The Magic City Innovation District ("Magic City") is a seventeen-acre development slated to be built in the Little Haiti neighborhood of Miami. While the development may attract additional investment and benefits for new residents and businesses that move to the area, there is growing concern about the potential negative environmental and social impacts of the project, including economic displacement of residents who have historically resided and worked in Little Haiti, the majority of whom are low-income families of color. Without taking the time to establish a complete picture of the project’s environmental and social costs and benefits, Magic City Innovation District runs the risk of perpetuating economic and racial inequities across Miami communities and contributing to unsustainable development practices that threaten Miami’s long-term resilience.

**LAND USE CHANGE**

- Conversion of Urban Vegetation to Impervious Surface
- Increased Height of Buildings
- Increased Road Congestion
- Canyon Effect/Decrease in Air Circulation
- Loss or Decline of Ecosystem Services:
  - Air Quality
  - Water Quality
  - Stormwater Runoff
  - Flood Prevention
  - Urban Heat Island Mitigation
- Carbon Sequestration
- Increased Air Pollution
- Worsened Urban Heat Island

**ECONOMIC CHANGE**

- Rising Rents and Property Taxes
- Long-Term Residents Evicted or Priced Out
- Costs Associated with Moving:
  - Commute Costs (Direct + Opportunity Costs)
  - Relocation Costs (Direct + Opportunity Costs)
  - Moving and Upfront Rent Costs
- Costs Associated with Homelessness:
  - Some portion of evicted residents experience homelessness.
  - School Absenteeism among some Homeless Youth
  - Increased Flood Damages: Structural Damage to Home
  - Increased Flood Damages: Mental Health and Anxiety Costs
  - Increased Flood Damages: Lost Productivity
  - Increased Flood Damages: Lost Productivity

**NEW DEVELOPMENT**

**AS THE IMPACTS OF SEA-LEVEL RISE INTENSIFY AND DEVELOPERS LOOK TO HIGHER GROUND TO BUILD NEW PROJECTS, MIAMI’S LOW-INCOME COMMUNITIES OF COLOR ARE AT RISK OF DISPLACEMENT, PARTICULARLY TO CLIMATE-VULNERABLE NEIGHBORHOODS.**

**LINKING DEVELOPMENT WITH ECONOMIC, SOCIAL, AND ENVIRONMENTAL COSTS**

Large, mixed-use development projects such as the Magic City project can generate significant changes to land use and local economic conditions. Land-use changes, such as converting existing trees and lawn to sidewalks and parking lots, replacing one- or two-story buildings with multi-floor buildings, and increasing residential density, all generate a range of environmental impacts. Economic changes such as rising property costs can lead to economic displacement of lower-income households, which can result in long-lasting financial costs for households. As the impacts of sea-level rise intensify and developers look to higher ground to build projects, Miami's low-income communities of color are at risk of displacement, particularly to climate-vulnerable neighborhoods.
ENVIRONMENTAL COSTS OF PROPOSED LAND USE CHANGES

A review of project planning documents and key literature suggests that the Magic City project may generate environmental impacts. Potential environmental impacts for urban development projects such as Magic City include loss of pervious surface and associated impacts to ecosystem services; impacts of proposed height of new buildings and their effect on local air circulation (i.e. “canyoning effects”) and building efficiency, and potential impacts of traffic and congestion on local air quality. A full review of the environmental costs and benefits of this project is warranted.

THE VALUE OF URBAN VEGETATION

Urban vegetation such as trees, grass, and soil, serve as an important part of a city’s stormwater management system, especially in a city such as Miami with intensifying precipitation due to climate change. Urban vegetation intercepts, infiltrates, and naturally filters rain water, resulting in less stormwater runoff downstream and improved water quality. In addition to generating significant stormwater management benefits, urban vegetation has multiple ancillary benefits, including air quality purification, urban heat island effect mitigation, urban habitat provision, aesthetic value, positive mental health impacts, and property value uplift.

Any net loss of urban vegetation resulting from the Magic City project would generate tangible costs to local residents and local government alike.

BUILDING HEIGHT, ENERGY EFFICIENCY, AND CANYON EFFECTS

While the tall buildings that come with density have known environmental benefits, tall buildings can also generate negative environmental impacts. For example, while tall buildings can be built to be energy-efficient, many tall buildings generate inefficiencies due to materials used (e.g., glass). Tall buildings also can create what is known as the urban canyon effect, which occurs when a street has tall buildings on either side and air circulation at the street level is reduced due to blocked wind. The canyon effect results in stagnation and reduced air quality as well as worsened urban heat island effect. The aspect ratio, or the height of buildings divided by the width between buildings, is a useful indicator of the canyon effect. The canyon effect can occur on street segments with an aspect ratio greater than 1.

The Magic City project will dramatically change Little Haiti’s skyscape, with buildings up to 25 stories tall. While the developer plans to pursue LEED certification for the project’s buildings, additional details on what level of LEED certification should be made explicit. The estimated aspect ratio for many road segments throughout the project area appears to be greater than 1, suggesting the potential for canyon effects and reduced air quality.

THE COST OF CONGESTION

Congestion occurs when the number of vehicles transiting a roadway reaches maximum capacity and results in slower speeds and idling. There are multiple negative impacts of congestion, including economic impacts such wasted fuel and wasted time, and environmental and social impacts such as increased tailpipe emissions and air pollution.

It is estimated that the Magic City project will add approximately 9,400+ new vehicle trips to the neighborhood per day, based on the planned number of parking spots and the likely impact of ride share vehicles such as Lyft/Uber. According to the Kimley Horn Traffic Impact Assessment, congestion is projected to worsen for 16% of the 56 road segments within the project area. Some road segments will see average speeds decline from >17 mph to >13mph, or >13mph to >10mph. Even one mile of driving can generate tailpipe emissions with measurable health costs.

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1 Fletcher, T. et al. 2015. SUDS, LID, BMPs, WSUD and more – The evolution and application of terminology surrounding urban drainage. Urban Water Journal, 12, 525-542
4 Center for Neighborhood Technology. 2010. The value of green infrastructure: a guide to recognizing its economic, environmental, and social benefits
With speculation on the rise, the Little Haiti neighborhood has seen radical changes over the past several years. Low- and moderate-income residents are already leaving the neighborhood and moving to areas as far away as North Miami and North Miami Beach, which see higher risk of flooding and have poorer access to transit and jobs. While the specific impacts of the Magic City project on displacement is uncertain, the link between market-rate housing development and displacement of neighboring low-income residents is well documented. The costs of displacement are measurable and should be taken into consideration when weighing the costs and benefits of new development projects.

**THE COST OF DISPLACEMENT FOR LITTLE HAITI HOUSEHOLDS**

Household income and housing-cost burden (spending >30% of income on housing costs) is a useful indicator of displacement risk. Using this indicator, it can be assumed that 3000+ Little Haiti households will face risk of displacement in the coming years, especially if new market-rate housing such as the Magic City project continue to be built. Once displaced, a household faces additional costs for many years into the future.

**UPFRONT RELOCATION COSTS**

The cost of relocating to a new home is a significant and immediate burden.

$2,705

Relocation costs for one Little Haiti household during displacement.

**COMMUTING COSTS**

When facing displacement, households have a high likelihood of moving to a new neighborhood or municipality. Displaced households’ new neighborhoods on average have fewer job opportunities and require longer and more costly commutes. For example, low-income households living in North Miami and North Miami Beach generally have longer commutes than low-income households in Little Haiti, according to public data.

$2,250

Commute-related costs for one Little Haiti household after displacement.

**FLOODING RELATED COSTS**

Displaced households often move to areas with poorer environmental conditions. In Miami, higher-elevation neighborhoods are being gentrified as lower elevation neighborhoods with higher flood risk are less and less desirable. Flooding events not only damage property – they also generate significant social cost, including mental anxiety and disruption to work productivity.

$256

Social cost of flooding for a displaced Little Haiti household, based on flood risk in new neighborhood.

**WHAT HAPPENS WHEN A HOUSEHOLD IS DISPLACED?**

The impacts of displacement are well documented – everything from upfront relocation costs, to increased commuting costs, to the cost of increased flood risk. Using publicly available datasets, the average financial cost of displacement to a Little Haiti household can be estimated.

**DISPLACEMENT COSTS TO A SINGLE AT-RISK LITTLE HAITI HOUSEHOLD**

- Total upfront cost, in the first year: $5,200
- Total annual cost, after first year: $2,500

**DISPLACEMENT COSTS TO ALL AT-RISK LITTLE HAITI HOUSEHOLDS**

- Total upfront cost, in the first year: $16 million
- Total annual cost, after first year: $8 million

*Net present value of costs cover ten years, using a 7% discount rate.*

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**ALTERNATIVE DISPLACEMENT SCENARIOS AND ADDITIONAL CONSIDERATIONS**

**ALTERNATIVE DISPLACEMENT SCENARIOS** The estimated $68 million in displacement-related costs for low-income Little Haiti households is based on a single displacement scenario involving renter households who successfully find new housing and either maintain their existing jobs or find new jobs. There are multiple displacement scenarios and associated costs that should also be considered.

**HOMELESSNESS AND SCHOOL ABSENTEEISM** In some cases, displaced households may experience periods of homelessness. Families experiencing housing insecurity and homelessness are more likely to lose their jobs than their housing-secure counterparts; resulting not only in temporary loss of wages but also long-term barriers to finding employment due to stigma associated with involuntary job loss. Homeless youth are also more likely to experience chronic school absenteeism.

**RECURRING RELOCATION** Displaced families often must settle for sub-par housing and may search for new housing again within a year after the initial move, resulting in recurring upfront moving costs. The estimated costs of displacement within the first year ($5,300) could actually be incurred over multiple years. These additional costs amount to 22% of the average income of a Little Haiti household.

**HOMEOWNERS AND FLOOD DAMAGE** Low-income homeowners also face displacement pressures. While less vulnerable than renters, homeowners may miss mortgage payments or face issues paying rising property taxes, as property values rise. Moreover, homeowners who purchase homes in new neighborhoods may face increased risk of flood damage as low-elevation neighborhoods become the most affordable option. While some homeowners purchase flood insurance, many do not.

**ADDITIONAL CONSIDERATIONS** Many impacts of displacement cannot be estimated in terms of economic cost, either because they are beyond economic measure or there is currently insufficient data to estimate the costs with confidence. The true costs of displacement encompass many factors and amount to significantly higher costs than what was estimated in this analysis.

**IMPACTS TO BUSINESS OWNERS** As demographics change at the neighborhood scale, minority- and immigrant-owned businesses may see a loss in customer base, as long-term customers leave the neighborhood and new residents entering the neighborhood patronize new businesses targeting incoming residents. If minority-owned businesses leave the neighborhood due to prohibitive rent increases (most small business owners do not own the property or building they occupy), residents who stay may no longer be able to access culturally relevant goods and services and displaced businesses may not be able to rebuild a customer base in a new location.

**LOSS OF CULTURAL AMENITIES, SERVICES, AND COMMUNITY NETWORKS** Displacement fragments social networks and disrupt community cohesion. Social networks among friends and family play a critical economic role for families (e.g., childcare) as well as mental and emotional benefits that are beyond economic measure. Access to culturally relevant services is also disrupted when displacement occurs.

**IMPACTS TO CITY GOVERNMENT – COST OF EVICTIONS/HOMELESSNESS** The cost of economic displacement is not only borne by households. Local city and county governments also bear an economic burden. Eviction impacts local governments through unpaid utility bills; evicted households who then experience homelessness also generate a cost, through increased demand for homelessness-related government services such as shelters. Miami-Dade County spends approximately $20,476 each year on homelessness- and eviction-related costs, per household.

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