



THE OVERPASS  
OVERTOWN, MIAMI, FL

SOPHIA CAIN  
MASTERS THESIS  
SPRING 2017

The built environment is closely tied to the lives we live, so the quality of its design can have either healthful or harmful impacts on **quality of life**. The introduction of two major Interstates **deeply wounded the historic neighborhood of Overtown** in the 1960s, leaving an **architectural void** that contributed to general poverty and the **health disparities** associated with it.

**The Overpass is a prototype for bridging health disparities by addressing the architectural voids contributing to them.**

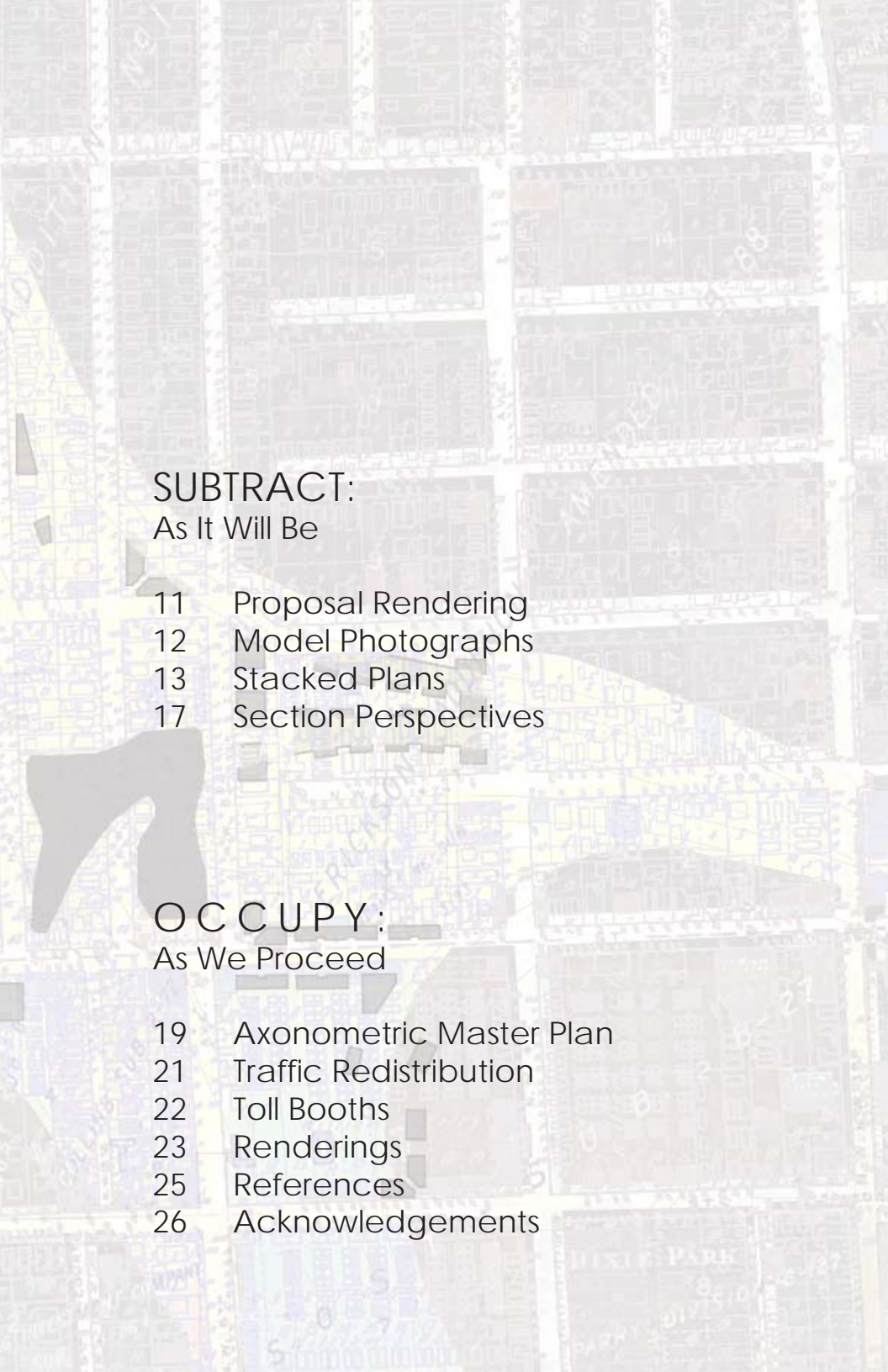
TABLE OF CONTENTS:

**DWELL:**  
As It Stands

Historic Map	3
Overtown Timeline	4
Bill of Health	5
Food Desert	6

**REPLACE:**  
As It Could Be

Resources Distribution	7
Site Study	9
Process Samples	10



## SUBTRACT:

As It Will Be

- 11 Proposal Rendering
- 12 Model Photographs
- 13 Stacked Plans
- 17 Section Perspectives

## OCCUPY:

As We Proceed

- 19 Axonometric Master Plan
- 21 Traffic Redistribution
- 22 Toll Booths
- 23 Renderings
- 25 References
- 26 Acknowledgements

# DWELL:

## As It Stands

In the 1960s, the construction of two major **Interstates** replaced much of the residential and commercial material in the historic neighborhood of **Overtown**. This **racially-driven decision** deeply wounded the neighborhood, leaving a long-lasting **architectural void** that contributed to **general poverty** and **poor health outcomes**.



# OVERTOWN HISTORY TIMELINE



- **1896:** Miami was first incorporated as a city. Overtown was originally called “Colored Town,” a fully segregated area.
- **1916:** Ordinance 199 proposes setting NW 20th Street as the “Color Line.” The rule was not passed, but the line was still unofficially recognized, **discouraging the movement of black people.**
- **1929:** Father John E. Culmer of St. Agnes Episcopal becomes an advocate for **public health** improvement, working with the **Miami Herald.**
- **1947:** A push for “Urban Renewal” starts in the form of **home inspections** and of property being taken for sidewalks.
- **1930s-50s:** A time of **cultural vitality.** Black artists frequently performed and stayed there. People begin calling the place “Overtown.”
- **1956:** Plans for a more or less unobtrusive **Expressway** are cancelled in favor of plans for **Interstates running directly through Overtown.**
- **1960s:** The two **I-95 and I-395 Interstates** replace the business district and much housing. **Population drops** from 40,000 to around 10,000.
- **1968 Onward:** Still a largely segregated area. Overtown sees a **rise in crime** and patterns of **police brutality.**
- **2017:** Overtown has not recovered, but the residents do what they can to build a better future.
- **FUTURE:** Property is being bought up rapidly for redevelopment, and community members fear losing Overtown.

# OVERTOWN'S BILL OF HEALTH

There is a correlation between **poverty and poor health outcomes**, and between **health and the built environment**. Economic poverty both contributes to poor health, and perpetuates it. Good **architectural resources** can help intervene in this system to improve a neighborhood's quality of life, but first the factors affecting health must be understood.

## SOME CONTRIBUTING FACTORS:

What looks like a **"bad neighborhood"** is often the result of certain harmful **environmental factors and unmet needs**.


The following give rise to **poor health** in Overtown and similar places.



**POOR NUTRITION**  
Processed, sugary, and fatty foods are cheap, but weaken the body.



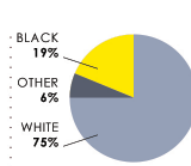
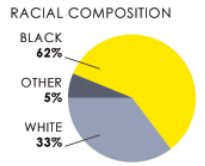
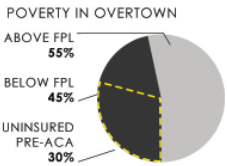
**INACTIVITY + CRIME**  
Danger can discourage outdoor motion. Walking-distance activities are lacking.



**LACK OF KNOWLEDGE**  
Many are under-educated or don't know about the available resources and strategies.



**ADDICTION**  
Various environmental and social pressures lead to over-use of alcohol + cigarettes.



**NEARBY RESOURCES**

















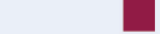







The Health Care District is nearby, but many can't afford to take off work to visit. Use of the ER as Primary Care is prevalent.

## HEALTH RISK COMPARISON

## OVERTOWN VALUE

## MIAMI-DADE COUNTY VALUE

## ARCHITECTURAL OPPORTUNITIES

DIABETES (per 10,000) Emergency Room	88.5			22.8	Design safe <b>outdoor</b> spaces, designated <b>exercise</b> space, and greened / ramped areas to <b>get people moving</b> .
Hospitalization Rate	73.2			24.7	
INFECTION (per 10,000) BACTERIAL PNEUMONIA Hospitalization Rate	60.5			27.0	Use materials and air-control strategies known to <b>prevent contagion</b> . Clearly designate and <b>conveniently locate</b> vaccination places.
HEPATITIS (per 10,000) Hospitalization Rate	9.1			2.2	
ASTHMA (per 10,000) Emergency Room	216.4			62.8	Support active protection of <b>air quality</b> . Industrial facilities must be closely monitored for sources of <b>air pollution</b> .
Hospitalization Rate	43.2			14.5	
ALCOHOL ABUSE (per 10,000) Emergency Room	210.9			19.4	Facilitate mentally healthful <b>alternative activities</b> , and <b>appealing support locations</b> for addicted individuals.
Hospitalization Rate	65.3			9.7	
INFANTS BORN TO MOTHERS <18yo, WITH <12 YEARS EDUCATION	18.6%			8.0%	Locate <b>prenatal care</b> and <b>educational</b> resources in popular locations.
SINGLE-PARENT HOUSEHOLDS	65.9%			39.9%	Ensure safe and healthy <b>home</b> environments.
PEOPLE LIVING IN POVERTY	45.6%			20.4%	Determine <b>unmet needs</b> , and design architectural resources to bridge those gaps while drawing funds into the <b>local economy</b> .
CHILDREN LIVING IN POVERTY	59.6%			27.7%	
MEDIAN INCOME		\$20,306		\$43,129	

# A JOURNEY THROUGH THE FOOD DESERT

Because low-quality food also tends to be low-cost, poverty can make it hard to avoid **preventable conditions**. Architecture can help alleviate this through **urban agriculture**, which makes fresh food more affordable through **local production**, and encourages healthier eating by making the food source visible. A combination of UA strategies can **make nutritious food abundant and accessible**.

EVERY YEAR,  
THE AVERAGE PERSON  
SHOULD EAT:



About **2,000 lbs** of food,  
**1,000 lbs** being made up of  
fruits + vegetables.

AND EVERY YEAR,  
THIS FAMILY OF **6**  
SHOULD EAT:

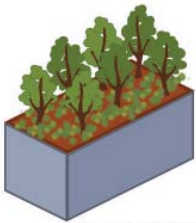


About **12,000 lbs** total,  
or **6,000 lbs** of produce.

SO EVERY YEAR,  
OVERTOWN'S POPULATION OF  
**13,070**  
SHOULD EAT:



A total of around  
**26,140,000 lbs** of food,  
so **13,070,000 lbs**  
of produce.



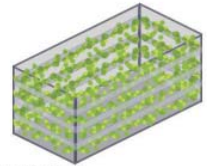
This 9ft x 18ft Container  
can support **162 sq ft** of  
**FOOD FOREST**.

It will produce  
**161 lbs** of food per harvest,  
twice annually, so  
**322 lbs** of fruits + vegetables  
per year.

The **FOOD FOREST** Module is an **uncontrolled, outdoor system**, so it is less efficient. But it is good way to use outdoor space to feed many people while introducing **natural beauty** to an urban area.

This similar Container  
can support **162 sq ft** of  
**HYDROPONIC GARDEN**.

It will produce  
**3,523 lbs** per harvest,  
on a monthly basis, so  
**42,276 lbs** of produce  
per year.



The **HYDROPONIC** Module is a **controlled, indoor system**, so it is more efficient. With enough available square footage, it can be used to provide for entire families, and it can coexist with **other programs**.

At this rate, it will take **3 FOOD FOREST** CONTAINERS,  
each **162 sq ft**, to grow  
**1,000 lbs** for the average individual **yearly**.



Meanwhile, just **1 HYDROPONIC** CONTAINER,  
also of **162 sq ft**, can grow  
**42,276 lbs** yearly, enough for **42 people**.

So it will take **18 FOOD FOREST** CONTAINERS  
to grow the **6,000 lbs** that a Family of 6 will need.



And the **1 HYDROPONIC** CONTAINER will grow  
enough produce for **7 Families of 6** every year.

It will take **40,590 FOOD FOREST** CONTAINERS  
to grow **13,070,000 lbs** for all of **OVERTOWN yearly**.  
That's **6,575,580 sq ft**, or **151 acres**.



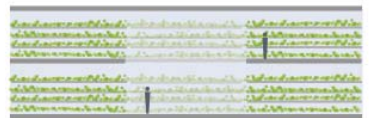
But **310 HYDROPONIC** CONTAINERS will grow  
enough produce for **all of Overtown yearly**.  
That's **50,220 sq ft**, a little more than an acre.

The Proposal includes **394,000 sq ft** of  
outdoor garden, or **2432 Containers**,  
on strips of highway and above the  
Overpass. This yields **783,104 lbs** per  
year, enough for **783 people**.



In total, the Overpass  
can grow  
**14,142,320 lbs**  
of produce yearly,  
enough to provide  
**1,000 lbs per person**  
annually, for a population of  
**14,142 people**.  
That's enough  
for everyone.

The interior of the Overpass will  
include **51,209 sq ft** of indoor  
growing space, or **316 Containers**.  
This yields **13,359,216 lbs** of food per  
year, enough for **13,359 people**.







FOOD

SOCIAL SERVICE

EDUCATION

EXERCISE

HEALTHCARE

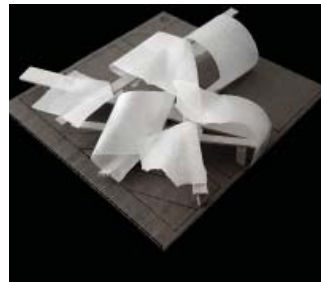
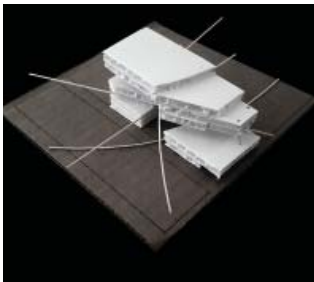
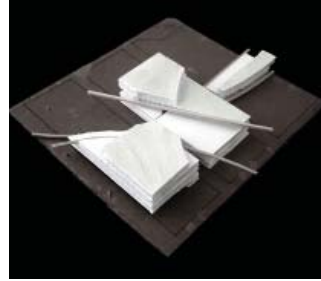
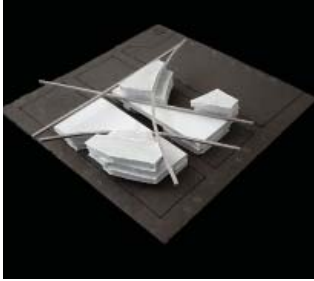
PARK



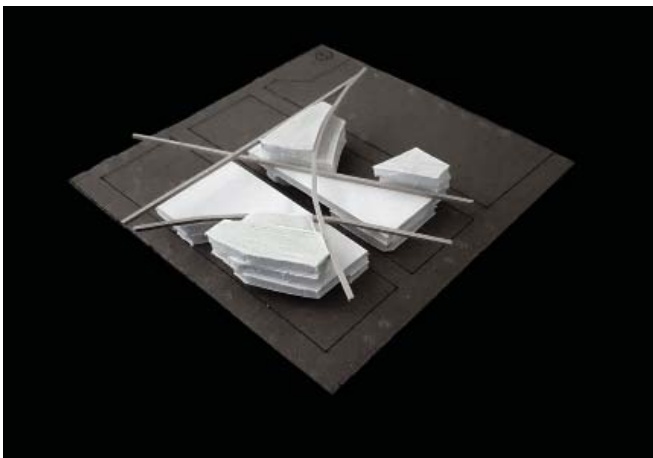
Overtown is a **historic neighborhood** worthy of respect and interest it has not often received. The original photography below captures several of the neighborhood's architectural treasures. **Mt. Zion Church** was narrowly missed by the Interstate, and functions today. **Lyric Theater** houses the Black Archives, a resource of the history of African Americans in South Florida. **The Dorsey house** is one of few like it that have survived decades of decline. Little occurs in the **spaces under the Interstates**.



The below model studies were exercises in determining what form a building could take in the middle of the Interstates, within the framework of a **reestablished grid** of city blocks. Architecture can **take place in the wasted space** amid the highways, and contribute to Overtown's healing without taking anything away.



The experimental models explore what forms can result when the **curvilinear grid** in the Interstates gets superimposed on the grid of the **historic streets** that Overtown once lost. This **affirms the importance** of those streets and retains the evidence of history.



# SUBTRACT:

As It Will Be

**The Overpass** intervenes where the Interstates intersect, and reclaims the convenient central space **to add architectural resources** to the neighborhood. The architecture helps address local issues of **poor nutrition, non-walkability**, and a **lack of education and preventive healthcare**, which all tie poverty to poor health outcomes.



The **knot** where the Interstates cross is also the center of Overtown, so it is a convenient place for a **diverse array of programs** to become available. It is right to **interrupt the system that first disrupted Overtown**, as part of an architectural move to restore it.



Reclaiming the same central space that Historic Overtown once lost, in order to supply architectural resources that are lacking because of that loss, is **an architectural move of restorative justice**. These floor plans show the **distribution of activities** throughout the Overpass, and visually elaborate on the relationships between **building programs** and the **nearby highways**.

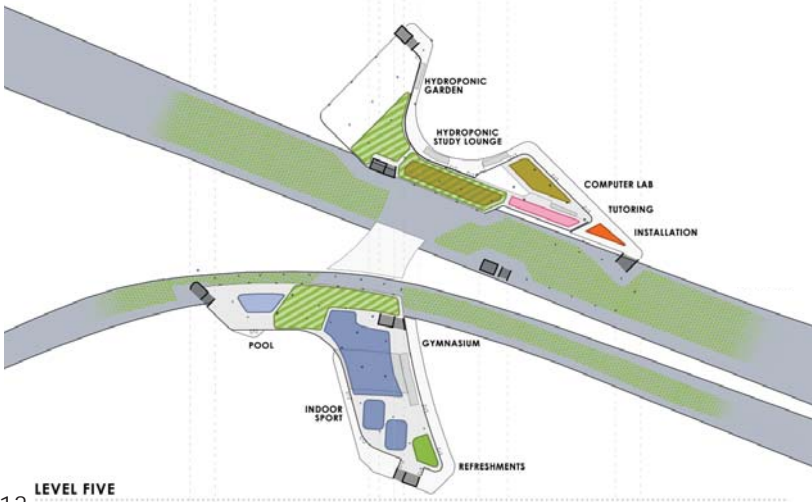
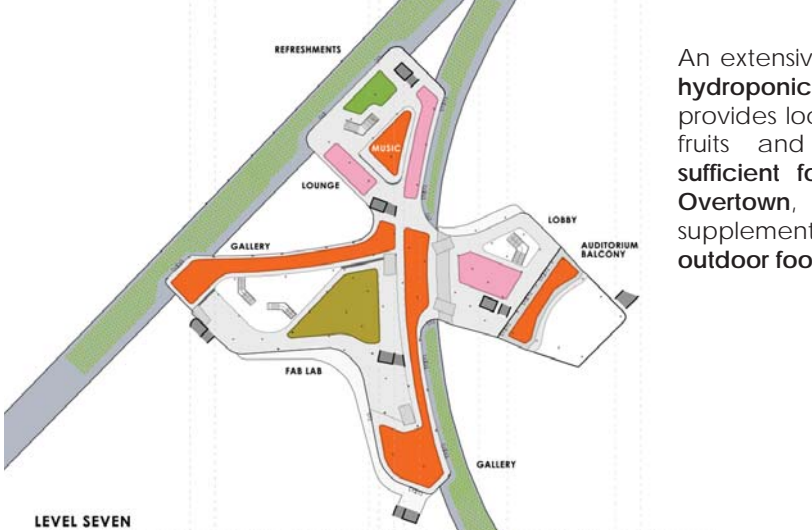
Research about **health outcomes** and **resources** in Overtown indicated a need for specialty health services, affordable nutritious food, safe places to exercise, and educational resources.





The **Grocery Clinic** places primary care in context with nutrition, rendering access to healthcare as casual as a trip to the grocery store. **Diagnostic services** are in convenient proximity to a **legal office** that partners with medical teams to address the often unmet legal needs of **financially vulnerable people**.

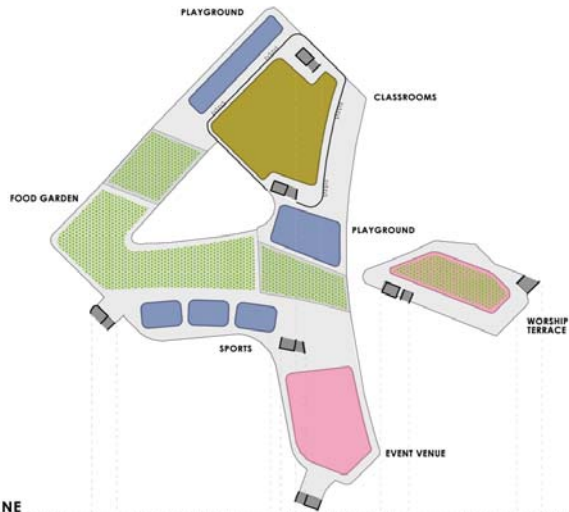
An extensive amount of **hydroponic** space now provides locally sourced fruits and vegetables sufficient for the all of **Overtown**, a resource supplemented by the **outdoor food forests**.







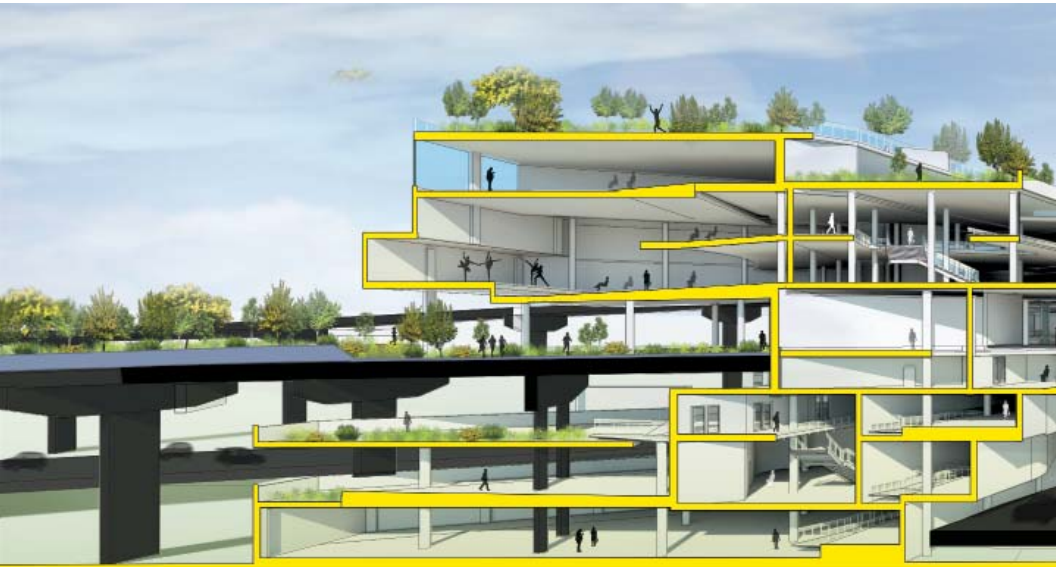
LEVEL TEN



LEVEL NINE

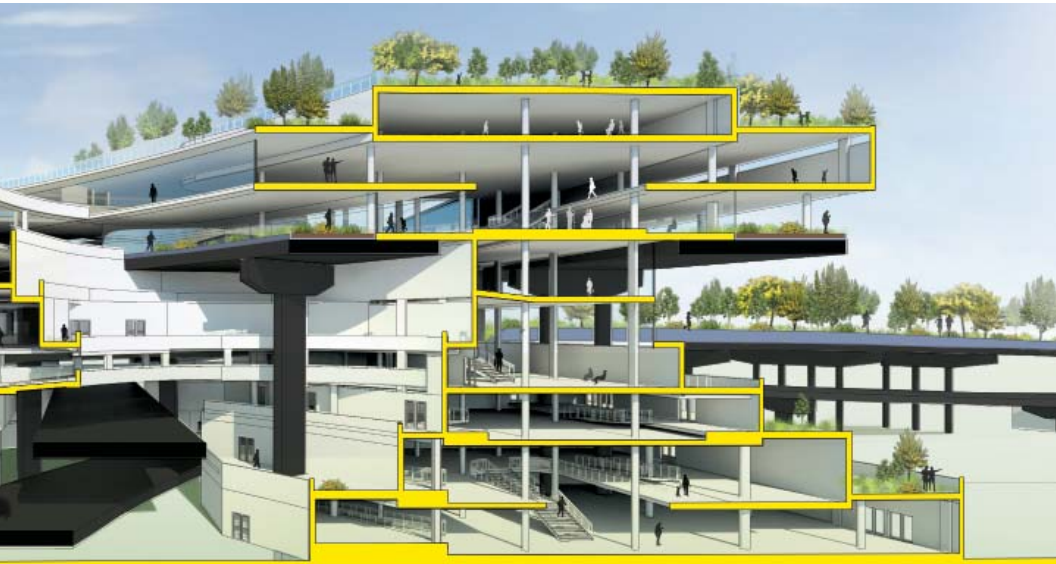


LEVEL EIGHT

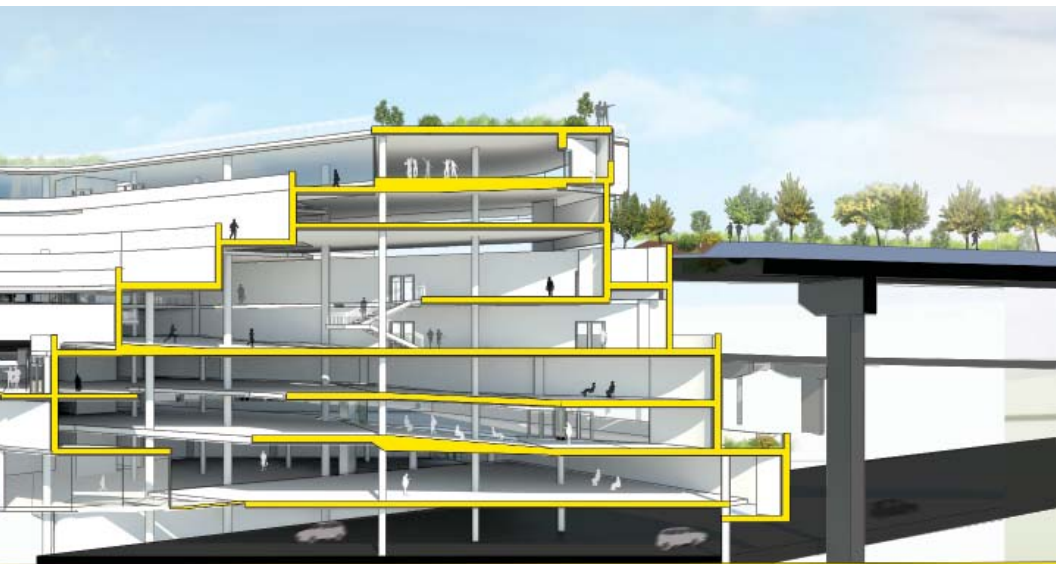


Conversations with community members highlighted what is lacking, and what is most highly valued, in Overtown. The consensus is that locals feel that new development in the neighborhood will be of a kind that slowly **takes Overtown away from them**. The trend of new development is here taken as a means to work for the community, so that they **overcome past wounds**, rather than to deepen them.





EAST BUILDING : SECTION PERSPECTIVE



WEST BUILDING : SECTION PERSPECTIVE

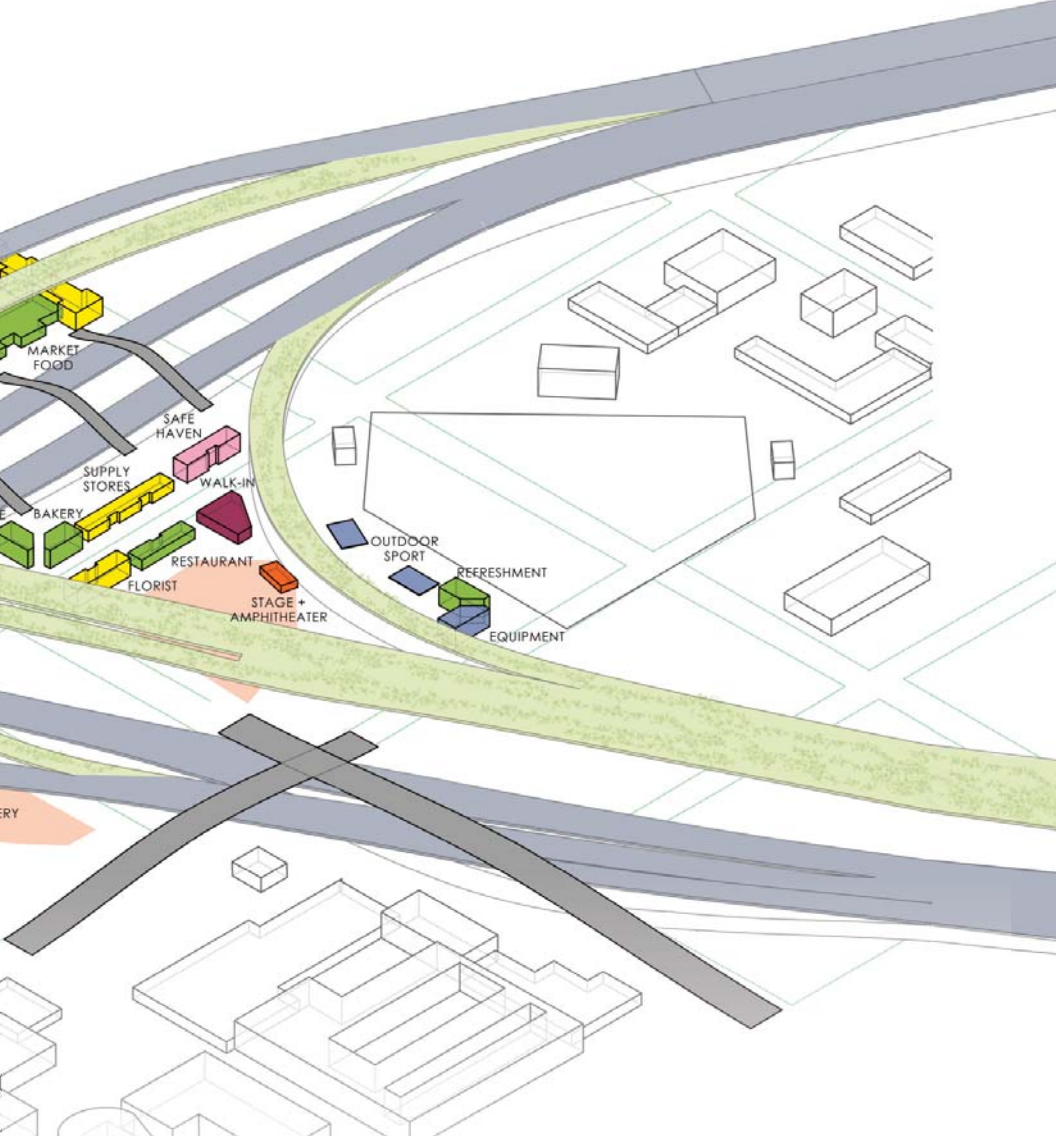
# OCCUPY:

## As We Proceed

This master plan relies on the re-introduction of the **historic city blocks** destroyed when the Interstates were built. With that grid newly **superimposed**, we reclaim land at the center of Overtown that is currently entirely empty. New architectural resources can now be installed amid city streets which have been **nonexistent for over 50 years**.



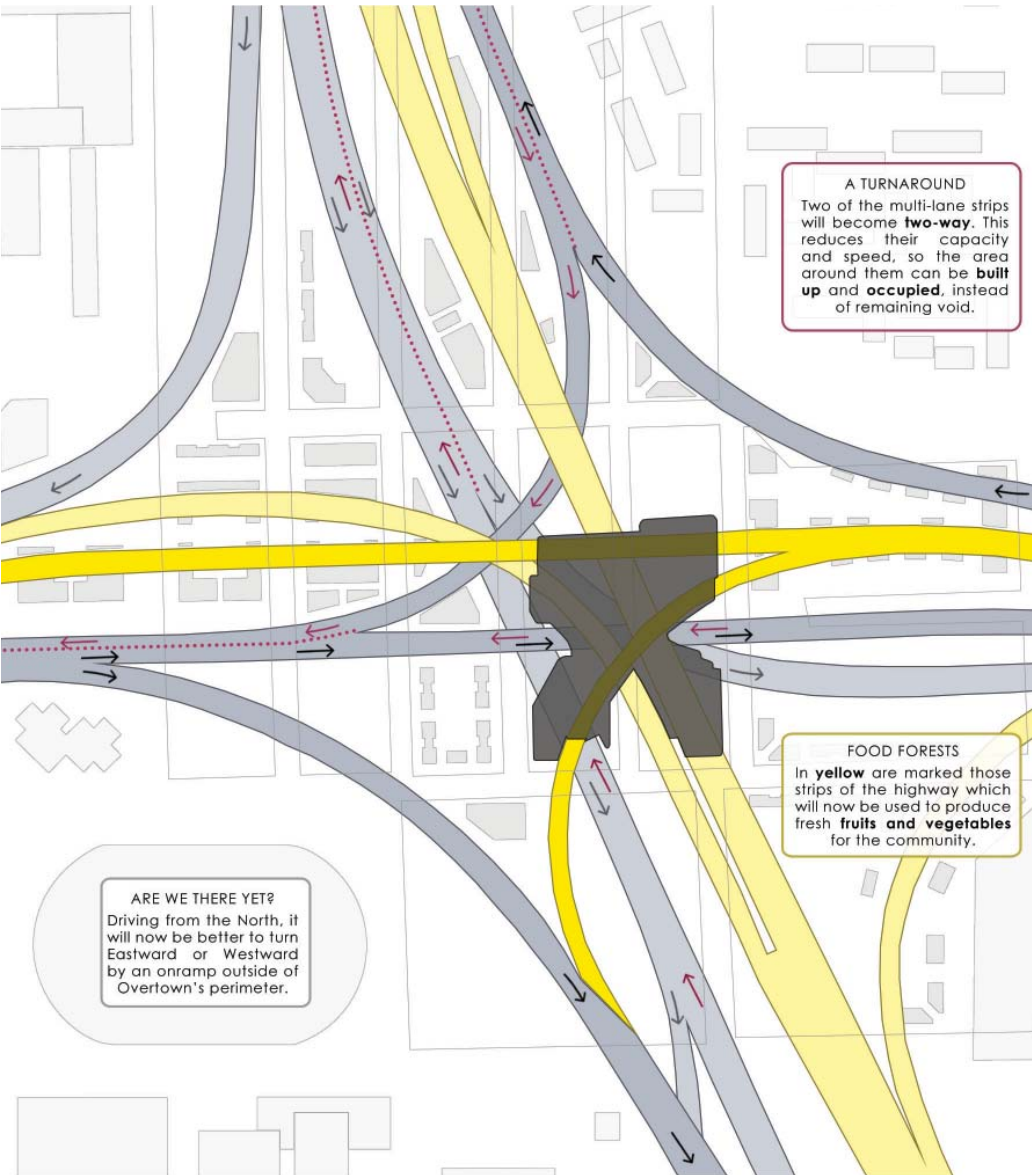
EDUCATION   SOCIAL   COMMERCIAL   EXERCISE   HEALTHCARE   FOOD



Above is a recommendation for the **arrangement of resources** in the area around the Overpass, whose design also incorporates many **similar functions**. Some of these resources will provide access to **locally-sourced healthy food**, others a safe space to **learn, play, or exercise**.

# A ROAD MAP FOR TRAFFIC RECONFIGURATION

Traffic can continue in cooperation with the **productive redevelopment** of the void area. After turning half of the highway strips into **food forests**, remaining traffic can be **redirected** through the remaining half so that travel continues in every direction.



Overtown is a **historic neighborhood** in need of recovery from decades of damage. Rededicating part of the highway to addressing the food desert, and building around the rest, can help **heal Overtown and maintain intercity travel**.

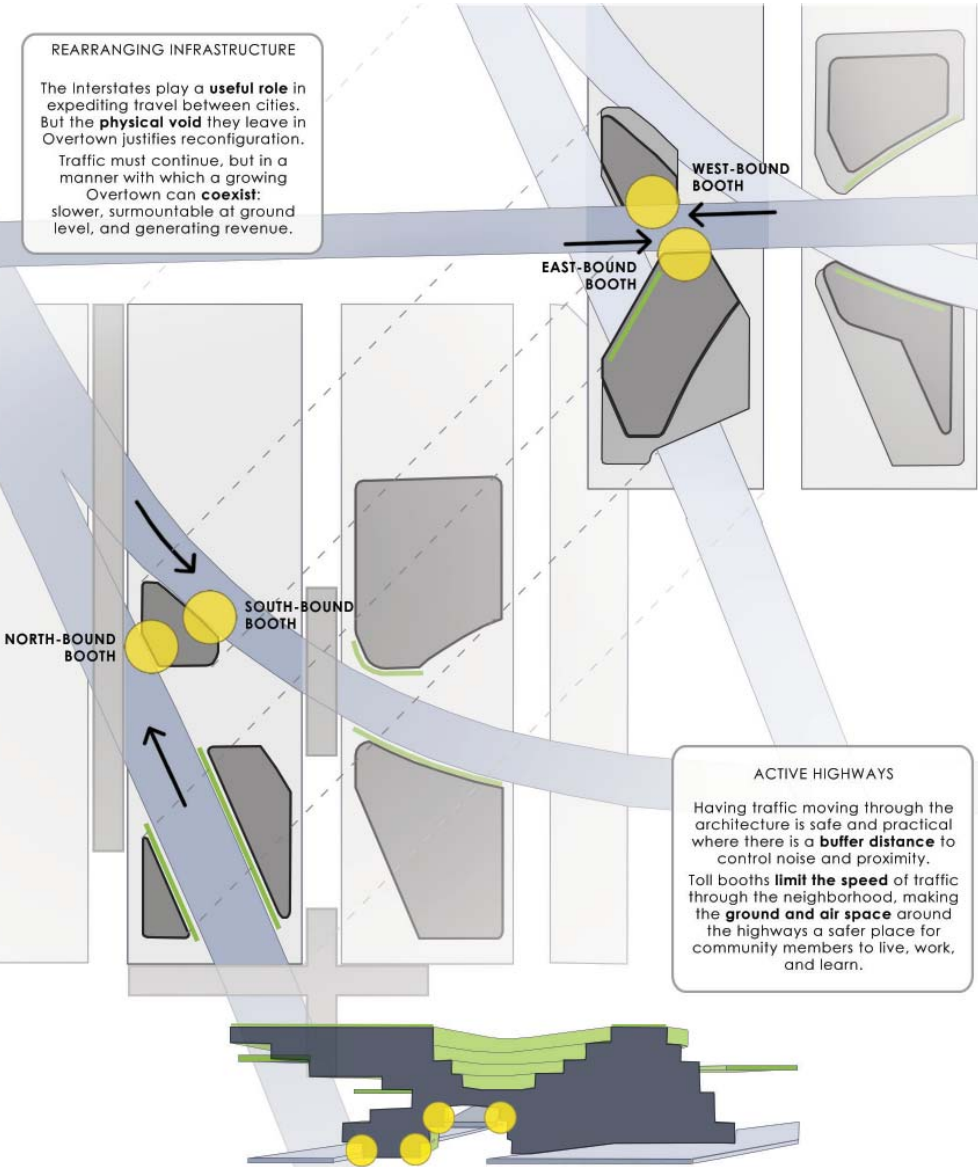
# INTRODUCING THE OVERPASS TOLL BOOTHS

A toll can help to support functions that **benefit everyone** - both on the road, and in the neighborhood. Making the highways into a revenue source both supports this highway's **maintenance** and facilitates neighborhood **revialization**.

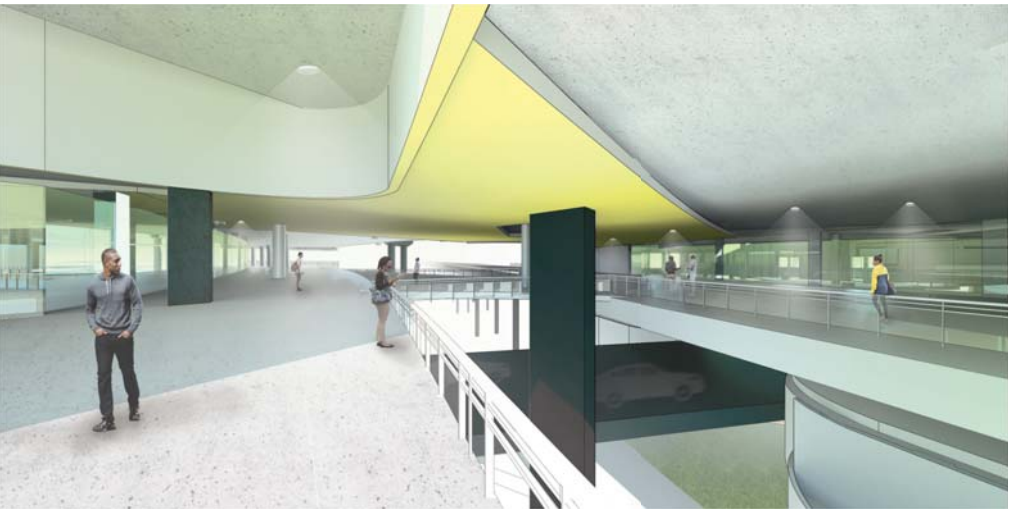
## REARRANGING INFRASTRUCTURE

The interstates play a **useful role** in expediting travel between cities. But the **physical void** they leave in Overtown justifies reconfiguration.

Traffic must continue, but in a manner with which a growing Overtown can **coexist**: slower, surmountable at ground level, and generating revenue.

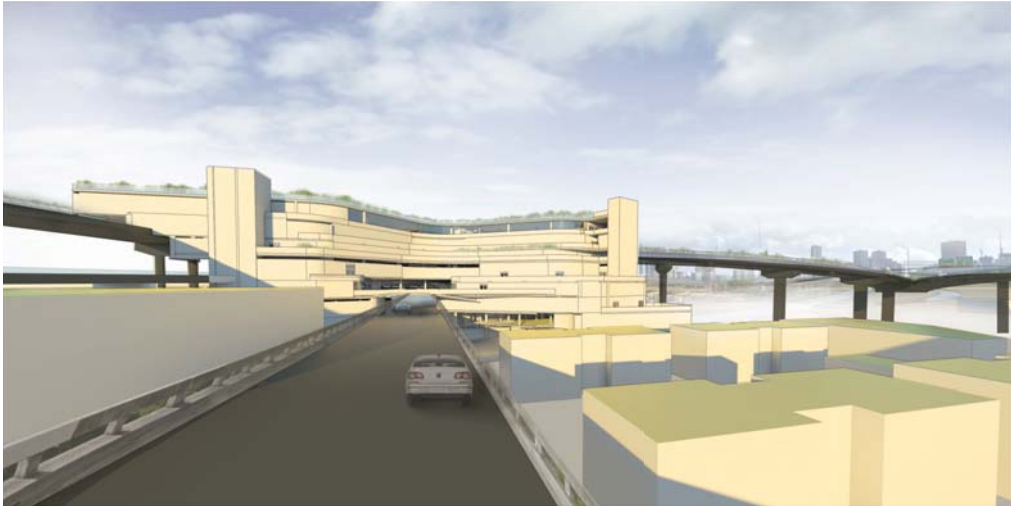


Interstate highways have connected people across the nation for 50 years. But their **poor arrangement** has consistently been **economically disastrous** in places like Overtown. Imposing a toll where traffic flows through the Overpass is a way to have this infrastructure **benefit the neighborhood**.



This architecture needs to be at a **scale compatible with the infrastructure** in which it intervenes. It would be highly inappropriate to keep it underneath, inviting the community to enjoy new activities only under active highways. This would be a **compromise** in which Overtown's revitalization is limited by the same infrastructure that has crippled it for decades. It is Overtown's turn to **rise above**.





The cost, scale, and location of architecture can determine the significance of its effect on its surroundings. But its **content and intended use** is what determines whether that effect will be a positive or a negative one. Just like in 1960, it will not be an **“urban improvement”** for a community to be uprooted so that **“better”** things can be built. **It is better, only if it is better for them.**

# REFERENCES

The following sources contributed to relevant research and to the development of project models and maps.

## **Health:**

Miami-DadeMatters.org data on Zip Code 33136, Accessed March 2017  
American Community Survey 2013

## **Nutrition:**

Fabricated Food Research Studio, Spring 2017, Professor James Brazil  
American Community Survey 2013

## **History:**

UM Library Online, Overtown Chronology  
Richard Mohl, Interstate: Highway Politics and Policy Since 1939. May 2012  
The Black Archives

## **Modeling:**

Google Earth, Overview of Overtown, Miami, FL. Accessed 2017



# ACKNOWLEDGEMENTS

Special thanks are due to these groups and individuals:

My disruptive and challenging advisor, Germane Barnes;

Our Thesis Group: Michael Riebesell, Shuhui Wang, and Carolyn Anderson;

Angel + Jason Pittman and Terri Dewey at Touching Miami with Love;

Ms. Clay, Ms. Sadler, and Ms. Rose, longtime Overtown residents;

Pastor Willie Williams, for whom the best is yet to come;

Gilda and Ellie, the brilliant librarians with their revelatory plat books;

and the Living God, the passion of my life, a great Architect and a lover of justice.



