Project 2123 | February 2022

SJSU SAN JOSÉ STATE UNIVERSITY

MTI MINETA TRANSPORTATION INSTITUTE

Inventorying San Francisco Bay Area Parking Spaces: Technical Report Describing Objectives, Methods, and Results

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Why Parking?

Sergio Ruiz for SPUR

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Free, abundant parking encourages people to drive more.

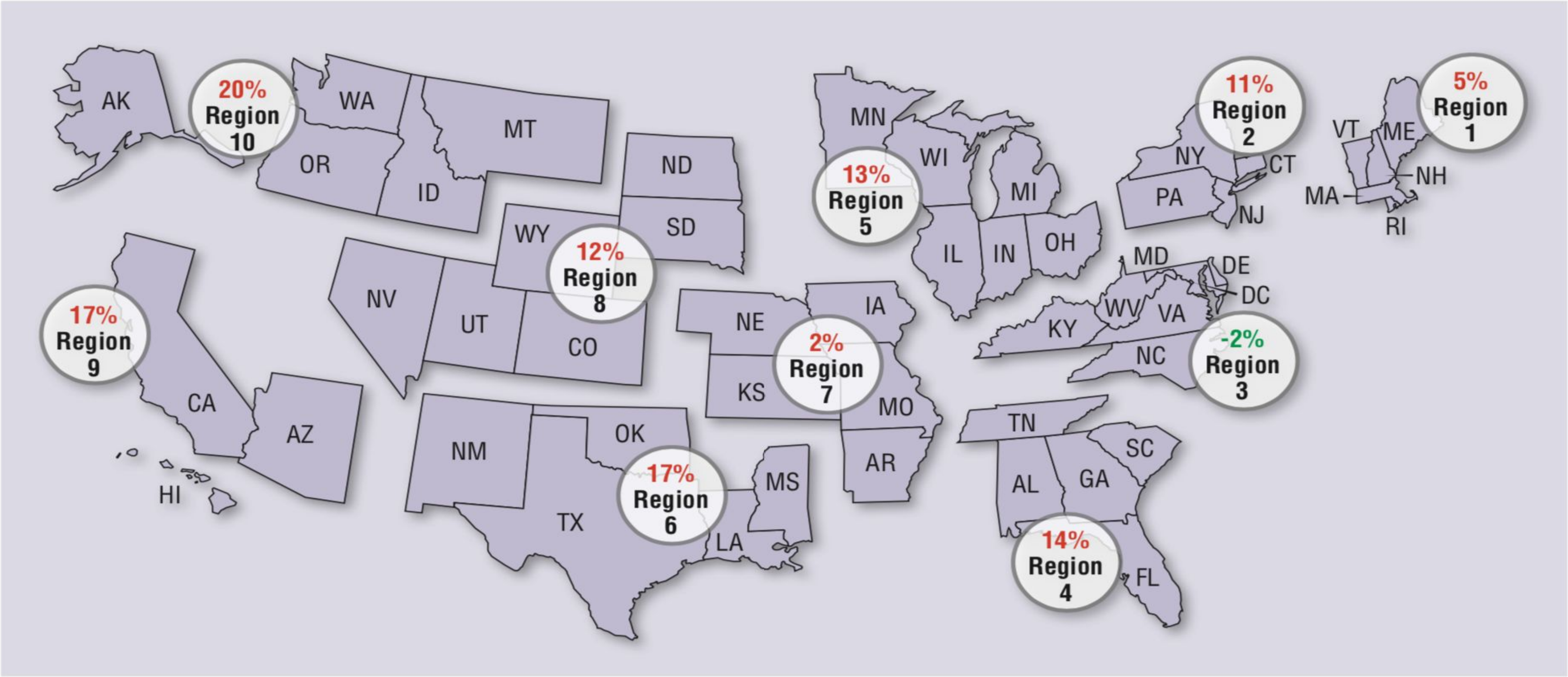
Sergio Ruiz for SPUR

More driving means more pollution and climate disruption.

Sergio Ruiz for SPUR

More driving compromises the safety, health and autonomy of the most vulnerable.

Figure 2: Percentage Change in Estimated Fatalities in First 9 Months of 2021 From Estimated Fatalities in the Same 9 Months of 2020, by NHTSA Region



U.S. DOT NHTSA Traffic Safety Facts, February 2021

Parking often stands in the way of better transit.

Sergio Ruiz for SPUR

Parking drives up the cost of housing and other goods.

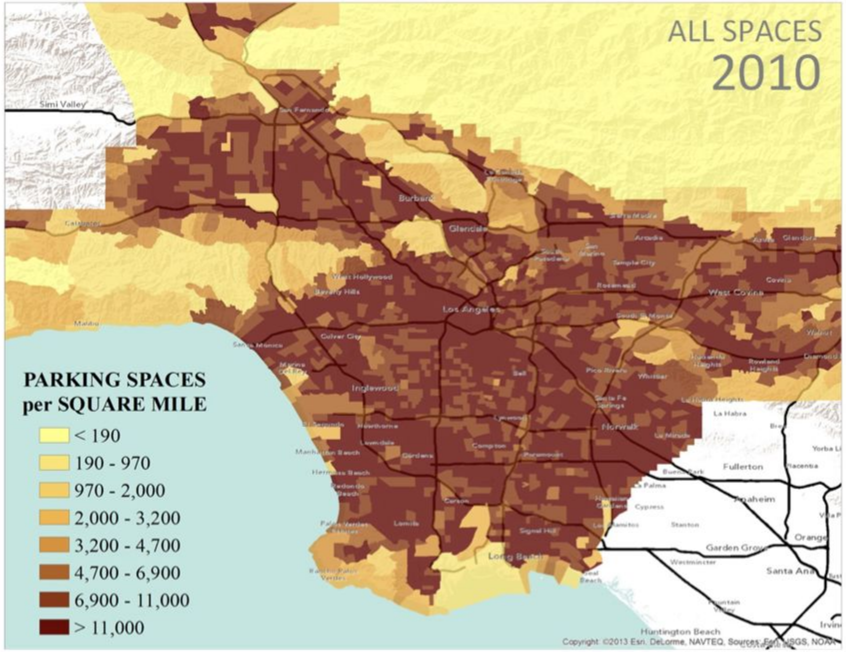
Sergio Ruiz for SPUR

Project Goals: How much parking do we have?

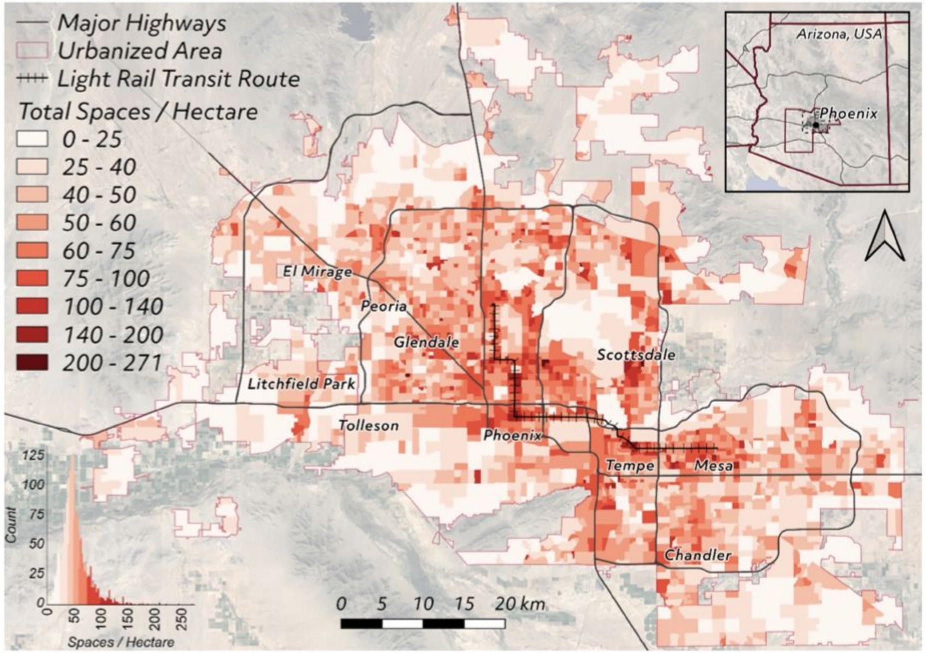
1. Develop the Bay Area's first comprehensive, public dataset of on- and off- street parking and disrupt the tendency to "predict and provide".

2. Use data to shift the narrative and build the case for parking policy reform by identifying the negative impacts of parking--and what we can have instead.

Estimating Urban Parking



LOS ANGELES COUNTY: Chester et al. (2015), 10.1080/01944363.2015.1092879.



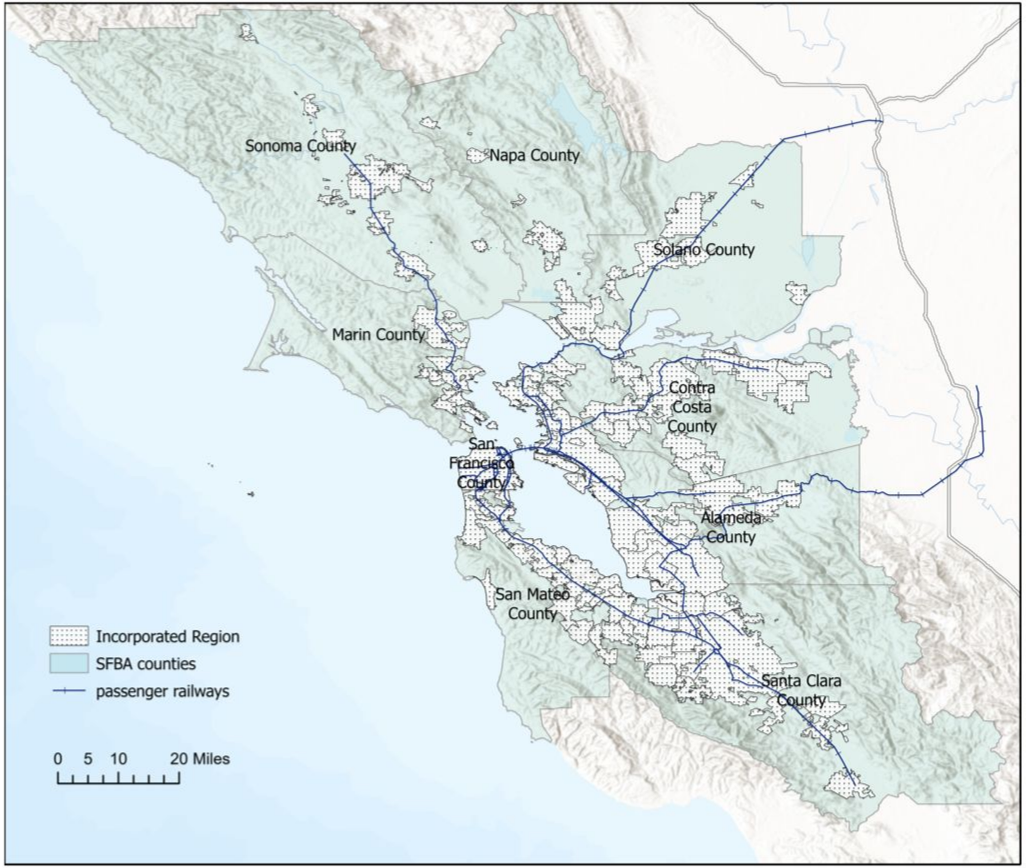
PHOENIX METRO: Hoehne et al. (2019), 10.1016/j.cities.2019.02.007.

Methods

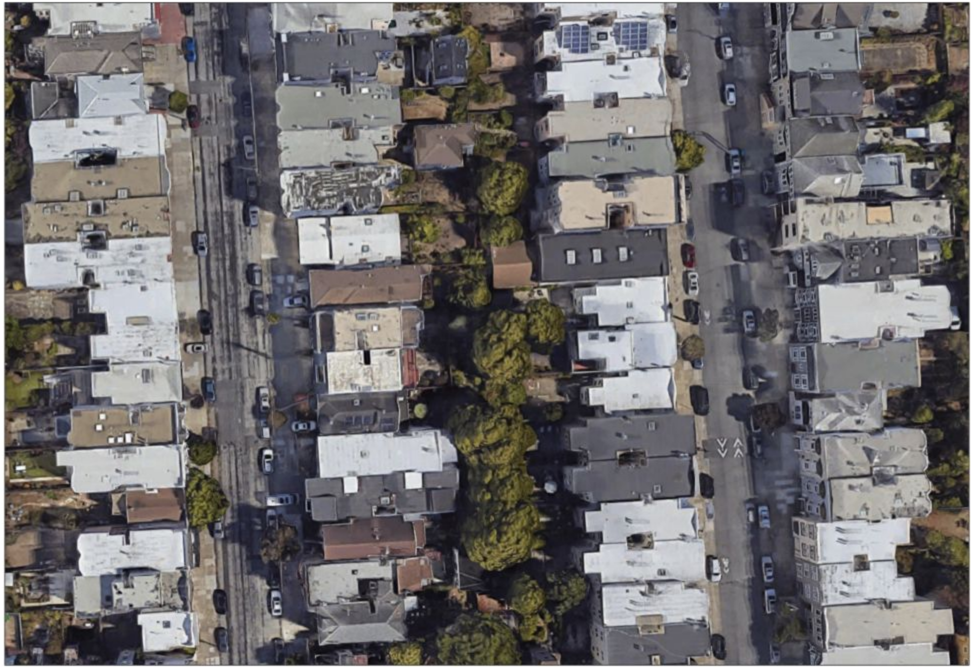
Bay Area

Incorporated ≈ urban

Unincorporated ≈ non-urban



On-street



TRANSIT STOP

33 ft

INTERSECTION

30 ft

BRIDGE

Asset excluded

TUNNEL

Asset excluded

DRIVEWAY

15 ft

HYDRANT

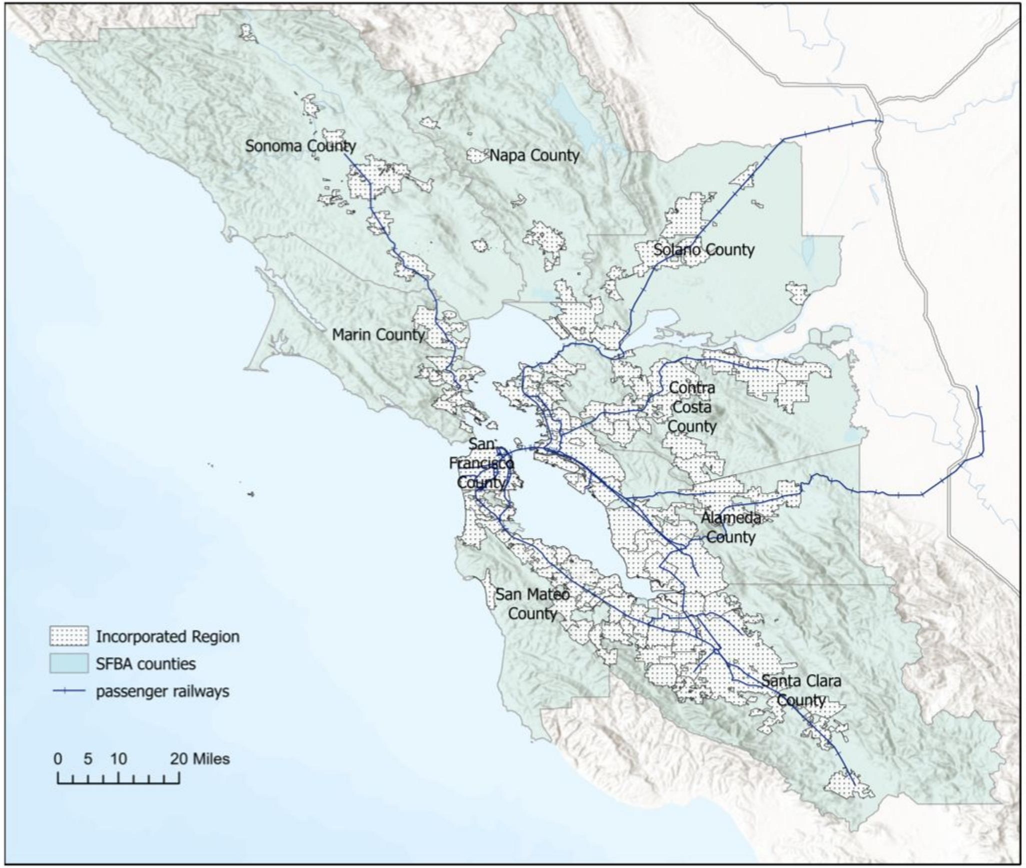
1 space per
500 ft of curb

Off-street

MTC Consolidated Assessor database

Key Properties:

- Building & Parcel Area
- Bedrooms



Land-use

	Residential	Commercial Retail	Commercial Office	Public Service	Recreational	Industrial	Agricultural	Miscellaneous
Alameda	54%	11%	8%	7%	1%	19%	0%	0%
Contra Costa	67%	12%	9%	7%	1%	4%	0%	0%
Marin	66%	28%	0%	3%	0%	3%	0%	0%
Napa	72%	12%	3%	0%	0%	13%	0%	0%
San Francisco	69%	14%	6%	7%	0%	4%	0%	1%
San Mateo	68%	9%	12%	3%	1%	7%	0%	0%
Santa Clara	58%	8%	14%	3%	1%	16%	0%	0%
Solano	80%	9%	3%	2%	1%	5%	0%	0%
Sonoma	67%	11%	6%	4%	3%	9%	0%	0%

Off-street Edge Cases

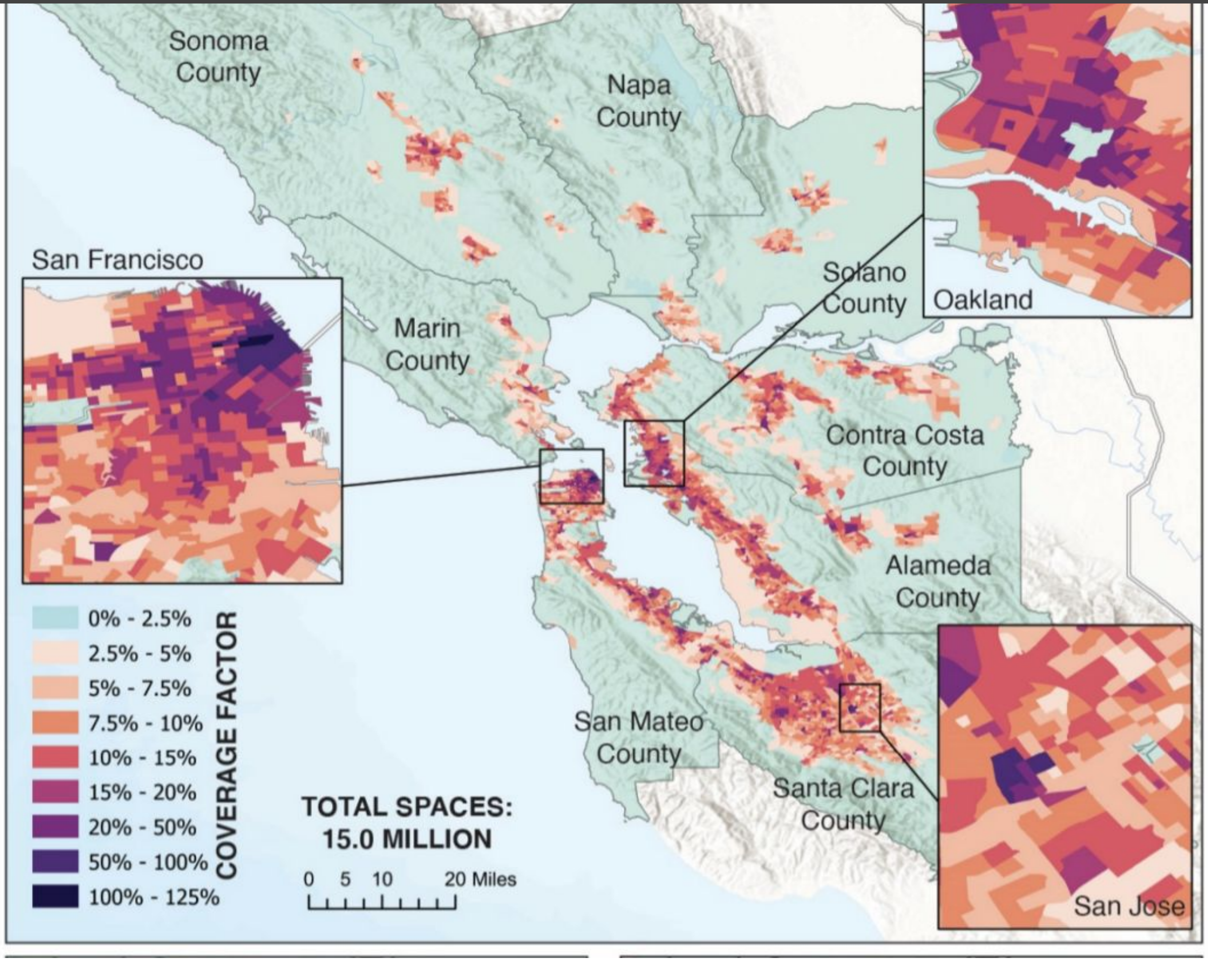
Results

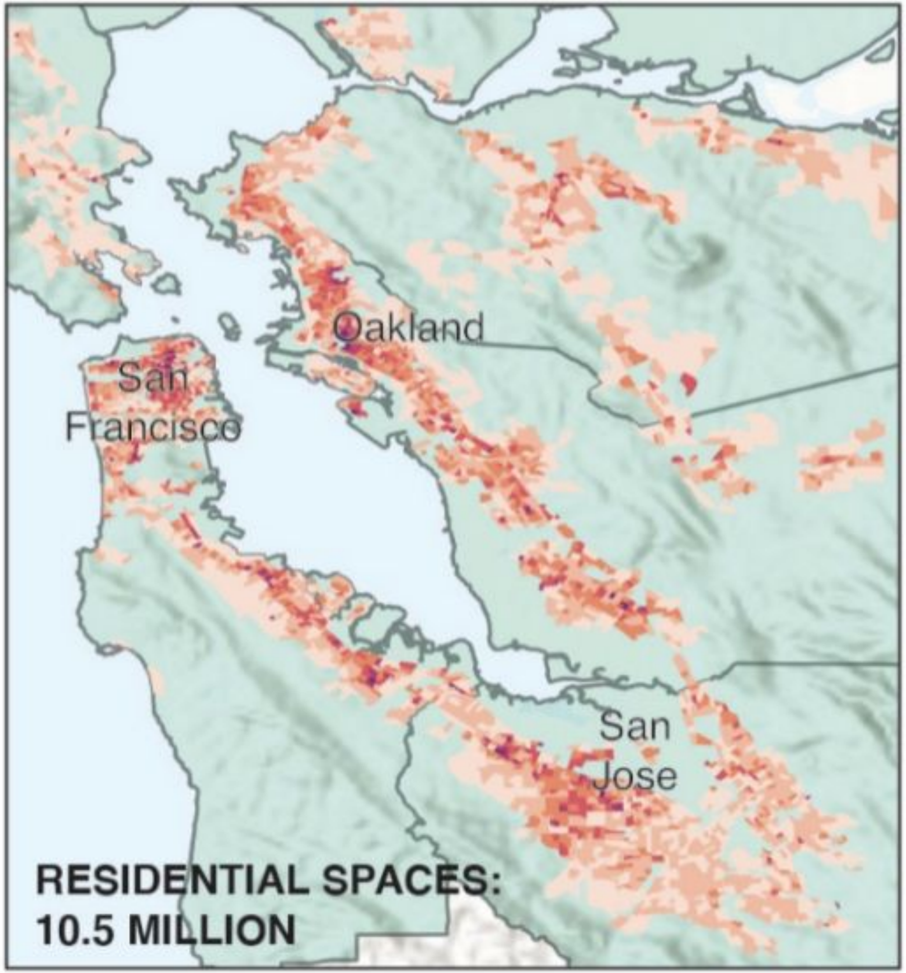
The region has enough parking to wrap around the planet 2.3 times.

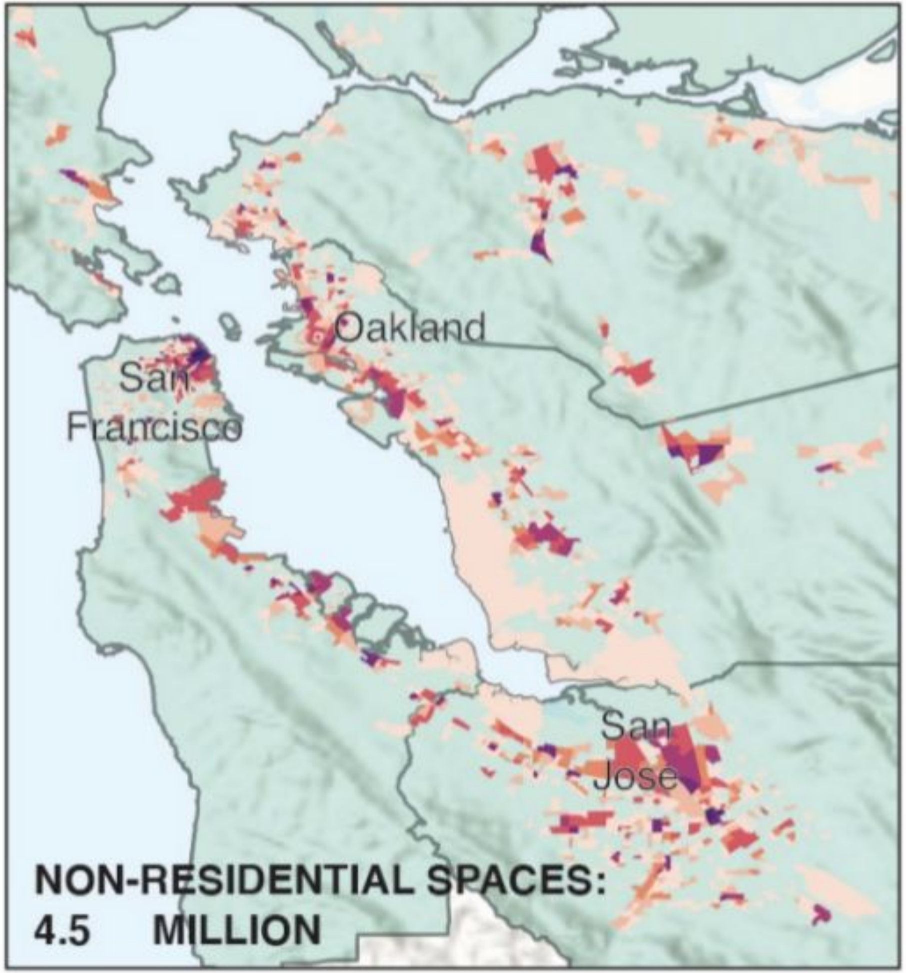
The region's roads and parking are one of the Bay Area's largest public assets.

The Bay Area has enough parking to wrap around the planet 2.3 times. Since most of the region's parking is free, the public subsidy required to build and maintain this parking is enormous.

The Bay Area has 15 million parking spaces.

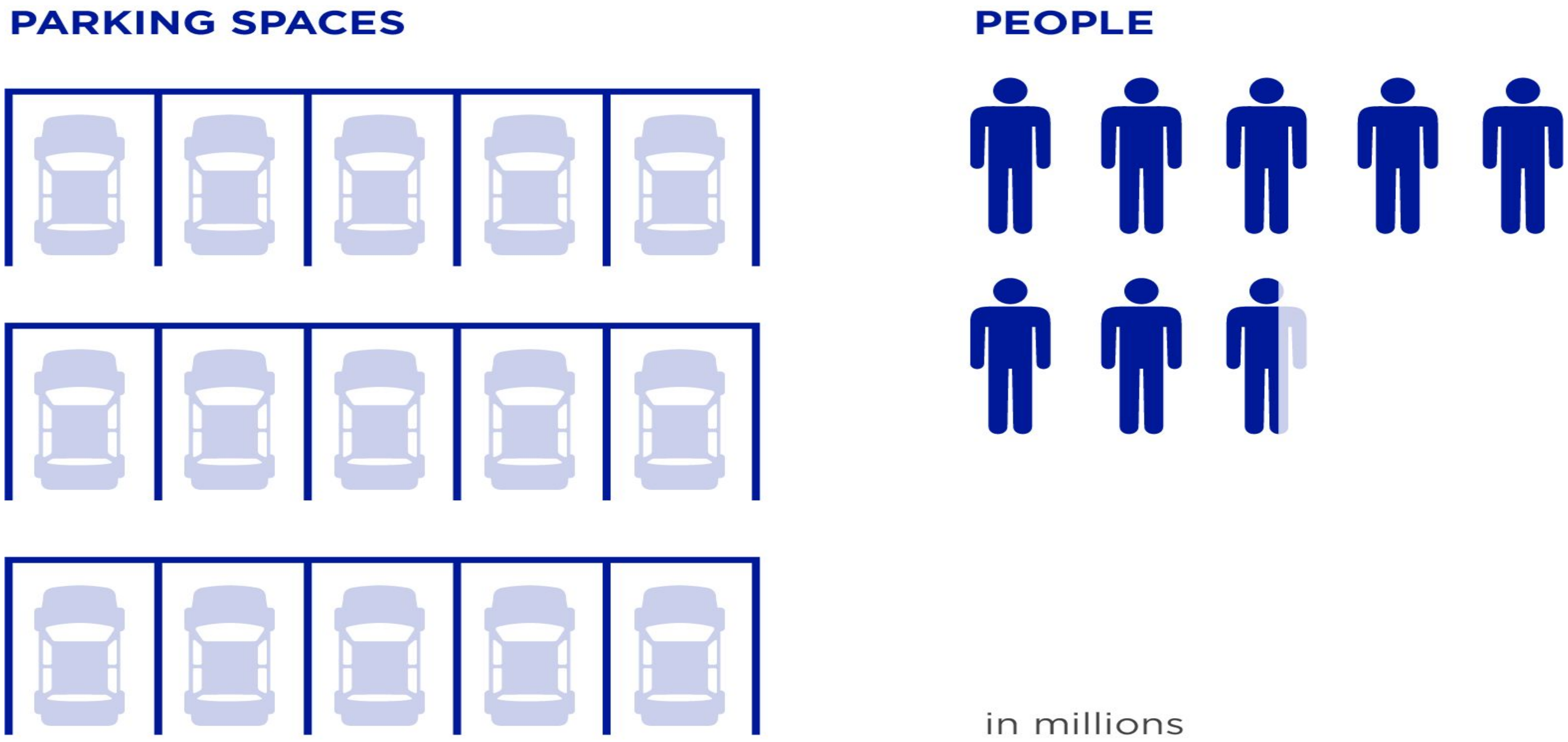



Oakland
San Francisco
San Jose
RESIDENTIAL SPACES:
10.5 MILLION

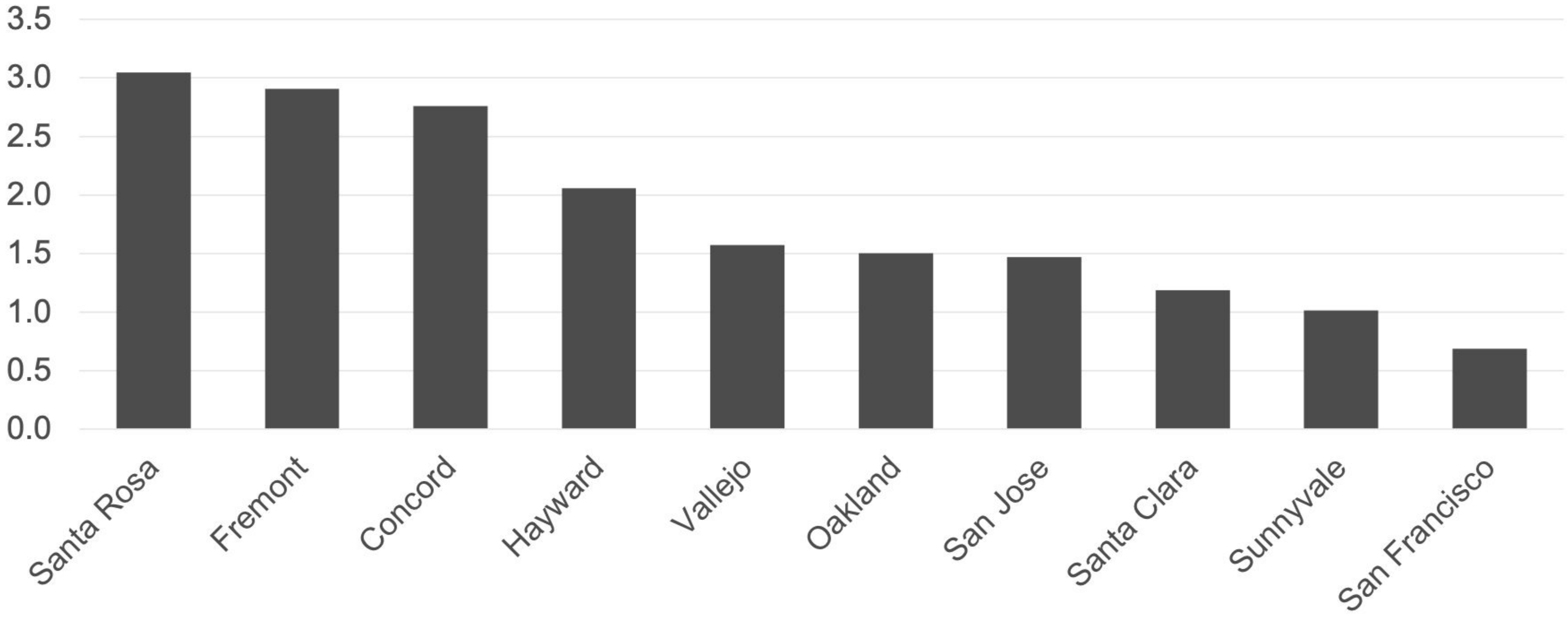

Oakland
San Francisco
San Jose
NON-RESIDENTIAL SPACES:
4.5 MILLION

Land Commitments

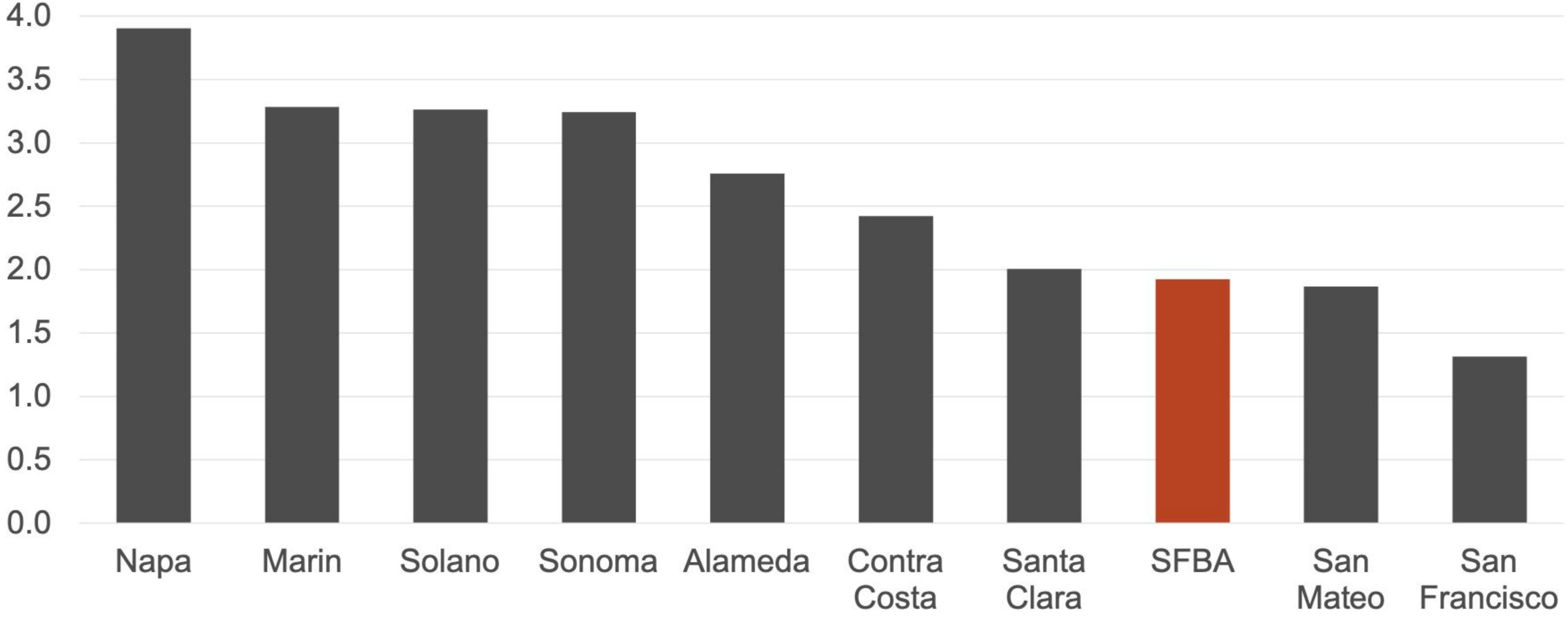
That’s roughly two parking spaces per person.



Per Capita Parking



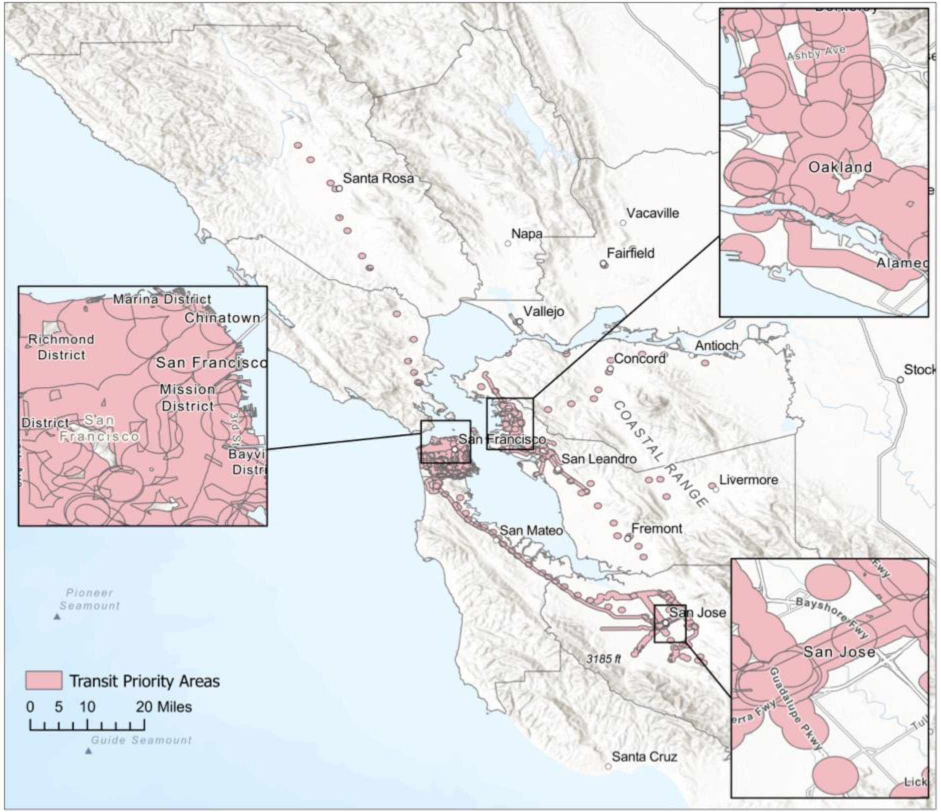
Per Vehicle Parking

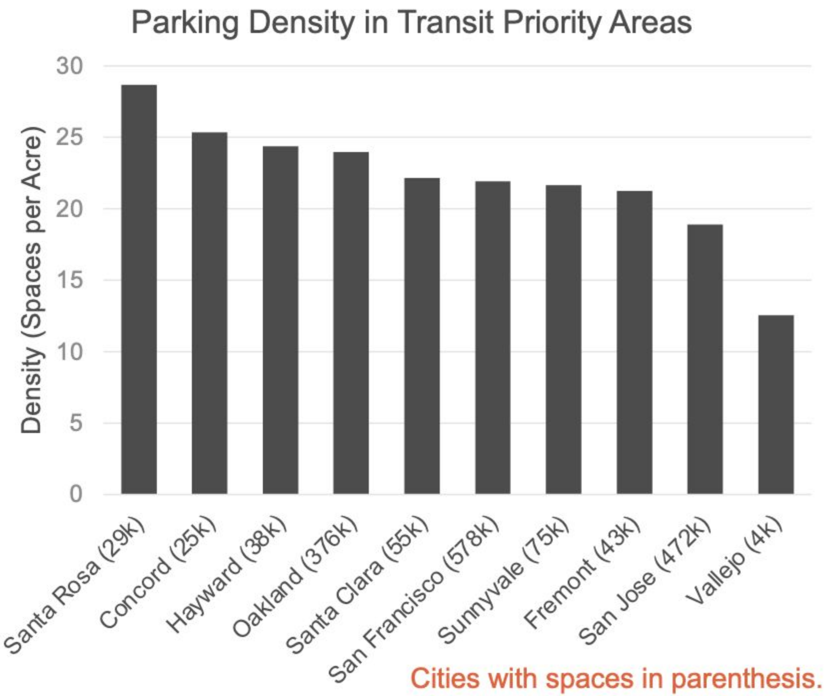


Regional Parking Comparison

	Spaces per Person	Spaces per Car	% Urbanized Area Paved (Parking+Roads)
Bay Area	**1.9**	**2.4**	**20%**
Los Angeles	**1.9**	**3.3**	**41%**
Phoenix	**2.7**	**4.3**	**36%**

Transit Priority Meets Parking





Cities with spaces in parenthesis.

Arizona State University

SPUR

Policy Toolkit

SPUR

Major Strategies for Change

1. **Avoid** building new parking.

2. **Manage** the existing parking supply.

3. **Convert** some of the existing parking supply.

Avoid building new parking.

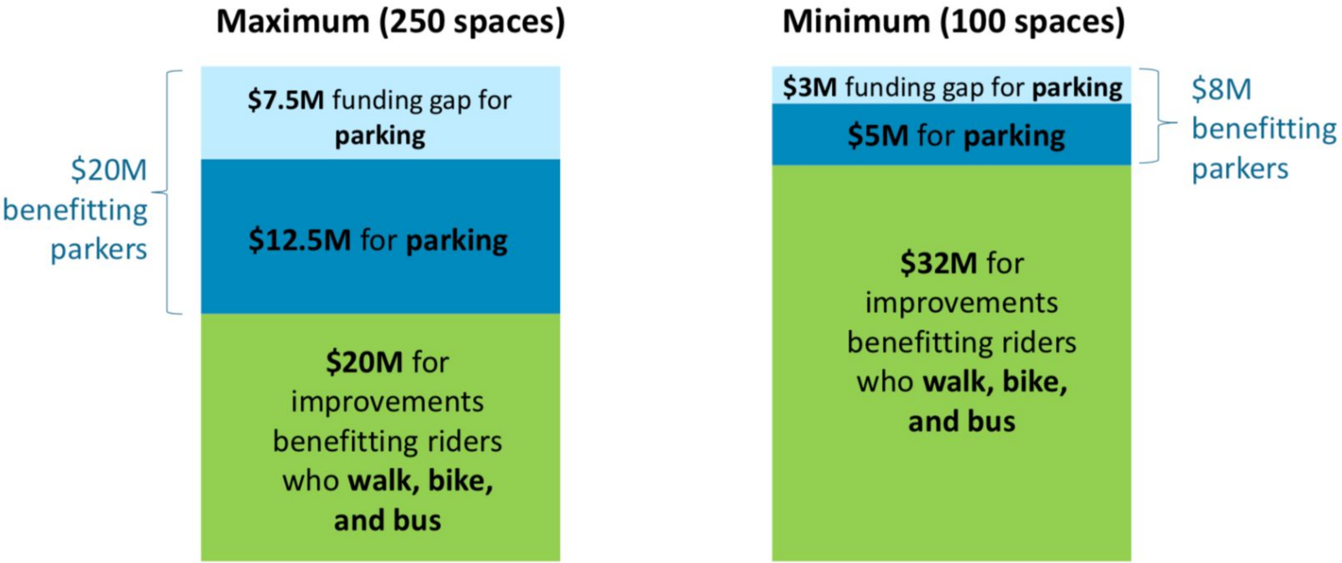
1. Eliminate minimum parking requirements in dense, transit-oriented, low-VMT areas, high-opportunity areas, and for small infill projects anywhere.
2. Set parking maximums in areas directly served by transit.
3. Overhaul the industry standard for calculating trip generation rates.

Q2

HOW WILL BART PAY FOR PARKING?

Funding for station access and parking

We can reasonably assume a total of **$40M** for all access investments



Assumptions:

- Cost to build structured parking = **$80,000+/space** (not including annual operating, enforcement, maintenance or repair costs estimated at around **$1,000/space/year**).
- One known grant source only covers **60% ($50,000)** of the cost to build each parking space.

Manage existing parking (1).

1. Manage parking as an asset at the district level.
2. Share management services and provide technical assistance.
3. Create a regional parking supply and utilization database.
4. Require cities to allow shared parking.
5. Require robust transportation demand management programs for large employers, stadiums, universities and hospitals.
6. Price parking.

Equity Considerations for Pricing

Charging for parking is regressive

Gendered impacts

May not be viable alternatives

Equity Considerations for Pricing

Charging for parking is regressive

Gendered impacts

May not be viable alternatives

The status quo is not equitable

Unpaid parking is not “free”

Negative impacts are disproportionate by race and income

Free parking disproportionately benefits high-income people

Fair Pricing Principles

Avoid subsidizing driving

It is not equitable for everyone pay the hidden costs of free parking

For some, new fees are a burden

- Maximize parking occupancy rates, not revenue
- Spend parking revenue on transportation improvements that advance equity
- Use means-based fees or cap total fees as share of income
- Provide financial supports for other modes
- Do not use compounding fines and fees

Manage existing parking (2).

On-Street

- Use demand-responsive pricing for parking in commercial districts and main streets every day.

Off-Street

- Unbundle the price of parking from the price of housing.
- Enforce and expand California’s parking cash out law.
- Prohibit monthly parking passes.
- Use demand-responsive pricing.
- Tax commercially operated lots.

Create a “mobility wallet” for all forms of financial support and rewards for transportation.

Example

System: Invest in transportation improvements that disproportionately benefit people with low-incomes, such as discounted fares and abundant bicycle lanes.

Individual: Create a mobility wallet that unifies all forms of payment supports and financial rewards for transportation. In the near-term,

- Streamline enrollment for ClipperSTART with other benefits programs (e.g.FastrakSTART)
- Fines should not escalate, and fines may be capped based on income.

Convert a portion of the region's parking supply.

1. Convert a portion of the region's **off-street** parking supply into housing.
    a. Update zoning and land use regulations to support the conversion of under-utilized commercial properties into housing.
    b. Prohibit long-term leases of parking structures and surface lots.
2. Convert a portion of the region's **on-street** parking supply for more productive uses.
    a. Make the conversion of parking to bicycle lanes, transit lanes, or part-time transit lanes exempt from CEQA.
    b. Convert some off-street parking spaces to priced loading zones.

Download the Data and Report

https://transweb.sjsu.edu/research/2123-Bay-Area-Parking-Inventory

or

https://www.spur.org/publications/spur-report/2022-02-28/bay-area-parking-census?utm_medium=redirect&utm_source=parkingcensus

Additional Slides

Pricing strategies (draft)

Type	User Fee	Property Tax	Parcel Tax	Tax on Parking Revenue
What	Fee for occupying (renting) a parking space. Implemented by ordinance. May be flat fee or demand-responsive. Funds may go to a general fund or to a special fund if part of a special assessment district. Applies to on-and off-street. Excludes regulatory and incidental fees (Prop 218).	Based on value of property. Applies to off-street. Requires ⅔ vote.	Flat; not based on value of property. Applies to off-street. Requires ⅔ vote.	Tax on parking charges (rentals) for off-street parking lots. Simple majority if revenues go into general fund; ⅔ majority for dedicated fund. Ex: SF 25% tax on revenue from off-street operators.
Policy Goals	✔✔ optimize use ✔✔ reduce driving ✔✔ recover costs ✔✔ generate new revenue	? optimize use ? reduce driving* ✔ recover costs ✔✔generate new revenue *depends who ultimately pays	? optimize use ? reduce driving * ✔ recover costs ✔ generate new revenue *depends who ultimately pays	✘ optimize use ✔ reduce driving ✔✔ recover costs ✔generate new revenue
Equity Adjustm't	**Who:** Low-income people, women, disabled people **System -** Transpo. improvements that disproportionately benefit low-income people **Individual -** Auto-enroll transpo benefit (e.g. ClipperSTART, mobility wallet) at regional CoL standard. Fines do not escalate and may be forgiven or capped based on income.	**Who:** If passed on, low-income people, women, disabled people **System -** same **Individual-** Same as left. Exempt non-taxpaying entities.	**Who:** If passed on, low-income people, women, disabled people **System -** same **Individual -** Same as left. Exempt non-taxpaying entities.	**Who:** Unclear **System -** same **Individual**- none

Table 4: On-street and Off-street Parking by County and Land Use Category. Top part of table shows parking spaces and bottom part distributions. Original work of authors for this report.

Land Use	Alameda	Contra Costa	Marin	Napa	San Francisco	San Mateo	Santa Clara	Solano	Sonoma	SFBA Total
Off-street Land Use Category										
Residential	782,019	684,242	164,506	80,814	172,845	395,665	975,860	248,760	320,712	**3,825,423**
Commercial retail	167,487	135,143	3,662	13,962	34,873	53,859	182,451	31,438	58,037	**680,912**
Commercial office	113,619	87,505	67,756	3,006	71,586	108,839	237,353	11,103	35,819	**736,586**
Public service	78,945	74,216	7,020	408	25,236	5,049	39,168	5,614	15,567	**251,223**
Recreational	27,244	11,283	4,425	1,529	4,248	5,891	22,430	2,121	13,149	**92,319**
Industrial	295,966	52,152	7,554	14,471	11,223	64,238	281,543	14,971	42,318	**784,435**
Agricultural	2,477	251	76	51	0	421	7,700	125	756	**11,856**
Miscellaneous	0	0	0	0	63	0	0	0	0	**63**
On-street Road Category										
Incorporated Residential	931,860	815,624	216,467	105,629	202,773	430,308	890,493	318,373	289,578	**4,201,105**
Incorporated Non-residential	424,135	349,768	66,153	37,299	111,215	194,115	473,033	155,319	99,448	**1,910,486**
Unincorporated Residential	272,437	297,366	225,394	252,378	0	144,324	237,353	459,970	635,833	**2,525,055**
Total Residential Spaces	**1,986,316**	**1,797,232**	**606,367**	**438,820**	**375,619**	**970,297**	**2,103,706**	**1,027,103**	**1,246,123**	10,551,583
Total Non-residential Spaces	**1,109,873**	**710,318**	**156,647**	**70,725**	**258,444**	**432,412**	**1,243,677**	**220,691**	**265,094**	4,467,880
Total of Off-street Spaces	**1,467,756**	**1,044,791**	**254,999**	**114,240**	**320,075**	**633,961**	**1,746,505**	**314,132**	**486,358**	6,382,817
Total of On-street Spaces	**1,628,432**	**1,462,758**	**508,014**	**395,305**	**313,988**	**768,748**	**1,600,879**	**933,662**	**1,024,859**	8,636,645
Sum Total of Spaces	**3,096,189**	**2,507,550**	**763,014**	**509,545**	**634,063**	**1,402,709**	**3,347,383**	**1,247,794**	**1,511,217**	15,019,462


K-ELEMENTS
BBQ
STOP
4 STAR
EMPLOYEES ONLY