


Finance / Tax / Economics Panel

A scenic coastal road with a silver car driving away. A yellow pedestrian crossing sign is visible on the right side of the road. A large, leafy tree stands on the right, partially obscuring the view of the ocean. The road has white dashed lines and a crosswalk with white stripes. The sky is clear and blue.

Moderator: David Tarnas
Panelists: Lea Hong,
Tom Yamachika, Paul Brewbaker

Managed Retreat Symposium – Tax/Economics

Lea Hong, Hawaiian Islands State Director

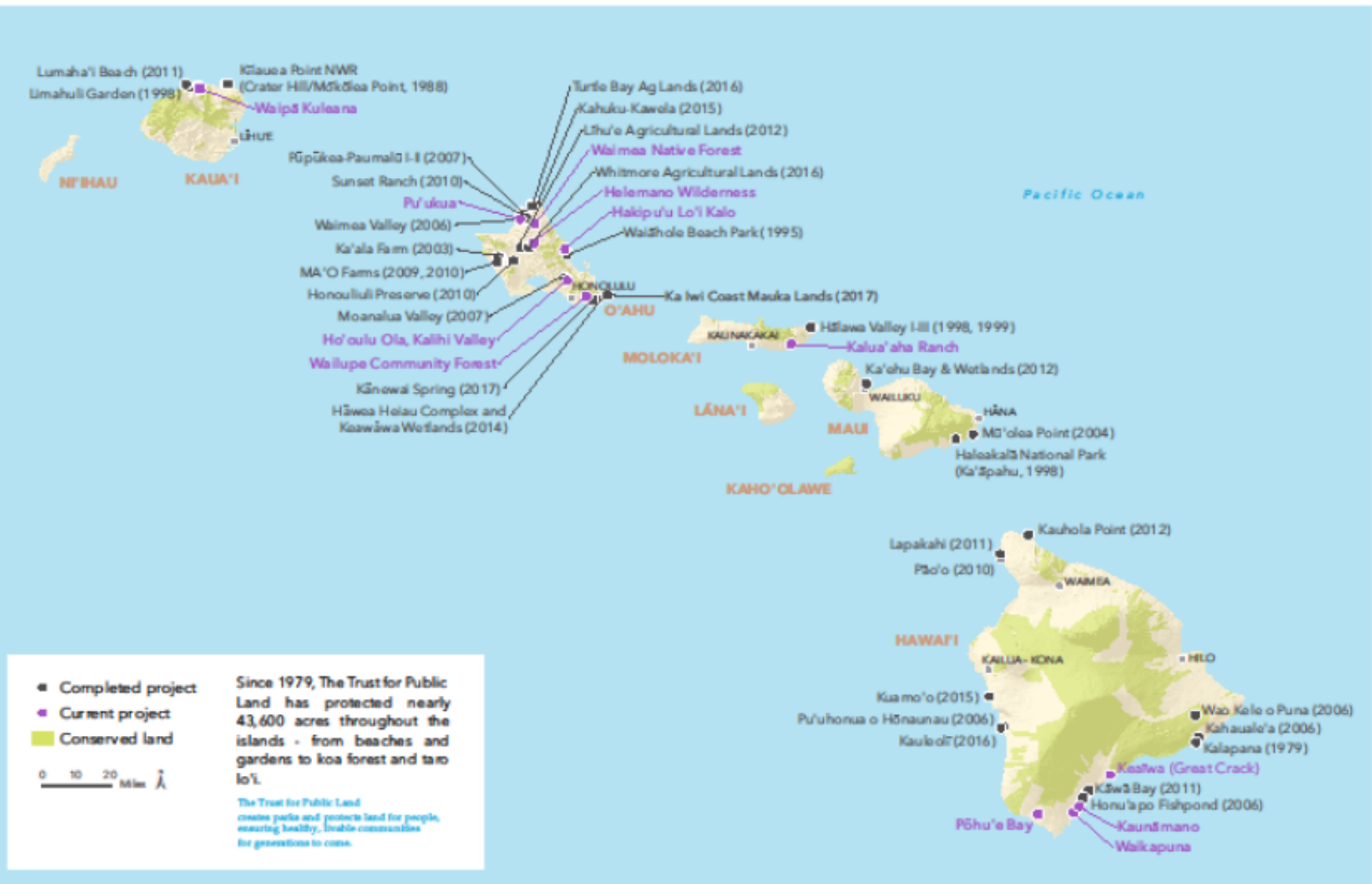
January 11, 2018, Aloha Tower Marketplace, CR#2

The logo for The Trust for Public Land, featuring a green square background with the text "THE TRUST FOR PUBLIC LAND" in white, stacked vertically.

THE
TRUST
FOR
PUBLIC
LAND

The Trust for Public Land - Hawai'i

- Conserving land in Hawai'i since 1979
- Collaborated with over 30 community, landowner, and government partners
- Protected 34 special places throughout our island home
- Conserved over 43,500 acres of land in Hawai'i and counting



Hawai'i

CURRENT AND COMPLETED PROJECTS

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Federal Programs – Land Conservation

- Land and Water Conservation Fund (LWCF) – Bureau of Land Management
- LWCF – U.S. Fish & Wildlife Service (e.g., refuge expansion)
- LWCF – National Park Service (e.g., national park expansion)
- LWCF – U.S. Forest Service (e.g., national forest expansion)
- LWCF – Stateside grants
- LWCF – Stateside competitive grants
- U.S. Forest Service - Forest Legacy Program
- U.S. Forest Service - Community Forest Program
- U.S. Fish & Wildlife Service - Cooperative Endangered Species Conservation Fund
- U.S. Fish & Wildlife Service – Recovery Land Acquisition
- U.S. Fish & Wildlife Service – Habitat Conservation Plan Land Acquisition
- Highlands Conservation Act
- American Battlefield Protection Program
- National Coastal Wetlands Conservation Grants
- Pittman Robertson Wildlife Restoration Act
- North American Wetlands Conservation Act
- Migratory Bird Conservation Commission
- Department of Defense - Readiness and Environmental Protection Integration program
- U.S. Dept. of Agriculture, Natural Resource Conservation Service – Agricultural Conservation Easement Program
- Gulf Coast Restoration Trust Fund
- NOAA – Coastal Estuarine Land Conservation Program

State and County Programs - Land Conservation

- State Legacy Land Conservation Program (2015)
- Honolulu Clean Water & Natural Lands Program (.5% 2006)
- Hawai'i County Public Access, Open Space, and Natural Resources Preservation Program (2% 2006, 2016)
- Maui Open Space, Natural Resources, Cultural Resources, and Scenic Views Preservation Program (1% 2002)
- Kaua'i Public Access, Open Space, and Natural Resources Preservation Program (.5% 2002)

CAN WE SAVE? CASE STUDY A

- We have promised state workers post-employment benefits (pension, health care) and have two systems (ERS, EUTF) to handle them.
 - In 1995 ERS was more than 95% funded. BUT the Legislature continually raided the fund, \$1.7 billion over a 32-year period.
 - *Forbes* Aug. 30, 2017: “As of 2015, the state’s unfunded pension liability was \$12.4 billion. Its health insurance unfunded liability was \$11.7 billion. And both are expected to grow.”
 - Compare: State of Hawaii operating budget (ALL agencies, ALL means of financing) is about \$14 billion.
 - **Result: Good start, but we got off track.**

CAN WE SAVE? CASE STUDY B

- State Unemployment Insurance Fund
 - Had ~500M in 2007
 - Legislature couldn't raid the fund (Federally protected) but:
 - Relief to employers (1-2 years)
 - Increased benefits to workers (permanent)
 - Then the Great Recession of 2008 hit and completely wiped out the fund.
 - To save the fund, special assessments (more taxes) were imposed.
 - **Result: Fund derailed, and is now stable after much pain.**

CAN GOVERNMENT SAVE UP FOR IT?

- Case Study C: GEMS
 - “Green Energy Market Securitization” program to provide low-cost loans for people to get green energy systems (solar heat, PV, wind)
 - \$150M borrowed on the bond market in 2014, to be repaid by monthly utility charge
 - Zero loaned out through 9/30/2015, only \$5M (3%) actually loaned out through 7/31/2017
 - Legislature forced it to “loan” \$46.4 million to DOE to cool the schools – at zero interest and iffy repayment terms
 - PUC is now forcing it to repay another program – PBF / Hawaii Energy – before paying themselves
 - **Result: Train wreck imminent**

CAN WE USE THE MONEY WE HAVE?

- In late 2015, DOT had a backlog of \$650M+ in federal funding for highway projects, down from 2010 when backlog was \$940M
- DOT also had a backlog of \$66.5M for airport projects at that time
- DHHL couldn't spend \$55M of housing funds, so HUD suspended additional funding
- DOH needed to spend \$7.6M more by 1/2016 or lose \$8M in federal funding for drinking water infrastructure
- Recently, C&C of Honolulu missed out on \$5M in federal aid from HUD – “high-risk grantee”

HOW TO GET \$\$?

- Can we save? Unlikely.
 - Funds that have a large balance become targets because we have lots of pressing needs.
 - Financial systems that are designed to be left alone, aren't.
- Can we get Federal money? Iffy.
 - We have a history of being unable to deploy the money we do get.
- Is borrowing better?
 - Has been done for land conservation (Turtle Bay)
 - Seek policy reasons why this need trumps others
 - Deferred maintenance at DOE, UH, etc.

An aerial photograph of a city coastline. In the foreground, there is a sandy beach and turquoise water. A dense urban area with many high-rise buildings follows the curve of the coast. A river flows through the city, and a large green golf course is visible in the upper right. The text "Now what?" is overlaid in the top right corner.

Now what?

Slides prepared for the
Managed Retreat Symposium
Hawaii Pacific University at Aloha Tower

by Paul H. Brewbaker, Ph.D., CBE
TZ Economics, Kailua, Hawaii
January 11, 2018



Three questions about managed retreat I was invited to address (so as not to be confused with an unguided missile launched by POTUS)

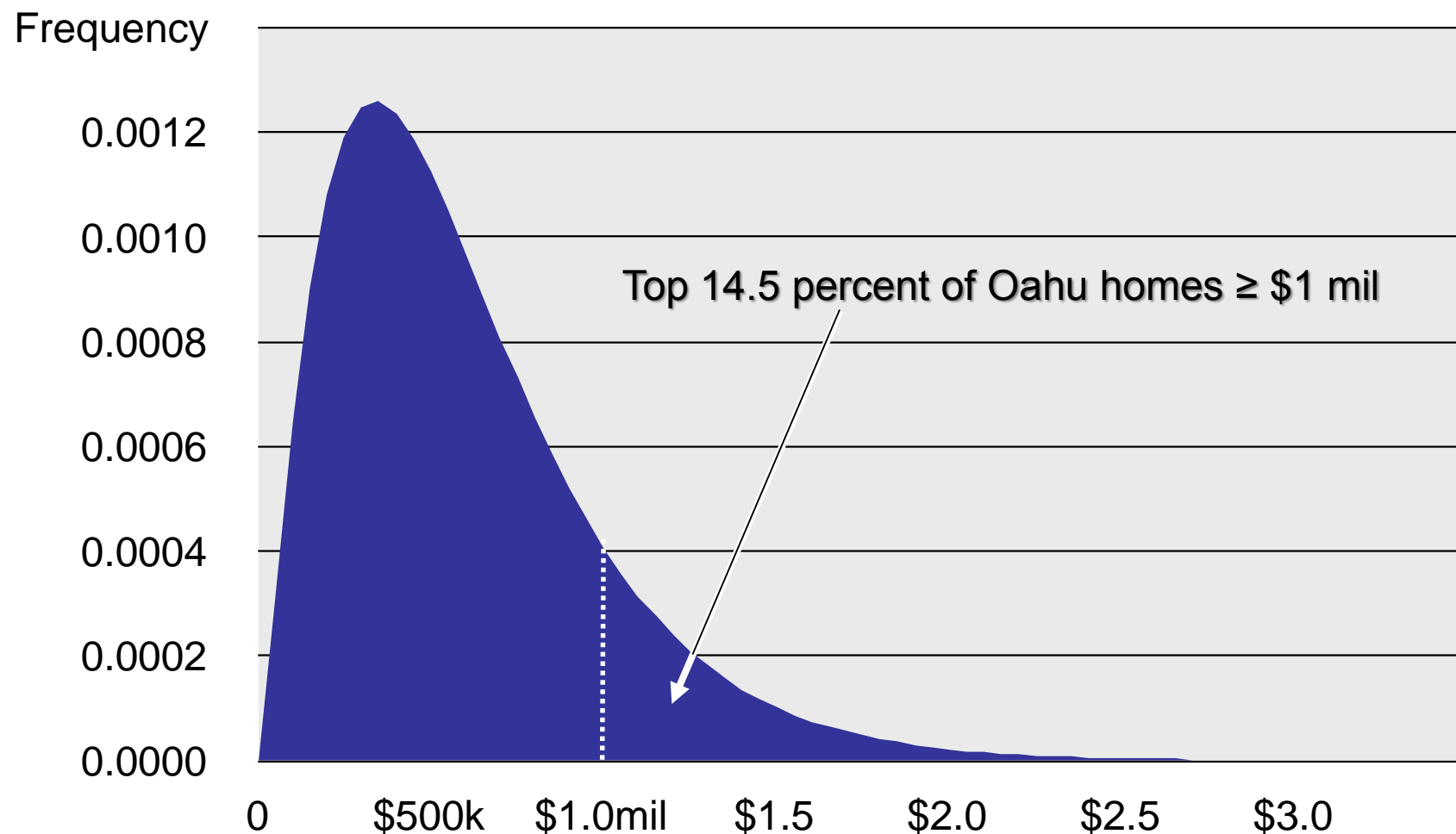
1. WHAT is the value of coastal properties and development, and contributions to the tax base?
2. HOW would Hawai'i fare if beaches or vacation rentals were lost?
3. WHICH potential mechanisms could government use to fund [managed] retreat?



1. WHAT is the value of coastal property?

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How much housing wealth at-risk to rising sea levels? The distribution of Oahu home prices suggests fractions of fractions of total wealth



Inverse Gamma Quantiles

<i>million \$ thresholds</i>	2015
Top 0.01%	3.246
Top 0.1%	2.573
Top 1.0%	1.876
Top 5%	1.363
Top 10%	1.130
Top 14.5%	1.000
Top 20%	0.884
Top 30%	0.729
Top 40%	0.613
Top 50%	0.516
Actual median (\$)	485,000
Actual mean (\$)	599,981
Mean (log-normal) (\$)	475,177



Don't incentivize adverse selection and morally hazardous behavior

- The proportion of existing home sales prices above \$1 million on Oahu is 15 percent, less than 20—a beachfront home worth less than \$1 million? Doubt it.*
- What proportion of that 15-20 percent is beachfront?
- Technical math theorem: (small kine X small kine) = da kine Manini kine
- But wait: do we care how much beachfront real estate is worth?
 - *A priori*, a private investor bets ocean won't submerge her yard: *not our problem*
 - *Ex post*, a private investor loses her bet: *still not our problem*
- Government's economic role: (1) enforce rules of the game (e.g., "the beach is public"); (2) produce public goods (e.g., "sewers, not cesspools"); (3) correct externalities (e.g., "your seawall washed away Lanikai Beach!")

*Last time I looked it up, residential properties with assessments of \$1 million or more comprised 8 percent of the City & County of Honolulu residential property tax assessment total, but lets go with existing home sales distributions as benchmarks for marks to market



2. WHAT is the airspeed velocity of an unladen Swallow? Just kidding

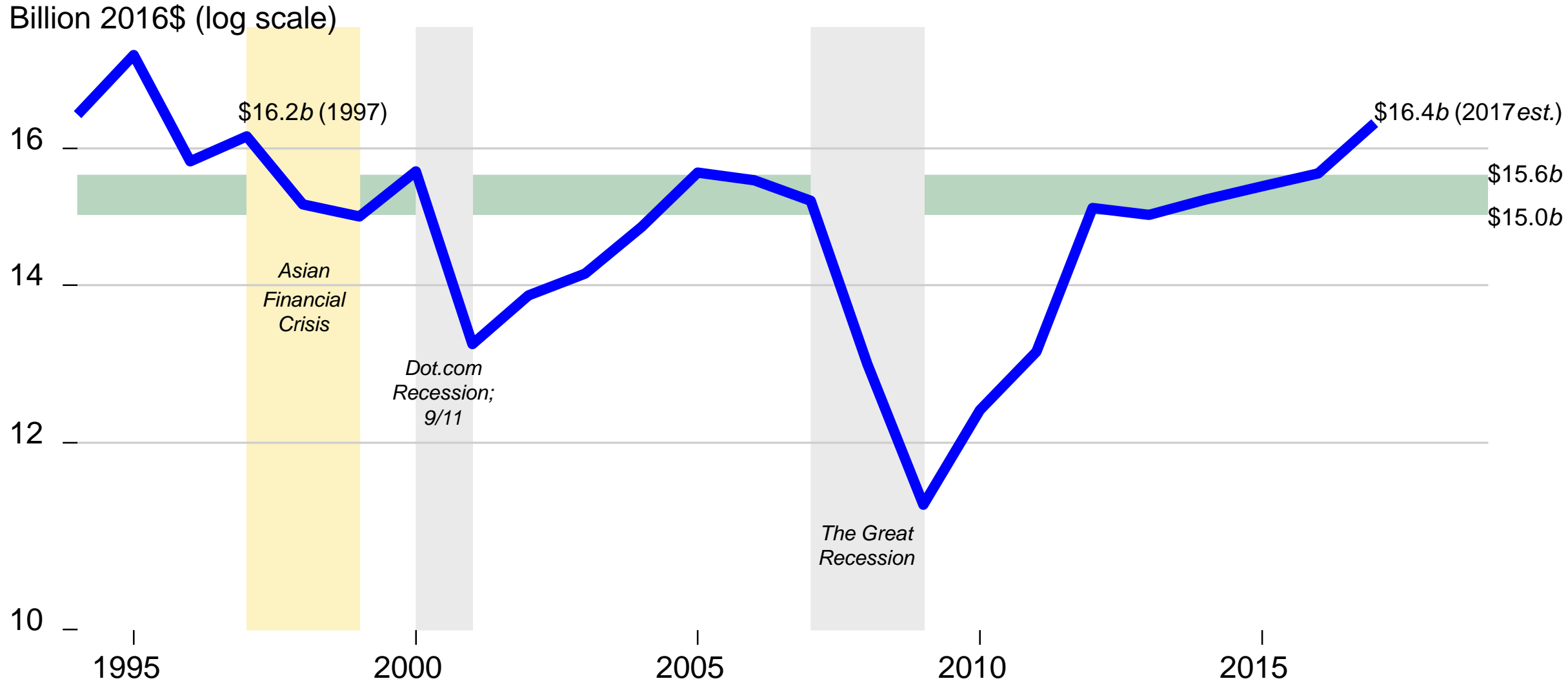
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2. HOW would Hawai'i fare if beaches, vacation rentals were lost?

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NEWS FLASH: (Total, inflation-adjusted Hawaii tourism receipts) It's so good, tourism in 2017 was the same as *twenty years ago*





Seriously? Tourism has been in decline for twenty years, and *now* you're worried? Leave that aside, let me answer the question

- First of all, if the beach moves inland, it isn't lost, *it just moved inland*. Boom.
- Try not to conflate risks to private investors of foregone investment receipts—because they behaved irresponsibly by not hedging their investments—with risks to the public
 1. The undocumented vacation rental one block mauka now is better than the submerged one where the beach used to be; fine, stay *there*
 2. The Ritz-Carlton one block mauka now is better than the submerged Reef Hotel; fine, stay *there*
- Proper economic roles of government in managed retreat
 1. If private investor wants to relocate productive capacity inland, just let her do so
 2. If public assets are at risk, relocate them—no different from other public investment decision (except you forgot how when you substituted exactions from developers)



3. WHICH potential mechanisms could government use?

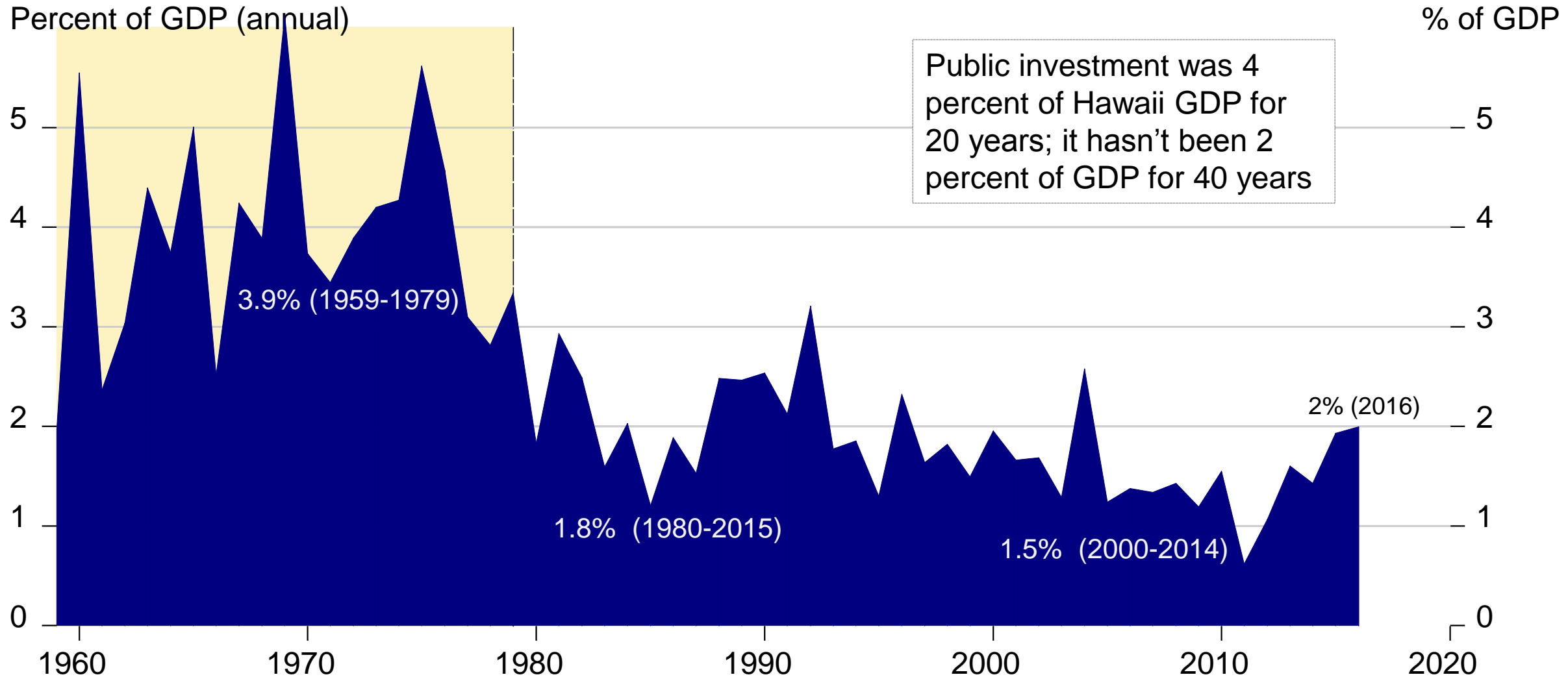
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The same ones government always uses: laying long-term assets up against long-term liabilities on the public's balance sheet

- Did Sierra Club whine about building Likelike Highway and Pali Highway in the 1950s because of “The Traffic?” Did Panos Prevederous whine “it doesn’t pay for itself?”
- How much *does* the freeway pay for itself? It’s a *free*-way (D’OH!)
- Public infrastructure investment pays for itself the same way it always has, if decision-makers actually know how to evaluate the investment decision
 1. User fees (tolls)—flush toilet, pay; drive through Pali Tunnel, pay (wait, you don’t?)
 2. Tax system: revenue responds monotonically to growth of productive capacity
 3. Maximizing structural changes which enhance productivity, such as positive agglomeration externalities in information- and services-producing economies associated with combinatoric effects of spatial proximity and co-location
 4. Risk exposures laid off on speculators and arbitrageurs willing to hold it

Combined County, State, Federal construction contracts in Hawaii as percent of GDP: forty years of infrastructure investment neglect





4. Keep the Country Country? Radical infrastructure investment

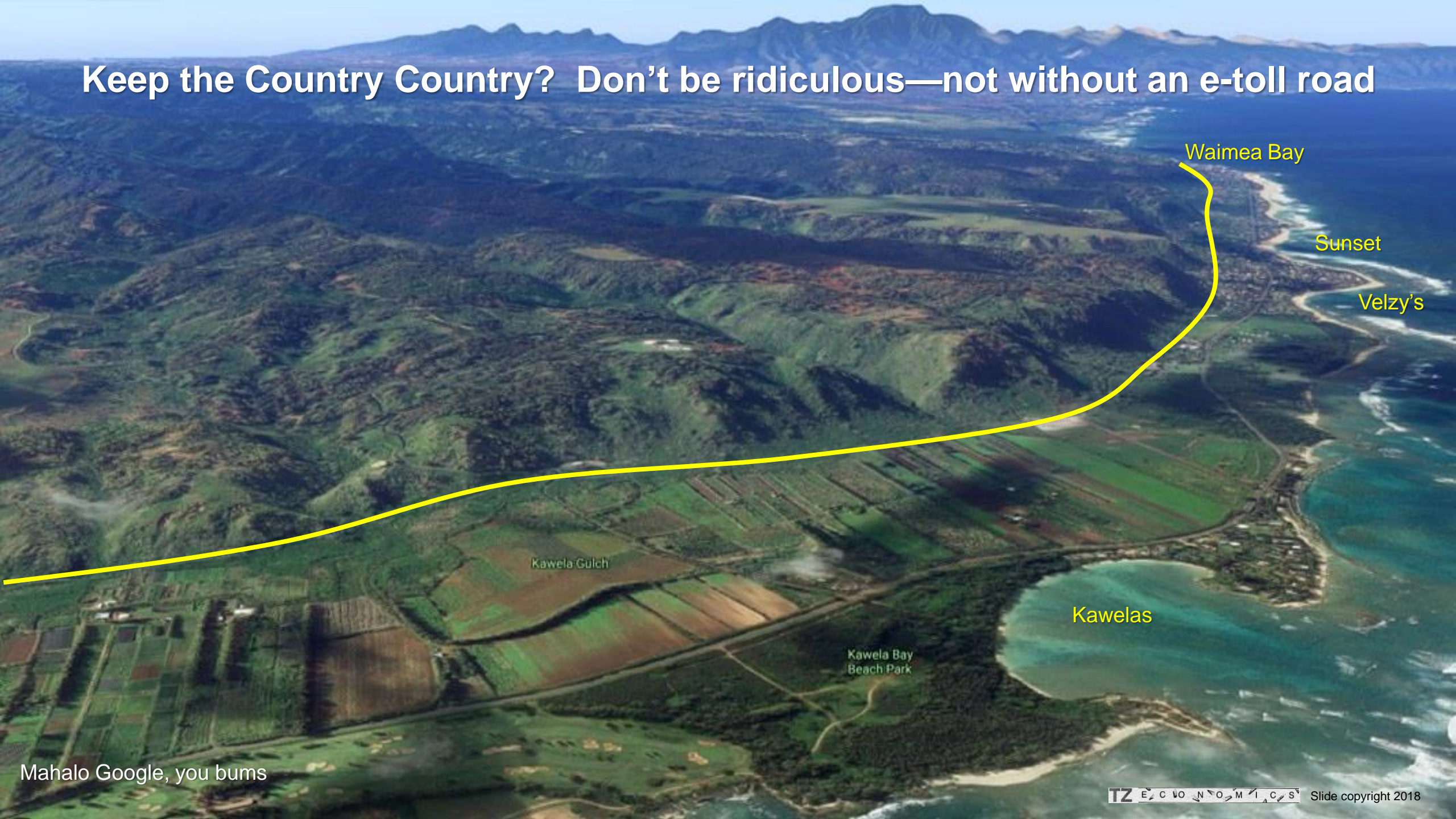
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Punaluu *is* the beach; forget the coast road, realign along base of pali



Mahalo Google, you bums

Keep the Country Country? Don't be ridiculous—not without an e-toll road



Waimea Bay

Sunset

Velzy's

Kawela Gulch

Kawelas

Kawela Bay
Beach Park

Mahalo Google, you bums

Where the Haleiwa Bypass *should* have gone: above Lani Moo's wetland





Since the coast road ultimately will be discontinuous: bite the bullet and extend an e-tollway past Helemano through KS land over to Kahuku-Laie, the 21st century “mini” Kailua-Kaneohe



Bumper sticker economics of generalized policy solution

(for Nerds)

**DENSITY IS PROXIMITY
PROXIMITY IS MOBILITY**

(for Bruddahs)

**KEEP THE COUNTRY COUNTRY
MAKE THE CITY CITY**



Four key economic takeaways about resilience investment in Hawaii

1. Beach is public, your beach house is private; *your* managed retreat is not *my* problem
2. Credible threats of enforcement support time-consistent policy with incentive-compatible behaviors—avoid giving private investors reasons to take on excessive risk
3. Take advantage of incipient construction lull to ramp up public capital formation
4. Spatial example: start from scratch with mauka infrastructure corridors, *now*

Appendixes: fleshing out some of the details

Pau!



Insurance / FIRM

Panel

Moderator: David Tarnas

Panelists: Sue Savio, Wesley Brum

Legal / Policy Panel

Moderator: Rebecca Soon

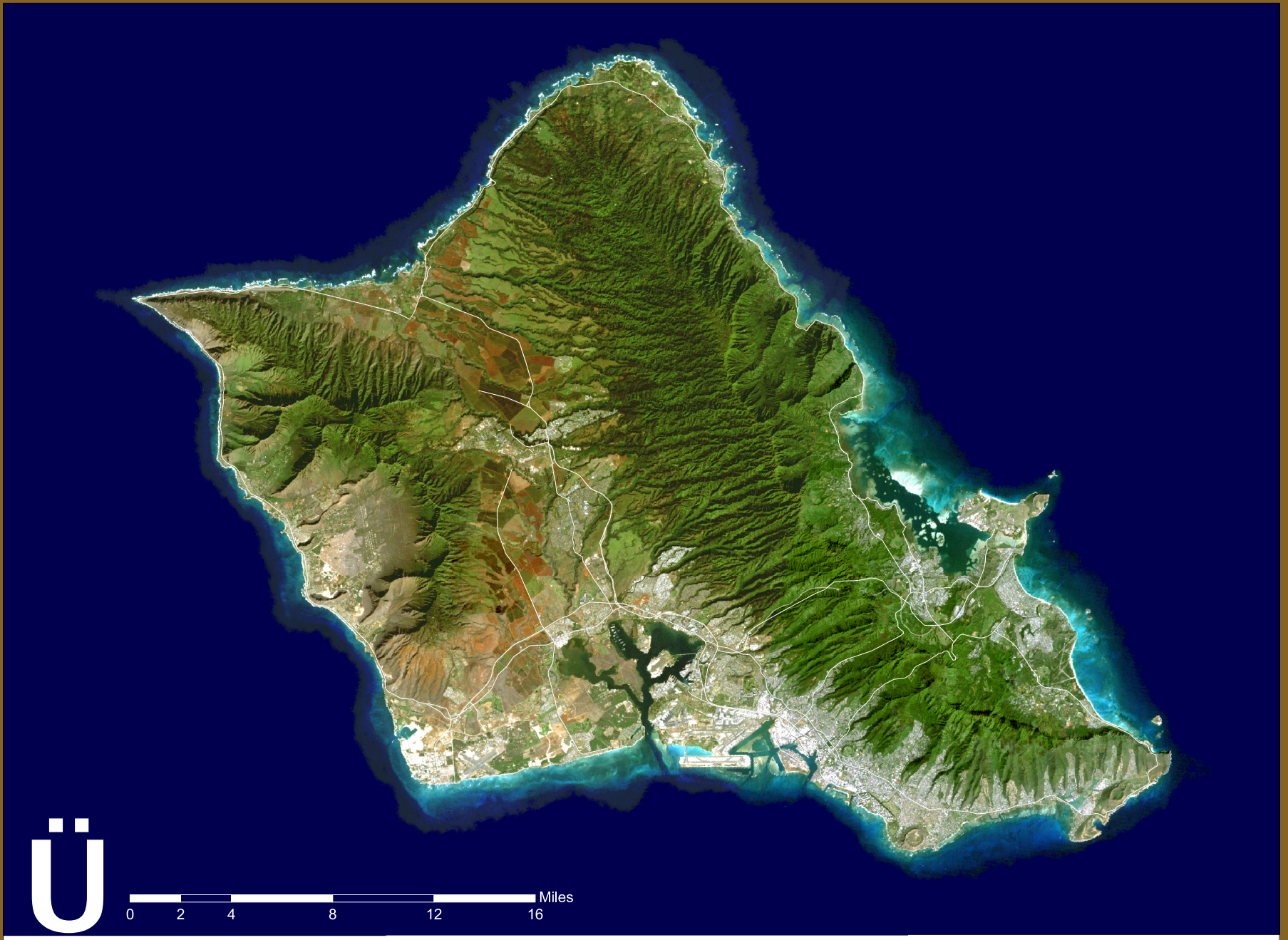
**Panelists: Michael Kozak,
Doug Codiga, Gregory Kugle**



Open Space / Public Access / Social Justice Panel

Moderator: Kem Lowry

**Panelists: Doug Cole,
Daniele Spirandelli, Ramsay Taum**









Questions/Comments/Conversation?



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MAHALO!

Wrap-Up Discussion

Moderator: David Tarnas

**Panelists: Chip Fletcher, Kem Lowry,
Melissa White, Rebecca Soon, Stefanie Sekich-Quinn**

