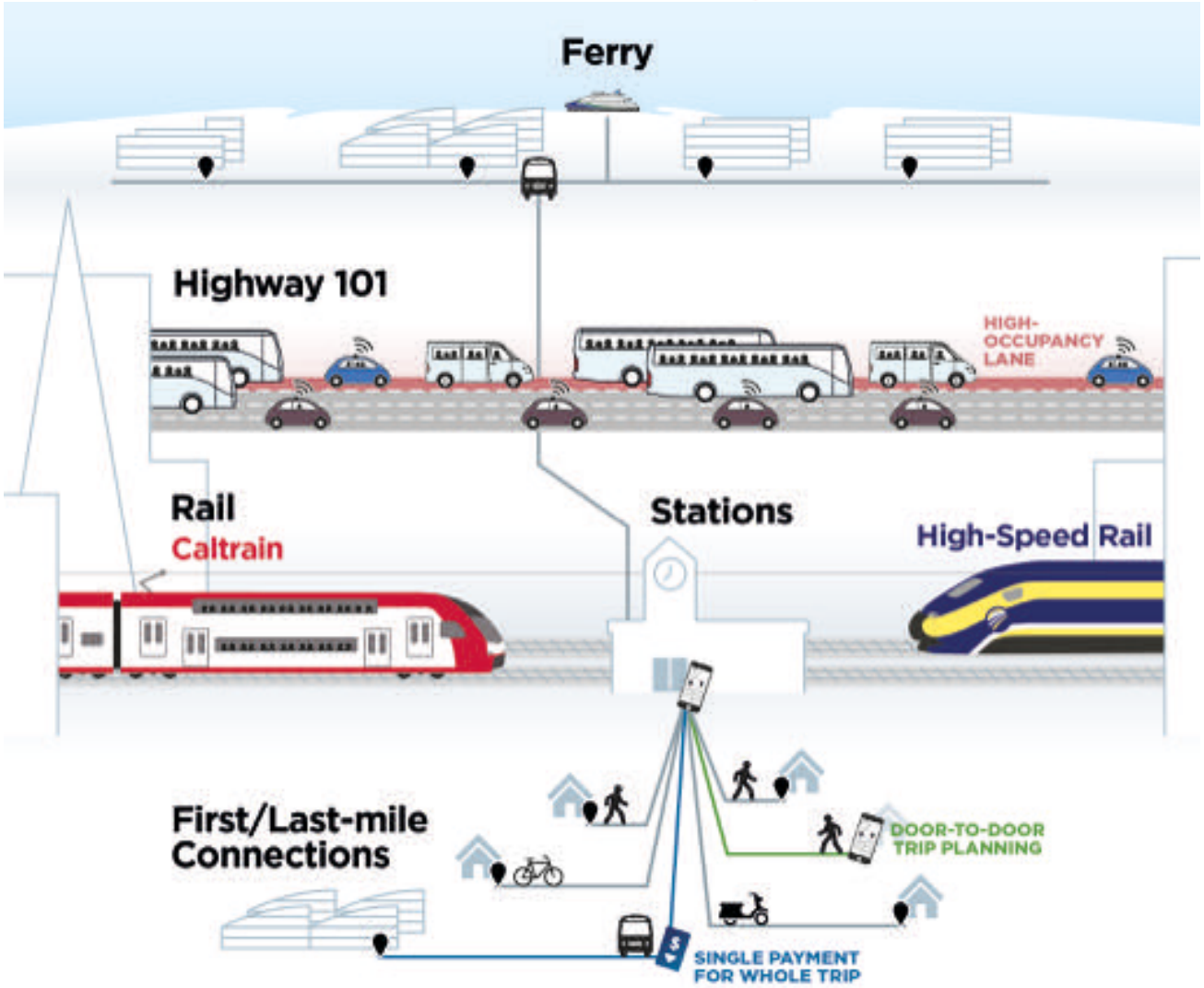
Densification

Densification

Our Vision for the Caltrain Corridor

Convenience
Connectivity
Capacity
Community
Climate Protection

Vision: Highway, rail and ferry system that work together.



New Capacity

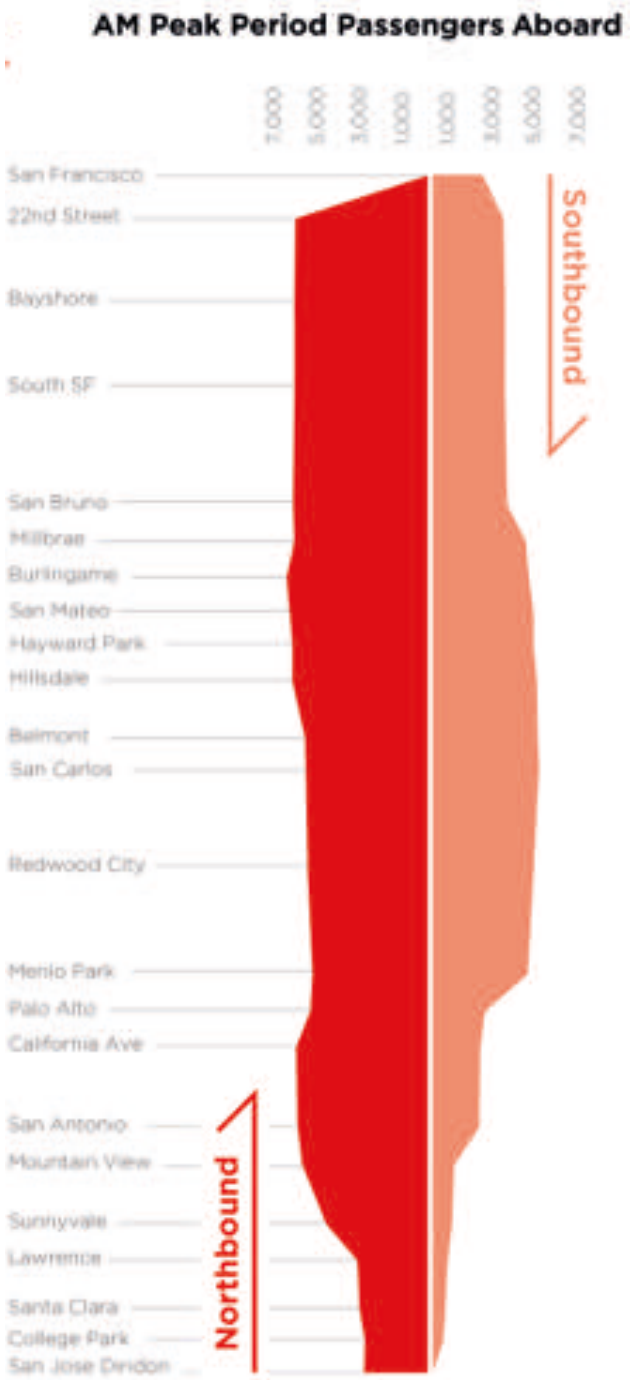
	People moved during peak hour today (each direction)	People moved during peak hour under the vision plan (each direction)
Caltrain	3,250	10,000*
Highway 101	1,780	5,680
Ferry	0	1,400

Does not include capacity provided by HSR.

Opportunities

Electrification and high-speed rail can dramatically imrpove rail capacity, comfort and reliability.

Electrification can transform the economics of the railroad.



With high-speed rail and statewide rail modernization, this corridor will become part of an improved statewide rail network.

The digital age of transportation portends safer, more efficient, more convenient passenger transportation.

Challenges

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The corridor's transportation system was built for a different era.

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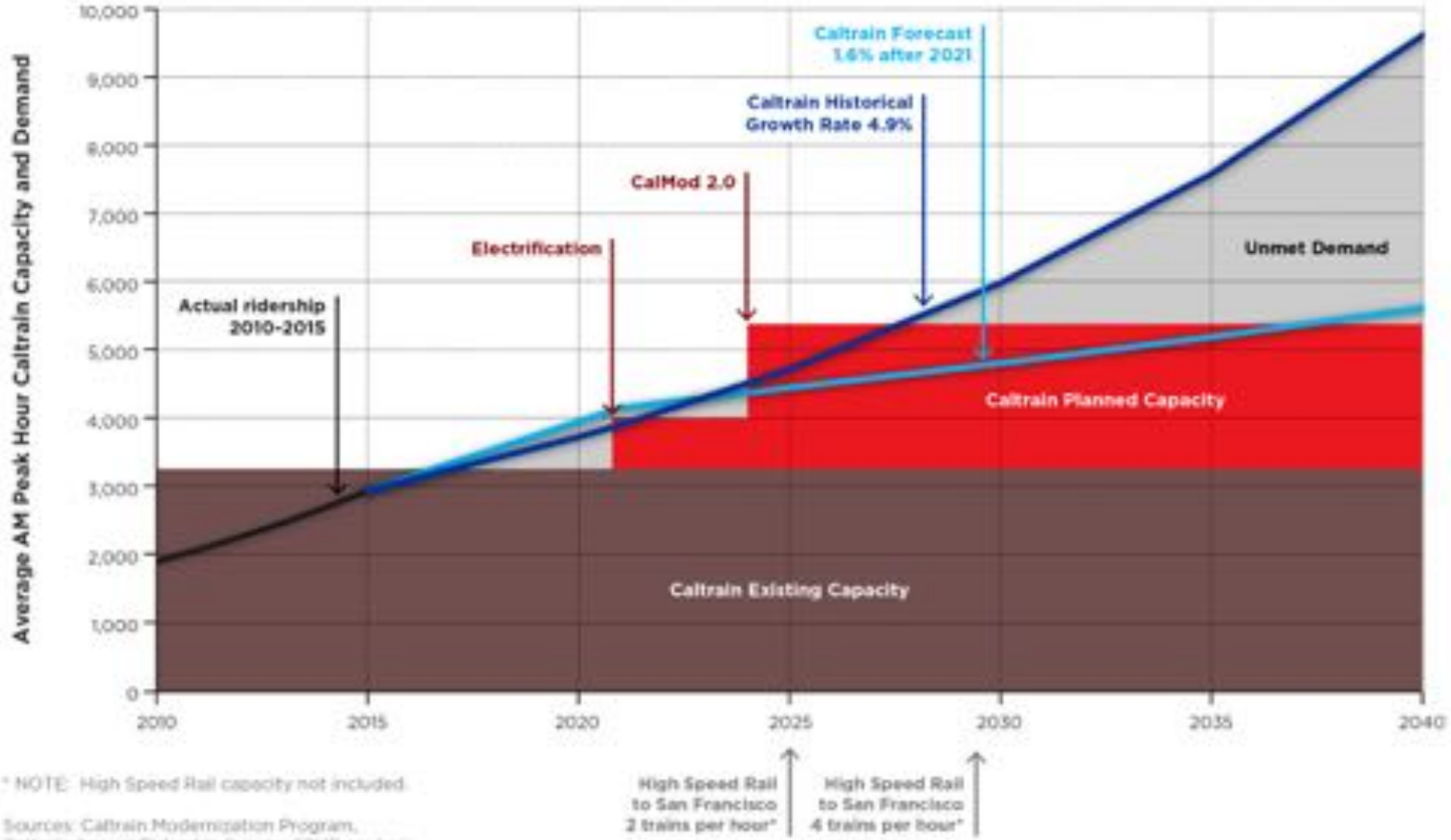
Caltrain is financially unstable, making it difficult to plan for the



* NOTE: High Speed Rail capacity not included.

Sources: Caltrain Modernization Program,
Caltrain Annual Ridership Survey, SPUR analysis

Neighborhood impacts make it harder to grow rail service.

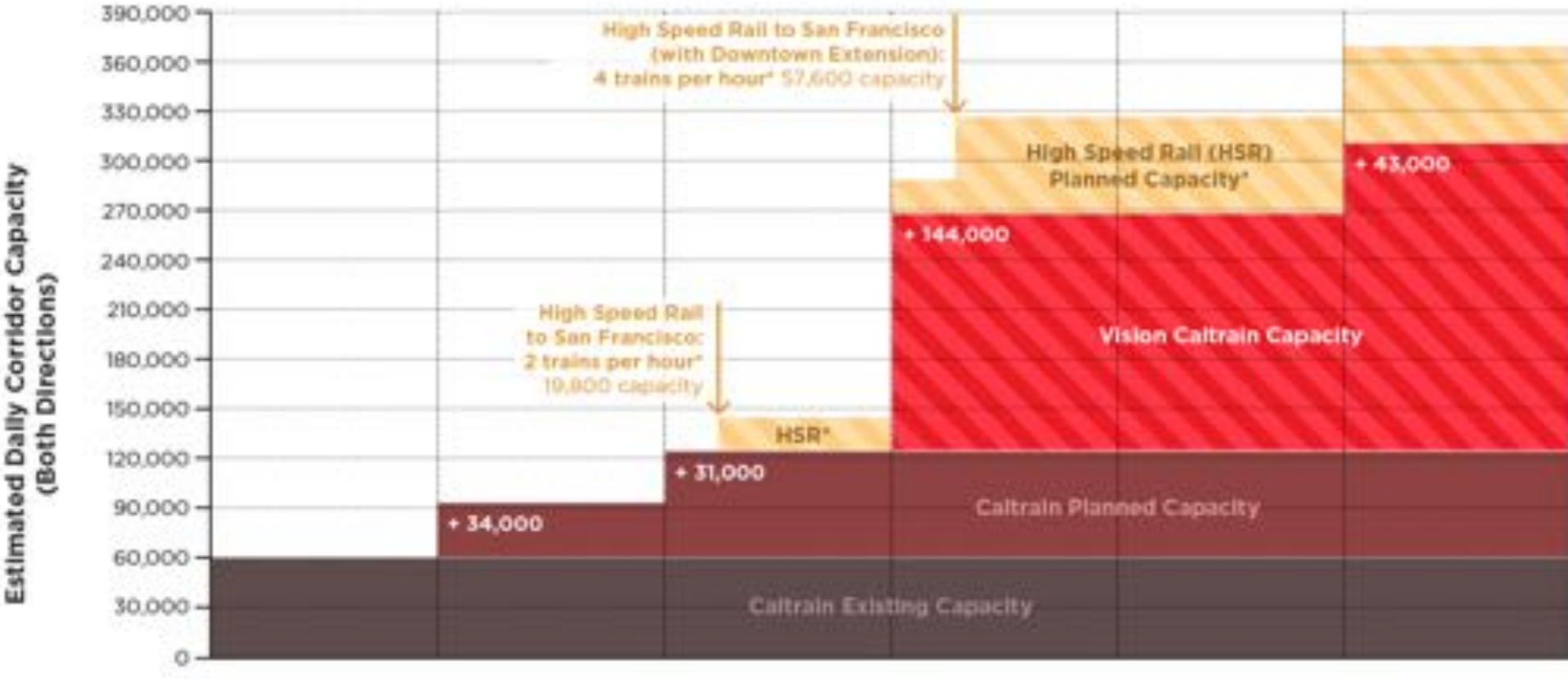
Many origins and destinations are far from rail.

Transportation planning is done locally, for one mode at a time, instead of through an integrated, corridor-wide approach.

Recommendations

A corridor shaped by an outstanding rail system.

1. Rail


Estimated Daily Corridor Capacity
(Both Directions)
390,000
360,000
330,000
300,000
270,000
240,000
210,000
180,000
150,000
120,000
90,000
60,000
30,000
0
High Speed Rail to San Francisco
(with Downtown Extension):
4 trains per hour* 57,600 capacity
High Speed Rail (HSR)
Planned Capacity*
+ 43,000
+ 144,000
Vision Caltrain Capacity
High Speed Rail
to San Francisco:
2 trains per hour*
19,800 capacity
HSR*
+ 31,000
Caltrain Planned Capacity
+ 34,000
Caltrain Existing Capacity

1. Rail

Caltrain Characteristics by Phase

	Existing	Electrification	CalMod 2.0	Rail Modernization 3.0	Rail Modernization 4.0	Rail Modernization 5.0
Estimated timeframe	-	2021	2024	~2025	~2030	~2035
Estimated total daily capacity	60,000	94,000	125,000	269,000	269,000	312,000
Peak-hour capacity per direction	3,250	4,000	5,400	7,200	7,200	10,800
Off-peak capacity per direction	650-1,300	1,300	1,800	5,400	5,400	5,400
Trains per peak-hour	5	6	6	8	8	12
Peak-hour station train frequency	12-36 minutes	10-30 minutes	10-30 minutes	7.5-15 minutes	7.5-15 minutes	5-15 minutes
Service pattern	Baby Bullet + Limited	Baby Bullet + Limited	Baby Bullet + Limited	A-B Skip-Stop	A-B Skip-Stop	Baby Bullet + A-B Skip-Stop
Vehicles	+ 16 diesel cars	+96 new electric cars	+96 new electric cars	+65 new electric cars	-	+80 new electric cars
Infrastructure	-	Train control, signal system	Longer platforms for 8-car trains	+10 mi passing tracks/stations Grade separations	+10 mi passing tracks/stations Grade separations	+20 mi passing tracks/stations Grade separations

* NOTE: Actual capacity for local trips on HSR in the Peninsula Corridor will likely be significantly less than total capacity due to long-haul riders.
Sources: Caltrain Modernization Program, California High Speed Rail Authority Business Plan May 2016, SPUR analysis

Additional Rail Recommendations.

- Improve Caltrain in short-term – before electrification.
- Connect Caltrain to downtown SF (the DTX)
- Develop a business plan for Caltrain.

Use a corridor-wide strategy to address the impact of at-grade crossings.

New Rail Services: Concepts for the Future

Local Rail Connections (spurs and branches)

Major Connecting Corridors

- Second Transbay Rail Crossing
- Dumbarton Rail Corridor
- BART Silicon Valley

New Alignments within the Caltrain Corridor

2. Rail Stations and First/Last Mile-Connections

Stations and First/Last-mile Recommendations

Create a station modernization program

- Upgrade Stations to attract and accommodate new riders.
- Improve station access – for sustainable and space-efficient modes of travel.

Create a first/last-mile program.

- Proactively mange station access and first- and last-mile connections at each rail station.

3. Highway 101

Highway 101 Recommendations

- Manage a lane (or more) of highways 101 as an “optimized” high-occupancy toll (HOT) lane, along the entire corridor.
- Adopt equity policies and programs for HOT lanes.
- Use revenue from pricing Highway 101 to add more public transit service.
- Grow regional express bus services.

4. Ferries

Ferry Recommendations

- Create a ferry terminal at the Port of Redwood City.
- Expand ferry services to include Peninsula stops.

5. A Seamless Transit Experience

Seamless Transit Recommendations

- Integrate information and payment across mobility services.
- Operate BART, Caltrain and high-speed rail as one system from the rider's perspective.
- Use fare subsidies and fare policies to improve transit affordability and make transit work for more people.
- Conduct short-range and long-range transportation planning as a corridor.

Governance: Everyone has a part to play.

Caltrans
Samtrans
Caltrain
VTA
SMCTA
SFCTA
SFMTA
Cities
MTC
CAHSR
BART
CalSTA

What the Vision Costs: $16 - $21 billion (20 years)

	Fleet	Capital	Operations and Maintenace
Rail	$140 million	$8.2 - $12.3 billion	$4.95 billion
Stations and First/Last-Mile Connections	n/a	$1.6 - 1.7 billion	$660 million
Highway 101	$40 million	$20 -$150 million	$210 - $735 million
Ferry	$80 million	$40 million	$260 million
Coordinated Transit	n/a	$15 million	$140-150 million
Total	$260 million	$9.8 - $14.1 billion	$6.2 - $6.8 billion

How Do We Fund the Vision?

Strategy	Anticipated Revenue
1. Anticipated Regional/State/Federal revenue	$3.0 Billion
2. Transit fares and highway toll	$5.0 Billion
3. Countywide sales taxes	$2.0 Billion
4. Corridor parcel tax	$2.4 Billion
5. Local property-based and business-based funding	$3.0 Billion
6. New regional and state funding	$3.0 Billion
7. Public-Private Partnership	
Total	$18.5 Billion

Next Steps: What we need to do now.

Policy Agreement:

1. Caltrain/high-speed rail operating plan.
2. Highway 101 lane management across three counties.
3. Alignment for the Downtown Extension.

Funding:

4. Advocate for Vision Plan projects in the Regional Transportation Plan.
5. Organize 2018 funding measures to fund rail infrastructure, fleet and operations, highway 101 management.

Rail Service:

6. Improve today's rail schedule, add trains.

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Measure B: 2016 Transportation Measure in Santa Clara County

- $6.5 Billion over 30 years

- 71.74% approval

- 9 different program/project areas

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Measure B:
Caltrain Improvements

Project Name	Details	Costs
Capacity Improvements	- SCC Share of Full Electric Conversion and 8 Car Trains. - Longer Platforms - Level Boarding - More South County Service	$214 Million
System Performance and Reliability	- Crossover Locations - Holdout Rule/Ped Undercrossing (SJ Stations) - Guadalupe River Bridge Project (SCC Share)	$58 Million
Station Improvements	- Parking Improvements - Bike Facilities - Transit connectivity	$42 Million
Safety Improvements/ Grade Separations	North SCC Grade Separations	$700 Million

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$1.014 Billion

Caltrain Grade Separations

- Caltrain projects with a local sponsor. Includes matching funding by local North County sponsor.
- Palo Alto: Churchill , Charleston & Meadow
- Mountain View: Castro/Moffett, Rengstorff
- Sunnyvale: Sunnyvale Ave., Mary Ave.
- SCC's portion to increase capacity beyond electrification

Lawrence Station Area Plan

- Opportunity on Dec. 6th for Sunnyvale City Council to approve density near Caltrain station.
- Incentives that allow for more density if developers provide community benefits. (e.g. more affordable units, room for bike lanes, up to 78 unites per acre etc..)
- Residential and mix use development near transit ,promotes ridership and reduces car trips.

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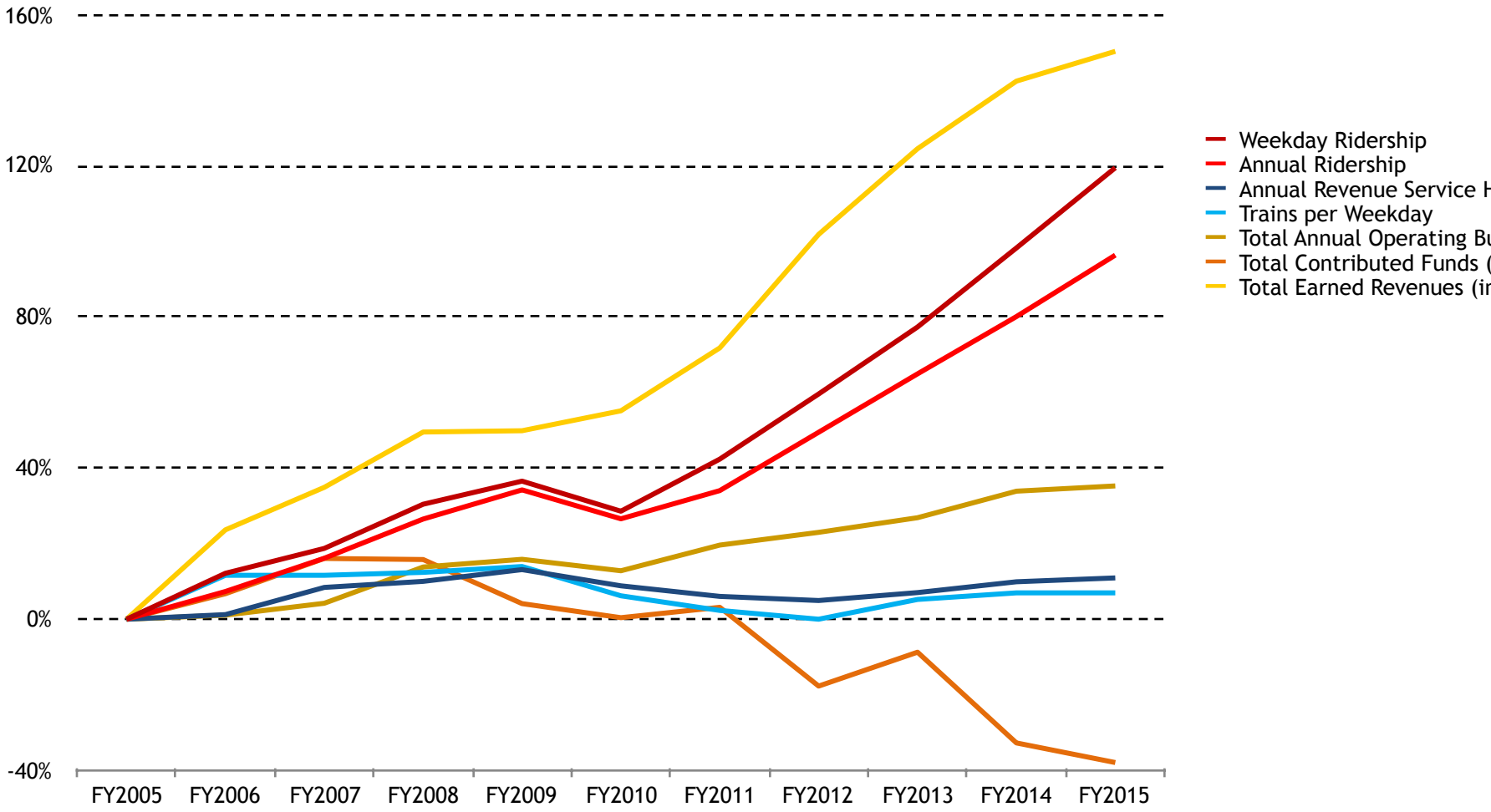
10-Year Change in Key Caltrain Business Metrics



Adjusted to FY2015 Dollars