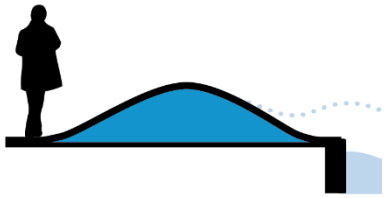
Measure Profile

Raised Roadway

Flood Adaptation Measure

PHYSICAL INFRASTRUCTURE



SHORELINE LOCATION:

Upland

Elevated roadway construction - Miami Beach, FL
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DESIGN LIFE	ADAPTABILITY	IMPACT ON THE WATERFRONT	CONSTRUCTION COST
75+ years	Low	Major Intervention	TBD

COASTAL FLOOD HAZARDS MITIGATED:

Sea Level Rise | Storm Surge | Groundwater | Waves | Erosion

MEASURES COMPATIBILITY:

Flood	Seismic
Structure Elevation Floodproofing Raised Structures	Landside Buttress Liquefaction Mitigation

ECOSYSTEM SERVICES: Measure may affect these shoreline values

Aquatic Habitat	Terrestrial Habitat	Water Quality	Carbon Storage
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DESCRIPTION:

Elevated roadways will raise the street above an expected flood elevation. This requires the raising sections of the streets with additional material. The higher elevation of the street can also provide flood protection for assets and infrastructure on the landside of the street.

CONSIDERATIONS:

- Significant design and engineering required to elevate sections of roadways
- Not suitable to low-lying areas

ADVANTAGES:

- Provides physical protection from flooding for transporation assets on roadway
- Protect inland areas from coastal flooding

DISADVANTAGES:

- High capital investment cost
- Significant construction impacts
- Existing utilities and transit will be disrupted or reconfigured

PORT OF SAN FRANCISCO

Waterfront Resilience Program

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	• Opportunity for improvement of utilities and infrastructure as part of project	

CONSTRUCTION IMPACTS TO THE PUBLIC:	SEA LEVEL RISE ADAPTATION OPPORTUNITIES:	CASE STUDIES:
• Installation would be a significant construction project with considerable impacts • Construction will require rerouting and detours of traffic and pedestrian routes	• Once installed, this measure would not be adaptable to various levels without retrofitting or coordination with other measures, such as raised barriers and raised features	• Purdy Street, Miami, Florida

DESIGN OPPORTUNITIES:

Ecological Enhancements	Urban Design	Form
• TBD	• New roadway can be designed to accommodate multiple modes of transportation	• TBD

DESIGN CONSIDERATIONS:

- Significant design and engineering considerations would be required to elevate sections of the Southern Waterfront, though areas that are less developed would be more desirable.
- Elevated sites will need to be engineered to resolve drainage issues or negative impacts to adjacent lower elevation areas.

SITE-SPECIFIC CONSIDERATIONS:

- Not suitable for low-lying areas that are vulnerable to surge.

URBAN DESIGN CONSIDERATIONS:

- Raised roadways would be a major re-design of public rights-of-way that will impact the relationship between streets and the surrounding properties and require significant urban design features.

INSTALLATION AND CONSTRUCTABILITY CONSIDERATIONS:

- Elevated sites would need to be engineered to resolve any potential drainage issues or negative impacts to adjacent, lower elevation areas.
- Constructability would also be complex depending on the limits of the recommended project.