

Santa Barbara Sea Level Rise Adaptation Plan: Local Coastal Program Update

Economic and Fiscal Impact Analysis

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AECOM Sustainable Economics Practice

Headquartered in San Francisco,
works across the Americas

Economic consulting on issues at the
forefront of climate adaptation strategy
and implementation

Public, private and non-profit clients

Specialties include:

- Environmental and resource economics
- Urban and real estate economics
- Public finance



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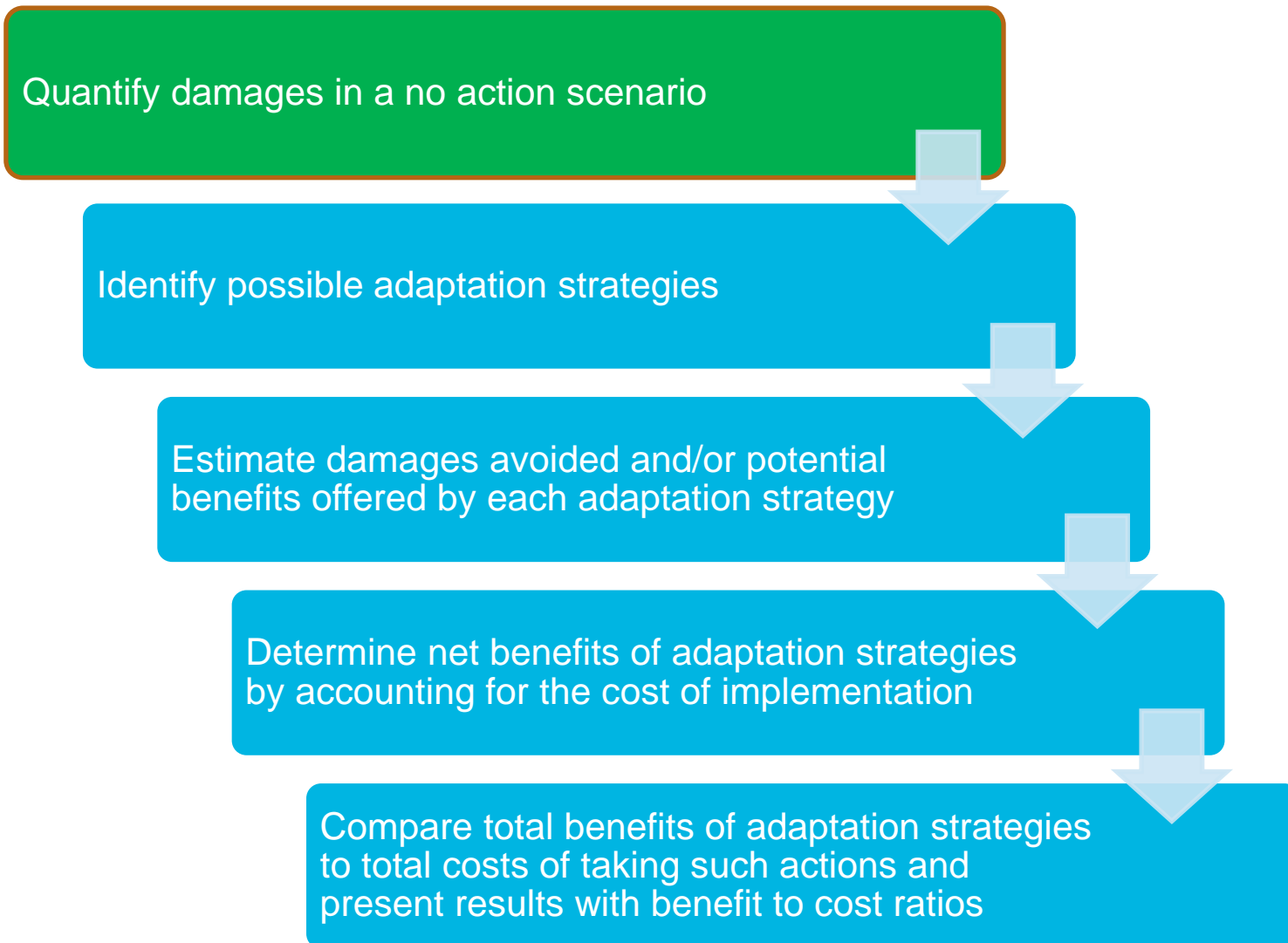
Presentation Overview

- Study purpose
- Key concepts
- Global assumptions
- Categories of damages/impacts
- Summary results
- Additional considerations
- Next steps

Study Purpose

- Develop a *high level* understanding of the potential *magnitude* of economic and fiscal impacts from future coastal hazard conditions if no action is taken.
- Inform decision-making around the benefits and costs of actions that can be taken to support the people, businesses, and places that make Santa Barbara a world-class place to live, work, and recreate.
- Fulfill grant requirements.

Economic and Fiscal Impact Work Flow



Key Concepts

- Risk assessment modeling
- Snapshot vs cumulative impacts
- Temporary vs permanent impacts
- One-time vs reoccurring impacts
- Economic evaluation methods:
 - Economic damage (focused on real and personal property)
 - Economic impact (focused on business activity)
 - Economic value (focused on beach recreation)
 - Fiscal impact (focused on revenues secured by City)

Global Assumptions

- Static built environment and no future action
- Local geography of impact
- Monetary accounting:
 - Price levels in current 2018 dollars
 - No adjustments for:
 - Discounting (time value of money)
 - Cost escalation (construction costs, economic growth)

Disclaimer:

This presentation and the information presented herein is considered work-in-progress and is subject to change. The presentation presents preliminary results and shall not be relied upon as final.

Categories of Temporary Impacts

Damage Category	Damages to be Assessed
Direct Property Impacts	Structure damage Content loss Cleanup costs
Displacement Impacts	Relocation costs Temporary shelter costs
Business and Employment Impacts	Sales loss Wage loss
Transportation Impacts	Travel delay costs
Public Works and Critical Facility Impacts	Replacement costs
Fiscal Impacts	Property tax, sales tax and TOT tax losses Harbor and Stearn's Wharf revenues

Note: Losses are one-time.

Categories of Permanent Impacts

Damage Category	Damages to be Assessed
Direct Property Impacts	Market value loss
Business and Employment Impacts	Sales loss Wage loss
Beach Recreational Impacts	Recreational value loss Recreational spending loss
Public Works and Critical Facility Impacts	Replacement costs
Fiscal Impacts	Property tax, sales tax, and TOT tax losses Parking revenues Harbor revenues

Note: Direct property and public and critical facility are one-time losses. All other damages assessed are annual, reoccurring.

Summary Results By Impact Type

TEMPORARY STORM DAMAGES BY IMPACT TYPE (rounded to nearest \$100,000; Results are *per storm*)

IMPACT TYPE	EXISTING CONDITIONS	2060 CONDITIONS	2100 CONDITIONS
Direct Property	\$16,500,000	\$12,000,000	\$157,200,000
Displacement	\$300,000	\$200,000	\$2,600,000
Business and Employment	\$2,300,000	\$1,800,000	\$13,400,000
Transportation	\$0	\$0	\$400,000
Fiscal	\$500,000	\$100,000	\$1,500,000
Public Works and Critical Facilities	\$36,200,000	\$25,500,000	\$71,900,000
TOTAL	\$55,800,000	\$39,600,000	\$247,000,000

PERMANENT TIDAL AND EROSION DAMAGES BY IMPACT TYPE (rounded to nearest \$100,000)

IMPACT TYPE	EXISTING CONDITIONS	2060 CONDITIONS	2100 CONDITIONS
ONE-TIME IMPACTS			
Direct Property	NA	\$254,200,000	\$636,400,000
Public Works and Critical Facilities	NA	\$87,200,000	\$173,400,000
ANNUAL IMPACTS			
Business and Employment	NA	\$67,900,000	\$145,800,000
Beach Recreation	NA	\$44,000,000-\$61,400,000	\$71,500,000-\$100,200,000
Fiscal	NA	\$12,600,000-\$12,900,000	\$19,000,000-\$19,500,000
TOTAL	NA	\$465,900,000-\$483,600,000	\$1,046,100,000-\$1,075,300,000

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Summary Results by Sub-Area

TEMPORARY STORM DAMAGES BY SUB-AREA (Percent of Damages, rounded to nearest percentile)

	EXISTING CONDITIONS (% of Total)	2060 CONDITIONS (% of Total)	2100 CONDITIONS (% of Total)
SUB-AREA IMPACTS			
Beach, Low-Lying Backshore and Inland Areas	12%	9%	60%
Harbor and Wharf	14%	26%	8%
Low-Lying Beach and Backshore	0%	0%	0%
Nature Preserve - Blufftop Open Space	6%	0%	2%
Residential Blufftop	2%	0%	0%
Shoreline Park - Blufftop Open Space	1%	0%	0%
Private Blufftop Estate	0%	0%	0%
Lighthouse - Blufftop Open Space	0%	0%	0%
Fiscal Impacts			
Fiscal Impacts	1%	0%	1%
Transportation Delay Impacts			
Transportation Delay Impacts	0%	0%	0%
Public Works Impacts			
Public Works Impacts	65%	64%	29%
TOTAL	100%	100%	100%

PERMANENT TIDAL AND EROSION DAMAGES BY SUB-AREA (Percent of Damages, rounded to nearest percentile)

	EXISTING CONDITIONS (% of Total)	2060 CONDITIONS (% of Total)	2100 CONDITIONS (% of Total)
SUB-AREA IMPACTS			
Beach, Low-Lying Backshore and Inland Areas	NA	1%	26%
Harbor and Wharf	NA	14%	20%
Low-Lying Beach and Backshore	NA	2%	1%
Nature Preserve - Blufftop Open Space	NA	0%	0%
Residential Blufftop	NA	39%	21%
Shoreline Park - Blufftop Open Space	NA	0%	0%
Private Blufftop Estate	NA	3%	1%
Lighthouse - Blufftop Open Space	NA	11%	5%
Fiscal Impacts			
Fiscal Impacts	NA	3%	2%
Recreation			
Recreation	NA	9%-13%	7%-9%
Public Works Impacts			
Public Works Impacts	NA	19%	17%
TOTAL	NA	100%	100%

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Additional Considerations

- Ranges of potential damages, including the ability to be resilient to impacts
- Future property values from increasing hazard risk in the near term and longer-term
- Positive economic impacts from investing in adaptation and/or rebuilding post-disaster

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Next Steps

- Develop cumulative loss estimates over period of analysis
- Identify impacts that account for adaptation strategies
- Compare cumulative benefits and costs of baseline scenario to modeled adaptation strategies
- Consider options for funding and financing adaptation and resilience measures

Thanks for your time!

Questions?

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