

A Case for Strategic Restorative Design Planning
Within The Village of Palmetto Bay



Miami Dade Parks Public Kayak Launch at The Deering Estate, Biscayne Bay | Palmetto Bay, FL

Madison Grace Yurubi
Department of Planning and Landscape Architecture
Master of Science, *Professional Project*

May 2022

ADVISING COMMITTEE
Carey McAndrews | Nathan Larson

TABLE OF CONTENTS

ACKNOWLEDGMENTS	2
EXECUTIVE SUMMARY	2
INTRODUCTION	2-6
Study Goals and Project Rational	3
What Are Restorative Environment Features?	4
Why Should Restorative Environment Features be Prioritized in Community Design?	5
How Would Strategic Restorative Design Support Palmetto Bay?	5
What Are Some Local Systems Or Organizations That Support Restorative Design?	5-6
<i>The Adopt-a-Tree Program</i>	5
<i>Ride-Share Services</i>	5
<i>Art in Public Places (AIPP) Advisory Board</i>	6
<i>Fairchild Tropical Botanic Garden Research Center</i>	6
BACKGROUND AND COMMUNITY CONTEXT OF THE VILLAGE OF PALMETTO BAY	7-8
Density and Public Infrastructure	7-8
RESEARCH METHODS AND LIMITATIONS	8
RESTORATIVE DESIGN PLANNING CONSIDERATIONS	9-10
<i>Visual</i>	9
<i>Auditory</i>	9
<i>Tactile</i>	9-10
<i>Olfactory</i>	10
<i>Gustatory</i>	10
SUGGESTED IMPROVEMENT PLAN STRATEGIES (1-5)	11-12
CONCLUSION	13
BIBLIOGRAPHY	14

ACKNOWLEDGEMENTS

Within the Department of Planning and Landscape Architecture, I would like to show my appreciation and gratitude toward my primary faculty advisor, Prof. Carey McAndrews, for her time and support in constructing my Capstone vision. To Prof. Nathan Larson, who first inspired me in his Community-Based Learning (CBL) course, sponsored by the Morgridge Center for Public Service. To the GridgeFridge podcast¹, for inviting Prof. Larson and I to feature on their early April episode where we discussed this CBL work. And to the students of “LA 375/URPL 590: Mindfulness and Restorative Environments” Fall semester of 2021, for their perspective and creativity. Finally, a special thank you to Ms. Kelsey Hughes, and the department team, for their words of encouragement and support throughout my academic career at the University of Wisconsin- Madison.

EXECUTIVE SUMMARY

This report addresses the lack of strategic restorative design planning within the Village of Palmetto Bay. From this review, the audience may be able to understand why certain planning considerations to restorative design may be beneficial to a community. It intends to serve as a framework for better understanding restorative design and to inspire neighborhood planners to include greater ecological considerations into future planning, as these benefits are often reciprocal. This report aims to relate the significance of community restorative elements; provide perspective to existing systems within the Village; identify broader restorative design strategies and their relevance; and suggest application strategies specific to the Village. Strategic restorative design can serve to beautify a neighborhood, create a sense of identity or place, enhance the quality of ecological systems, and influence the health and wellbeing of residents². Including restorative environment considerations into planning, while non-radical, describes a relatively new approach that makes a world of difference in the discourse of creating better and more resilient communities.

INTRODUCTION

In Fall semester of 2021, students from “Mindfulness and Restorative Environments,” the Department of Planning and Landscape Architecture’s *Special Topics* CBL course, facilitated a graduate level co-design project with partnering community schools. In this endeavor, the university students came to produce a master catalog of restorative environment features³. Its limitations were two things: firstly, its specificity to the classroom environment and secondly, simply due to time constraints, its lack of supportive research. This report aims to broaden the scope of restorative design by applying these ideas on an urban scale.

¹ Erin Gretzinger. Interview with Nathan Larson and Madison Yurubi. *GridgeFridge*.

² Mei He, et al. “Therapeutic plant landscape design of urban forest parks based on the Five Senses Theory: A case study of Stanley Park in Canada.”

³ Department of Planning and Landscape Architecture. “Restorative Environment Features Catalogue.”

The Village of Palmetto Bay, a predominantly suburban municipality of Miami-Dade County, is known as the “Village of Parks” because of its variety of recreational amenities and is one of the few areas of Miami-Dade County directly adjacent to Biscayne Bay. While the Village’s Department of Public Works does catalog the existing urban forest, planning for strategic restorative landscape design do not exist⁴. Similar ideas can be viewed in the Miami-Dade County Department of Regulatory and Economic Resources’, “Landscape Code and Manual⁵.” The manual was created to serve as a model for the surrounding municipalities, though apart from educational “Green Initiatives” fact sheets, the Village is lacking on prioritizing these on a neighborhood-scale. On 168th Street for instance, this may allow into consideration the viability of Royal Palms versus a Florida Oak, and how these shaded area differences may reduce extreme heat conditions.

Intentionally incorporating restorative design through planning may increase the value of homeownership, serve to beautify the neighborhood, and create more engaging and interesting public spaces that promote the use of future non-motorized commuting options, as well as enhance recreational use⁶. This report will delve into the considerations of restorative features, and how Palmetto Bay may better align with these, while also creating a unique experience and identity for the Village. Over time, this could greatly influence the quality of a neighborhood.

Study Goals and Project Rationale

The purpose of a specialized restorative design plan would be to determine actions that the Village can pursue in order to facilitate greater engagement of bicycle and pedestrian use. As well as to provide a resource of improvement strategies that would, in effect, encourage greater place-making and enhance perceived safety throughout the community. These actions are intended to integrate restorative features throughout both existing and future land use planning and policy. Related literature is used to evaluate the best practices and to make recommendations for neighborhood-scale planning strategies. Technical, physical, social, and financial capacity for restorative features may be less costly to elements within the built environment and may serve similar purposes. Therefore, this document is intended to inspire some creativity for ecological design specific to the Village of Palmetto Bay but can also be applicable to other communities hoping to balance local ecology with human experience.

⁴ “Chapter 17 - GREEN CORRIDOR PACE DISTRICT.” Village of Palmetto Bay Code of Ordinances.

⁵ “The Landscape Manual.” MDC Department of Planning and Zoning.

⁶ Mei He, et al. “Therapeutic plant landscape design of urban forest parks based on the Five Senses Theory: A case study of Stanley Park in Canada.”

What Are Restorative Environment Features?

Apart from the detriment mass concrete spaces inflict on the environment, they also lack mental stimulation or interest. When implemented, restorative features provide a variety of benefits that promote ecological integrity and are specific to the landscape they exist in. These restorative features should be considered to protect neighborhood identity and to create more immersive and meaningful public landscapes. Within the context of restorative design important factors are mostly attributed to the functionality of a space, which involve considerations to buffers and nodes, seating, associated facilities, and safety features, such as adequate lighting. The inclination may be to exhaust materials that are sterile, notwithstanding, and do not assist in telling the story of place. However, this gradually begins to standardize the way people think about function within a landscape⁷. For instance, the inclination to envision an outdoor public



bench as synthetic, uncomfortable, worn-by-the-sun, or manufactured. These superfluous and individualized decisions to space, often influenced by public and private investment, can therein become oppressive to the identity of a community, and can be detrimental to the critical human experience of perception. Innately there will always be some contention when it comes to design-focused decisions. Utilizing native species and natural materials; these are all identifiable to the character of a space that remains consistent over time.

The example images in this subheading are what can be seen from the parking area at

Miami- Dade Parks Public Kayak Launch at The Deering Estate. The Sable Palm, otherwise known as the cabbage palm, and that represents the State Tree of Florida, serves as a barrier to the round drop-off driveway. Below it a spongy, soft grass, and a collection of limestone nodes, likely taken from the existing landscape. These both prevent vehicles from entering and provide a shaded area, while also providing seating. It also is significant to the character of this neighborhood, including mangrove areas, which prevent coastal erosion and are necessary to preserve a flourishing ecosystem. This park incorporates a variety of restorative elements, other features being the sight and smell of Key Biscayne Bay, visually and olfactorily meditative.



⁷ Iris Aravot. "Back to Phenomenological Placemaking."

Why Should Strategic Restorative Design Be Prioritized in Palmetto Bay?

Currently, strategic restorative design systems within Palmetto Bay are inconsistent and lacking within primary transportation corridors. There is a very prevalent car culture which dissuades long-term residents from using public transportation. Since it is not possible to alter the funding stipulations and restrictions, other alternatives must be in place that focus on ease of non-motorized transit. Especially with proposed public transportation modernization⁸, there are two considerations that are of utmost importance. Firstly, deciding on which areas would be most affected by strategic restorative design implementation, and secondly, adjusting policy to maximize available resources that already exist within the community. Acknowledging the goal of the Village to improve on non-motorized trips within ½ mile⁹, determining how restorative environment planning systems could support these. As well, this would aid in establishing an identity specific to the Village of Palmetto Bay. With increased density initiatives along US1¹⁰, improving desirability of existing walkways and future bike paths will become necessary in the transition process from exclusively recreational uses.

What Are Some Local Systems or Organizations That Support Restorative Design?

It's important to acknowledge that there are already existing systems and organizations, within the Village and throughout the County, that are supportive local connectivity and ecological resiliency. These should be considered as potential collaborators to a restorative design plan vision, noting that these may unintentionally exclude other valuable partnerships.

*The Adopt-a-Tree Program*¹¹

Since 2002, this community forestry project annually provides single-family and duplex homeowners of Miami-Dade County two free trees per household. This program was designed to instill greater tree canopy within Miami-Dade County neighborhoods, providing both ornamental native trees that produce ample shade, as well as non-citrus fruit trees. In total, residents have adopted 217,991 trees within the twenty-one years of managing this program. The Adopt-a-Tree program offers sponsorship programs at a fee to meet local organizations needs for green events, promotional opportunities on the Miami-Dade County website, as well as educational programming. Essential functions may reduce air-conditioning costs, can improve real estate value, plays a significant role in species habitat creation, mitigates flooding impacts, and removes significant amounts of CO₂.

*Ride-Share Services*¹²

The Village has several means of promoting reduced traffic congestion. The most recent called Freebee Service, which is a free rideshare, namely a small electric vehicle, which extends to anywhere in Palmetto Bay during operating hours. Freebee also incentivizes use by offering coupons from local businesses to travel to commercial areas. As well, another function may be commuting local students home safely from afterschool programs and is intended for everyday

⁸ "SMART Plan." Miami-Dade County Transportation Trust.

⁹ "Village of Palmetto Bay Bicycle & Pedestrian Master Plan." The Village of Palmetto Bay.

¹⁰ "SMART Plan." Miami-Dade County Transportation Trust.

¹¹ "Adopt-a-Tree." Miami-Dade County Department of Regulatory and Economic Resources.

¹² "Village of Palmetto Bay | Villagewide Traffic Calming Study." The Village of Palmetto Bay.

use within the Village. The Local Service Bus, or “Ibus,” is a free larger shuttle vans which transport commuter residents to the Dadeland Metrorail South station, the primary commuting system. The Metrorail allows access to Miami International Airport, other stations along the US1 corridor, and accessibility to connecting railways and public transit. Operating Ibus hours are during peak commuter hours. Park & Ride locations for the Ibus are available in two locations, and these buses air conditioned, wheelchair accessible, and can accommodate bicycles. This service has been available since 2006, as a result of the Village of Palmetto Bay’s Citizens’ Independent Transportation Trust (CITT) program¹³.

*Art in Public Places (AIPP) Advisory Board*¹⁴

This Advisory Board for the Village stresses public art as a public benefit, to express community identity and values, accentuate green spaces, enhance roadsides, improve pedestrian corridors, and community gateways. The AIPP Advisory Board is composed of several different professionals, including urban planners, landscape architects, architects, designers, and art historians. 1% of village construction value of building permitting for the construction of remodeling of a commercial property, or residential units of two or more exceeding value of \$250,000 goes into the AIPP trust fund. In lieu of this fee, the construction site may also provide a donation of its own art and submit it for approval of the Board.

*Fairchild Tropical Botanic Garden Research Center*¹⁵

This organization considers themselves a “Science Village Community” in their effort to promote environmental literacy and stewardship through laboratory science, computational analysis, and cross-disciplinary collaboration. Their team is composed of Fairchild researchers (professional botanists and horticulturists), Florida International University (FIU) faculty, post-doctoral fellows, graduate students, and laboratory volunteers.

¹³ “History of the People’s Transportation Plan.” Miami-Dade County Transportation Trust.

¹⁴ “About AIPP.” The Village of Palmetto Bay.

¹⁵ “Science and Education,” and “Science Village Community.” Fairchild Tropical Botanic Garden.

BACKGROUND AND COMMUNITY CONTEXT OF THE VILLAGE OF PALMETTO BAY



Established in 2002, the Village of Palmetto Bay encompasses among the newest of 34 municipalities in Miami-Dade County and is home to over 24,500 residents¹⁶. Of its 8.44 mi² area, over 80% of the village is comprised of residential single-family homes, 10% parks and recreation, and 10% commercial and other use. 6 canal branches trisect the village, making it difficult to travel its length in a straight direction, apart from its perimeter on US1, and also on Old Cutler Road, which runs parallel to Biscayne Bay and the protected Pine Rockland forest. Spatially, bicycle and pedestrian infrastructure are not interconnected with the built landscape and are in fact sparse. Similarly, sidewalk pathways are minimal and sporadic. In a recent assessment, the Village of Palmetto Bay earned a low WalkScore of 30, which is largely attributed to the poor accessibility to grocery and retail spaces without a car, though these can be found in bordering municipalities a maximum 5 mi. distance from the center¹⁷. Given, this issue also affects greater Miami, but improved bicycle and pedestrian infrastructure in the village would promote utilization of these spaces for recreation as well as local commuting.

Density and Public Infrastructure

The US1 corridor has steadily been increasing in density and this is anticipated to continue. In nearby municipality North bound, Coral Gables, beginning in Pinecrest, and even in the Village already they have built mixed-use development which is changing the character of the

¹⁶ “Palmetto Bay, FL Census Place. Data USA.

¹⁷ “Village of Palmetto Bay Bicycle & Pedestrian Master Plan.” The Village of Palmetto Bay.

neighborhood¹⁸. Existing commercial uses are mostly specialty shops, restaurants, grocery, and retail; however, these are exclusive to the western perimeter of the Village, apart from some office and service stations on Old Cutler Road and 168th Street. Over time, the Village of Palmetto Bay hopes to achieve a higher percentage of non-motorized trips that equate to less than ½ mile distance to reduce traffic congestion caused by schools and commuter access¹⁹. To accomplish this, the Village intends to connect parks, schools, and commercial centers through multimodal bicycle and pedestrian infrastructure, as well as expanding roadways to include wide bike lanes. The intention would be to improve safety that would in turn encourage non-motorized transportation to local destinations. The existing mobility plan, pertaining to the built environment, suggests improved commuter access, connectivity, and greenways; even offering suggested costs, with 10% of the total budget dedicated to maintenance.

RESEARCH METHODS AND LIMITATIONS

This report utilizes primary data, secondary sources, and site observations to produce suggested implementation strategies for restorative design within the Village of Palmetto Bay. These range from existing Comprehensive Plans to residential information derived from the U.S Census Bureau. This research was limited in its efforts to include community assessments, precedent studies, and interviews from current leadership which may have influenced restorative strategy suggestion outcomes. A resident survey would have been useful to attain feedback on existing public ecological landscapes, and to identify a baseline for restorative improvement strategies.

Additionally, a specialized survey would have been helpful to assess whether restorative design may impact the desirability of multimodal commuting within the Village. In the future, it would be interesting to note the more affluent areas of Palmetto Bay and their correlation to restorative design features, given their presumed resources for continuous lawn care and maintenance. This research promotes the Village leading by example in their own landscapes, while simultaneously acknowledging the barriers which are associated with accomplishing these, such as premature tree removal, soil disturbance, or slow tree growth, which may delay landscape intervention.

¹⁸ “Village of Palmetto Bay Comprehensive Plan.” The Village of Palmetto Bay.

¹⁹ “Village of Palmetto Bay Bicycle & Pedestrian Master Plan.” The Village of Palmetto Bay.

RESTORATIVE DESIGN PLANNING CONSIDERATIONS

A strategic restorative design plan could aid the Village in beautifying the existing landscape, creating a sense of identity or place, enhancing the quality of ecological systems, and influencing the health and wellbeing of residents. The benefit of understanding how a person may interpret external conditions can serve as a guide to manipulating the environment to reduce external stressors. Particularly, in main corridors, greenways, and open spaces that are made available to the public. The information below describes how the five sensory elements— sight, smell, touch, hearing, and taste— may positively impact user experience within the Village²⁰. The following categories and their research showcase how the environment affects the way people interact and how they feel within a space, and to suggest that these relationships are symbiotic.

Visual

This pertains to visible colors and textures of the physical landscape which are meant to stimulate visual interest. Balance could also be included within this context, in creating beautiful and meaningful spaces that are inviting and appealing to the eye. The *Komorebi* phenomena, from Japanese culture, describes the natural light that filters onto the ground of a forest. This suggests a natural chromotherapy that can be restorative to the body, improve mood and have health benefits, while also creating intentional and meaningful identity to a space²¹. Diversifying trees and plants would provide opportunities for visual enhancement within public areas. As well, introducing native plant layering to create a more complete sense of place that may not be specific to a singular category of green landscape design.

Auditory

Involving sounds people experience throughout these public landscapes that are restorative. This could be noises of pollinators buzzing or birdsong, the sound of the wind swaying branches, flowing water, or the crunch of gravel or leaves as they're being walked on. Autonomous Sensory Meridian Responses (ASMR) is a physiological phenomenon that describes a tingling sensation caused by certain visual and auditory triggers. In a 2022 study surveying 1,037 people of varying ages, found that these significantly increased relaxation and improved mood in participants, particularly those with sleep insomnia or depression²². A key element to this is finding ways of enhancing auditory experiences throughout the landscape that are manufactured to elicit such experiences.

Tactile

Landscapes which support some physical interaction with nature and are immersive to an experience. Picking fruits or vegetables from a tree or garden, pulling weeds, digging into soil, or

²⁰ Mei He, et al. "Therapeutic plant landscape design of urban forest parks based on the Five Senses Theory: A case study of Stanley Park in Canada."

²¹ Jelena Farkic, et al. "Forest bathing as a mindfulness tourism practice."

²² Tom Smejka, et al. "Response (ASMR) videos on arousal and mood in adults with and without depression and insomnia."

other activities which may suggest the multidisciplinary uses of a landscape. This may include considerations to active and quiet spaces, or pathways that are non-linear. Even considerations to enclosed spaces in nature may engage this comfortability or perceived safety²³. Tactile human experiences, such as sweating or heat exhaustion, could also be mitigated through this category, as urban forest canopy cover may assist in climate mitigation. According to the USDA Forest Service's Urban Forest Effects (UFORE), urban forests can also assist areas in infiltrating excess rainfall or identify areas that can be sources of excess stormwater runoff. "While all tree species contribute to the community's overall urban forest cover, some species contribute more than others because of their size (e.g., a live oak contributes more than a crape myrtle)²⁴."

Olfactory

Smells can also create a sense of identity within a landscape. The smell of fresh cut grass, or the scent of ocean water on a breeze. After a thunderstorm, there may be the smell of wet Earth. Or the result of flowering plants, such as blooming Jasmine or Gardenias, which could be implemented as shrubs throughout the landscape. These are attributed to BVOCs, or biogenic volatile organic compounds that are produced by plants in their varying cycles related to growth, reproduction, or defense. These carry restorative elements that when inhaled may alleviate symptoms of anxiety and depression, while also enhancing mood and generate positive attitudes²⁵. When implementing olfactory features, a consideration could involve seasonal scents, versus those which can be produced year-round, and developing some method for facilitation throughout the public landscape.

Gustatory

This could involve incorporating fruit bearing trees as a part of public landscapes, or also by providing some space for interactive taste experiences, such as a farmers' market or community gardens. This category of sensory experiences may be the most linked to community identity, simply because of the diversity fruits and vegetables allow in their preparation, as well as the experiences that residents may have attributed to these. Public gardens or treescapes are an exceptional intermediary between human culture and experience, which differentiates them from public art which can at times be exclusionary²⁶. Within the Village of Palmetto Bay specifically, many residents predominately include these as a part of their backyard landscapes, indicating desirability among fruit bearing trees, some which also provide extensive canopy cover. Though also suggests themes pertaining to food justice and the lack of accessibility and privatization of organic foods for low-income households, or residents lacking garden space.

²³ Walt Machielse. "Perceived safety in public spaces: A quantitative investigation of the spatial and social influences on safety perception among young adults in Stockholm."

²⁴ Franciso Escobedo, et al. "Gainesville Florida's Urban Tree Cover."

²⁵ C. Calfapietra, et al. "Role of Biogenic Volatile Organic Compounds (BVOC) emitted by urban trees on ozone concentration in cities: A review."

²⁶ Aravot, Iris. "Back to Phenomenological Placemaking."

SUGGESTED IMPROVEMENT PLAN STRATEGIES

In no particular order, the following items are suggested strategies for incorporating greater restorative design initiatives to the Village of Palmetto Bay's public landscape.

1. Create a scalable model of prioritization areas:

- 1.1 Community feedback survey to assess landscape perception within the Village
 - This will allow qualitative assessment of focal areas, as well as provide additional ideas of restorative features that may be available for consideration that may have otherwise been neglected from this report
 - Use "Restorative Design Planning Considerations" as a framework to identify restorative design elements and maintaining these while investigating
- 1.2 Use 2009 Bicycle and Pedestrian Master Plan and County Bus Improvement plan to coordinate restorative planning initiatives with infrastructure improvement projects
 - There may be some adjustment, given the proposals were adopted prior to the COVID-19 pandemic and may not be applicable.
 - Revising the plan to incorporate restorative planning elements, and further research into the reduction of associated costs by doing so
 - Ex. Rubber trail from regional and recycled materials instead of asphalt
- 1.3 Perform a neighborhood restorative design inventory
 - Including tree/plant heights and shade coverage measurements and having a certified Landscape Architect provide recommendations
 - Including potential uses of activating waterfront spaces, particularly beside canal systems, and opportunity of creating a greenway
 - Using local parks as central destination points and creating canopy cover over this pre-established network desired in Master planning.
- 1.4 Coordinate with Fairchild Gardens Research Center to perform site suitability analysis for proposed arbor and plant species.
 - Establish policy which supports these local organizations in conducting research throughout the Village, while also assisting care, and establishing a sense of character.

2. Considerations to functionality of landscape and substitutions from built infrastructure that may serve similar design purposes

- 2.1 Coordinate with AIPP Advisory Board to establish guidelines which support organic materials into proposed projects
- 2.2 Include City Engineering for proposed restorative design projects, including but not limited to:
 - Walkability, in utilizing surfaces that are organic but also meet accessibility requirements
 - The possibility of incorporating a rain garden system, terrace, and front yard, which promote traffic calming, improve streetscapes, and mitigate flooding issues and become regenerative to the Florida Aquifer through infiltration.
- 2.3 Consider implementing a trolley system and installing gazebo-style waiting areas throughout the Village utilizing restorative environment features that are less invasive

- Distance of every two miles at major traffic roadways: 168th, 144th, and 184th.
- More efficient transportation than Freebee in transferring more residents at a time, and easily accessible to all members of the community.

3. Restorative Design Education

- 3.1 Strengthening knowledge of native trees and plants will be essential toward empowering residents to identify with these and know more about them
- 3.2 Promoting the benefits of incorporating a rain garden in front yardscapes
- 3.3 Community gardening seminars with local agriculturalists; building transparency between local individuals and their food
- 3.4 Distribute educational materials or yearly reminder of established lawn maintenance standards
- 3.5 Funding local organizations, such as Adopt-a-Tree, to provide educational resources and opportunities for localized tree distribution events

4. Creating a Master Restorative Design Plan will become pivotal to strategic restorative design efforts throughout the Village of Palmetto Bay by providing a quality to strive toward

- 4.1 Setting specific goals for the Village that maintains the character and integrity of native arbor and plantings, and altering policy to reflect these
 - Would assist in aligning with existing environmental preservation goals, Ex. South Florida Slash Pine, while it does best while undisturbed, could be incorporated more into landscape
 - Would draw recognition to the “Village of Parks,” as an ecological haven
- 4.2 Incentivizing native plantings within the community
 - Involving local people in the processes of creating this restorative design vision by recruiting professionals that are also neighborhood residents at some service reduction
 - Creating some system of donation for natural materials that may qualify as some subsidy.
 - Ex. home reconstruction effort may remove arbor that could be used to create a bench.
 - Ex. home construction effort involved removing foundation and unearthing large sediments of limestone.
- 4.3 Allowing some criteria for utilizing existing resources for project completion
 - Ex. Large, polished limestone boulder existing at an existing site for seating
- 4.4 Following the County’s suggestions for restorative design landscape

5. Funding and Partnership Opportunities

- 5.1 Incorporating the Citizens' Independent Transportation Trust into non-motorized policy initiatives
- 5.2 Provide funding and training for community organizations and park leaders to host educational workshops about local plants/trees
- 5.3 Provide grants to organizations to assist in developing and implementing pre-assessed restorative design plan goals
- 5.4 Create a neighborhood grant program dedicated to environmental projects

CONCLUSION

Restorative Design Planning strategies should be tailored toward existing neighborhood plans so that these coincide with and compliment community goals of connectivity and resiliency. To overcome the economic, social, and regulatory barriers for implementation, this report suggests formally incorporating restorative design policy objectives into the Village's Comprehensive Plans as these are being updated, as well as better managing community resources. This could involve creating policy objectives which incentivize the donation of organic materials during construction projects. Designing spaces that are multidisciplinary, with special consideration to sensory features within nature, can help to reduce external stressors caused by increased density, and therefore improve the human experience. In effect, these features serve to beautify the neighborhood, create a sense of identity or place, enhance the quality of ecological systems, and influence the health and wellbeing of residents. This process should be preceded by identifying and communicating with existing community organizations, landscape architects, and planning professionals which may serve in structuring a complete restorative design vision.

BIBLIOGRAPHY

-
- “A Greenprint For Our Future: Street Tree Master Plan.” Miami-Dade County. March 2007. <https://www.miamidade.gov/zoning/library/studies/street-tree-master-term-plan-rev-sept-2007.pdf>
- “About AIPP.” The Village of Palmetto Bay. Accessed on April 01, 2022. <https://www.palmettobay-fl.gov/296/About-AIPP>.
- “Adopt-a-Tree.” Miami-Dade County Department of Regulatory and Economic Resources. Accessed April 2022. https://www.miamidade.gov/global/service.page?Mduid_service=ser1467835324112359.
- “Chapter 17 - GREEN CORRIDOR PACE DISTRICT.” Village of Palmetto Bay Code of Ordinances. October 2011. https://library.municode.com/fl/palmetto_bay/codes/code_of_ordinances?nodeId=COOR_CH17GRCOPADI_S17-1PU.
- “Chapter 18A- MIAMI-DADE COUNTY LANDSCAPING ORDINANCE.” MDC Code of Ordinances. Adopted December 1995. https://library.municode.com/fl/miami_-_dade_county/codes/code_of_ordinances?nodeId=PTIICOOR_CH18AMIDECOLAOR.
- “DIVISION 4. - NATURAL RESOURCES: TREES, LANDSCAPING, WETLANDS, UPLAND HABITAT.” Tampa, FL Code of Ordinances. April 2019. https://library.municode.com/fl/tampa/codes/code_of_ordinances?nodeId=COOR_CH27ZOLADE_ARTVISURE_DIV4NARETRLAWEUPHA.
- “Evaluation of Multimodal Mobility Options in the South Miami-Dade Area.” Miami-Dade Metropolitan Planning Organization. January 2017. <https://www.palmettobay-fl.gov/DocumentCenter/View/2632/Evaluation-of-Multi-modal-Mobility-Options-in-South-Miami-Dade>.
- “History of the People’s Transportation Plan.” Miami-Dade County Transportation Trust. Last modified July 23, 2015. <https://www.miamidade.gov/citt/history.asp>.
- “Landscaping: Green Elements for a Sustainable Village.” Village of Palmetto Bay Division of Planning and Zoning. Accessed April 1, 2022. <https://www.palmettobay-fl.gov/DocumentCenter/View/2915/Landscaping---Green-Elements>.
- “Palmetto Bay Green Initiative.” Village of Palmetto Bay Division of Planning and Zoning. Accessed April 1, 2022. <https://www.palmettobay-fl.gov/601/Palmetto-Bay-Green-Initiative>.
- “Palmetto Bay Schools.” The Village of Palmetto Bay. Last Modified November 2021. <https://www.palmettobay-fl.gov/429/Schools>.
- “Palmetto Bay, FL Census Place. *Data USA*. Accessed April 2022. <https://datausa.io/profile/geo/palmetto-bay-fl/>
- “Palmetto Bay, FL.” *Livability*. Accessed April 2022. <https://livability.com/fl/palmetto-bay?web=1&wdLOR=c6132F799-E9BA-4144-87C8-781A2B1A2AEA>.
- “Sabal Palm.” University of Florida IFAS Gardening Solutions. Last modified February 10, 2022. <https://gardeningsolutions.ifas.ufl.edu/plants/trees-and-shrubs/palms-and-cycads/sabal-palmetto.html>.
- “Science and Education.” *Fairchild Tropical Botanic Garden*. 2022. <https://fairchildgarden.org/science-and-education/>.
- “Science Village Community.” *Fairchild Tropical Botanic Garden*. 2022. <https://fairchildgarden.org/research/>.

- “SMART Plan.” Miami-Dade County Transportation Trust. Last Modified April 08, 2022.
<https://www.miamidade.gov/citt/smart-plan.asp>.
- “The Land Use Element of the Comprehensive Development Master Plan (CDMP).” Miami-Dade County. Last modified May 7, 2021.
<https://www.miamidade.gov/planning/library/reports/planning-documents/cdmp-land-use.pdf>.
- “The Landscape Manual.” MDC Department of Planning and Zoning. Revised and expanded October 2005. <https://www.miamidade.gov/zoning/library/studies/landscape-manual-adopted-2005.pdf>.
- “TREES IN PUBLIC RIGHT-OF-WAY: §155.50 INTENT; PURPOSE.” City of Hollywood Code of Ordinances. October 2006.
https://codelibrary.amlegal.com/codes/hollywood/latest/hollywood_fl/0-0-0-46792.
- “Village of Palmetto Bay | Villagewide Traffic Calming Study.” The Village of Palmetto Bay. Prepared by MARLIN Engineering, Inc. 2017. <https://www.palmettobay-fl.gov/DocumentCenter/View/4297/Traffic-Calming-Study-2017>.
- “Village of Palmetto Bay Bicycle & Pedestrian Master Plan.” The Village of Palmetto Bay. Prepared by The Corradino Group. August 2009. <https://www.palmettobay-fl.gov/DocumentCenter/View/2089/Bicycle-and-Pedestrian-Master-Plan---2009-PDF?bidId=>.
- “Village of Palmetto Bay Comprehensive Plan.” The Village of Palmetto Bay. Prepared by Kimley-Horn. <https://www.palmettobay-fl.gov/DocumentCenter/View/239/Comprehensive-Plan-PDF?bidId=>.
- Aravot, Iris. “Back to Phenomenological Placemaking.” *Journal of Urban Design*. June 2002.
https://www.researchgate.net/profile/IrisAravot/publication/248992152_Back_to_Phenomenological_Placemaking/links/6046557a299bf1e07865f134/Back-to-Phenomenological-Placemaking.pdf?origin=publication_detail.
- Calfapietra, C., Fares, S., Manes, F., Morani, A., Sgrigna, G., and Loreto, F. “Role of Biogenic Volatile Organic Compounds (BVOC) emitted by urban trees on ozone concentration in cities: A review.” *Environmental Pollution*. December 2013.
<https://www.sciencedirect.com/science/article/abs/pii/S0269749113001310>.
- Department of Planning and Landscape Architecture. “Restorative Environment Features Catalogue.” University of Wisconsin-Madison. Last modified December 03, 2021.
<https://sites.google.com/view/restorativefeaturescatalogue/home?authuser=1>.
- Escobedo, Franciso, Seitz, Jennifer A., Zipperer, Wayne, and Iannone, Basil. “Gainesville Florida’s Urban Tree Cover.” University of Florida IFAS Extension. September 2008.
<https://edis.ifas.ufl.edu/pdf/FR/FR277/FR277-D1r792zy7g.pdf>.
- Farkic, Jelena, Isailovic, Gorana, and Taylor, Steve. “Forest bathing as a mindfulness tourism practice.” *Annals of Tourism Research Empirical Insights*. November 2021. <https://www.sciencedirect.com/science/article/pii/S2666957921000197>.
- Gretzinger, Erin. Interview with Nathan Larson and Madison Yurubi. *GridgeFridge*. Morgridge Center for Public Service. Podcast audio. April 01, 2022.
<https://open.spotify.com/episode/42av3mqcFeAatS7sc4XEx2?si=CuLnM3TjQ-yB0G9VGMqlbg&nd=1>.
- He, Mei, Wang, Yiyang, Wang, William J., and Xie, Zhong. “Therapeutic plant landscape design of urban forest parks based on the Five Senses Theory: A case study of Stanley Park in Canada,” *International Journal of Geoheritage and Parks*. March 2022.

- Machielse, Walt. "Perceived safety in public spaces: A quantitative investigation of the spatial and social influences on safety perception among young adults in Stockholm." Stockholm University Department of Human Geography. June 2015. <https://www.diva-portal.org/smash/get/diva2:826168/FULLTEXT01.pdf>.
- Sim, David, and Gehl, Jan. Soft City: Building Density for Everyday Life. Washington, D.C., Island Press, 2019.
- Smejka, Tom, and Wiggs, Luci. "Response (ASMR) videos on arousal and mood in adults with and without depression and insomnia." *Journal of Affective Disorders*. March 2022. <https://www.sciencedirect.com.ezproxy.library.wisc.edu/science/article/pii/S0165032721013355>.