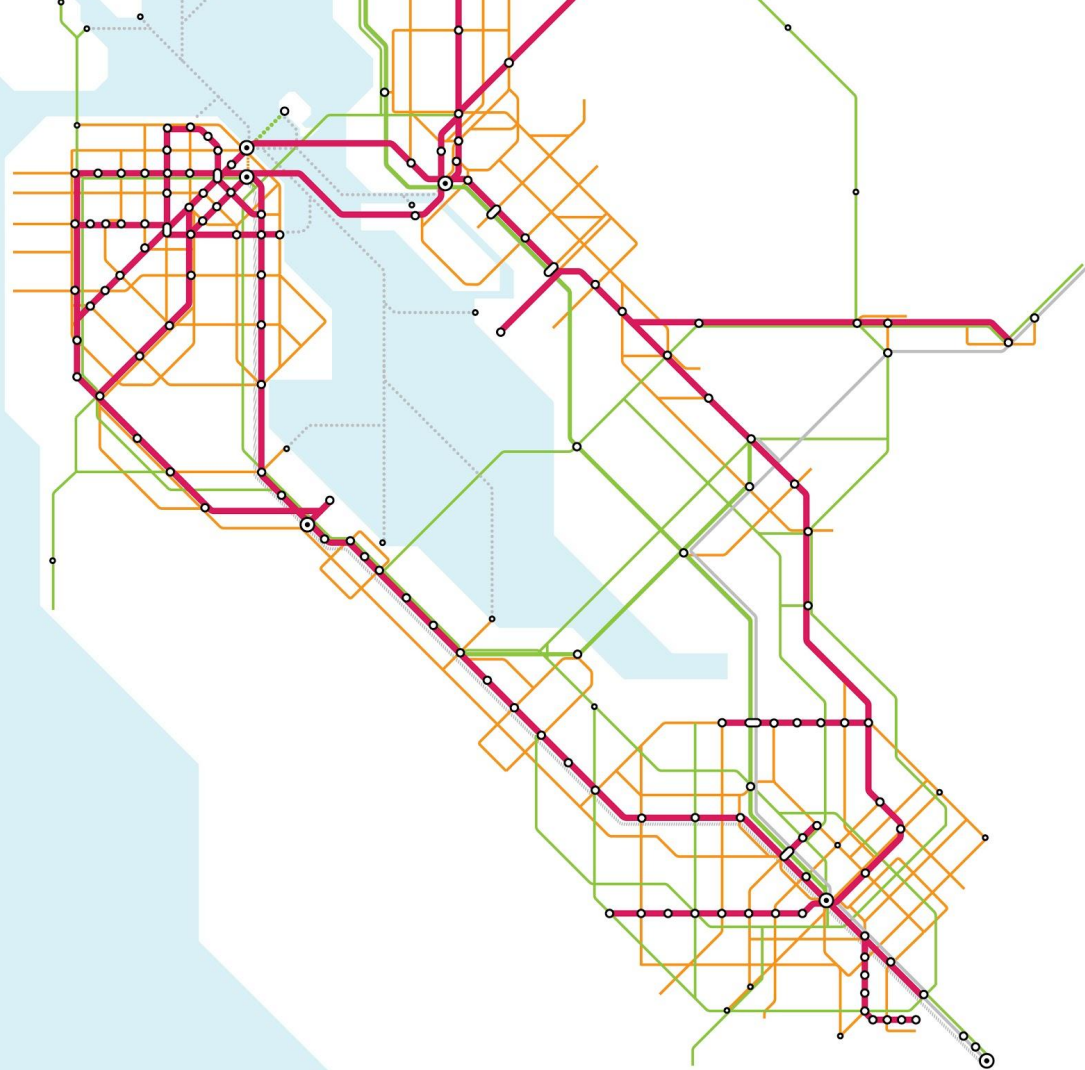


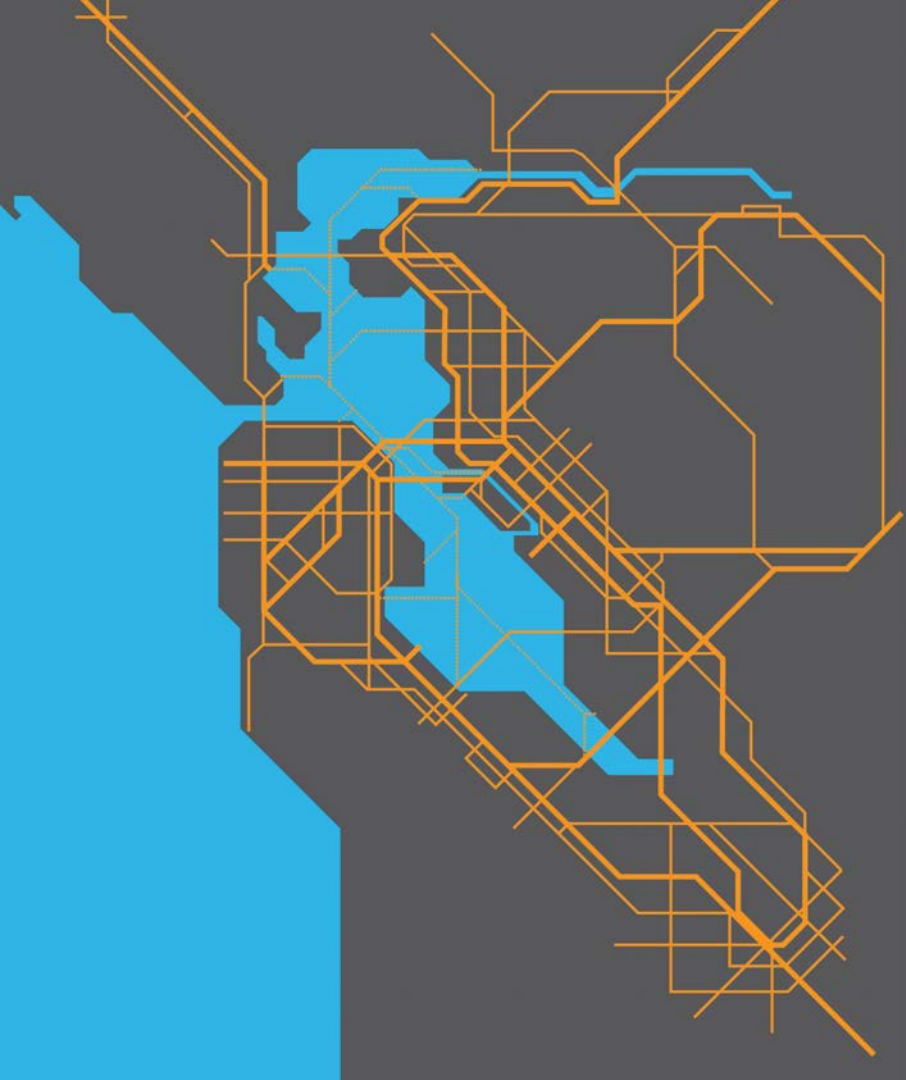
Modeling Transformational Changes to Transit

SPUR San Jose

July 23, 2019

Ian Griffiths
Director & Co-Founder





Mission

Transform the Bay Area's fragmented and inconvenient public transit into a world-class, unified, equitable, and widely-used system by building a diverse movement for change and promoting policy reforms.

To get there, we are:

- Articulating a clear vision
- Raising public awareness & grassroots support, building coalitions
- Changing professional culture
- Advancing legislative reforms
- Tactical advocacy

Transit should be the backbone of the Bay Area, but is not keeping up



Between 2001 and 2016 in the Bay Area:

Population
Growth

+11.9%

Average
Commute
Time for
Transit Users

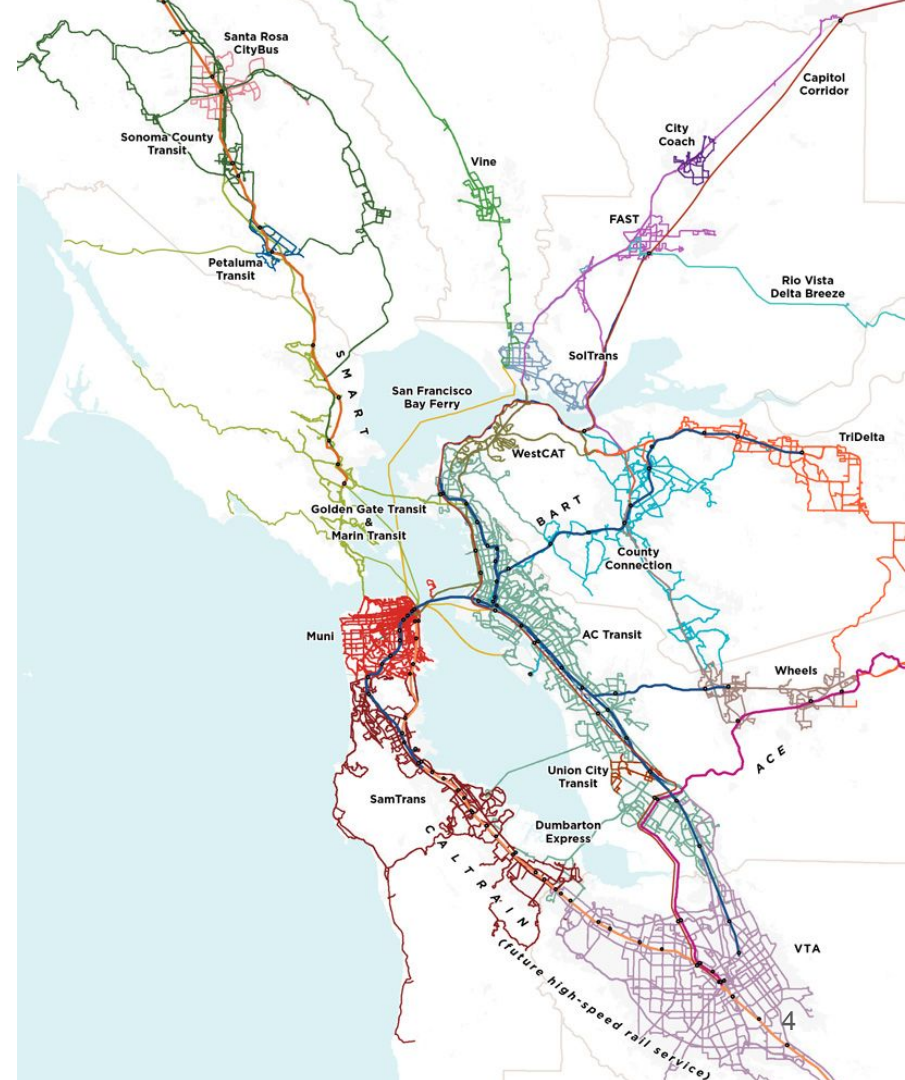
+11.9%

Annual Trips
Taken on
Public Transit
per capita
-10.4%

Average Bus
Speed
-9.3%

Our Fragmented Regional Network is not working for anyone

- Billions spent on new transit investments have been ineffective at increasing ridership or reducing driving; not aligned with state goals
- 27 different agencies provide transit service separately with little coordination and no regional vision.
- Rapid technological change and new forms of mobility create new urgency



What Kinds of Projects do we Invest In?

Recent Projects

- Warm Springs BART (2017)
886 net new daily entries (7,200 projected by 2025)
- SMART (2017)
2,000 daily riders (4,800 projected by 2025)
- BART to Antioch (2018)
1,170 net new daily entries (5,400 projected by 2030)
- Rapid Bus Lines in San Francisco
Up 22% in 3 years (X0,000's new riders)
- BRT lines, San Jose
(net new 53,000 bus riders projected by 2040)

Unfunded / Minimally Studied Projects

- Second Transbay Tube
- Express Bus Network
- Integrating Transit Fares
- Integrated Regional Rail Network
- Coordinated Schedules
- Coordinated Branding

Project Development Process

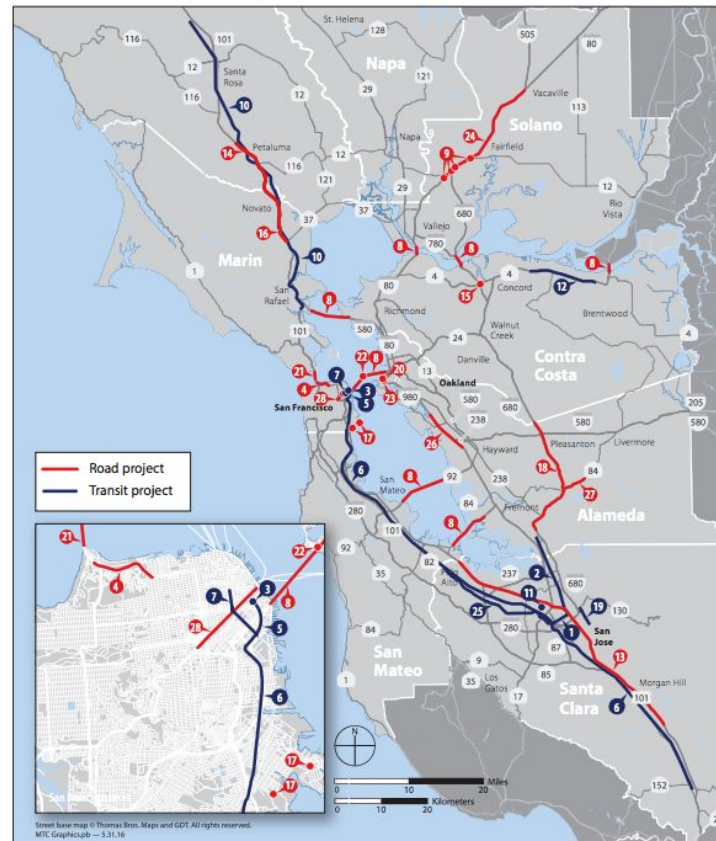


* Plan Bay Area and Countywide Transportation Plans

Missing:

- Strategic regional vision to drive project identification
- Network-driven approach
- Specific direction on how & where to expand access to housing & jobs

Projects in the 2017 TIP with Costs Greater than \$200 Million

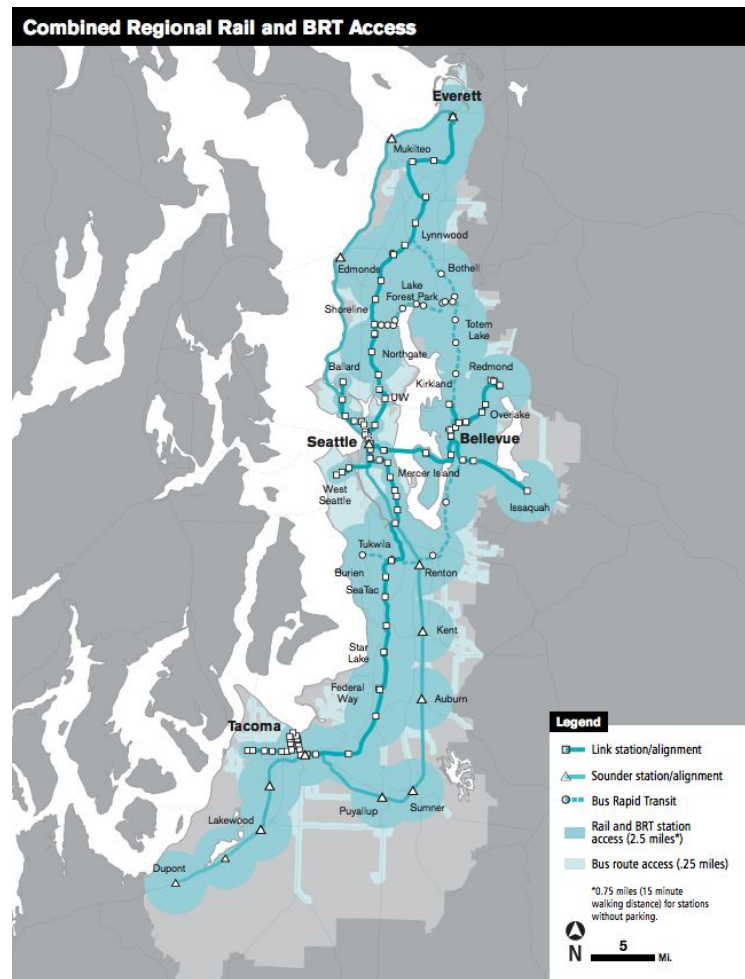


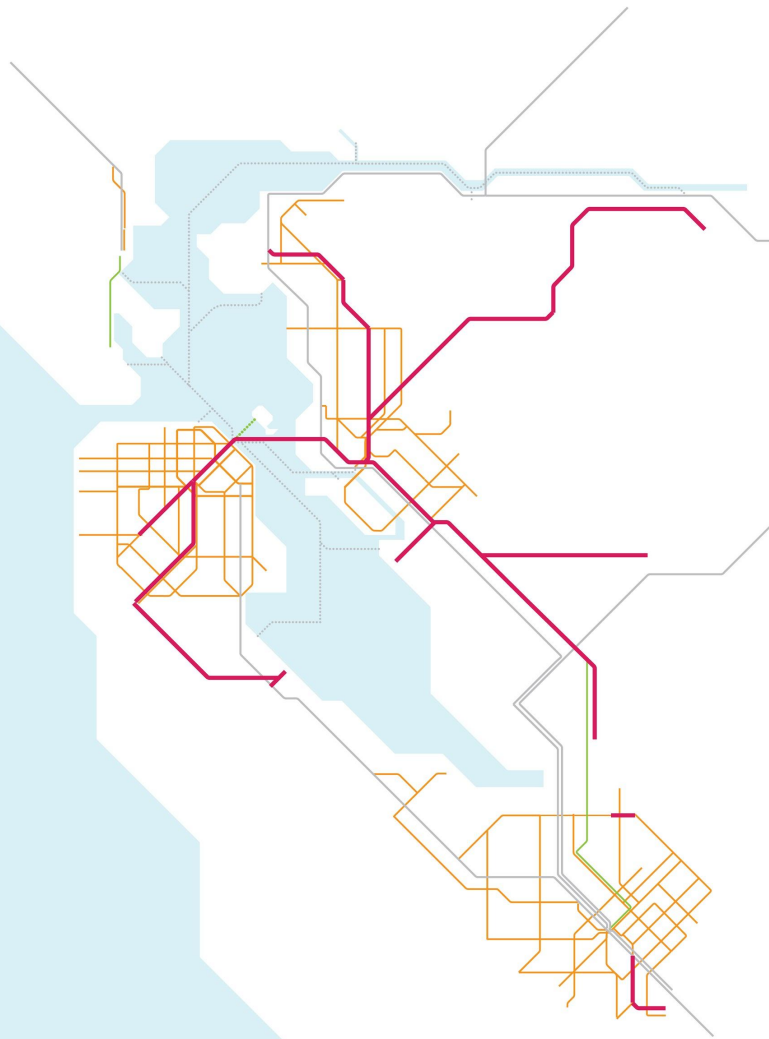
A Network Approach

- Envision an integrated network;
- Set ambitious goals
 - “Double transit ridership by 2040”
 - “Increase # of jobs within ¼ mi. of transit by 50%”
 - “Reduce travel time between major centers”
- Prioritize transit projects that advance network goals








TABLE 8: Projected transit travel times and transfers between selected centers

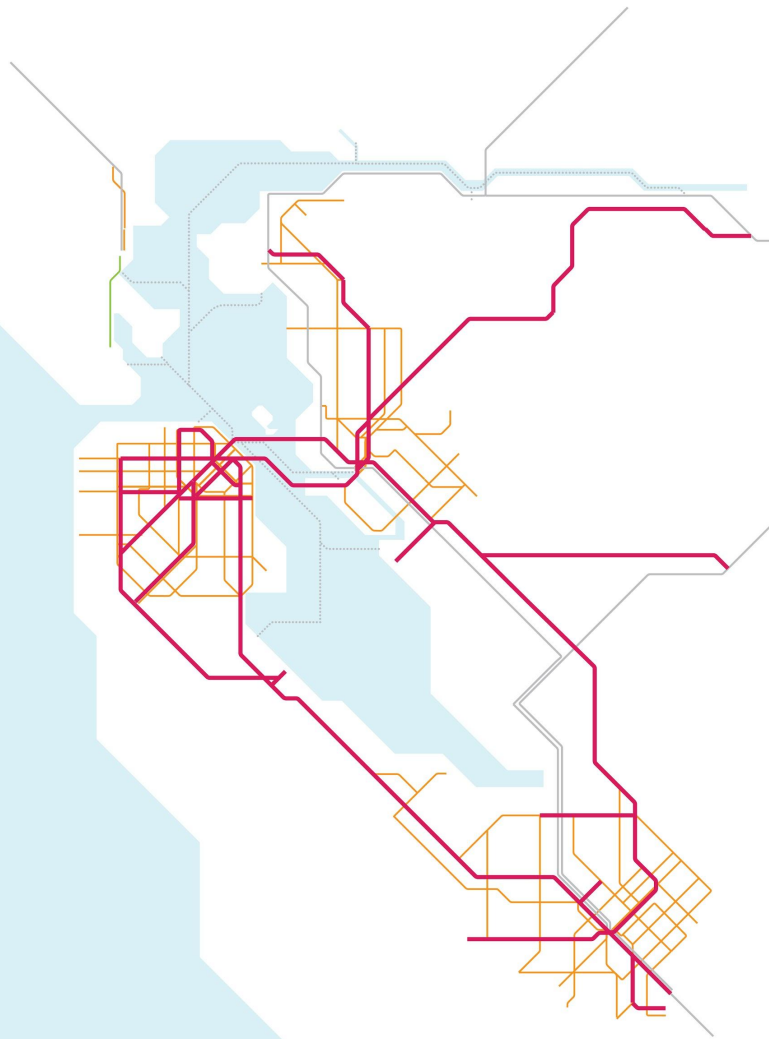
	Existing Transit Time	Expected 2040 Transit Time without ST3 ¹	Expected 2040 Transit Time due to ST3 ¹
University of Washington to Everett	73 min*	60 min*	53 min
Seattle to Mariner Park-and-Ride	55 min	52 min*	41 min
Bellevue to Ballard	70 min*	58 min*	36 min*
University of Washington to West Seattle	30 min*	37 min*	23 min
Bellevue to Issaquah	25 min	28 min	18 min
Federal Way to Stadium	61 min*	56 min*	44 min*
Tacoma to Sea-Tac Airport	44 min	50 min	33 min












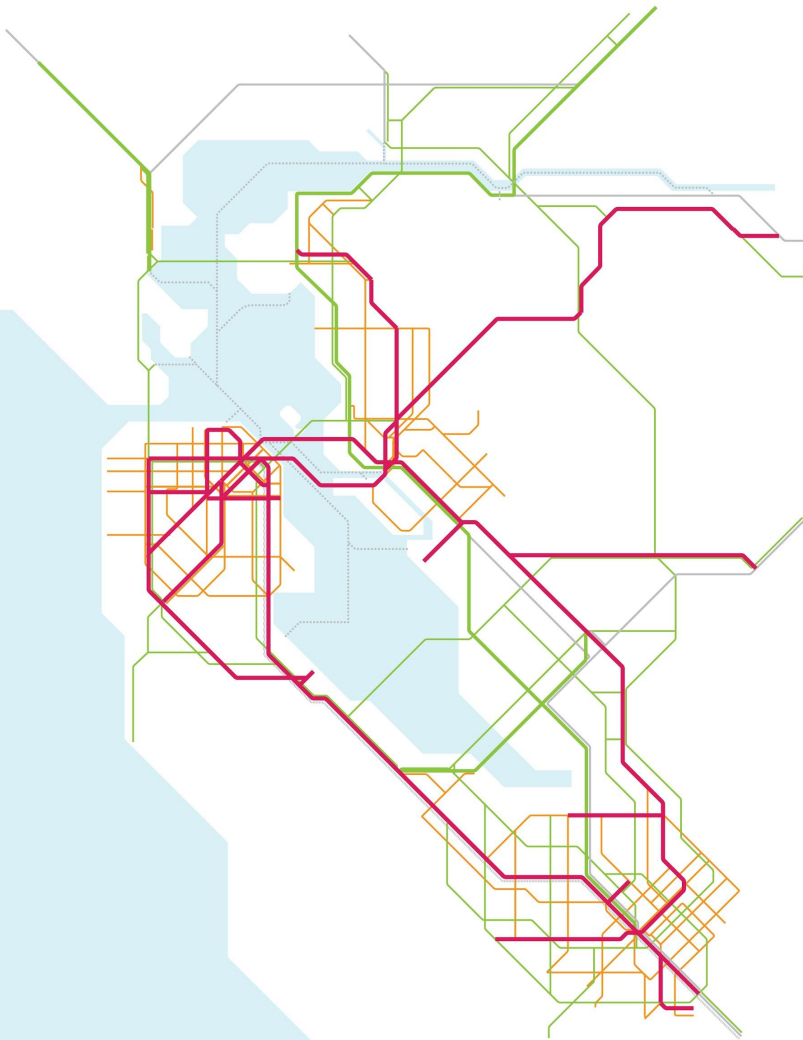
Integrate fares, branding, and service standards

Transit Category	Service Frequency	Frequent Rapid Transit Network Service at least every 15 minutes, Mon-Sat, 7am-7pm
 Regional Express Rail	Every 10-15 min	
 Regional Express Bus	Every 10-15 min	
 Metro / Subway (BART, Muni Underground, Future Electrified Caltrain)	Every 2-8 min (core); 8-15 min (outer)	
 Street-Level Rapid Transit (LRT, BRT, Priority Bus)	Every 5-10 min	Frequent Rapid Transit Network Service at least every 15 minutes, Mon-Sat, 7am-7pm
 Commuter Rail	Every 15-60 min	
 Commuter Ferry	Every 15-60 min	
 High Speed Rail	Every 30-60 min	










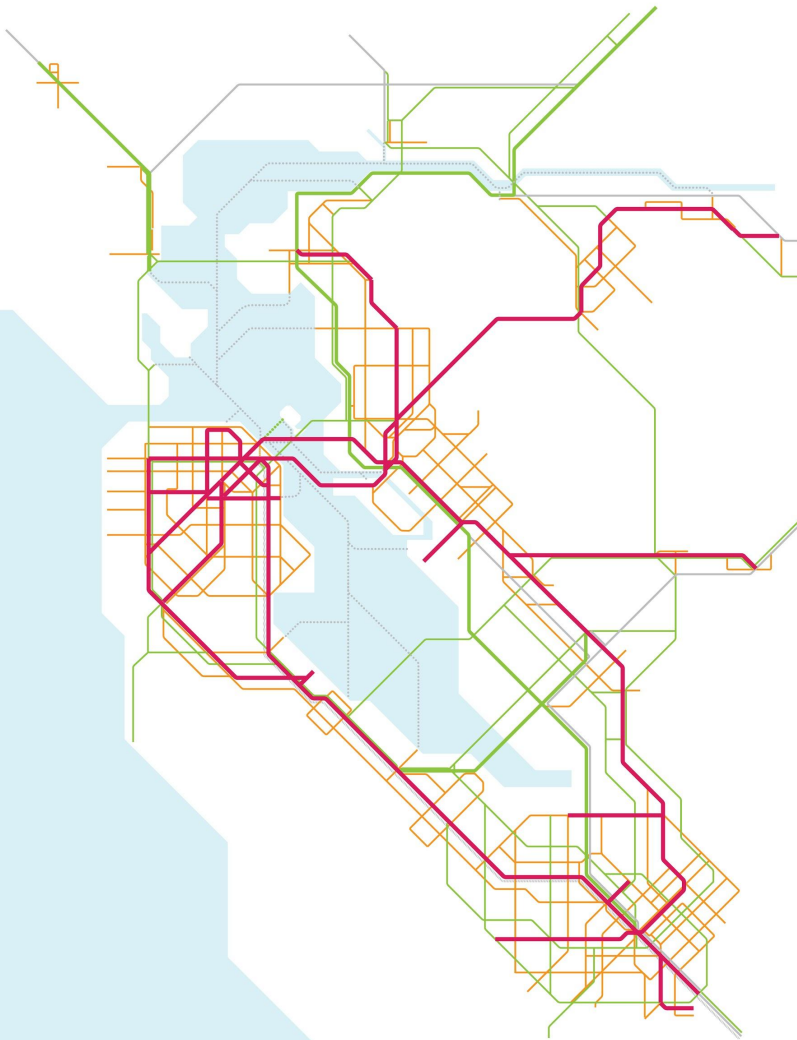
Expand and integrate BART, an electrified Caltrain, and light rail to create a seamless metro network

Transit Category	Service Frequency	Frequent Rapid Transit Network Service at least every 15 minutes, Mon-Sat, 7am-7pm
 Regional Express Rail	Every 10-15 min	
 Regional Express Bus		
 Metro / Subway (BART, Muni Underground, Future Electrified Caltrain)	Every 2-8 min (core); 8-15 min (outer)	
 Street-Level Rapid Transit (LRT, BRT, Priority Bus)	Every 5-10 min	
 Commuter Rail	Every 15-60 min	
 Commuter Ferry		
 High Speed Rail	Every 30-60 min	










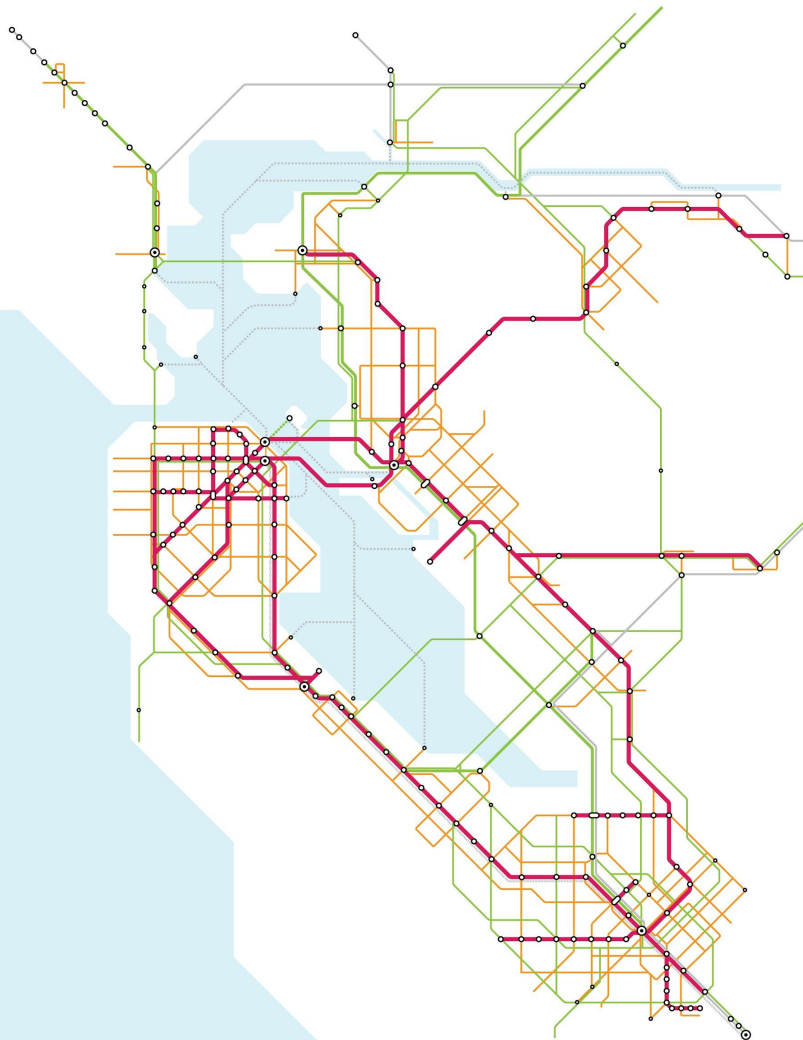
Introduce an integrated regional express bus + express rail network;

Transit Category	Service Frequency	Frequent Rapid Transit Network Service at least every 15 minutes, Mon-Sat, 7am-7pm
 Regional Express Rail	Every 10-15 min	
 Regional Express Bus	Every 10-15 min	
 Metro / Subway (BART, Muni Underground, Future Electrified Caltrain)	Every 2-8 min (core); 8-15 min (outer)	
 Street-Level Rapid Transit (LRT, BRT, Priority Bus)	Every 5-10 min	
 Commuter Rail	Every 15-60 min	
 Commuter Ferry	Every 15-60 min	
 High Speed Rail	Every 30-60 min	



Create a network of rapid bus lines that bypass traffic

Transit Category	Service Frequency	Frequent Rapid Transit Network Service at least every 15 minutes, Mon-Sat, 7am-7pm
 Regional Express Rail	Every 10-15 min	
 Regional Express Bus	Every 10-15 min	
 Metro / Subway (BART, Muni Underground, Future Electrified Caltrain)	Every 2-8 min (core); 8-15 min (outer)	
 Street-Level Rapid Transit (LRT, BRT, Priority Bus)	Every 5-10 min	
 Commuter Rail	Every 15-60 min	
 Commuter Ferry	Every 15-60 min	
 High Speed Rail	Every 30-60 min	



Create a network of mobility hubs with seamless connections, common wayfinding.

- ⊙ Interregional Hub
- Transit Station
- Transit Stop / Terminal (Not exhaustive)

Transit Category	Service Frequency	Frequent Rapid Transit Network Service at least every 15 minutes, Mon-Sat, 7am-7pm
Regional Express Rail	Every 10-15 min	
Regional Express Bus	Every 10-15 min	
Metro / Subway (BART, Muni Underground, Future Electrified Caltrain)	Every 2-8 min (core); 8-15 min (outer)	
Street-Level Rapid Transit (LRT, BRT, Priority Bus)	Every 5-10 min	
Commuter Rail	Every 15-60 min	
Commuter Ferry	Every 15-60 min	
High Speed Rail	Every 30-60 min	

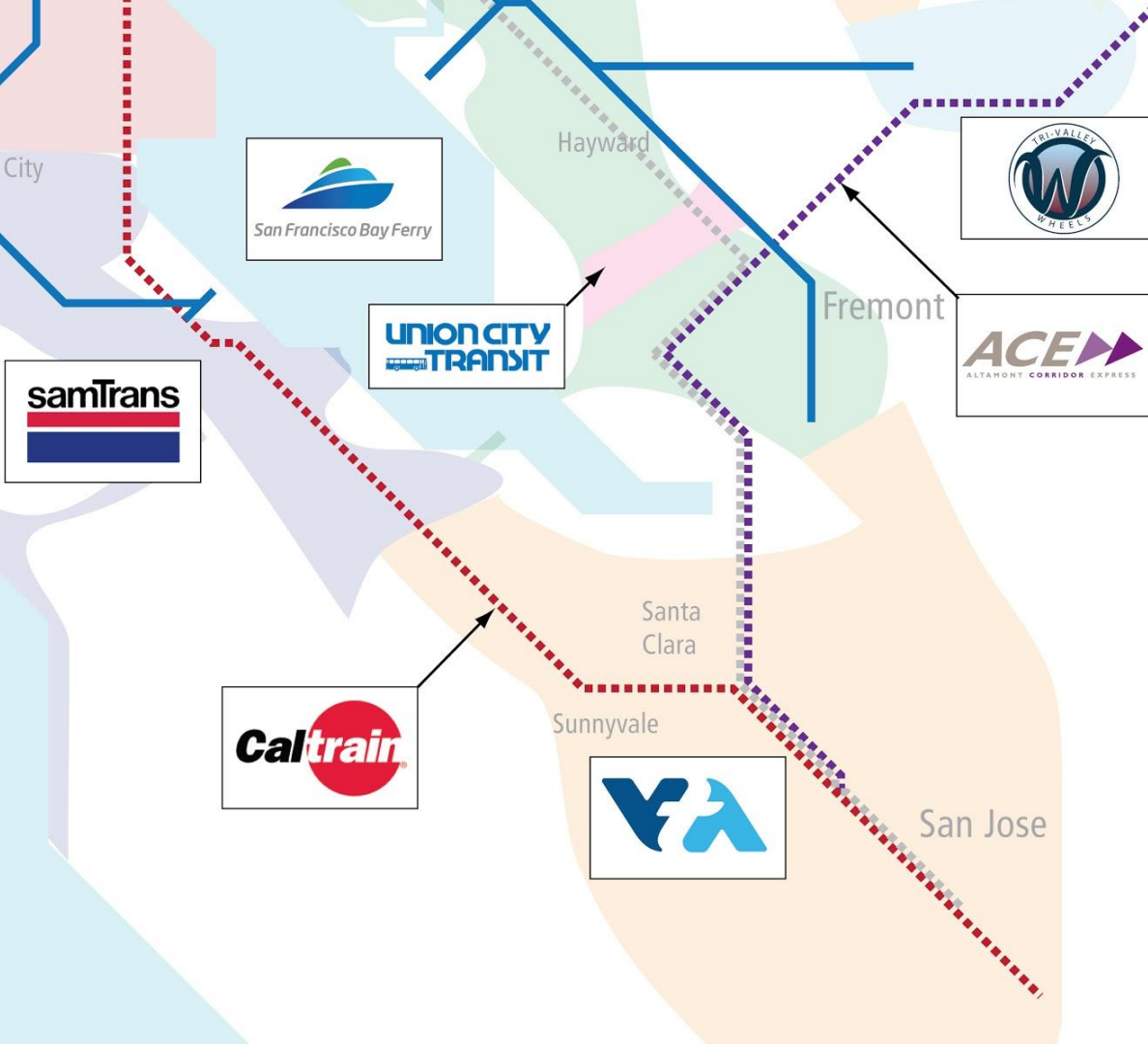


Plan, build and operate the network as a seamless, integrated system.

- ⊙ Interregional Hub
- Transit Station
- Transit Stop / Terminal (Not exhaustive)








Transit Category	Service Frequency	Frequent Rapid Transit Network Service at least every 15 minutes, Mon-Sat, 7am-7pm
— Regional Express Rail	Every 10-15 min	
— Regional Express Bus	Every 10-15 min	
— Metro / Subway (BART, Muni Underground, Future Electrified Caltrain)	Every 2-8 min (core); 8-15 min (outer)	
— Street-Level Rapid Transit (LRT, BRT, Priority Bus)	Every 5-10 min	
— Commuter Rail	Every 15-60 min	
— Commuter Ferry	Every 15-60 min	
— High Speed Rail	Every 30-60 min	

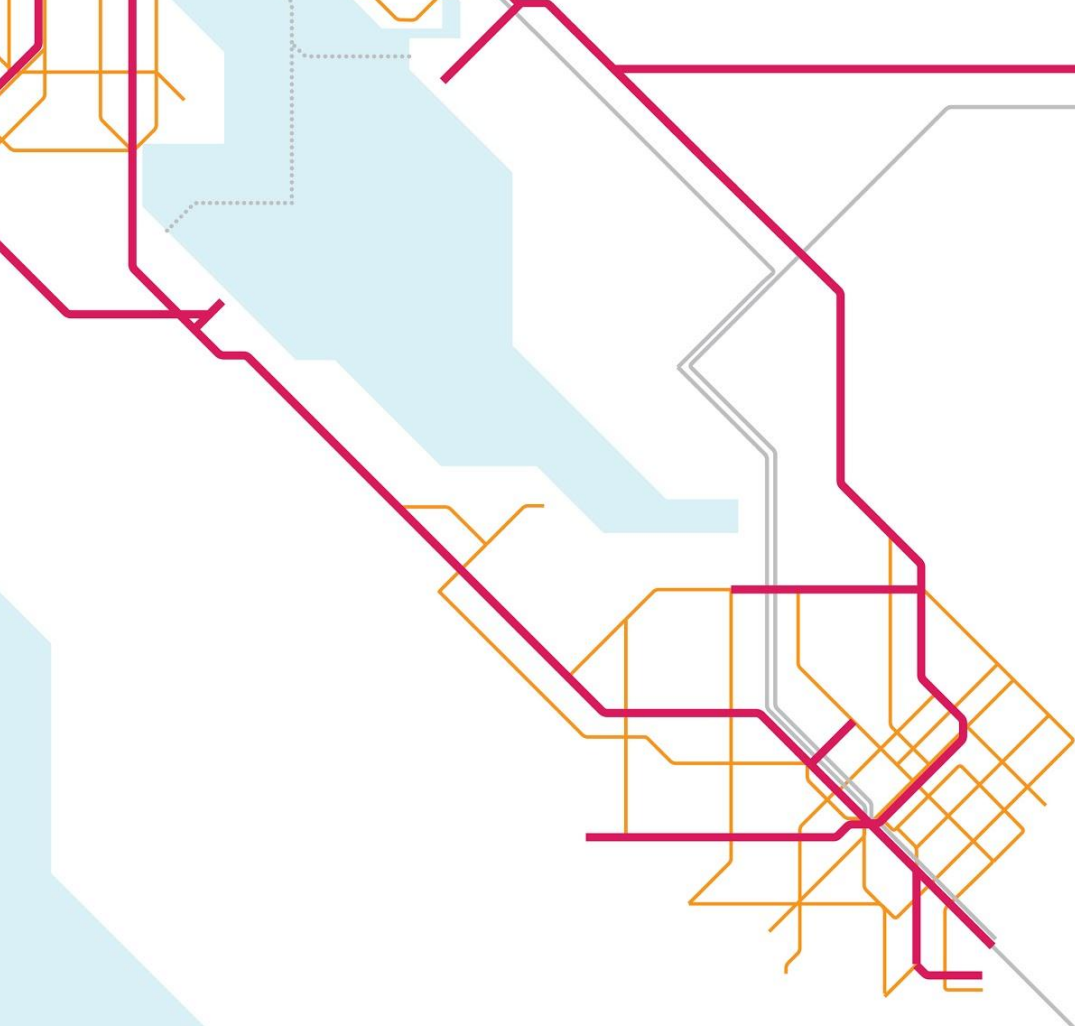
South Bay / San Jose Detail










Integrate fares, branding, and service standards

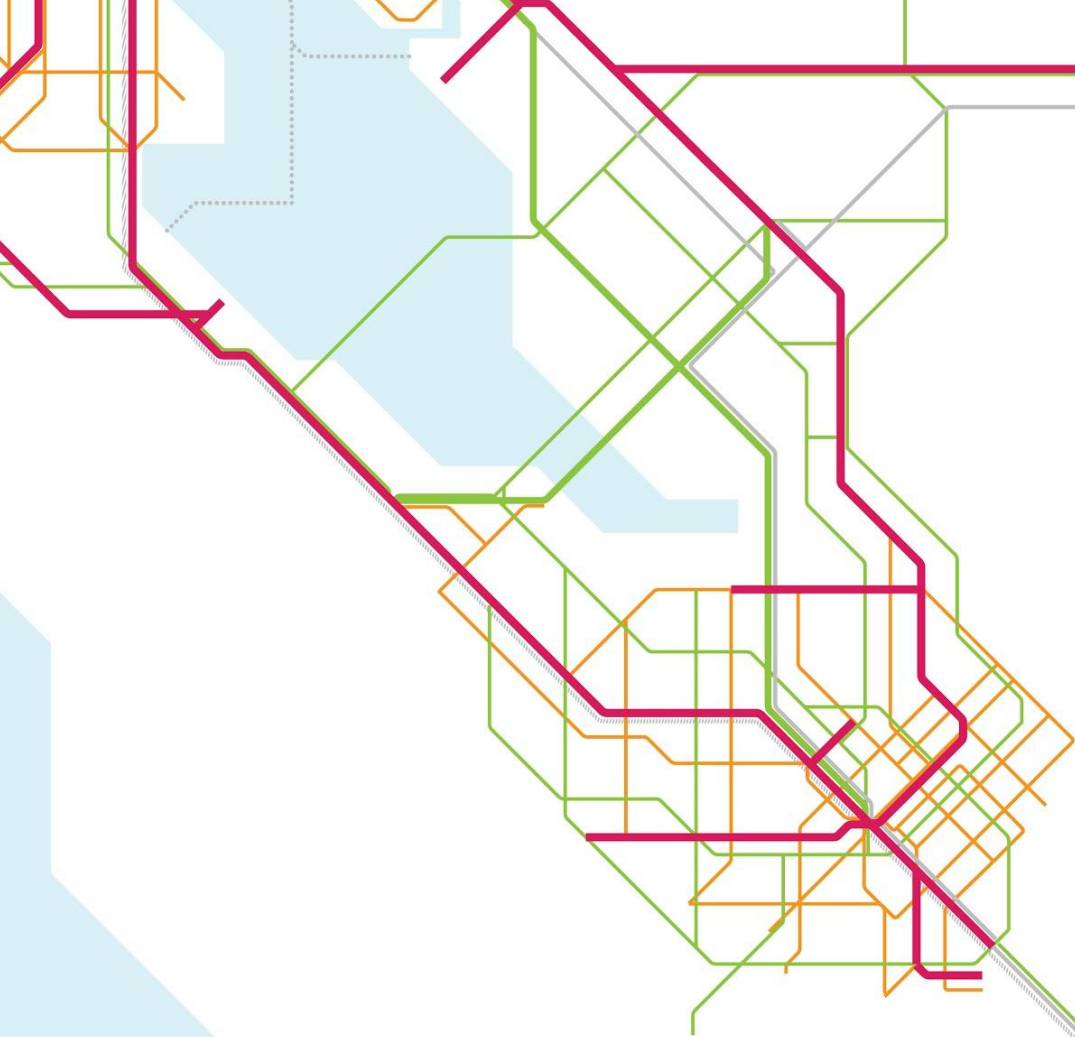


Transit Category	Service Frequency	Frequent Rapid Transit Network Service at least every 15 minutes, Mon-Sat, 7am-7pm
 Regional Express Rail	Every 10-15 min	
 Regional Express Bus	Every 10-15 min	
 Metro / Subway (BART, Muni Underground, Future Electrified Caltrain)	Every 2-8 min (core); 8-15 min (outer)	
 Street-Level Rapid Transit (LRT, BRT, Priority Bus)	Every 5-10 min	
 Commuter Rail	Every 15-60 min	
 Commuter Ferry		
 High Speed Rail	Every 30-60 min	










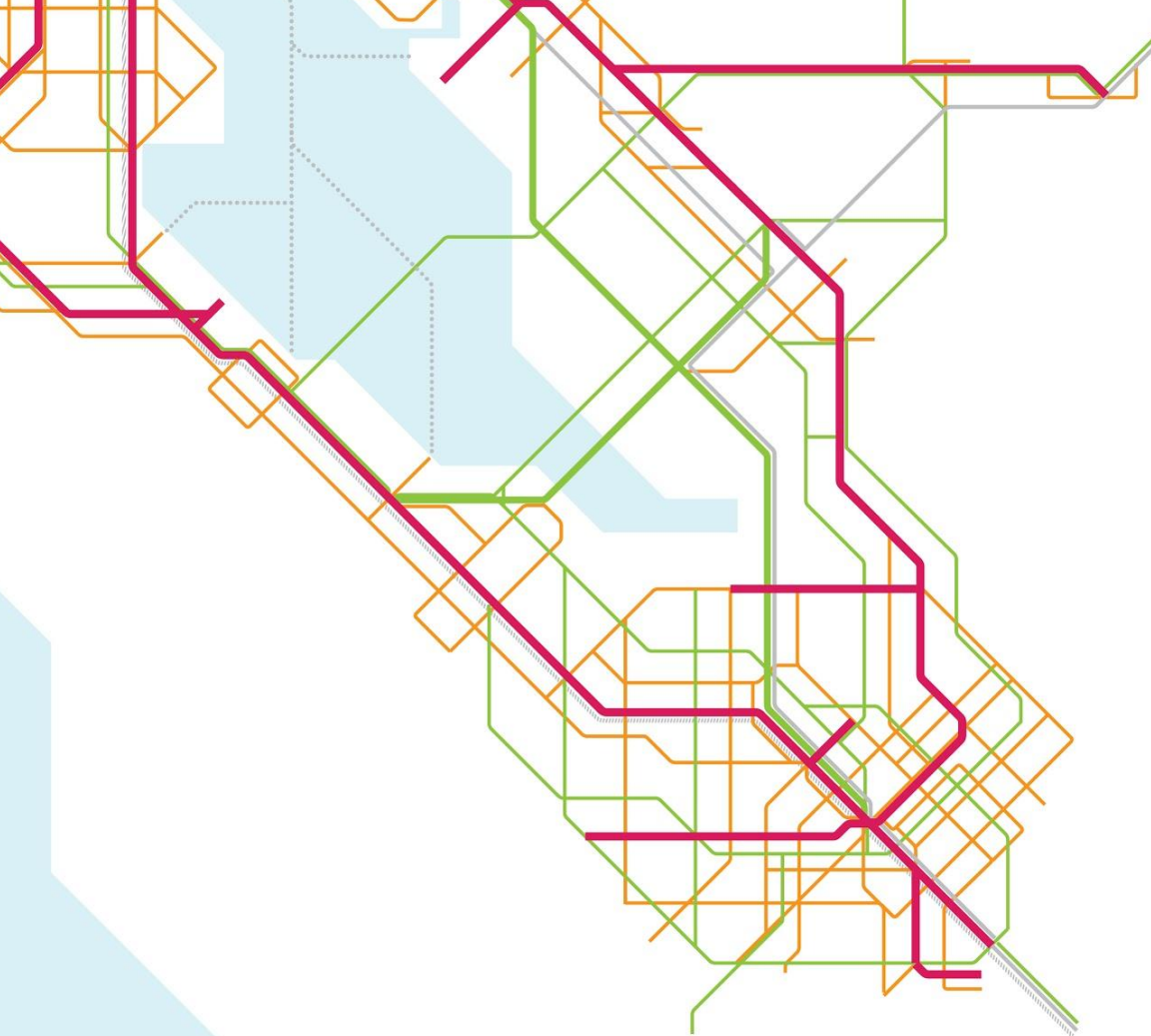
Expand and integrate BART, an electrified Caltrain, and light rail to create a seamless metro network

Transit Category	Service Frequency	Frequent Rapid Transit Network Service at least every 15 minutes, Mon-Sat, 7am-7pm
 Regional Express Rail	Every 10-15 min	
 Regional Express Bus		
 Metro / Subway (BART, Muni Underground, Future Electrified Caltrain)	Every 2-8 min (core); 8-15 min (outer)	
 Street-Level Rapid Transit (LRT, BRT, Priority Bus)	Every 5-10 min	
 Commuter Rail	Every 15-60 min	
 Commuter Ferry		
 High Speed Rail	Every 30-60 min	










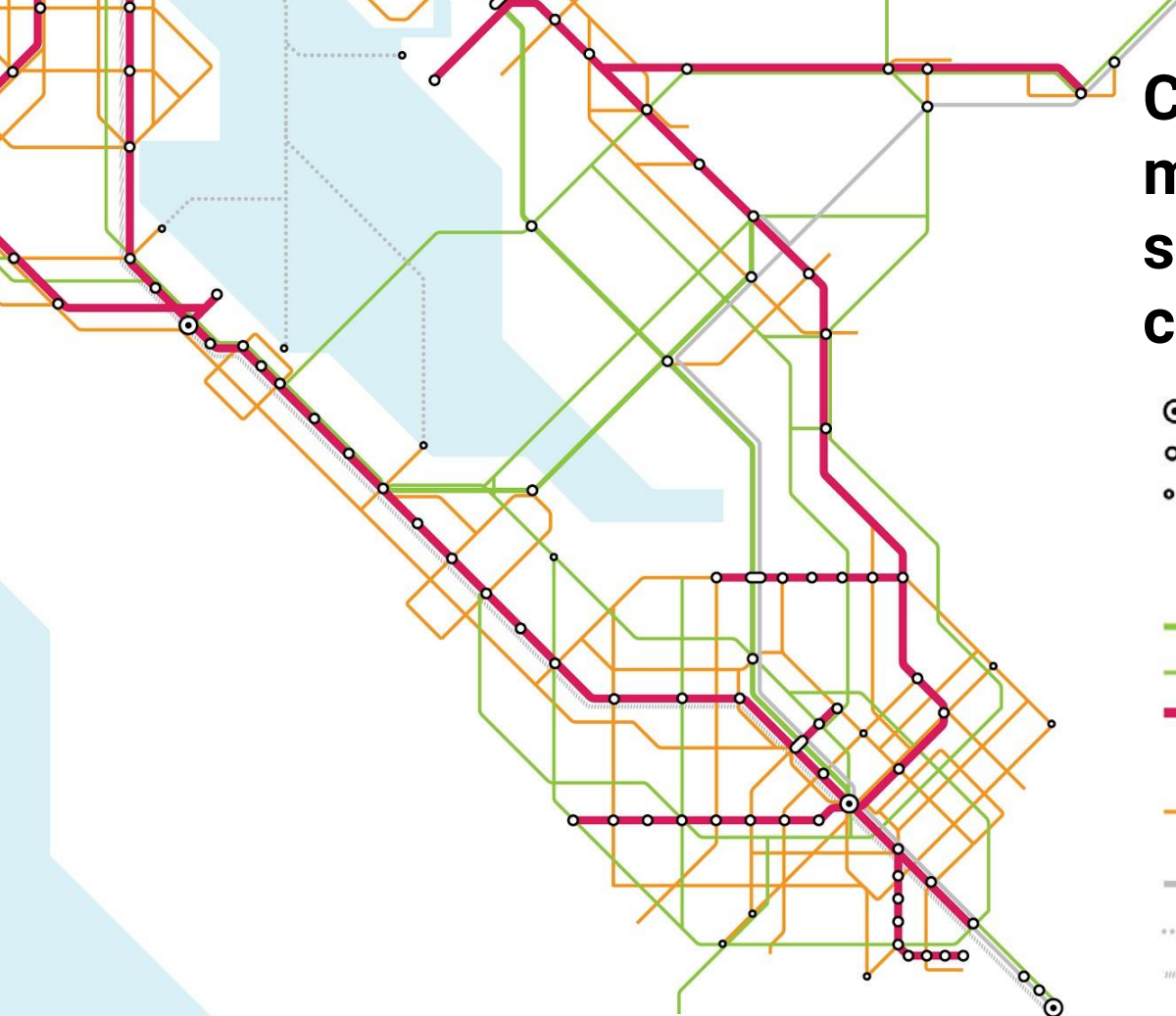
Introduce an integrated regional express bus + express rail network;

Transit Category	Service Frequency	Frequent Rapid Transit Network Service at least every 15 minutes, Mon-Sat, 7am-7pm
 Regional Express Rail	Every 10-15 min	
 Regional Express Bus		
 Metro / Subway (BART, Muni Underground, Future Electrified Caltrain)	Every 2-8 min (core); 8-15 min (outer)	
 Street-Level Rapid Transit (LRT, BRT, Priority Bus)	Every 5-10 min	
 Commuter Rail	Every 15-60 min	
 Commuter Ferry		
 High Speed Rail	Every 30-60 min	










Create a network of rapid bus lines that bypass traffic

Transit Category	Service Frequency	Frequent Rapid Transit Network Service at least every 15 minutes, Mon-Sat, 7am-7pm
 Regional Express Rail	Every 10-15 min	
 Regional Express Bus		
 Metro / Subway (BART, Muni Underground, Future Electrified Caltrain)	Every 2-8 min (core); 8-15 min (outer)	
 Street-Level Rapid Transit (LRT, BRT, Priority Bus)	Every 5-10 min	
 Commuter Rail	Every 15-60 min	
 Commuter Ferry		
 High Speed Rail	Every 30-60 min	



Create a network of mobility hubs with seamless connections, common wayfinding.

- ⊙ Interregional Hub
- Transit Station
- Transit Stop / Terminal (Not exhaustive)

Transit Category	Service Frequency
 Regional Express Rail	Every 10-15 min
 Regional Express Bus	
 Metro / Subway (BART, Muni Underground, Future Electrified Caltrain)	Every 2-8 min (core); 8-15 min (outer)
 Street-Level Rapid Transit (LRT, BRT, Priority Bus)	Every 5-10 min
 Commuter Rail	Every 15-60 min
 Commuter Ferry	
 High Speed Rail	Every 30-60 min

Frequent Rapid Transit Network
Service at least every 15 minutes, Mon-Sat, 7am-7pm

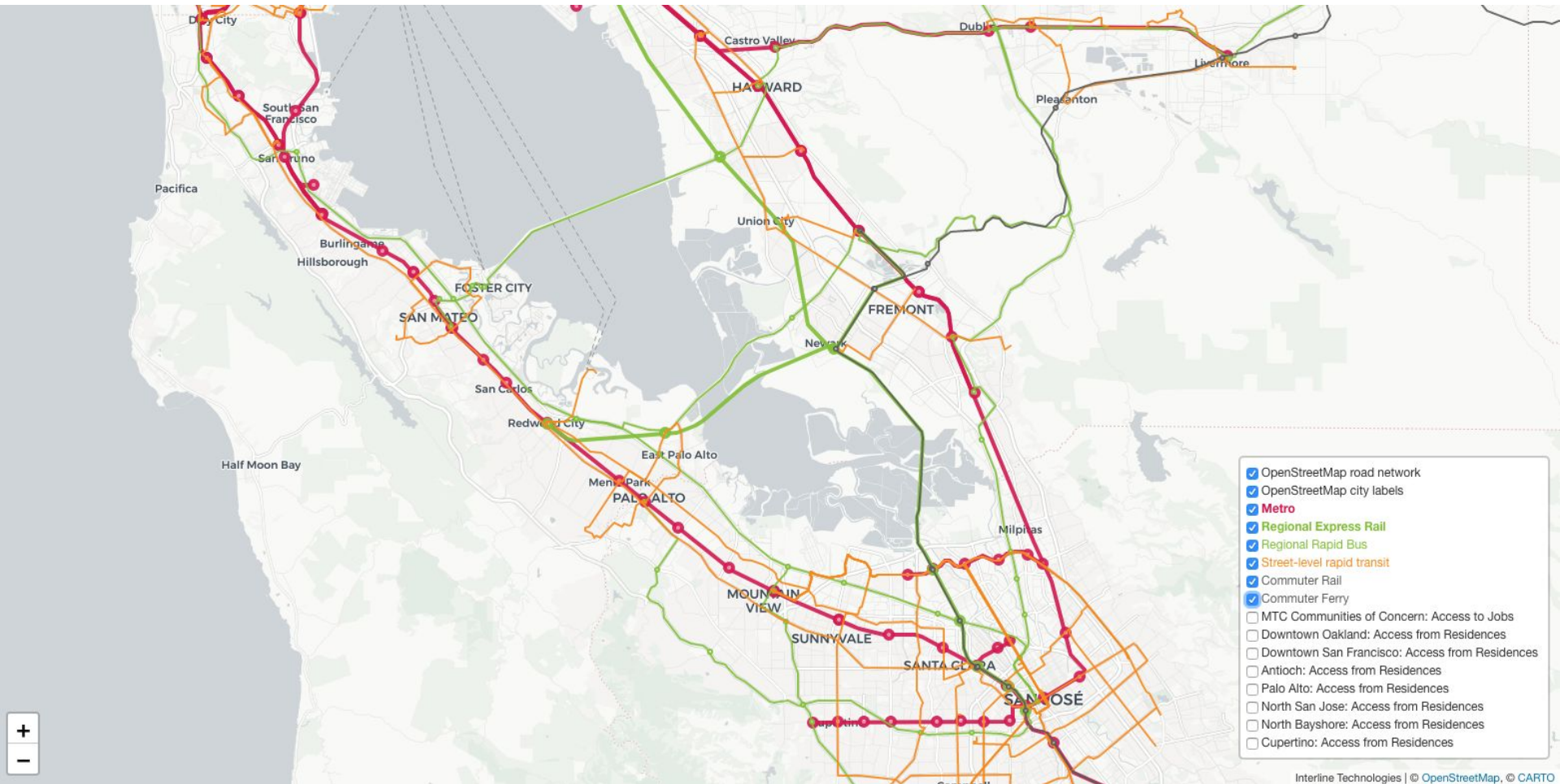


Plan, build and operate the network as a seamless, integrated system.

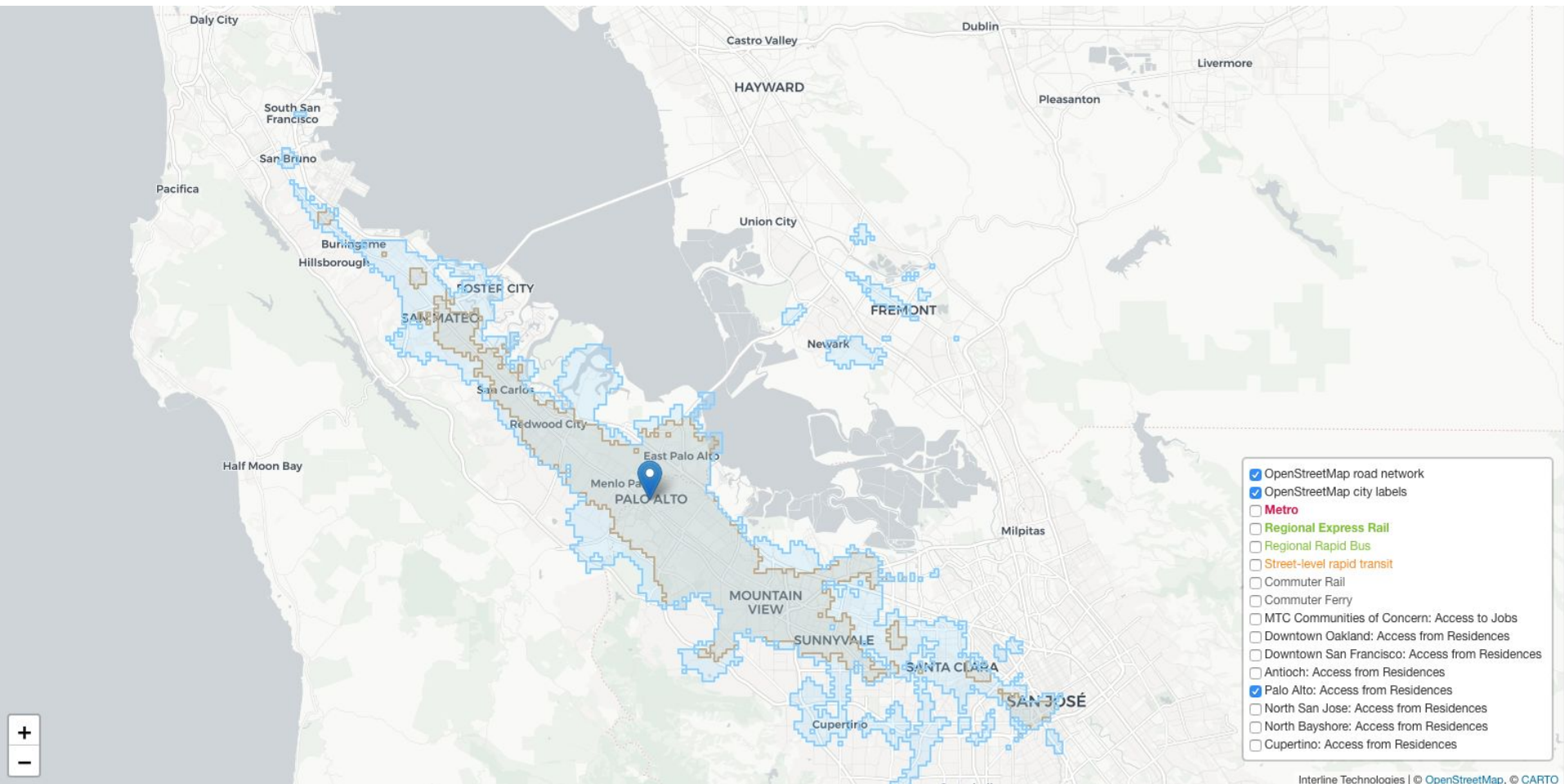
- ⊙ Interregional Hub
- Transit Station
- Transit Stop / Terminal (Not exhaustive)

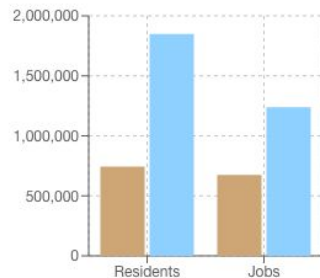
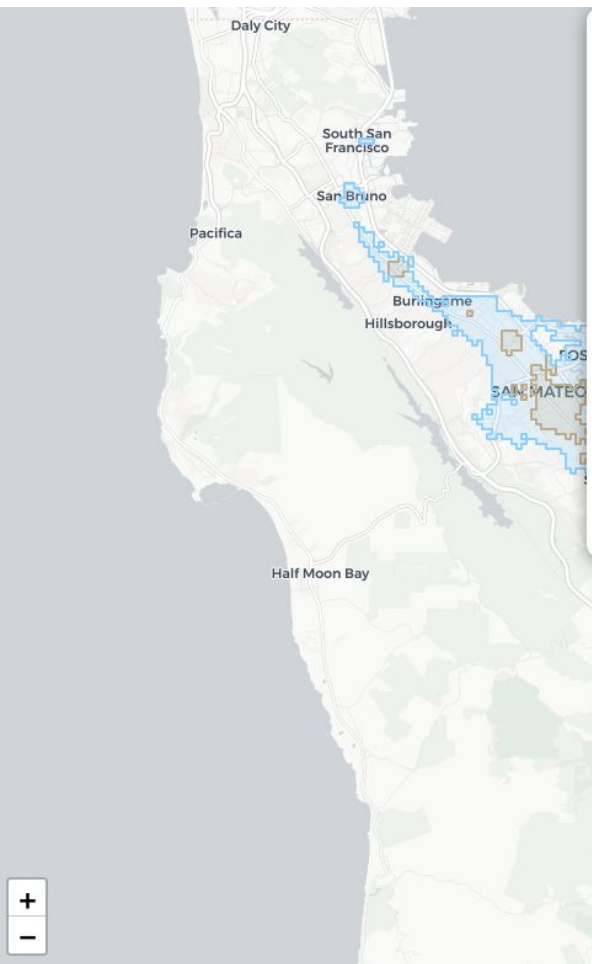
Transit Category	Service Frequency
— Regional Express Rail	Every 10-15 min
— Regional Express Bus	Every 10-15 min
— Metro / Subway (BART, Muni Underground, Future Electrified Caltrain)	Every 2-8 min (core); 8-15 min (outer)
— Street-Level Rapid Transit (LRT, BRT, Priority Bus)	Every 5-10 min
— Commuter Rail	Every 15-60 min
— Commuter Ferry	Every 15-60 min
— High Speed Rail	Every 30-60 min

Frequent Rapid Transit Network
Service at least every 15 minutes, Mon-Sat, 7am-7pm



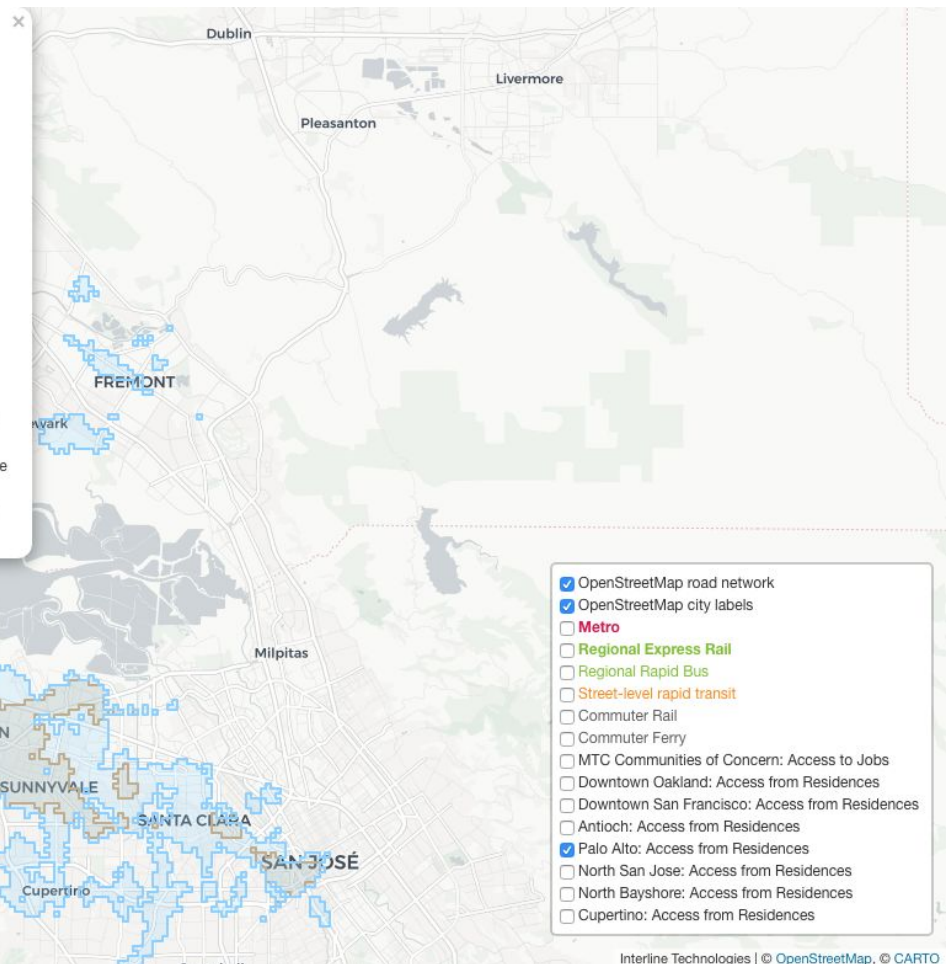
- ☒ OpenStreetMap road network
- ☒ OpenStreetMap city labels
- ☒ **Metro**
- ☒ **Regional Express Rail**
- ☒ **Regional Rapid Bus**
- ☒ **Street-level rapid transit**
- ☒ Commuter Rail
- ☒ Commuter Ferry
- ☐ MTC Communities of Concern: Access to Jobs
- ☐ Downtown Oakland: Access from Residences
- ☐ Downtown San Francisco: Access from Residences
- ☐ Antioch: Access from Residences
- ☐ Palo Alto: Access from Residences
- ☐ North San Jose: Access from Residences
- ☐ North Bayshore: Access from Residences
- ☐ Cupertino: Access from Residences



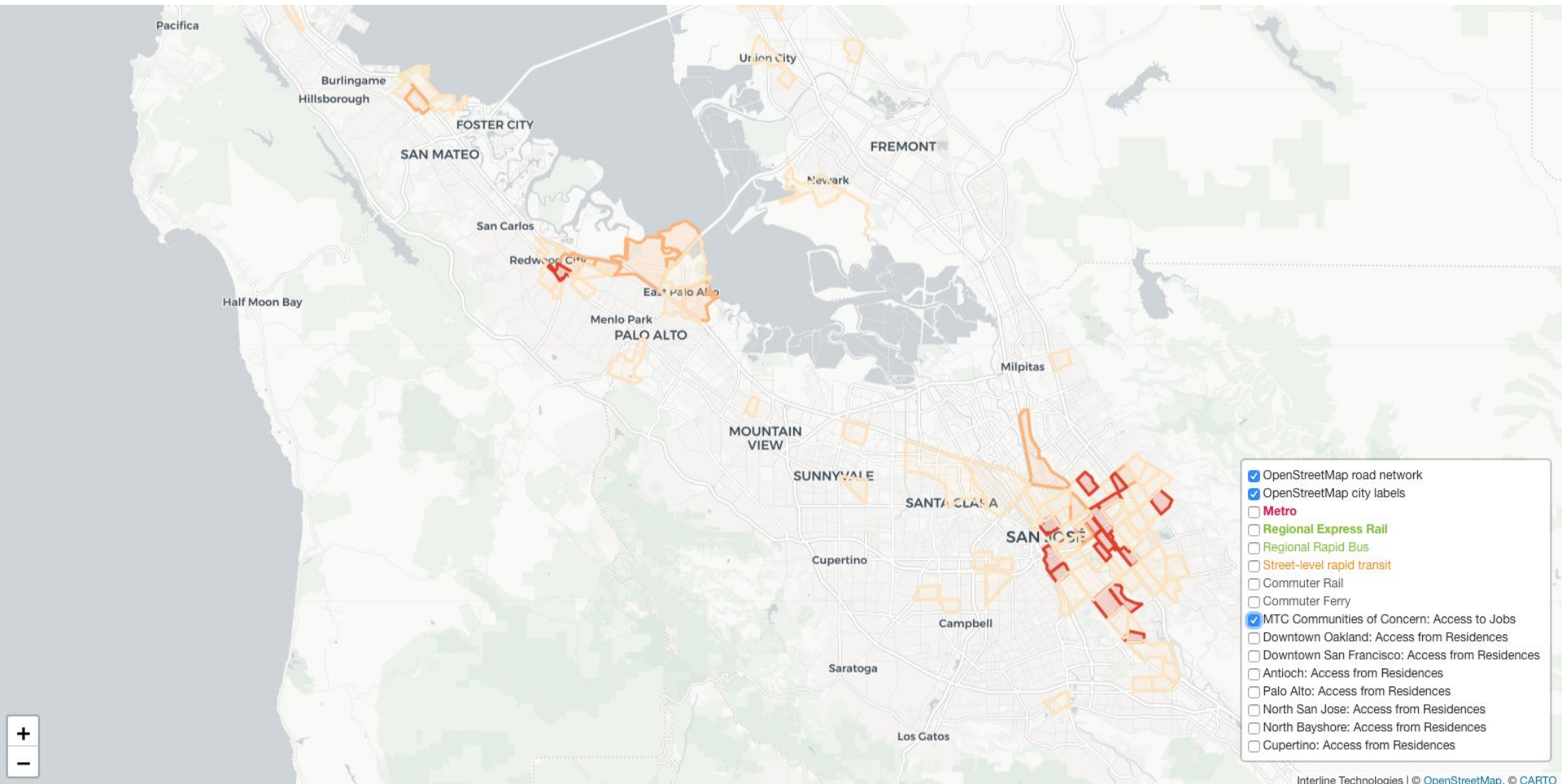


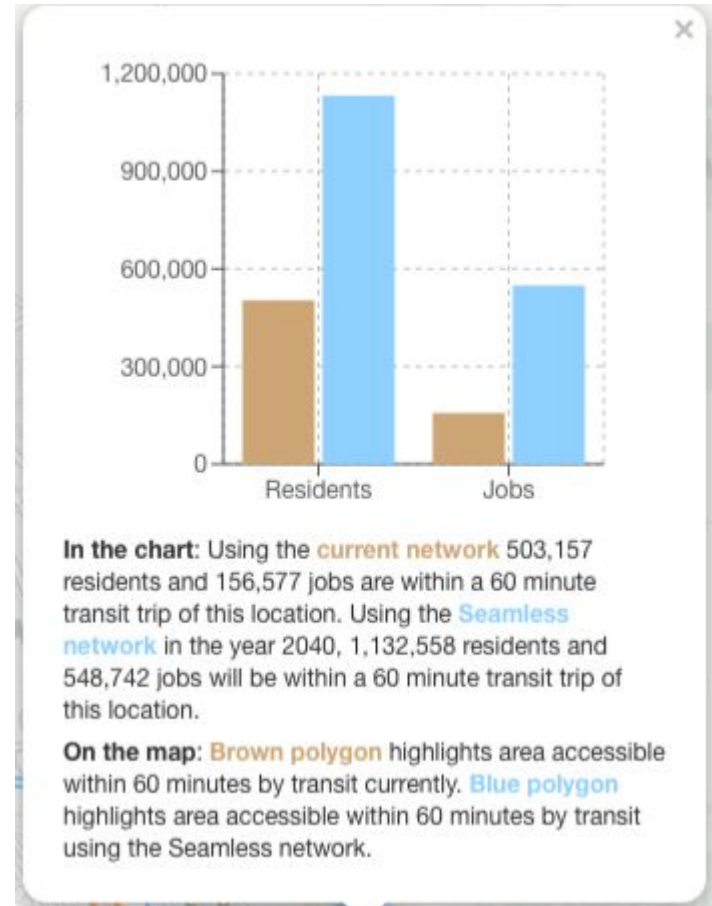
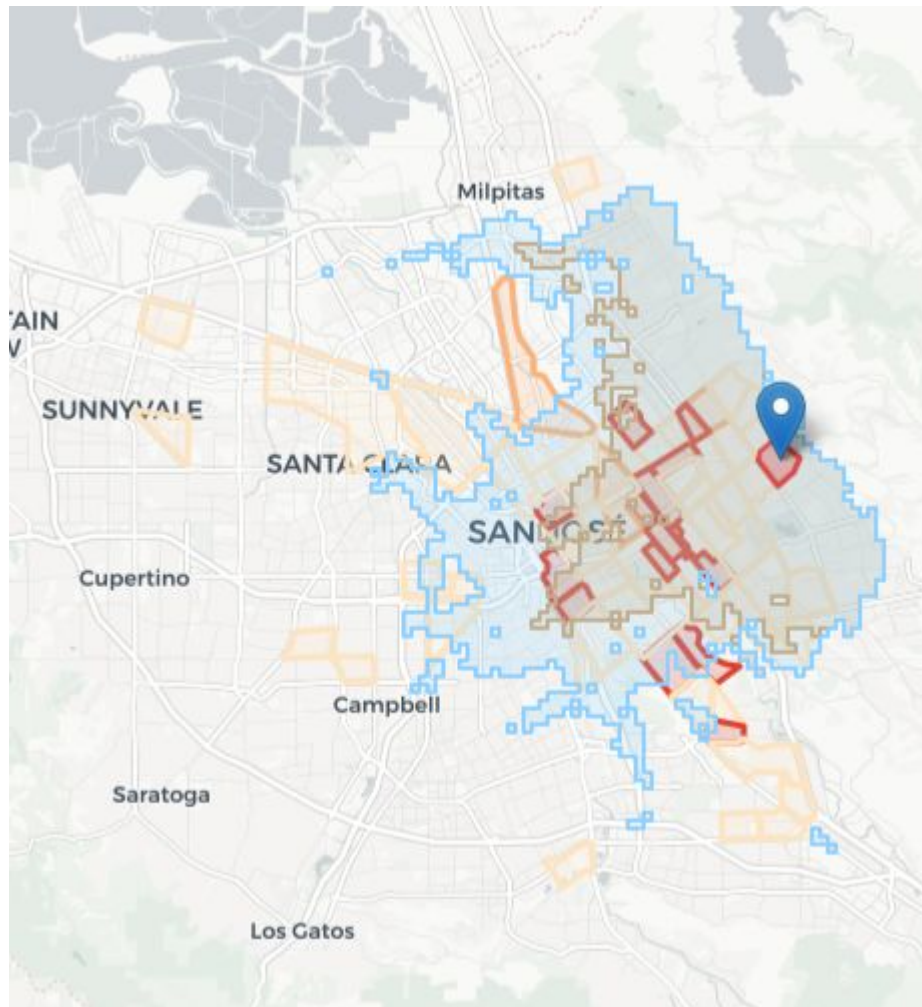
In the chart: Using the **current network** 744,768 residents and 673,605 jobs are within a 60 minute transit trip of this location. Using the **Seamless network** in the year 2040, 1,847,940 residents and 1,237,827 jobs will be within a 60 minute transit trip of this location.

On the map: **Brown polygon** highlights area accessible within 60 minutes by transit currently. **Blue polygon** highlights area accessible within 60 minutes by transit using the Seamless network.













- ☒ OpenStreetMap road network
- ☒ OpenStreetMap city labels
- ☐ **Metro**
- ☐ **Regional Express Rail**
- ☐ **Regional Rapid Bus**
- ☐ **Street-level rapid transit**
- ☐ Commuter Rail
- ☐ Commuter Ferry
- ☐ MTC Communities of Concern: Access to Jobs
- ☐ Downtown Oakland: Access from Residences
- ☐ Downtown San Francisco: Access from Residences
- ☐ Antioch: Access from Residences
- ☒ Palo Alto: Access from Residences
- ☐ North San Jose: Access from Residences
- ☐ North Bayshore: Access from Residences
- ☐ Cupertino: Access from Residences





Residents with access to job centers within 60 minutes on transit

	Current Network	Seamless Vision	# Increase	% Increase
Downtown San Francisco	2,176,608	3,177,228	 1,000,620	 46%
Downtown Oakland	2,423,177	3,587,424	 1,164,247	 48%
North San Jose	762,495	2,378,666	 1,616,171	 212%
Downtown Palo Alto	744,768	1,847,940	 1,103,172	 148%
Cupertino	690,693	2,036,808	 1,346,115	 195%

Jobs Accessible within 60 minutes on transit

	Current Network	Seamless Vision	# Increase	% Increase
Richmond (Iron Triangle)	371,442	934,273	▲ 562,831	▲ 152%
Marin City	142,291	1,051,384	▲ 909,093	▲ 639%
Central Vallejo	70,432	260,461	▲ 190,029	▲ 270%
East Palo Alto	98,830	599,995	▲ 501,165	▲ 507%
East San Jose	309,533	878,277	▲ 568,744	▲ 184%

Questions

- Can measures of expanding access to jobs and housing help us to both identifying & prioritizing projects?
- What stage of the planning process are these tools most appropriate?
- How might we “repackage” sets of projects to guide our investments and make more progress in expanding access & transit use?

Thank you

www.seamlessbayarea.org

