



Overview

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“The European Parliament has just adopted an ambitious position... Given the climate and environmental emergency, it is essential to reduce our greenhouse gas emissions by 55% in 2030. It also sends a clear and timely message to the Commission a few weeks before the publication of the Communication on the Green Deal...”

Pascal Canfin, Chair, Committee on the Environment, Public Health & Food Safety, 24 November 2019



Flamingo Park Study Area | Jefferson Avenue with 9th street

Over the next 60 years, most buildings in the historic district study areas will need to be substantially rehabilitated/reconstructed to provide necessary resiliency to rising waters. How shall this be accomplished, and what type of city will result? Will these areas survive as historic districts?

This study argues that Miami Beach’s vibrant historic districts should be preserved, must evolve to survive, and that preservation can be redeployed as a powerful adaptive tool; the City of Miami Beach must reconsider its preservation standards, and create mechanisms that will allow adaptive development. It should incentivize adaptive development, by allowing new layers of urban fabric to grow from within.

1.1 // INTRODUCTION

The City of Miami Beach holds thriving historic communities that together have forged a premier global tourist destination. At an average elevation of just under 4 feet NGVD (3.5 feet above sea level), however, this city of barrier islands surrounded by the sea is among the world’s most vulnerable places. The city lives with cyclical flooding from rain events and King Tides, flooding that will only be exacerbated by the threat of sea level rise. The city also lives with the always-present possibility of hurricane storm surge. To complicate this picture, porous geological foundations limit protective and adaptive options. Further, the city’s famous and vibrant urban neighborhoods, the effective heart of its identity and economy, are located in designated historic districts where preservation standards may limit resiliency options. Indeed, about 30 percent of property located in Miami Beach sits within these historic districts,² yet the majority of the buildings in these districts have their ground floors and/or basements below FEMA’s current Base Flood Elevation (BFE), which predicts a 100 year flood event.

Cities around the globe threatened by sea level rise have multiple avenues of response, but the City of Miami Beach has already made the decision to stay and adapt. This decision is powerful and compelling; the *raison d’être* and identity of Miami Beach are tied to its coastal location, and here a city with a dynamic and thriving culture has taken root. The physical environment, the architectural and urban gestalt that constitute its neighborhoods, are unique and attract people from around the world. Miami Beach is also just the type of community that should serve as a model in our current world predicament. Densely inhabited, walkable, bikeable, it has the seeds of a sustainable and resilient community. Although it may not be easy, Miami Beach should propel itself into its next iteration in a world of rising seas. Even if waters were not rising, it would be prudent to better adapt these historic neighborhoods to their coastal location.

Although the City of Miami Beach has taken, and continues to take, significant action to combat sea-level rise, there have been few strategies to date that address resiliency in the city’s many historic districts. Yet it is critical that the character and identity of these districts be preserved; these cultural resources not only inform the city’s identity, they are in the public good, combining cultural heritage and economic development. As the Urban Land Institute recently noted, these resources are “major economic driver[s]...for the approximately 12 million people who visit Miami Beach proper each year.”³ Historic districts are the frontier of adaptation and resiliency that urgently must be engaged. The City must recommit to the continuity of these districts. And, in order to preserve them under the national, state and city frameworks that guide preservation, it is critical that these architectural and historic districts not be delisted. It is also critical that new preservation standards be developed that work proactively with resiliency efforts.

This study considers distinct areas of the Flamingo Park and Collins Waterfront Historic Districts. Both study areas are located on the western flank of those districts, in the areas with the lowest elevation. Within these areas, the team took a typological approach to existing buildings, landscapes and streetscapes. A primary goal of this project is to better understand and effectively communicate the intersection and the delicate, even precarious relationship between resiliency practices and historic

preservation. In addition to illustrating practical steps and proposing new preservation/resiliency frameworks, the study attempts to paint a picture of how specific adaptation strategies might extend the vibrant culture and experience of the City of Miami Beach amidst the threat of rising water.

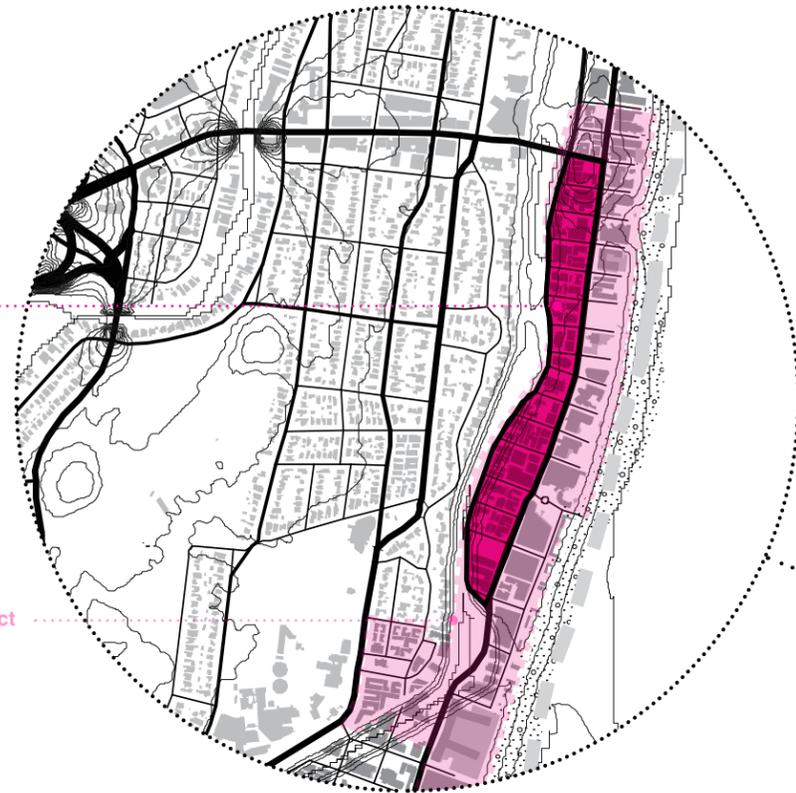
To create opportunities for the preservation of both its architecture and its culture, the City should develop adaptation processes that are flexible, and be open to new ways of thinking. These processes should be reflective, open to periodic reevaluation and frequent course corrections. In this spirit, these guidelines address specific areas intended to initiate a more complete understanding of the designated study area in the face of Sea Level Rise, and help to conceptualize the possibilities for retaining the city's unique qualities in the future:

1. Establish guidance for the City of Miami Beach, the Historic Preservation Board and City Planning Staff when making decisions about adaptations and changes to buildings in the Collins Waterfront and Flamingo Park districts. As a first step toward understanding the scope of change that will be required, the team sought to improve knowledge of real flooding conditions based on rain, tidal, and storm surge events. Accordingly, water levels due to both cyclical and 100 year storm events were projected, using the guidance of the Southeast Florida Climate Change Compact and projecting forward 60 years (to 2080). Reviewing these projections, it appears that the City must anticipate much larger quantities of water than anticipated under FEMA's current Base Flood Elevation (BFE) in the study districts. This allowed for a reevaluation of the city's relationship with water and opened an exploration into potential solutions, including but not limited to onsite water retention and infiltration, increased permeable areas, raised structures and utilities, floodproofing, and building retrofitting/adaptation. This has also conditioned the team notion to both set a higher Design Flood Elevation (DFE), and to differentiate between cyclical and storm surge events (See Chapter 2, Quantifying Water - Recommendations).
2. Develop place-specific strategies that address the conditions found in the two study areas. In order to understand and document these conditions, the team explored the development history and current physical conditions found in these areas. These conditions are investigated in the form of a typological toolkit, which can be used as a working guide for some types of rehabilitation work (See Chapter 3, Current Conditions). These world-famous districts have, unsurprisingly, local and particular urban conditions, including those noted in both National Register and local historic designations. The particular conditions suggest that the development of localized adaptive approaches will be necessary.
3. Identify best practices, nationally and internationally, combining resilience and historic preservation practices. The adaptation of Miami Beach historic districts will require new tools and strategies that are not currently part of the discourse in the city. Accordingly the team has assembled recent experience with resiliency planning at various levels, national and international (See Chapter 4 – Case Studies).

4. Conceptualize adaptive project design in an historic preservation context. Among the resiliency strategies the team explored, Raise is gaining acceptance nationally. However, Raise poses significant issues in the particular historic context of Miami Beach. The team was compelled to explore Adapt-in-Place. Adapt-in-place also builds on local traditions that have shaped the city to date. This section also identifies frameworks for future resilience in the historic districts of Miami Beach (See Chapter 5 – Resiliency Approaches & Strategies).
5. Suggest a toolkit for individual designers, property owners or developers considering responses to the issue of sea level rise. The final section of this report is a set of guidelines, meant to serve as a resource for future development. The team believes that the best way to organize this toolkit was using the typological framework developed in Chapter 3 of this study. (See Chapter 6 – Resiliency Guidelines).
6. The team understands this study as the first step in a dialogue among the City of Miami Beach, property owners, residents, developers, professionals and academics. As a community, this group must decide what is best, what is doable, and how to accomplish those objectives. At every step, this conversation will require a holistic approach, one that takes into consideration the many systems and people affected by water. In the city of Miami Beach, property owners and developers make independent decisions, governed by the Historic Preservation Board, while those in the public sector make different, sometimes conflicting decisions about stormwater management and road raising. These decisions implicate a myriad of networks, and future plans should integrate the diverse scales and layers of the city into an overall strategy that transcends public and private. As a recent Urban Land Institute report noted, “the challenge is to find a way to bring some order to the disparate interests to forge coordinated action, and [develop] strong leadership [that] will be needed to unite the different parties toward a cohesive vision.” It is crucial to coordinate and consolidate these individual challenges into a synchronized set of resilient design strategies.
7. Given the specific historical, geographical and demographic nature of Miami Beach, the team was in experimental territory with few relevant precedents to guide action. However, from this lacuna, the City of Miami Beach has the opportunity to emerge as a global leader in resiliency, especially the adaptation of historic buildings and urban historic districts; the city's adaptation can, itself, form a type of advocacy. Miami Beach's general culture of resiliency in the face of environmental, social, economic, cultural changes suggests this is possible.

1.2 // STUDY AREAS

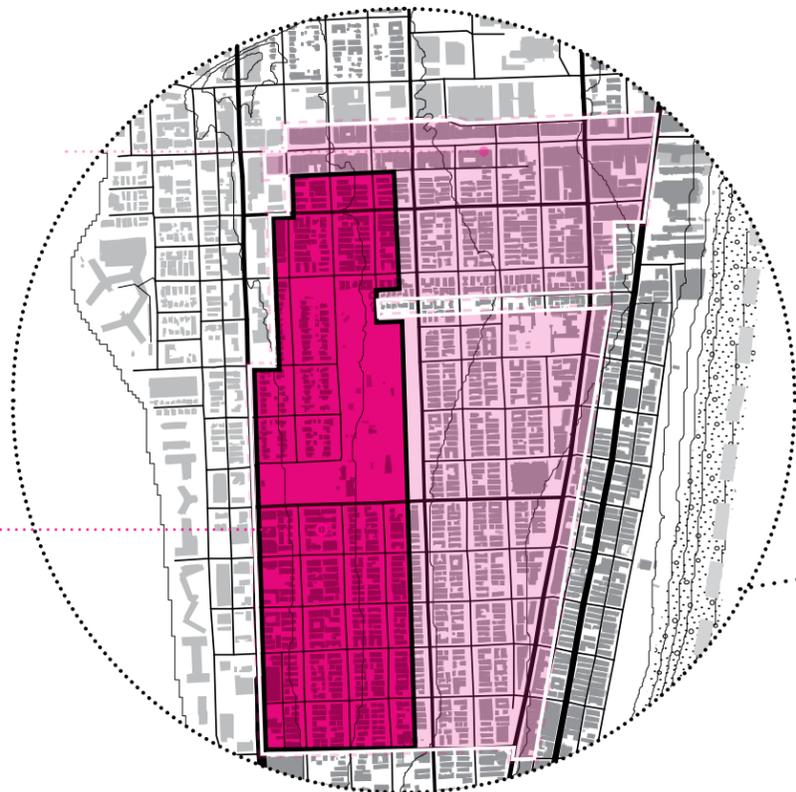
Collins Waterfront Study Area



John S. Collins Waterfront Historic District

Flamingo Park Historic District Area

Flamingo Park Study Area



1.3 // GENERAL RECOMMENDATIONS

1.3.1 // CONTINUE TO PRESERVE

- Conserve the urban and architectural character of historic neighborhoods.
- Affirm the ongoing, organic, and human character of its historic neighborhoods as fundamental to the city's identity.
- Engage conservancy of place, cultural identity, and community as intrinsic values of preservation.
- Take a broad and flexible view of what cultural and built identity actually mean going forward.
- Challenge conventional thinking about preservation and develop local historic preservation priorities.

1

1.3.2 // RECONCILE PRESERVATION/ADAPTATION EFFORTS

- Reconcile historic preservation ordinances and practices with resiliency-oriented codes and objectives.
- Incorporate adaptation as a requirement in all preservation planning; integrate historic preservation concerns into all adaptation planning and permitting.
- Grant the Historic Preservation Board increased authority over resiliency-based decisions.
- Advocate for changes to the Florida Building Code, the National Electrical Code, FEMA's flood plain management guidelines and other national codes that emphasize the particular needs of Miami Beach.
- Authorize the City Building Official to interpret the application of these codes to historic properties in a manner that is consistent with the City's larger preservation and resiliency goals.

2

1.3.3 // EMBRACE INCREMENTAL ADAPTATION

- Embrace an ongoing and dynamic process of learning, adjustment and implementation.
- Take immediate steps to emphasize adaptation and resilience in building/renovation projects.
- Adopt adaptation strategies that consider a mid- to long-term timeframe in order to instrumentalize investment.

3

1.3.4 // DESIGNATE EXPERIMENTAL ACTION AREAS

- Designate the areas of this study as Experimental Action Areas.
- Prototype new codes and process mechanisms in these areas, and allow developers to explore adaptive redevelopment procedures.
- Adopt an integrated and consistent approach in each Experimental Action Area.

4

1.3.5 // DEVELOP A VISION

- Adopt strategies that effectively governs future redevelopment in historic districts.
- Explore adaptation strategies particular to each neighborhood, applying either Adapt in Place or Raise Option, but not both, and conceive code revisions that support these models.
- Emphasize values already present in Miami Beach's urban and preservation ecosystems, like respect for existing architecture, adaptive use, intensification of density, and layering of new and old architecture. Emphasize the distinct urban paradigms of the city.
- Embrace the experimental nature of the current predicament.

5

1.3.6 // INCENTIVIZE ADAPTATION

- Incentivize adaptation of historic properties and districts over new construction.
- Leverage the economic vibrancy of Miami Beach to encourage developers to build/adapt a new resilient layer of the city.
- Consider phased resiliency bonuses for adaptation projects that employ resiliency strategies, are brought up to current Building Code, and incorporate future-proofing tactics.

6

1.3.7 // INTEGRATE PUBLIC SPACES & RIGHT OF WAYS INTO THE VISION

- Develop a plan for public infrastructure, right-of-ways and public places in historic districts that is consistent with the adaptive character of those districts.
- Consider public areas from a three-dimensional point of view, understanding that the variable raising of public and private realms will challenge current understandings of the historic district.
- Anticipate the complex relationship that will develop as the adaptation of streets, sidewalks, yards and buildings is staged at different levels, creating a multi-level city.
- Consider ecological goals in its future infrastructure planning.
- Consider the capacity to serve as a national leader in using its public realm as a test-bed in resilient and multi-functional infrastructure.

7

1.3.8 // INTEGRATE LANDSCAPE INTO THE VISION

- Emphasize the power of landscape design to improve the resilience of historic buildings and districts.
- Align the landscape standards for its historic districts toward an ecological approach, considering the performance of various species, the need for water storage and drainage, and anticipated larger and saltier volumes of water.
- Emphasize landscapes that tolerate or thrive with water.
- Consider the resilience of various species as a factor in future Certificate of Appropriateness reviews and in the development of future master plans.

8

1.3.9 // EMPHASIZE SOCIAL EQUITY

- Affirm the already diminishing role of its historic districts as reservoirs of affordability and social equity.
- Develop active guidelines that support retaining the mix of income groups that characterize the city.
- Offer development incentives for low cost housing and microhousing, and should consider requirements to preserve some low and moderate-cost housing in adapted properties that benefit from these incentives.

9

1.3.10 // CELEBRATE THE NARRATIVE OF ADAPTATION

- Promote the city's evolving resilience as part of the story of Miami Beach.
- Emphasize that architectural changes to contributing buildings in order to enhance resilience should be legible and interpretable as a visible layer of Miami Beach's ongoing rich history.
- Collaborate with city residents, professionals and academic institutions in finding imaginative ways for Miami Beach to leverage its status as an adapting city as an intentional part of its identity.
- Celebrate Miami Beach's creative identity and cultural industries through art and placemaking initiatives.
- Highlight the way historic preservation frameworks are departing from museum-city orientation and creating an identity-preserving focus to resiliency efforts.

10

1.4 // A VISION

Flamingo Park and Collins Waterfront Study Areas – A Vision

While the primary goal of this study is to provide tools for both property owners and the City of Miami Beach, it is also important to promote a vision that can initiate public discourse, serve as a baseline for further discussion and eventually direct the further development of those tools. The tools presented will, if applied absent a vision, create chaotic results; here, consistency of application is especially important because the areas under consideration are designated historic districts.

As suggested in the General Recommendations, the City of Miami Beach should use the areas of this study, i.e. the Experimental Action Areas, to test the two major adaptation strategies proposed: Adapt in Place and Raise. It is important that the City adopts an integrated and consistent approach to each district, choosing either (but not both) of this team's proposed resiliency strategies for application.

Based on the character and resources of each district, the City should emphasize the 'Adapt in Place' strategy in the Flamingo Park neighborhood, encouraging buildings to adapt internally and incrementally to water; and should emphasize the 'Raise' strategy in the Collins Waterfront neighborhood, which can better support that approach.





Flamingo Park Study Area: Multifamily District | Adapt in Place

Flamingo Park, with its tightly spaced and continuous urban fabric of intimate buildings, should be adapted in place. Reimagine Flamingo Park's multi-family district as a vibrant mixed-use area where buildings are preserved by adapting them in place to the prospect of higher water. Ground floor spaces below Design Flood Elevation would be converted to light commercial uses (allowing dry- and wet-floodproofing), while new resilient residential floor areas would be developed above. Incentivized floor area bonuses would promote the development of smaller/affordable units.



Flamingo Park Study Area: Residential District (Homes) | Adapt in Place or Raise

Reimagine Flamingo Park's single-family home district as a mixed-use environmental area, where increased development can go hand-in-hand with the maintenance of significant open (and floodable) green space, retrofitted as green infrastructure. Allow the development of new limited-footprint houses, or housing, along the alleys, and promote the redevelopment of contributing low-lying homes converted to commercial uses (similar to what has already happened along Alton Road).



Collins Waterfront Study Area | Raise

The narrow urban profile of the Collins Waterfront Study Area is poorly suited for Adapt in Place strategies. The long western flank of the area (Indian Creek Drive) is currently being raised by the City. Here, contributing buildings should be raised to protect them from higher water levels, and the proximity of possible wave action from both the Atlantic Ocean and Indian Creek. Green space should also be increased.