

**San Mateo County Sea Change Community Resilience Grant-Funded Project:  
South San Francisco Assessment of Vulnerable Properties and Livelihoods  
Final Model Findings – December 2019**



**HATCH**

**NCLIMATE**





## Purpose of Study

1. Create a model to assess economic and social assets at risk from sea level rise in San Mateo County using the City of South San Francisco as a test case.
2. Meet the goals of the San Mateo County Community Resilience Grant program, including:
  - Provide a tool that cities and unincorporated communities in San Mateo County can use to assess the value at risk of sea level rise in commercial and industrial properties
  - Engage stakeholders in the design and deployment of the value-at-risk model





# Project Study Area

## Northern Boundaries:

- Railroad Ave
- Caltrain tracks
- E Grand Ave

## Eastern Boundaries:

- Haskins Way
- Belle Aire Island

## Southern Boundaries:

- North Access Road
- I-380
- Tanforan Ave

## Western Boundaries:

- Herman Street
- Huntington Ave
- S Spruce Ave





# Peer Review Group

- Main vehicle for stakeholder engagement on this project
- Members invited from
  - Colma Creek Flood District
  - San Mateo County City/County Association of Governments
  - Participants in the “Resilient South City” Bay Area Resilient by Design process
- Comments solicited on three rounds:
  1. Model Design
  2. Model Findings
  3. Model instructions and training





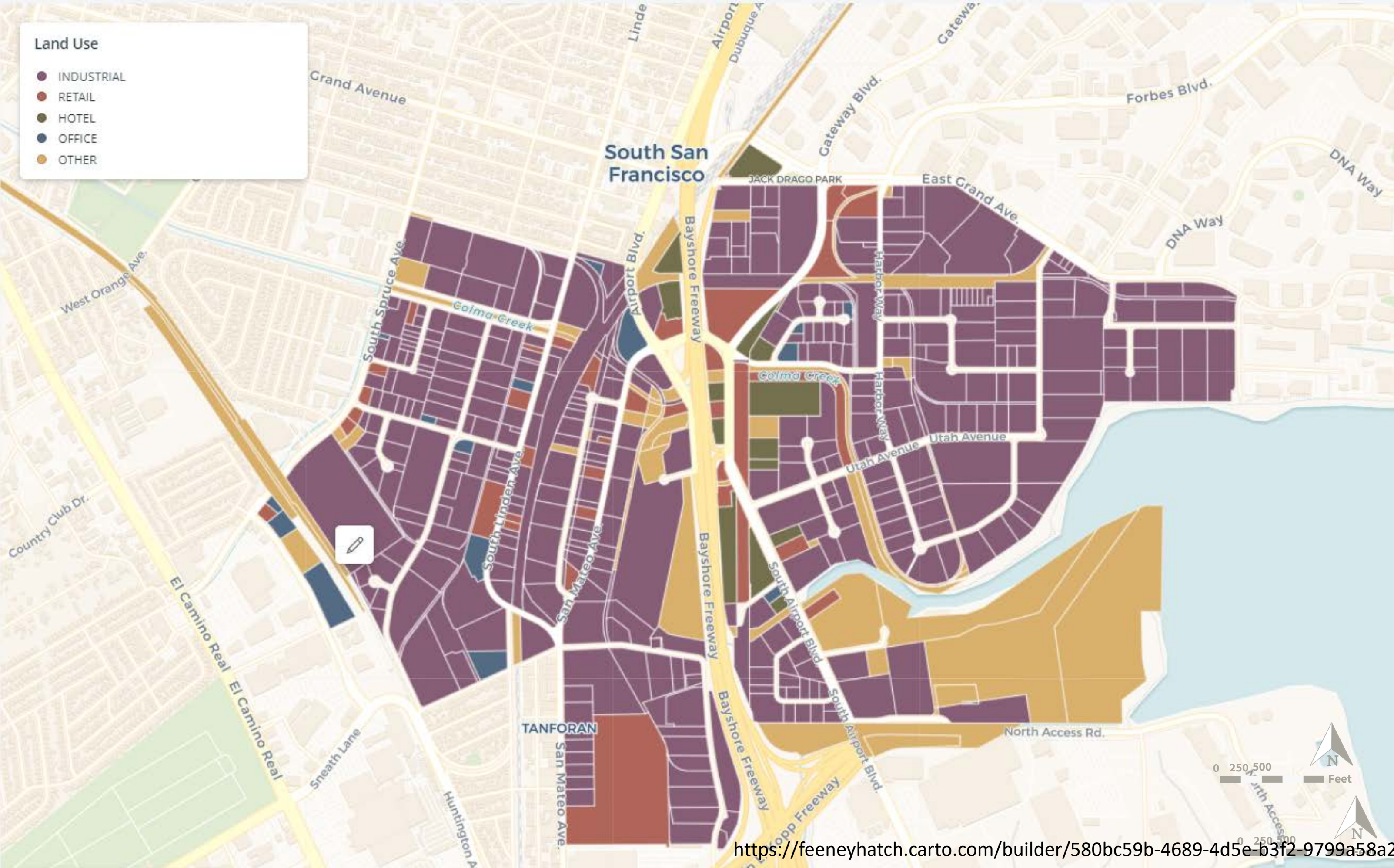


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<b><i>C. Fiscal Revenue</i></b>	C.1 How much do properties in the study area contribute in property taxes? C.2 How much do properties in the study area contribute in sales taxes? C.3 How much do properties in the study area contribute in hotel taxes?
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# Land Use in the Study Area



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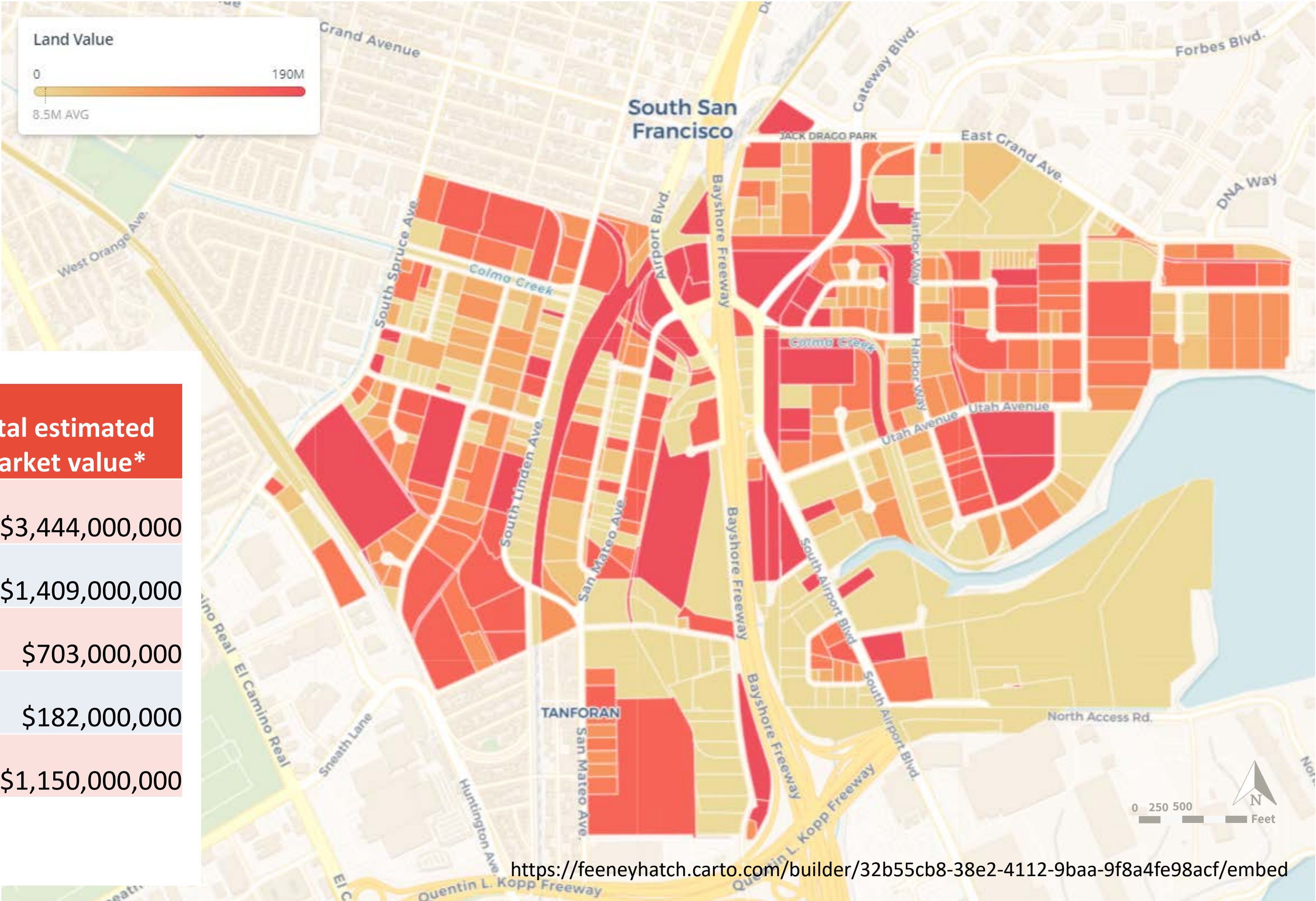
Source: Urban Footprint







# A.1 What is the market value of the land?



Land Use Type	Market value*/sq ft per land use	Total estimated market value*
All Land Uses	\$236	\$3,444,000,000
Industrial	\$235	\$1,409,000,000
Retail	\$417	\$703,000,000
Office	\$180	\$182,000,000
Hotel	\$863	\$1,150,000,000

\*Market value based on net operating income

Source: CoStar, Urban Footprint



# A2. What is the replacement value of infrastructure in the study area?



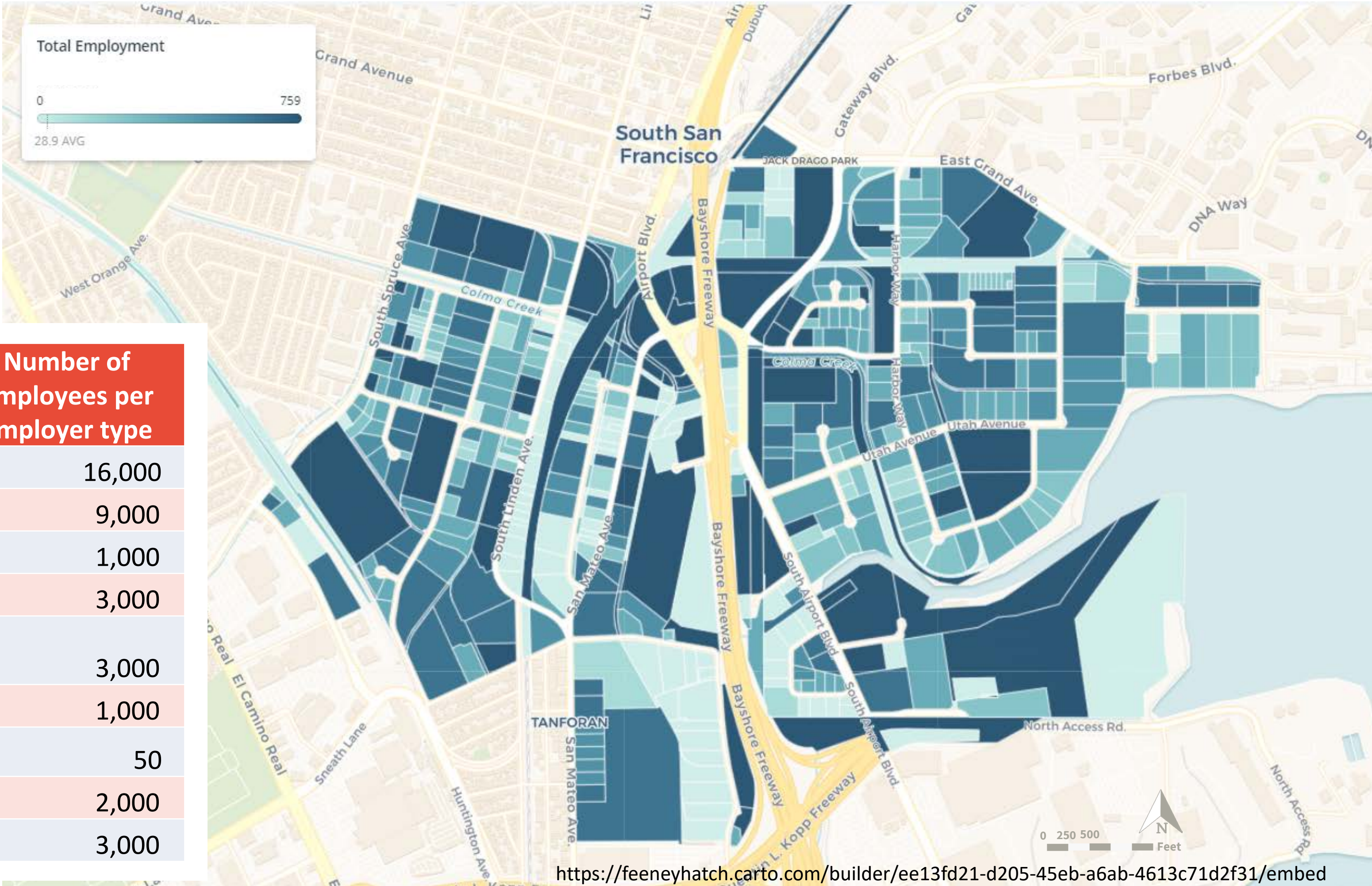
Source: City of South San Francisco; Silicon Valley 2.0







# B1. How many people are employed in the study area?

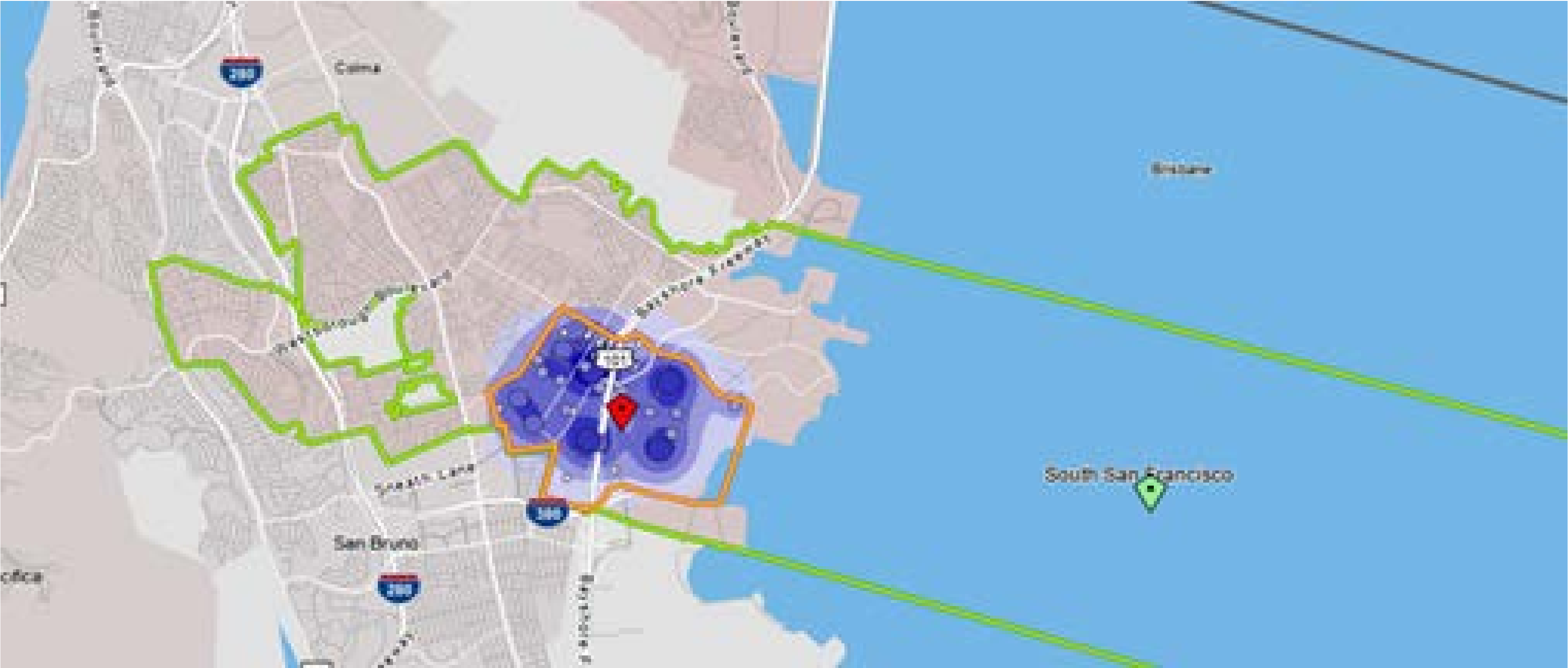


Employer Type	Number of employees per employer type
All Employer Types	16,000
Industrial - All	9,000
Industrial - Manufacturing	1,000
Industrial - Wholesale	3,000
Industrial - Transportation / Warehouse	3,000
Industrial - Construction	1,000
Industrial - Other	50
Retail	2,000
Office	3,000

Source: Urban Footprint



# B2. What share of employees reside in the City of South San Francisco?



Workers in Study Area	Workers in Study Area residing in South San Francisco	Percentage
16,514	1,404	8.5%

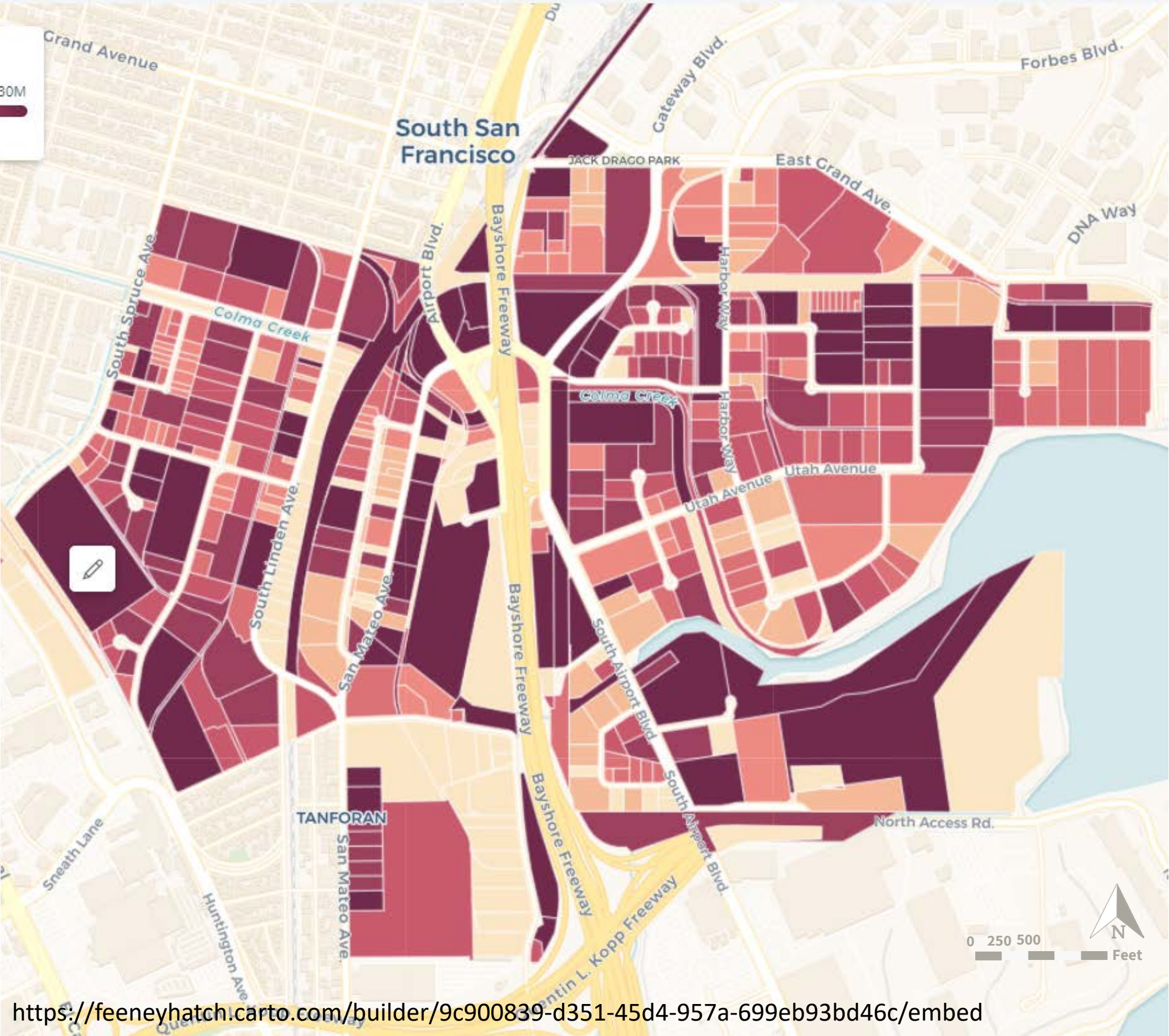
Source: US Census, Longitudinal Employer Household Dynamics (LEHD)



# B.3 What are the wages earned in the study area?



Employer Type	Average wages per parcel	Total wages in study area
All Employer types	\$157,000	\$2,205,000,000
Industrial - All	\$99,000	\$982,000,000
Industrial - Manufacturing	\$146,000	\$5,000,000
Industrial - Wholesale	\$101,000	\$458,000,000
Industrial - Transportation / Warehouse	\$66,000	\$300,000,000
Industrial - Construction	\$92,000	\$187,000,000
Industrial - Other	\$96,000	\$31,000,000
Retail	\$46,000	\$45,000,000
Office	\$151,000	\$119,000,000



Source: Urban Footprint and Bureau of Labor Statistics, Quarterly Census of Employment and Wages



# B4. What share of employees are low-income?

# B5. What share of jobs are low-skill and high-wage?

Employer Type	Share of employees making less than 80% of Area Median Income (AMI) per land use	Share of employees with less than a college education making more than 150% of AMI per land use
All Employer types	19%	20%
Industrial - All	3%	30%
Industrial - Manufacturing	0%	57%
Industrial - Wholesale	0%	0%
Industrial - Transportation / Warehouse	6%	0%
Industrial - Construction	0%	52%
Industrial - Other	44%	30%
Retail	33%	0%
Office	2%	75%

Source: US Census Local Employment Dynamics (LED)







# C1. How much do properties in the study area contribute in property taxes?

Land Use Type	Aggregated property tax revenue
All Land Uses	\$23,000,000
Industrial - All	\$18,700,000
Retail	\$2,300,000
Office	\$270,000
Hotel	\$1,400,000

# C.2 How much do properties in the study area contribute in sales taxes?

Estimate by the City of South San Francisco tax consultant of the annual sales tax revenue generated in the study area.	\$12,00,000
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# C.3 How much do properties in the study area contribute in hotel taxes?

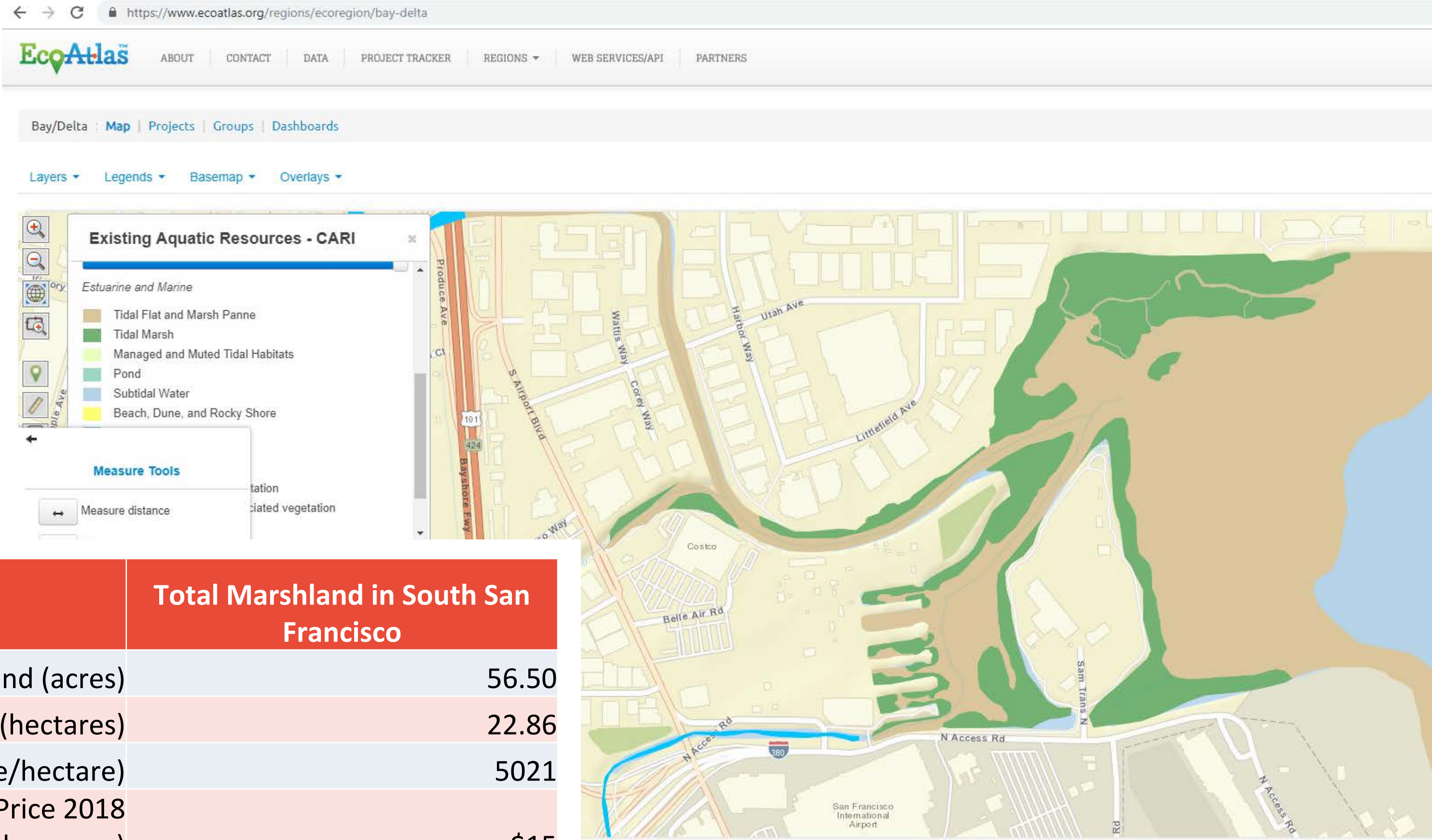
Estimate by the City of South San Francisco of the annual transient occupancy tax revenue generated in the study area.	\$6,900,000
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# D1. What is the potential carbon offset value of shoreline ecosystems?



Location	Total Marshland in South San Francisco
Size of marshland (acres)	56.50
Size of marshland (hectares)	22.86
Carbon currently stored (tons CO2e/hectare)	5021
California Cap and Trade Carbon Price 2018 (estimated annual average)	\$15
Current potential offset value	\$75,317

Sources: Stanford University Natural Capital Project; EcoAtlas; World Bank



Conclusion: Future Applications



# Applying this assessment model in other San Mateo County Communities

## Land-use decisions

- Impacts of zoning changes
- Climate adaptation planning

## Protective infrastructure investments

- Cost-benefit calculations
- Starting point for estimating regional economic impacts of infrastructure loss

## Market-based solutions to transfer risk

- Assessment of values can inform market-based compensation solutions

