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# Mark's Wrong Numbers: 4 Scenarios for the Annual Cost Per Parcel for the 9 County Bay Area for SLR Adaptation

Source of estimate	ACOE/Silicon Valley Water Alviso Project (2022 \$)	Hamilton Field Horizontal Levee Project (2005 \$)	UC Berkely study for all of San Francisco Bay (2016 \$)	Bridging the Gap - Funding Sea Level Rise Adaptation in the Bay Area (2019 \$)
Total Project Cost (low bid in SSFBSP project)	54,500,000	351,000,000	77,000,000,000	not applicable
Linear feet of project	21,120	11,800	4,308,480	not applicable
Cost per linear foot	2,580	29,746	17,872	5,800
Cost per mile	136,250,000	157,057,627	94,362,745	30,624,000
Cost per mile adjusted by DGS to 2022 \$	<b>158,766,798</b>	<b>295,039,576</b>	<b>125,966,383</b>	<b>37,345,336</b>
Total cost for entire Bay Area (assuming 816 linear miles of Bay front)	129,553,706,934	240,752,293,711	102,788,568,621	30,473,793,953
Annual debt service cost per parcel if funded by 30 year bond	<b>4,214</b>	<b>7,831</b>	<b>3,343</b>	<b>991</b>
Notes	Project broke ground on April 14, 2022	Source: San Francisco Bay Restoration Authority	Source: Choosing a Future Shoreline for the San Francisco Bay: Strategic Coastal Adaptation Insights from Cost Estimation, Journal of Marine Science and Engineering, September, 2017	BCDC study of potential cost of SLR adaptation for the Bay Area

## Social Equity: West Oakland Compared with Facebook on Measure AA

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- In June 2016, Measure AA adopted a \$12 per year parcel tax earmarked for the restoration of wetlands surrounding the San Francisco Bay
- As the tax is levied on a per-parcel basis, various sub-regions of the Bay Area can pay **differing amounts of taxes per acre** based on the size of respective parcels

### Facebook

- Estimated 0.3 parcels/acre
  - Approximately 135 acres
  - Approximately 40 parcels
- **Roughly \$4 in taxes per acre**
- **Roughly \$540** in annual Measure AA taxes

### West Oakland

- Estimated 9.6 parcels/acre
  - Approximately 4,160 acres
  - Approximately 39,940 parcels
- **Roughly \$108 in taxes per acre**
- **Roughly \$479,200** in annual Measure AA taxes

## Potential Material Required for Horizontal Levies in the Bay

Cubic yards of material per linear mile (2)	Linear Miles of Bay Front to be Protected (1)			Notes
	600	900	1,200	
40,000	24,000,000	36,000,000	48,000,000	Low end of material per cubic mile without habitat slope enhancement
60,000	36,000,000	54,000,000	72,000,000	Reflects minimum 50% increase in material required for habitat slope enhancement at low end of range
85,000	51,000,000	76,500,000	102,000,000	High end of material per cubic mile without habitat slope enhancement
127,500	76,500,000	114,750,000	153,000,000	Reflects minimum 50% increase in material required for habitat slope enhancement at high end of range

(1) Source of range for linear miles of bay front: *Journal of Marine Science and Engineering*, September, 2017. "Choosing a Future Shoreline for the San Francisco Bay: Strategic Coastal Adaptation Insights from Cost Estimation", Daniella Hirschfeld and Kristina E. Hill

(2) Source of estimates: Very rough estimates by ESA.

Google Maps shows about 180 miles for a drive around the Bay.

## Social Equity is a Design Criteria

- ❑ California requires a 2/3 vote for most form of tax increases
- ❑ Utility rates require a majority protest process under Prop 218
- ❑ If our “best case” with 50% grant funding is \$500/parcel, what are our chances of success at the ballot?
- ❑ At \$500/parcel the exaction from West Oakland would be approximately \$20 million/year
  - ❑ Compared to Facebook at \$20,000/year
- ❑ **The scale of climate change makes social equity in funding key to project feasibility**



Remember the “Yellow Vests” in France?