PRESERVING THE HEARTBEAT OF TRENCH TOWN

A VISION FOR URBAN RENEWAL

by

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ABSTRACT

Urbanization has increased the demand for housing in major cities across the Caribbean. Jamaica is one of several islands dealing with the overwhelming difficulty of improving the living conditions of individuals living in informal settlements. Formality and informality overlap in many of Jamaica's urban neighbourhoods. The increasing gap between economic growth and population growth has made it extremely challenging for many communities to thrive. Even orderly, well-planned communities have descended into informality over time. As the island has continued to urbanize, an insufficient supply of adequate and affordable housing, most notably for low-income households has made squatting commonplace. In the heart of Jamaica's capital, Kingston, the inner-city Trench Town neighbourhood is plagued with crime, historic political corruption and urban decay -- posing challenges for sustainable urban development.

Through an in-depth analysis of the historical, political, cultural and architectural context of Trench Town, this thesis proposes a series of interventions to promote a higher standard of living. Increasing the supply and quality of housing, as well as accommodating informal economic activity can be a catalyst for community change. It offers insights into how best to build empathic and healthy neighbourhoods that meet individual residents' desires while contributing to the unity and wellbeing of the community as a whole. This redevelopment proposal for Trench Town will provide residents with the advantages of homeownership, reduce levels of crime, stimulate business opportunities and expand tourism. In doing so, the project respects Trench Town's rich architectural and social history that has cultural and economic value.

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Secondly, I would like to express my deepest appreciation to Christopher Whymys-Stone, Jamaican architect and Director at Cornerstone.Design. His extensive knowledge of Trench Town, as well as his input throughout the design process and his feedback greatly contributed to the development of this respective proposal. I must also extend thanks to Hopeton Geroge Smith, National Housing Trust architect. He provided insight into the government agency as well as how to design for Jamaica's unique and dynamic culture. Both local architects were instrumental in my understanding of Trench Town and the housing issues at play in Jamaica.

Finally, I must extend my acknowledgments towards my friends, family and faith that has seen me through this journey. Your support and encouragement have meant the world to me and have given me strength during difficult times. I would not have made it this far without your unconditional love.

Fig. x
Sit(e): Collage

Left, right, north, south, garbage merges with the urban fabric

Urban decay is everywhere you look

Pop cans, broken furniture, metal frames and chairs entwine into a pile of wreckage
Sticking out like a sore thumb in the midst of its surroundings

Urban decay is everywhere you look

Stacked up high in the background appears monolith blocks

Sticking out like a sore thumb in the midst of its surroundings

Lined up from block to block the typology is repeated

From the balconies above to the verandahs below, the world can be seen

Rundown shanties constructed from zinc scrap metal

Tiles, timber and fence are the bones of the self-made structures

People gather on the streets until gunshots fire

Streets are blocked in every direction,

Using trees, old cars, and tires

The community deters drive-by shootings from local gangs

Left, right, north, south, garbage merges with the urban fabric

PROLOGUE

The bond with my parents’ homeland, Jamaica, has always been unique. From visits to the mountainsides to the hustle and bustle of cities, memories of laughter, rhythmic music and the island’s beauty remind me of the country’s vibrant character and culture. The fascinating traditions and rich cultural history have deeply affected me since my first travel at six months. Despite the various visits I have had, I somehow felt like a “foreigner” – unattached to the country’s struggle and progression. This began my journey to reconnect with my heritage and attempt to understand the status quo - a path that would eventually lead to the completion of this study.

There is always this overwhelming ambiance that one feels upon arrival on the island. This is not the Jamaica shown in TV commercials, where all-inclusive resorts and cruises promote a getaway in paradise with mesmerizing excursions and white sandy beaches. While there is no denying that this side of Jamaica exists, this thesis focuses on the other side of the fence. To see the real Jamaica, one must venture beyond the secure confines of the resorts. On the island, one can explore the rich culture, affluence and struggle faced by those fighting poverty daily - an unusual mix of thriving and survival. With more than 60% of urban areas built informally, slum populations are growing at a faster pace than the overall urban population.¹

Trench Town is a community that reflects this complex layered identity. From this popular community, there is a wide variety of entertainers, sportsmen and accomplished professionals. The community has also had its fair share of crime, poverty, dilapidated buildings and deplorable infrastructure. Many residents fear that their homes will cave in on

them as there have been minimal improvements to almost century-old structures. Despite this, residents are happy as there are good neighbourly bonds and community stewardship. Programs such as Trench Town Development Council (TTDC) and A Friend in Need demonstrate the community’s dedication to working together to bring about social change to get residents out of poverty. Tourism has also played a role in this as there has been less crime and more progress seen in the community. The community’s layered history and complex socio-economic issues made the site ideal for the exploration of low-income housing strategies. Ultimately this project desires to use the community’s inherent culture and architectural history to create a more sustainable future. This would allow residents to be self-sufficient and able to have a better life.

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LIST OF TERMS

Affordable housing: Used by most local housing agencies is when the cost of housing does not exceed 30 per cent of gross household income.¹

Conservation: is the hands-on act of working directly with the building to preserve its current condition.²

Federal gardens: The first government yard developed by the Central Housing Authority (C.H.A) in Trench Town.

Garrison: Constituencies in Jamaica are housing developments erected by the government who house carefully selected residents that will wholly support a local politician.

Greenfield Sites: which targeted low-income and lower-middle income earners from existing squatted areas where upgrading was not possible due to cost or unsuitability as a residential area.

Incremental/Progressive Housing: A phased process aimed at providing access to adequate housing. This process intends to access a housing opportunity starting with the right of tenure with rudimentary service, followed by basic services then eventually acquire a house through a self-build process.

Low Income Earner: An individual with a gross weekly remuneration that is within National Housing Trust lowest income band (\$7,000 to \$15,000.99 per week).³

Parish: Similar to provinces as in Canada, a parish has borders and capitals with a local government in Jamaica.

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<https://www.conservation-design.com/renovation-restoration-preservation-conservation>.
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Poor: The poor are persons living below the poverty line. According to the 2015 Jamaica Survey of Living Conditions, the adult poverty line was \$175,297.00 per year.⁴
Preservation is the non-invasive act of minimizing deterioration and preventing future damage to the structure.⁵

Restoration: return a building or structure to a useful state of means of repair, to its original or near-original condition.⁶

Social housing: A housing option which refers to housing that is managed either by government or by non-profit agencies, for the specific purpose of providing accommodation for households in need, and for social and community benefit. The term encompasses public rental housing, subsidised community housing, supported housing and emergency accommodation.

Tenant: person who rents land or house from landlord: occupant of place; farmer (farming hired land); tenancy, tenant’s position; tenants of estate etc.

Tenement: dwelling-place, esp. set of rooms held separately from rest of house.⁷

Tenement yard: is a single plot of land with multiple units housing multiple households sometimes referred to as ‘Big Yard’.

Tenure: Being the legal owner of land, a job, or an official public position, or the period of time during which you own it.⁸

Yard: piece of enclosed ground especially attached to building(s) or used for particular purpose.⁹

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CHAPTER ONE:
ENVISION JAMAICA

INTRODUCTION

For as long as I can remember, Jamaica has embodied a land of contrasts with great differences and complexity. The stunning beauty of the island and its inhabitants contrasts sharply with the uneven urban fabric shaped by conflict and contrasting polarities. Driving into and through the city of Kingston as a child I remember not knowing what to make of what I saw. The urban decay projected by the city’s many dilapidated buildings, small streets and dimly illuminated roads quickly transformed into the well-developed business district of New Kingston, a manicured environment.

Formality and informality overlap in many of Jamaica’s urban neighbourhoods. The increasing gap between economic growth and population growth has made it extremely challenging for many communities to thrive. Even orderly, well-planned communities have descended into informality over time. As the island has continued to urbanize, successive governments have struggled with the supply of adequate and affordable housing, most notably for low-income households. As a result, squatting and informal settlements are commonplace. According to the Ministry of Water and Housing, there are more than 750 squatter settlements in Jamaica, more than 66% of which have been in existence for longer than 20 years.¹

In 2007 the federal government launched the *2030 Vision* program with the intention of making “Jamaica the place of choice to live, work, raise families and do business.”² Achieving this goal, however, has been complicated by the lack of affordable housing exacerbated by a limited supply that keeps homeownership out of reach.³ Many Jamaicans aspire to homeownership, as it offers them a sense of self-sufficiency, control over their property, incentives for investment, and the ability to benefit from rising property values.

Fig. 1: Trench Town,
St. Andrews, Jamaica

The interest in this research topic was prompted by my desire to learn more about the country from which my family emigrated. In doing this, my goal is to better understand the conditions and socioeconomic activity that affects Jamaica’s urbanization. The chosen site, Trench Town, is a residential neighbourhood in the St. Andrew parish, immediately west of Kingston’s downtown core (*Figure 1*). It lies 1.5 kilometres inland from Kingston Harbour, extending northeast for approximately 2 kilometres toward the financial districts of New Kingston and Cross Roads.⁴ Bordered on the south by Spanish Town Road, the community is bisected by Collie Smith Drive, a divided north/south road with a large storm drainage trench down the middle. Trench Town is a community that has started to ascend out of poverty by promoting its heritage through tourism; which made it an ideal location to continue the process. The current neighbourhood structure offered an excellent opportunity to explore the influence of architecture and urban planning on the community’s development.

I was first introduced to the site through two documentaries: *Born in Trench Town* produced by Greg Pond and *Trench Town: The Forgotten Lands* directed by James Ewart. These films discussed the high levels of violence, unemployment, urban decay and the need for adequate housing in the neighbourhood. Among other things, my proposal for Trench Town is designed to provide low-income residents, most of whom are squatting, with affordable, higher-quality housing for purchase. In so doing, the goal is to move the community to a higher standard of living while respecting the rich architectural and social history of Trench Town -- which, as described below, has become somewhat of a tourist destination. This thesis explores strategies to increase the economic viability and well-being of the inner-city neighbourhood Using design as a method of exploration, the following criteria have been developed to guide Trench Town’s urban transformation.

1. Develop compact houses that are affordable, sustainable, energy-efficient, durable, and secure.
2. Provide flexible layouts that accommodate a range of informal economic activities (retail, rental, workshops, etc.)
3. Experiment with “incremental” housing, i.e., designs that enable residents to adapt and expand their homes in response to changes in household size, conditions and financial situations.
4. Accommodate cars through the introduction of laneways.
5. Preserve, conserve, restore and reuse places of cultural and economic importance.
6. Regularize the urban fabric through secure land tenure and incremental development.

Fig. 2: Jamaica
Centre of the Caribbean Sea

Fig. 3: Percentage of Population Living in Poverty by Communities 2011-2012 Map

In doing so, this thesis investigates the redevelopment of Trench Town at both the urban scale (blocks sizes, and densities) and the unit scale (unit sizes, configurations, etc.). This proposal establishes an incremental phased redevelopment strategy the increasing the quantity of affordable housing with little inconvenience to existing residents. With Jamaica's vibrant national identity and the expansion of tourism in Trench Town, it is important that housing serves as a model for social change. Kingston's low-income communities need inspiration and resources to help them continue to change their circumstances. This study aims to motivate the neighbourhood's economic potential by including residents as entrepreneurs, buyers, and self-builders, and enacting policies for freehold replacement housing. In the end, assisting their gradual transition into the middle class.

JAMAICA

Jamaica is the third-largest island in the Caribbean with a population of 2.9 million according to the 2018 World Bank Census.⁵ Located in the middle of the Caribbean Sea (*Figure 2*), the island is 190 kilometres west of Haiti and 140 kilometres south of Cuba.⁶ The country's economy is dependent predominantly on the service sector, which comprises more than 60% of Jamaica's overall Gross Domestic Product (GDP).⁷ Tourism, the bauxite and alumina industries and international remittances from abroad remain the dominant sources of foreign exchange. Jamaica faces many economic and social challenges, including a high crime rate, widespread corruption, high unemployment rates and a high debt-to-GDP ratio (approximately 120%), rendering the debt burden of the country the fourth highest in the world on a per capita basis. The country owes many foreign institutions, including the Inter-American Development Bank, the International Bank for Reconstruction and Development, and the International Monetary Fund (IMF), to name a few. This is due to the country's low growth and high debt for most of its independence.⁸ According to the 2020 census data, the unemployment rate was an estimated

How Many Homes Need to Be Built or Repaired Each Year to Close the Housing Deficit?

12.6%, while more than 20% of Jamaican's lived-in poverty as of 2017 (Figure 3). According to a 2001 census, the vast majority of the population is of African descent, however, the country is a multiracial fusion of European, Arabic, Chinese and East Indian people.⁹

As Latin Americans and Caribbean people continue to migrate into cities, it is estimated that Jamaica will be just below 90% urbanized by 2050.¹⁰ Currently, approximately 55% of the population lives in metropolitan areas with an expected rise to 58% by 2030.¹¹ Inadequate urban development has led to a variety of issues, including "environmental degradation, unsafe and dilapidated housing and limited access to basic services."¹² For years, Jamaica has been plagued by a housing shortage and lack of affordability due to increased urbanization. From the infographics (Figure 4.0 – 4.2), it is clear that many Jamaicans are living in slums -- an estimated 20% of the population.¹³ A growth in squatter communities has resulted from insufficient physical planning and management. And as residents of informal settlements don't typically pay property taxes, municipal revenues are insufficient to address the problems.

Fig. 4.0- 4.2: Caribbean
4.0: Housing Deficiency
4.1: Unaffordable Housing
4.2: Slum Development

Fig. 4.3: Distribution of Squatter Settlements by Parish

Fig. 5: Trench Town in relation to Jamaica's capital and downtown core Kingston

TRENCH TOWN

“Badmind” basically refers to someone being envious / jealous of another individual.

“Badmanism” is a Jamaican slang to describe the practice of criminal behaviour, causing promising individuals to fear for their lives relocate.

As an “inner-city community” or “garrison,” Trench Town has been plagued by crime, unemployment and poverty. Many of the areas estimated 27,284 residents occupy the land illegally (Figure 6).¹⁴ Dominated by dilapidated housing and environmental degradation, housing consists primarily of apartments, single-story concrete structures along with board-and-zinc shacks. A major issue that communities like Trench Town face is the flight of “promising individuals” due to “badmanism,” which is the Jamaican term for anti-social behaviour. When given the opportunity, residents with the resources to do so opt to purchase homes elsewhere due to the crime and violence that afflicts the community. Despite its rich political history and cultural heritage, contemporary Trench Town is largely a self-built community.

Trench Town Demographic Data	
Estimated Population Size	27,284
Estimated Number of Households	7720
Average Households Size	3.8
Percentage Households by unemployed persons	44.8
Percentage Households with academic qualifications	62.4

Fig. 6: Trench Town Demographic Data

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CHAPTER TWO:
HISTORY IN THE MAKING

Fig. 7: Trench Town Squatter Settlement

HISTORICAL CONTEXT

Jamaicans use the term “government yards” to refer to complexes of government-built housing – or what might be called “projects” in the North American context. The term ‘yard’ was used to refer to slave quarters during the colonial era. When slaves were not working on the sugar estates, they resided in ‘yards’. In 1834 an emancipation Proclamation was signed by Queen Victoria, transforming negro yards into spaces for free men. Jamaica’s economy experienced a period of prosperity in the 1930s as industry and trade took hold in urban centres.¹ Cities attracted many rural migrants seeking opportunities and a better quality of life. These largely unskilled migrants often ended up in “squatter” settlements that popped up on abandoned land. Ongoing migration contributed to chronic overcrowding in cities across the country. Urban infrastructure and basic services deteriorated under increased demand and, over time, many formally built neighbourhoods (including government yards) descended into informality.

TRENCH TOWN HISTORICAL DEVELOPMENT

Although most people assume the community derives its name from the large trench down Collie Smith Drive, Trench Town acquired its name from an Irish immigrant family known as the Trench family. The family-owned land across the island and resided on a 400-acre estate, Greenwich Park. The land was later called Trench Pen as large assets of family land were called Pens during the colonial era.² When the land was abandoned, the site became the first stop for many rural migrants on their journey to Kingston’s city centre.³ Due to this influx of rural migrants, the location developed into an expansive squatter community comprised of small shacks built with found materials. This was unlike anything the government had dealt with before (*Figure 7*).

Fig. 8: Trench Town 1955

In the early 1930s, the English crown transformed 200-acres of the Trench Pen into a new township model. The area was turned over to the newly formed Central Housing Authority (C.H.A), which was established to undertake slum clearance, execute housing projects, and implement development strategies for the rapidly expanding population of middle and low-income groups.⁴ Streets were laid and the site was subdivided into areas for recreation, shops, and residential yards (multi-family compounds) with communal bathrooms and kitchens. The project also included schools, youth centres, health centres, a fire department and a theatre (Figure 8). The highly designed community was built by teams of architects, administrators, city planners and contractors. The first portion of the Trench Pen to be redeveloped was the area between First and Seventh Streets. It was undertaken between 1940 and 1949 by the English firm Shankland Cox and was known as Federal Gardens.⁵ Land and housing were rented for 12 shillings a month since the property was government-owned.⁶

Fig. 9: Aerial image of the original informal settlement

Fig. 10: 'U' block house floor plan and elevations

HOUSING BLOCKS

In collaboration with Shankland Cox, the C.H.A deployed four housing types: the 'H', 'S', 'T' and 'U' models (*Figure 11*).⁷ The Trench Town government yards were mainly composed of one-story 'U' and 'S' type buildings. These models were especially well adapted to low-income households as they supported flexible and extended family groups. The few 'T' and 'H' houses in this area were intended for middle-income earners.

The primary method of construction was a variation on wood-framing known as 'Knog,' in which a timber frame was filled with stone rubble and covered with a layer of wire mesh to support a plaster finish.⁸ The thermal mass associated with this form of construction helped keep buildings cooler in the daytime. Drawing on the Caribbean vernacular, houses featured wide covered verandahs, hipped roofs, and timber columns.

Fig. 11: C.H.A Housing Types

Fig. 12: 1960s Federal Gardens Government Yards

HOUSING MODELS

‘U’ Block

Known as a “tenement yard,” the typical ‘U’ block was comprised of 1- and 2-room apartments organized in a “U” configuration around a central courtyard, connected by a continuous covered verandah. Shared toilets and cooking facilities enclosed the courtyard at the open end. As individual rooms were only about 10’ x 10’, tenants did most of their living outdoors (*Figure 10*). The combination of two ‘U’ shaped buildings facing each other created an inner courtyard. Both the courtyard and the verandahs were used for everyday activities. Federal Gardens consisted of 123 blocks of this type, providing approximately 984 one-room units and 36 two-room units (*Figure 12*).⁹

Rent originally was: J\$D 0.33 per week, per room.¹⁰

POLITICS, GARRISONS AND TRENCH TOWN

Similar to many other inner-city communities in Kingston, Trench Town experienced a turbulent period of political violence in the 1960s. The Jamaica National Party (JLP) and the People’s National Party (PNP) -- the island’s two main political parties -- were created by cousins Alexander Bustamante on 8 July 1943 and Norman Manley on 18 September 1938 respectively.¹¹ Conflicts arose during the 1940s and ‘50s due to the trade unions’ attempts to dominate the labour sector and construction industry. The rivalry between the two parties escalated further in the 1960s when politicians began to partner with gang leaders (known as ‘dons’ in Jamaican patois). To secure residents’ votes, the rival parties tool possession of various government-owned sites and constructed housing. This, in turn, gave rise to what

is known as garrison communities. Areas such as Trench Town, Tivoli Gardens and Arnett Gardens became strongholds for rivalling parties (Figure 13). As guns and other weapons were introduced to the garrisons, violence escalated – some of which continues to bubble up during election periods. Internal divisions in Trench Town caused political turmoil for more than 50 years. During this period, two blocks of government yards were demolished to create a kind of buffer zone -- known colloquially as “no man’s land” – between areas associated with rival parties as seen in Figures 14 and 15.

Fig. 13: Trench Town Political Division

Federal Gardens, the earliest of Trench Town’s government yards, were predominantly JLP communities, as were areas that were immediately adjacent. Tivoli Gardens, to the southeast, also became a stronghold for this party. When Michael Manley from the PNP political party became Prime Minister in 1970s, Arnett Gardens and the areas north of Federal Gardens (i.e., from Seventh Street to Fourteenth Street) became PNP territory.

Fig. 14: Trench Town 1976

Fig. 15: Trench Town 1992

1970s HOUSING

*"Garrisons" are virtually 100% in support of a particular political party. Those who support other political parties are usually driven out of these communities.*¹²

*"The city of Kingston was [then] divided like a checkered board into political garrisons controlled by the gangs under the patronage of party leadership."*¹³

Members of Parliament and representatives from both parties within the Ministry of Housing developed housing schemes in Trench Town directed to residents that declared their political allegiance to one or another of the parties. These projects included very dense "prefabricated concrete soviet style multi-storey monoliths."¹⁴ The 3- to 4-storey apartment blocks constructed in the 1970s departed from the vernacular traditions (Figure 16). Not only are these blocks poorly maintained, but their configuration deprives residents of communal living and opportunities for informal economic activity.

At the height of tensions in the 1970s, concrete walls were erected along streets and between rows of houses to restrict pedestrian movement into and through the various government yards. Holes in these walls permitted a path that allowed residents to move safely between properties when conflict arose on the streets (Figure 17).

Fig. 16: 1970s Apartments in Trench Town (2007)

Fig.17: Crossing the Wall Diagram

RECENT DEVELOPMENT PROJECT

In areas near Trench Town, housing projects have been undertaken by the National Housing Trust's Inner City Housing Project (ICHP) program. The most recent development in Trench Town took place in 2007 in the northern region along West Road, known as Paradise Court (Figure 18). The project consisted of "13 two or four-storey apartments with 84 three-bedroom and 168 two-bedroom dwellings".¹⁵ In recent years, there have been issues of crimes and residents defacing the property, as per The Star newspaper. According to The Jamaican Observer, 85 percent of stratas in Jamaica fail to get owners to pay and follow strata by-laws.¹⁶ This can be seen in the various dilapidated apartments and a lack of maintenance of shared amenities and grounds in the Kingston Metropolitan Area. The lack of ownership of the property and housing is a significant factor in this.

Below are images of the community's current site conditions and character between First and Third Street taken from recent YouTube documentaries.

Fig.18: Paradise Court, upper region West Road

Fig.19: Abandoned 1930's shower block

Fig.21: Zinc sheet metal wall between houses

Fig.20: Outdoor washing on sidewalk

Fig.22: Trench on Collie Smith Drive with pedestrian crossing bridge

Fig.23: First Street corner - Trench Town Culture Yard mural

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CHAPTER THREE:
CULTURAL HISTORY & TOURISM

Fig.24: Trench Town Personalities collage

CULTURAL SIGNIFICANCE

During this period of intense conflict, however, Trench Town gave rise to a cultural movement unlike any other in the world. Significant songwriters, artists, politicians, educators and sports figures came out of the six blocks of social housing comprising Federal Gardens (Figure 24). Musicians in particular made invaluable contributions, both nationally and internationally, with Bob Marley being the best known. Raised as a poor youth in the government yards on First Street, Marley was one of many artists who made references to their experiences in the neighbourhood in their work. For Marley, these references appear in *Trench Town*, *Trench Town Rock*, and *No Woman, No Cry*, which put an international spotlight on the community.

Trench Town is also the origin of three famous music genres: reggae, ska, and rocksteady. These, in turn, influenced later genres such as dancehall, calypso and reggaeton. In addition to its importance to music, Trench Town is the home of the Rastafarian religion, a fusion of Afro-Caribbean religious, political, and cultural ideas and forms. The cultural impact of this small community is nothing short of astonishing.

THE TOURISM INDUSTRY: "THE BIRTHPLACE OF REGGAE TOUR"

More than two million people visit Jamaica every year and tourism is the country's biggest source of foreign income. Despite the island's many resorts, Airbnbs and guided excursions, very few tourists venture into neighbourhoods to experience the real Jamaica. Increasingly, however, Trench Town has become a tourist destination. If handled properly, interest in the neighbourhood can be leveraged for the good of the community and the economic benefit of its residents.

While tourism is in its early stages, many visitors venture to the inner city to discover the origin of reggae music and its influencer, Bob Marley. JaMIN Tours and the Trench Town Culture Yard Museum offer four tour experiences: the Culture Yard tour, a walking tour biking tour, and a driving tour. Various stops along these routes exhibit the history and authentic lives of the individuals associated with the community. In so doing, they support local vendors and businesses. Figure 25 shows the common paths tour guides take to showcase the community's history and present.

Fig.27: Trench Town Culture Yard featuring Bob Marley's Van

Fig.28: Trench Town Culture Yard Featuring housing and kitchen/ bathroom facilities from the 1930s

TRENCH TOWN CULTURE YARD MUSEUM

The Trench Town Culture Yard Museum occupies a restored tenement yard on First Street. Since being designated a National Heritage site, the property has been restored to reflect the time when Bob Marley lived there. The Culture Yard is an educational museum where visitors can learn the story of Trench Town through artifacts, photographs and other historical documentation.¹ Tourists also interact with original members of the community, musicians and other residents.

ENDNOTES

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CHAPTER FOUR:
PRECEDENTS, METHODS & RESEARCH

Fig.29: Redevelopment Plan from Etai Atia's *Formalizing the Informal* thesis

Fig.30: Block Configurations from Kareem Mitchell's *Housing on the Horizon* thesis

LITERATURE REVIEW

In starting the project, a study of literature (books, journals, articles and case studies) was used to understand the site, conditions and various approaches used for redevelopment. This in conjunction with conversations with local experts, revealed key urban design and slum redevelopment theories. Journal article *The State of Social Housing in Six Caribbean Countries* by Pauline McHardy and Michael G. Donovan was an invaluable resource that presented Jamaica's housing challenges, success and failures while also reviewing other countries' approaches. In doing so, it explained the detrimental effects of the market that prevent squatters from improving their lives, keeping them in a cycle of homelessness when evicted as a result of changes in land value and use.¹ The *Draft National Housing Policy* 2019 document was crucial to understanding the politicization of housing in Jamaica. Additionally, the document discusses the various government agencies and policies that assist low-income families in acquiring land for housing and regulation of land tenure. Lastly, the article, *Urban Renewal and Sustainable Development in Jamaica: Progress, Challenges and New Directions* introduced ideas for a new governance structure. These concepts involve residents in decision-making processes of land management and urban planning to avoid major displacement due to urban development.²

PRECEDING THESES

Drawing on the work of former Carleton students, various M. Arch theses have discussed redevelopment strategies for informally built slums and peripheries. Their projects have provided inspiration, insight, and design strategies that inform this project. Etai Atia's *Formalizing the Informal Morphological Exploration of the Redevelopment of Angola's Musseques* and David Anderson's *Informality Meets Formality Luanda's Urban Transformation* are theses that explore inner-city development in the rapidly growing city of Luanda, Angola. Both projects use a low-

rise high-density redevelopment strategy (Etia using freehold units and David using multi-unit housing) to meet the changing demands of individuals and families transitioning from lower-to- middle income. These projects gave me a better understanding of slum dwellers’ cultural, socioeconomic, and practical needs as well as methods of redevelopment which applies to Trench Town. Similar to Mr. Atai and Mr. Anderson’s theses is Kareem Mitchell’s *Housing on the Horizon, Low-rise High-density Housing Strategies for Luanda’s Expanding Periphery*. The major difference between these projects is the proposals focus on Luanda’s peri-urban fabric. This thesis provided insight into ideas of micro-financing, ownership and land tenure that is relevant to the context of Jamaica.

Culturally, politically, and economically different from this project, their proposals are at a much higher density of housing, with very little open land. For this project, the selected site is relatively low density with lots of vacant land available for development. Although desiring to double the residential density, a factor to consider is that very dense environments are not ideal in low-income communities like Trench Town. Having an extensive political and violent history, developed areas need to be policeable. Another major difference is the site’s historical fluctuation from informality to formality in the 1930s to a sense of informality today. My proposal presents the regularization of the site, similar to past projects.

Communication on the ground played a key role in the research and development of this project. The initial communication was made with friends and family of Jamaican descent to acquire preliminary knowledge of Kingston, and the various problems that the country faces (e.g., violence). Consequently, I became aware of Trench Town’s negative stereotypes and learned about the community’s growth. Although I was not able to visit the site and conduct interviews with residents, I was able to speak with local architect Christopher Whyms-Stone, who has actively been involved in the community for many years. With in-depth knowledge

of the site, both past and present, Mr. Whyms- Stone helped provide information about upcoming development projects in the area. He also offered insight for density considerations and ideal locations to situate the new housing. Through periodic check-ins, I was able to receive feedback on the progress of the design as well as additional thoughts to consider. In addition to this, I was able to speak with NHT employee Hopeton Smith who was able to provide insight into the NHT’s housing schemes and financial plans for affordable housing. From our conversations, it became evident that architecture plays one part in a larger framework that includes government policy, economics and financial models. This project is my contribution to a larger conversation that goes beyond architecture.

ARCHITECTURAL PRECEDENTS

A key component of this thesis investigation is to explore housing solutions for low-income neighbourhoods. By examining the success and failures of a range of architectural approaches, the goal was to devise several modest, affordable, flexible and culturally resonant housing types for low-income households in the Trench Town neighbourhood. Incrementality, i.e., the opportunity for residents to expand into or add on to their homes as their needs and economic circumstances changed, was an important part of the investigation.

The Chilean architecture firm, Elemental has explored various approaches to incremental and sustainable design since 2003. Having many examples of freehold housing, these projects were particularly applicable to this project. Their Quinta Monroy and Villa Verde projects in Chile (*Figure 31 - 33*) are examples of low-cost, modular designs that take into consideration the users’ socio-economic circumstances.³ These techniques for simple base housing modules both encourage and accommodate self-building, which is commonplace in Latin American and Caribbean countries. Additionally, after recognizing the importance of land regularization and proper land tenure, I decided that freehold units would have an essential role in the

Fig. 31: Villa Verde,
Incremental Housing Precedent Study

Fig. 32 & 33: Quinta Monroy,
Incremental Housing Precedent Study

redevelopment of Trench Town. A major takeaway for the Trench Town housing is the provision and arrangement of void spaces to accommodate additions and incremental development. Also, flexible layouts allow spaces to be used and subdivided in a variety of ways. The strategies and approaches developed by Elemental have strongly influenced the proposed designs.

The proposal has also been influenced by key North American precedents such as the Levittown Cape Cod Model (*Figure 35*). After World War II, when low-cost houses were in great demand, one-storey Cape Cod homes were built with a traditional house plan. What is of particular interest is the inclusion of the “captain’s stairway” which allowed a constructed unfinished second floor (within the steep gable). Due to this, residents could expand as the need arose and resources came available.⁴

At the urban scale, another important precedent is the case study undertaken by Urban Design Lab, namely *Urban Strategies for a Livable Downtown*. This project explores urban design strategies to transform Montego Bay, a major tourist city in Jamaica. The Master Plan explores ways to renew various portions of the tourist-oriented coastline and upgrade the surrounding informal neighbourhood in the process.⁵ This is similar to what I am proposing for Trench Town. The proposed infill housing incorporates community terraces, semi-public and private courtyards for social interaction and opportunities for incremental expansion (*Figure 34*). Key strategies from the Montego Bay project include the use of participatory planning and the provision of a range of solutions for low-income families in the form of low-density housing complexes.

A final precedent is Guyana’s *Second Low Income Settlement Program*, the goals of which are to “provide greater access to affordable funding for housing development.... eliminate institutional delays in approval of building plans and allocation of land... [and] regularise informal housing development.”⁶ The government of Guyana promoted an incremental,

low-cost housing scheme that was developed through a partnership with community-based businesses. The basic infrastructure comprises a toilet, septic tank, shower, multi-purpose sink, flooring, and wiring as seen in Figure 36.

DESIGN AS RESEARCH

After collecting research, I had hoped to visit Trench Town to conduct interviews with residents to get their perspectives on living in the community. Being able to visit the site would have greatly contributed to my comprehension of the urban fabrics' physical condition, built form, street life and the use of public spaces. This would have also been a great opportunity to see the way residents live and experience the community's culture. Due to the popularity of the community, YouTube Channels such as Kino Life in Jamaica, A Friend in Need -Trench Town series were extremely helpful. The videos presented the contemporary culture of the community and residents' activities through the click of a button. After speaking with Mr. Whymms-Stone and watching several YouTube videos I was able to examine opportunities for improvement within the community. This includes renovating basic infrastructure, developing adequate housing, provide additional community and social services, and improving cultural infrastructure. The suggested improvements are explored in this project. In addition to this, industries such as, agriculture and tourism are existing economic businesses that are explored. Although research and precedents informed the proposed design, the iterative design process was an important part of the research. Data collected and concepts analyze were able to take form to identify what was practical and preferred for the site. In using design as research, the iterative process of working between the unit, the neighbourhood and the urban scale played an important role in constructing ideas and understanding through making. Through design, various ideas and concepts were able to be thought through at their initial stages.

This project should be taken seriously as the work produced has the potential to come to fruition

Fig. 34: Montego Bay Urban Strategy and Unit Extension

Fig. 35: Levittown Cape Cod Model

Fig. 36: Guyana Incremental Development House Expansion Possibilities

if done respectfully and thoughtfully. While prioritizing the existing residents, the project capitalizes on the growing tourism industry and offers residents a way to contribute and change their living situations. This design presents an opportunity for Trench Town to experience great change not only in its built form but also in its community transformation. Breaking the mental and physical cycles of poverty to become a thriving sustainable community. The project will strive to:

- Be affordable, in the general price range of low to middle-income residents.
- Double the existing residential density respectfully.
- Revitalize urban infrastructure.
- Meet practical needs of the community (e.g., safety, livelihood and employment).
- Preserve/ conserve/ restore/ reuse important places that make up the community.
- Strategically use outdoor courtyard space as done in 1930s housing.

These factors will evaluate the success of the project in the desire to bring lasting change to a striving community.

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CHAPTER FIVE:
NEW DIRECTIONS-SUSTAINABLE
DEVELOPMENT

Fig. 37: Trench Town Community Development Committee event hosted at the Multi-purpose Centre

Fig. 38: Dream Team -A Friend In Need Trench Town Community Initiative

COMMUNITY PARTICIPATION FOR COMMUNITY BUILDING

Architecture plays a significant role in the formation of community identity, social structure and cultural values. This project aspires to engage the individuals and families directly affected by the proposed redevelopment. Determining the actual needs and desires of the community and involving them in the planning and decision-making process. Trench Town is a close-knit community whose social activities are communal in nature. Design, both at the scale of the community and individual dwellings, must take into account this social structure, as did the communal housing constructed in the 1930s. The courtyard spaces of this housing connected residents and facilitated gatherings, as chronicled in several famous songs from the 1970s.

As described by Christopher Whyms-Stone,

“The tenement yard or tenement community represents a layering of social relationships, a group of people living together, sharing to a greater or lesser degree, common beliefs, values, institutions and services. For such a community to work effectively it is essential that people plan and act together for their common and individual benefit. It would not be wise to assume that people living together automatically develop a feeling of togetherness. However, we can say that the individuals inhabiting a tenement yard may consider themselves to be together in the same predicament.”¹

In a nation where income is unequally distributed and unemployment is high, Trench Town’s informal economy relies on neighbourly interactions. The proposed housing accommodates a range of informal economic activity, both in the home and on the street. Residents’ desire to work and contribute to the community helps cultivate the long-term sustainability of inner-city neighbourhoods like Trench Town. Viable employment opportunities also help reduce violence in these communities. The Trench Town Development Council (TTDC), founded in 2013, reflects the community’s commitment to implement meaningful change through a variety of initiatives see Figure 37. Their commitment to collaborative community development can play an essential role in housing redevelopment of the community.

FROM SQUATTER TO HOMEOWNER

Since the early twentieth century, the community has occupied land owned by the government. Most residents have neither title nor deeds to the properties they occupy. Illegal occupation creates problems such as eviction, reluctance to invest in a better-quality life and the inability to access services. On the flip side, vulnerability engenders community cohesion to the extent that residents must band together to defend themselves. The proposed project aims to put existing residents first by offering them secure land tenure and title. Although the project envisions that existing residents will be offered title to freehold residents, various financial models can be brought to bear depending on individual circumstances. These include “rental units, rent-to-own or co-operative living solutions”.²

In offering ownership opportunities on freehold properties, residents will have to transition from squatting or “free-living” to homeownership. To start this process, organizations such as the NHT require beneficiaries to participate in a savings strategy as a precondition for homeownership. A similar strategy can be implemented to encourage residents to pay mortgages as part of a broader plan to ensure that the government recoups its initial investment. That said, current residents will be offered special accommodations in exchange for relinquishing the properties they occupy. With these accommodations will come conditions, such as not being able to sell the property onwards for a period of five years and the obligation to return a percentage of the sale price to the government.

LOCAL HOUSING STRATEGIES AND AGENCIES

Jamaica has used two primary approaches for the production of affordable housing: Housing Schemes and the Sites and Services approach. The more popular approach is the Housing Scheme (*Figure 39*). This blank slate redevelopment is implemented on vacant land and entails subdividing the site into lots and constructing housing that is unified in style and spacing.

The Sites and Services approach (*Figure 40*) has been widely used for solving the problem of squatter settlements. As a result of slum clearance, squatters are granted plots of land to own or lease, as well as the bare minimum of infrastructure.³ In most cases, residents construct their own homes. Unlike the Housing Scheme approach, this strategy is less focused on the construction of formal housing. Although this involves less upfront investment on behalf of the government, low-income earners may struggle to make this approach work. Of the two approaches, then, the Housing Scheme approach is more logical for the residents of Trench Town.

The agencies that address housing shortages in Jamaica include the following

- National Housing Trust
- Housing Agency of Jamaica
- Jamaica Mortgage Bank
- Urban Development Corporation

The National Housing Trust, a federal agency, has two functions. The first is to provide low-interest loans to individuals to construct or purchase homes and/or lots. Its second function is to provide low-interest loans to private developers to build affordable housing. The funds against which individuals and entities borrow are generated through a national tax deduction

Fig. 39: Sites and Services Approach

of 5% from every employed person's salary. After qualifying for a loan, the amount depends on the contributor's income or the affordability to repay.

NHT - Housing Micro-Finance Loan

In collaboration with Credit Unions, the Housing Microfinance Loan Programme offers financing options for low-income earners who make \$42,000 JA (\$288 US) or less weekly. Through the programme, a total of \$1.5 million JA, (\$10,307 US) is available to meet housing needs.⁴ This would be in addition to the \$5.5 million JA loan provided by the NHT.

The Housing Agency of Jamaica (HAJ) operates as a mortgage lender and provider of free-market housing by helping to fund construction projects in partnership with private-sector entities and by providing additional loans under the NHT. In thinking about the development strategy and potential financial partnerships for the redevelopment of Trench Town, private sector institutions such as the HAJ could take part in the project.

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Fig. 40: Housing Scheme Approach

CHAPTER SIX:
APPROACHES TO REDEVELOPMENT

Fig. 41: Site Research
Perspectives of Collie Smith Drive

STANDARD REDEVELOPMENT METHODS

A variety of methods are employed by governments to “clean up” informal communities. While the tactics will differ depending on the context and situation, they fall into one of four primary strategies.¹

In-Situ Redevelopment: The term “in-situ” means “on-site.” This approach provides slum residents with new housing on or near the land they occupy. In favourable locations (e.g., where land values are high), in-situ redevelopment frequently involves transferring a portion of the land to be redeveloped to a private sector developer in exchange for constructing new housing for existing residents. This reduces the financial and administrative pressures imposed on the state. Where phased redevelopment is not feasible, in-situ redevelopments will necessitate temporary relocation to transit camps. These interim relocations duration has an impact on the strategy’s long-term success.

Relocation: This strategy relocates people from informal to formal settlements, usually at some distance from the initial site. Where informally occupied property is deemed to be of high value (e.g., in or around the city centre, a subway station, etc.) and/or where the informal settlement covers the environmentally sensitive area, relocation is used (e.g., steep slopes or flood-prone areas). While the new housing is typical of substantially higher quality the location is generally less favourable concerning access to employment and transportation.

Relocation often disadvantages people in the sense that it disrupts social networks. This method is also used by many non-governmental organizations to move individuals or families from violent and regressive neighbourhoods. Particularly in Trench Town, NGOs such as *Food for the Poor* and *Habitat for Humanity* have built homes outside of the community into which to relocate families. Removing people, however, does little to address the problems plaguing the community.

Fig. 42: Site Activities on Third Street

Fig. 43: Trench Town Project Site within larger neighbourhood

Retrofit: This approach incorporates infrastructure upgrades into existing communities without requiring home reconstruction. Retrofits are typically only feasible where regular networks of roads and public rights of ways exist, and where informal slums have not built on environmentally sensitive areas, posing logistical problems. With a focus on infrastructure to support the provision of services (water, sewers, electricity, etc.), this strategy does not consider the quality, density, or soundness of informally constructed dwellings.

Slum clearance: The act of tearing down existing informal neighbourhoods to make way for new construction. This approach is often combined with an in-situ or relocation strategy in an attempt to compensate for the persons impacted by the clearance.

Although each method has its own advantages and disadvantages, in-situ redevelopment is the preferred method. Phased in-situ redevelopment, in combination with slum clearance, is the strategy I'm proposing for Trench Town. The phased approach is possible given the availability of vacant land adjacent to the site.

THE REDEVELOPMENT OF TRENCH TOWN

As a former model township dating to the 1930s to which monolithic apartment blocks were later added, Trench Town descended into informality as it became a war zone in the 1970s. As mentioned in Chapter 2, the most recent development took place in 2007, when 252 new housing units were constructed. The neighbourhood is comprised of smaller communities which include Wilton Gardens [Rema], Angola, Arnett Gardens [Jungle] and Federal Gardens (Figure 43). Federal Gardens, is the portion developed by the C.H.A in the 1930s and the focus of the proposed redevelopment. By comparison to informal sentiments elsewhere, the density of Trench Town is quite low. Abandoned buildings abound, vacant land is plentiful throughout the community, and a regular pattern of streets and rights of way still exists. Since the 1970s, the yard space of the original housing host a variety of micro-businesses that contribute to

Fig. 44: Current micro enterprises located in 1930s housing courtyards
Christopher J Malcolm *Yarditecture* thesis

the informal landscape. Scrap metal companies, auto body shops, bars, and restaurants are examples of such businesses.

Trench Town is an excellent candidate for redevelopment due to its proximity to the downtown core, and its thriving tourism industry. As a thesis project, I decided to tackle this by creating an urban vision that respects and responds to the community's social and economic needs while increasing the built density. The proposed redevelopment attempts to address problems such as low densities and urban decay, high unemployment, lack of land tenure and violence. The proposed strategy for urban renewal uses 'in- situ' redevelopment in conjunction with slum clearance in a phased plan (Figure 45).

In consultation with my advisor and in response to feedback from local experts, I developed a set of conditions to measure the success of the design at various scales. At the urban scale, the redevelopment of Trench Town should:

1. Consist primarily of modest, freehold dwellings designed to integrate with the existing block structure and be organized around communal courtyard spaces.
2. Be conducted without temporary relocation.
3. Use public-private partnerships to develop housing and commercial spaces.
4. Accommodate cars with dedicated parking space for each unit via laneway.
5. Address the issue of land tenure, with residents offered title to dwellings in exchange for vacating the land they occupy.

Formal title to property would enable the municipality to collect property taxes which would partially pay back their investment in infrastructure and servicing.

The research phase of the project involved explorations of appropriate locations on which to construct new housing, i.e., the housing is required to begin the phased redevelopment of Federal Gardens. My first instinct was to begin by building out 'No Man's Land,' the blocks

Fig. 45: Conceptual Diagram of 'In-situ' redevelopment and slum clearance strategy for Trench Town in phases

between 5th and 7th Streets, where housing had been removed during a period of political turmoil. Although much of the site around the Community Centre appeared to be vacant, I learned that a farm and several businesses were operating on the property and there are plans to develop a commercial plaza adjacent to the community centre.

With the help of Christopher Whymms-Stone, a Kingston-based architect, I was able to identify suitable locations on the west side of West Rd. on which to start the phased, 'in-situ' redevelopment. All told, the project seeks to renew the four blocks comprising the 1930s-era Federal Garden neighbourhood, which spans north/south between 1st and 5th streets and east/west between Collie Smith Drive and West Road. The availability of vacant land enables this to be done without having to relocate residents to transit camps. Over successive phases, all existing residents will be offered title to newly constructed dwellings in the immediate neighbourhood, maintaining access to employment and transportation. The redevelopment is also structured to preserve several historically significant buildings from the original Federal Gardens project. As new housing will be constructed at a higher density than the existing informal housing, additional dwellings will be available to be sold at both market and below-market rates.

Since its formal development in the 1930s, the neighbourhood has included public institutions and commercial spaces. Additional commercial and educational facilities would be needed to accommodate the increased housing density. Most schools are currently located along West Road and Greenwich Road and include a community college, a high school and a primary school on half a block. These facilities can expand further into the block if more space is needed. Figure 46 displays the various services within the community.

With limited government resources, a public-private partnership would augment the financial feasibility of the project. Located two kilometres from the downtown core of Kingston, the

Fig. 46: Community Inventory

redevelopment of Trench Town would likely attract private sector developers. Several different partnership arrangements are possible. In similar projects in other cities (e.g., Delhi, India), government agencies take responsibility for community consultations, developing the masterplan, clearing land and upgrading services to the land. A percentage of the land is typically set aside for replacement housing, a portion (roughly 10%) is designated as open, community space, while yet another portion is transferred to private developers to build out and sell off at market prices. In exchange for the right to build on public land, the developer is given the responsibility for constructing the replacement housing for current residents, which is largely indistinguishable from market housing. The developer works to a master plan such as the one developed for this thesis.

Existing residents are offered replacement housing in exchange for vacating the properties they occupy. This thesis envisions that residents will be offered title to modest freehold properties free of charge, assuming they meet certain minimum standards and agree to restrictions, arrangements and covenants, which are deeded into their properties. Of the total new units produced, roughly half would be available to purchase at market value, 10% at below market value (e.g., 80% of market value), with the remaining units being transferred to existing residents as replacement units. Various government agencies would offer guaranteed, low-interest loans to private sector partners in exchange for limiting

Urban Renewal Housing Strategy		
Units	Developer	Percentage of Redevelopment
Below-market Units	Government agencies	50%
Market Units	Private Sector	50%
Affordable units	Government agencies	10%

Fig.47: Urban Renewal Housing Chart

their profit (Figure 47). The result is a mixed demographic community, compatible in character but higher in density than the existing community.

Working continuously between the urban and unit scale, I was able to set general targets for the number, breakdown, and size of parcels and dwelling units. To help address the serious housing shortage in Jamaica, the project aims to double the residential density of 4-blocks within Federal Gardens, an 18-acre redevelopment area. Figure 48 displays a typical block from the 1930s housing. As structured, the proposal assumes that 224 households currently occupy the four-block area between 1st and 5th Streets, with 3.8 persons per household. Given the informal structure of the neighbourhood, however, the number of existing residents could be higher. Nonetheless, I posited the current residential density to be approximately 21 units per acre.

As laid out in the 1930s, Federal Gardens included approximately 28 courtyard spaces around which single and multi-room units were organized. While several of these courtyards have since been built out, it is still possible to determine how many persons and households the complex was originally intended to accommodate. Using this information helped me to set density targets for the redevelopment. Doubling the existing density would require approximately 400 dwellings to be constructed, divided among the replacement, market and affordable units. To meet this objective while working within the dimensions of the existing blocks, I opted for small attached houses on small lots – one per lot to make sure they could be freehold. To regulate the overall density and provide flexibility, large communal spaces are provided throughout the urban fabric rather than dividing available open space among the units as individual yards. The modest size of both the houses and lots helps to keep the cost down.

A major consideration in the design of the dwellings was the provision for informal economic activity. As mentioned before, providing residents with a means to make a living and contribute to the community can create lasting change. As designed, a space at both the front and the back of each house could be used for income-generating activities (retail, workshops, rental apartment, etc.). The houses have been designed to allow these spaces to operate independently of the rest of the house. The major difference between the 1930's project and what is being proposed is the accommodation of cars. As time has changed since the 1930s, the prominence of cars in the community influences the block structure. This is done by using mid-block laneways allowing parking space for each unit via laneway and pedestrian paths.

In thinking about the cultural tours described in Chapter 3, the 1970s path through the neighbourhood can Figure prominently in tourists' experience of Trench Town. As designed, the houses can engage this path, creating openings in the blocks that invite residents and tourists in. The inclusion of courtyards, as was done in the 1930s, helps to tie these elements together. With this in mind, it became evident that the number of houses and sizes of courtyard spaces would be interdependent. All the courtyards would be community-owned and controlled –

being used in different ways depending on their location.

In thinking about the design of the project at the unit and neighbourhood scale, it was determined that:

- Housing should be affordable enough for somebody in the neighbourhood to purchase and/or maintain, taking into account the size of the dwelling, the size of the lot, materials, fixtures and finishes, construction methods and/or the availability of subsidies to make this possible.
- Housing should be climate appropriate (e.g., incorporate cross ventilation, covered outdoor areas, designed to deal with stormwater and high winds during intense weather events, etc.).
- The community should facilitate outdoor spaces to accommodate residents who wish to grow food, whether in private yards or community garden plots.
- Provisions should be made for at least one parking space per dwelling, whether on the street or along the mid-block laneway.
- Security should be prioritized, using walls, fences, gates or burglar bars to secure homes.
- The community should be structured to both encourage and support interaction while respecting privacy.

The layout should be flexible enough to accommodate:

- A range of different kinds of informal economic activity (street-oriented retail, alley-oriented workshops, rental apartments, etc.).
- Different (and changing) household compositions.
- Transformations in the demographic and economic profile of the neighbourhood over a period of 40 or more years.

AFFORDABILITY STRATEGY

As affordability is a key consideration, this project focuses on housing typologies that are small in square footage and lot size. In addition to this, for a typical house, utilities and property taxes must be low enough for residents to afford it. In offering existing residents the opportunity to own the replacement housing they are offered; certain restrictions must be imposed. These may include limits on the circumstances under which a unit can be sold, on using the home as collateral for a loan, and limits placed on renting out units.

Those to whom replacement housing is offered may be required to take out a small mortgage, occupy the unit for at least five years before selling it, and to return a portion of the revenue to the government upon doing so. Such restrictions are necessary to ensure that the system is not abused. To help those who might have difficulty operating the house, no-interest mortgages could be made available, payable upon the sale of the property. Further subsidies could come in the form of property tax forgiveness and subsidized utilities for a period of five years.

ENDNOTES

p. 67 - 79

1. Anderson, David. “Informality Meets Formality Luanda’s Urban Transformation”. Edited by Benjamin Gianni.

CHAPTER SEVEN:
THE PROPOSED DESIGN

THE UNIT

1:2 Type 1

1:3 Type 2

Fig. 49: Housing Ratios

The proposed dwelling units differ from those developed in the past inasmuch as they are envisioned as freehold properties for ownership (i.e., with clear and legally defined boundaries between adjacent properties). Freehold housing has various benefits and opportunities for residents, including the ability to expand and transform the units they occupy. Homeownership and secure land tenure are key to the future prosperity of Trench Town.

Ownership will enable residents to benefit from increases in property value and help break the cycle of intergenerational poverty. Although the land is currently government-owned, it would be in the government's best interest to sell or otherwise transfer the land to residents as they would benefit from the collection of property taxes.

With respect to the form of the dwellings, the 1930s Government Yard structures had many important features that I've attempted to incorporate into the proposed designs. These include:

- Low-rise structures, no more than 2 storeys tall (to keep down the cost of construction and to keep the scale compatible with the existing neighbourhood)
- Communal spaces for social interaction between neighbours
- Wide verandahs – acknowledging that most living in Jamaica are done outdoors
- Rural Caribbean vernacular, using wood construction to create steeply pitched roofs
- Attached dwellings, to keep property parcels small, limit the cost of construction (i.e., shared walls) and limit the need to build walls or fences to separate properties.

As freehold houses for purchase, the idea of expansion/incremental development is logical

for this project. Jamaicans are accustomed to building upwards and outwards. Depending on the circumstances, intimate and extended family members may live together, occupying different levels or portions of a house. Flexibility and opportunities for incremental expansion enable owners to adapt to changing household sizes and economic circumstances. The ability to expand one's home also allows for low initial construction and purchase cost, as does constructing them as attached houses.

The project proposes two freehold unit types: a 1-story rowhouse with a private courtyard and a two-story rowhouse facing a communal courtyard. As the footprint of dwelling Type 2 is smaller than Type 1, an upper-level terrace substitutes for the courtyard space – as does access to the communal courtyard. In addition to the flexibility built into the ground floor plans, both types have been designed to be easily expanded into an unfinished attic space. Additionally, the 2nd level terrace on Type 2 can be easily enclosed to create additional bedrooms. Both housing types have been designed to allow portions of the house to be rented out.

The design of the housing began with an analysis of the four blocks comprising the Federal Gardens development, which vary in depth from 60 to 75 meters. To accommodate parking and provide more flexibility for layout, blocks were subdivided by mid-block laneways, using the "H" configuration shown below in Figure 59. This layout enabled the "double-double loading" of blocks – with some units fronting on streets and others fronting on laneways – to keep the size of individual property parcels small.

Footprints for both housing types were then proportioned such that lengths correspond with widths in a 1:2 ratio for Type 1 and a 1:3 ratio for Type 2 (*Figure 49*), working within the overall dimensions of the buildable areas of the narrowest block. The lower height and smaller area of Housing Type 1 compensates for its larger footprint. Cross ventilation was a key consideration given the importance of passive cooling in the Jamaican climate.

Ground Floor

Second Floor (Gable)

Rowhouse Type 1

Kitchen, Living room, Dining area,
1 bedrooms, 1 bathrooms
Side Yard: 14 m²
Retail / Rental unit: 9 m²

Total: 78 m²

Rowhouse Type 1 (Finished Gable)

Max. 4 bedrooms, 3 bathrooms
Retail / Rental unit: 9 m²

Total: 136 m²
Lot size: 91 m²

Fig. 50: Rowhouse Type 1
Floor Plans and Axonometric

Rowhouse Type 1 floor plans emulate the 1930's 'U' block
Floor plan

Ground Floor Typical configuration

Ground Floor Alternative configuration
Mirrored houses to create shared courtyard

Fig. 51: Rowhouse Type 1
Combined courtyards floor plan

Rowhouse Type 1

As noted above, the base unit was dimensioned such that its length was twice the width to enable houses to be organized perpendicular to each other. This one-bedroom starter home consists of a kitchen, living room, dining area, bathroom, two small entry porches (one at the front and the other at the back), and a large veranda in the centre. A stair leads up to an unfinished second floor within the gable. The rooms at the front and back of the unit can be used in a variety of ways. Assuming one is used as a bedroom the other, can be rented out or used as a retail space (front) or workshop (back) to generate revenue (Figure 53). The covered veranda faces a 14 m2 side yard where residents can grow vegetables. The house can also be easily expanded into this area assuming accommodations for daylight are made. As resources come available, the space in the attic can be finished to accommodate two or three additional bedrooms with associated bathrooms. Depending on how the rooms on the ground floor are used, the house could have as many as five bedrooms when fully fitted out. In the plans shown in Figures 51, these houses are organized repetitively so that the side wall of the adjacent house forms the fourth side of each courtyard. As an alternative, however, adjacent houses can be mirrored to enable neighbors to combine and share courtyards. This typology mimics the ‘U’ shape conFiguration of the 1930s-era Federal Gardens housing.

Stages of Occupation over Time

Fig. 52: Rowhouse Type 1

Type 1: Bedroom in the front, workshop in the back.

Type 1: Retail in the front, bedroom in the back.

Fig. 53: Rowhouse Type 1
Ground level Diagram room variations

Rowhouse Type 2 (with Communal Courtyard)

Stages of occupation

1. Ground Level + Half 2nd Level

2. Ground Level + Completed 2nd Level

3. Gable Level

The second housing type was proportioned at a length-to-width ratio of three-to-one. Similar to Type 1, the front room can be used as a retail space or rented out as a separate, one-bedroom unit. The balance of the ground floor can be accessed through the front entrance (on the corner version) or from an entrance at the back. This floor includes a living room, dining and kitchen area. Depending on its location, the unit comes with a front or side porch.

The house can be purchased with all or only half of the 2nd floor, and the attic space in the gable is left unfinished, although a stair to access it has been provided. The half-2nd-floor version features two-bedrooms, a bathroom, and a 16 m2 terrace that can be used for gardening. The terrace can be easily enclosed to accommodate one or two additional bedrooms and a second bathroom. The unfinished attic area is large enough to accommodate up to three additional bedrooms, including an ensuite bathroom and a balcony.

Fig. 54: Rowhouse Type 2

To accommodate further flexibility, this typology allows for the aggregation of the front rooms of adjacent units to create larger retail spaces. In the event that neighbours wish to collaborate on a business venture, the combined space could support a restaurant, daycare or some other commercial use. Figure 57 shows an example of a combined space being used as a restaurant/ bar, with a door connecting the two units.

As noted, Type 2 has more square footage (especially if purchased with an enclosed upper terrace) but occupies a smaller lot, while Type 1 has less square footage and a larger lot. To meet affordability goals, it was important to keep both the lot sizes and the square footage of the base units quite modest. While the interior fit-up may not represent a huge percentage of

Rowhouse Type 2 (with Communal Courtyard)
Option 2: Complete House

Max. 6 bedrooms, 5 bathrooms
Rent/ Retail Unit 16 m²
Balcony

Total: 180 m²
Lot size: 60 m²

Type 2: Retail in the front.

Type 2: Rental unit in the front.

Fig. 56: Rowhouse Type 2
Ground level Diagram room variations

Type 2: Two front porch units combined as a restaurant/bar with a door passage between rooms.

Fig. 57: Rowhouse Type 2
Combined front units for non-residential uses

Key Plan

the overall cost, the base unit can be delivered without interior partitions and finishes (except for bathrooms and kitchens). This would enable owners to finish their homes themselves, just as they are expected to finish the attic should they wish to expand into the gable. While the overall space is limited, taking responsibility for the interior fit-up would afford residents greater control over the way they create spaces, although they may consult plans to decide the best location for interior partitions. As non-loadbearing walls, dry wall and studs would be the most cost-effective way to construct partitions, although this would be left up to the occupants. The community could organize itself to purchase basic construction materials in bulk and offer them to residents at a reduced price. Additionally, the base unit would include appliances that could be folded in the mortgage. This would benefit the residents as they would not have to pay extra to find and purchase appliances.

Common to Jamaica is the use of burglar bars and grilles to prevent intruders from entering homes. The most common entry being through bathroom windows and upper floors. To secure the homes in Trench Town permanent bars or hinged removed bars can be used as they are the most affordable forms of window security.

Fig. 58: Wall Section Details

CONSTRUCTION METHOD

Both of the proposed housing types reference the Caribbean vernacular style which was used in the Federal Gardens project in the 1930s. While a range of architectural elements and construction materials are used in Jamaican housing, a sizable portion of the population still uses lumber and zinc for roofing and loadbearing masonry for walls. In the 1930s, housing was built using the ‘knog’ construction technique. This was an expensive and labour-intensive method in which timber framing was infilled with stone rubble or brick, then covered with a layer of lath and plaster.¹ During the colonial era, much of Jamaica was deforested due to the clearing of land to create fields. This has made lumber expensive since it needs to be imported.² Concrete block construction (with rebar-reinforced cores) is currently the most common building method; it is both more economical and hurricane resistant. With this in mind, it was decided that the houses would be constructed of both wood and concrete block, the latter being used for loadbearing exterior walls and the former for roof framing. In addition to this, the design anticipates the use of bamboo framing as being explored by the NHT.

Following standard construction practices in Jamaica, exterior walls are constructed of six-inch concrete blocks. Expanded lathe and stucco are applied over the exterior of the block and hollow cavities are insulated with perlite. To reduce costs, slab-on-grade construction is used for the ground floor with 16” footings. The wall section in Figure 58 details the proposed method of construction.

In both house types, wood is used for the roof construction. With a span of 7 metres between bearing walls, 13” deep I-joists were used to frame attic floors. House Type 2 uses pre-cast concrete slabs for the 2nd floor. This is the cheapest and simplest construction method and most easily accommodates the exterior terrace on the upper floor. Lastly, zinc panels were used on the roof as metal roofing is both affordable and durable.

Fig. 59: House Typologies surrounding courtyard space

THE NEIGHBOURHOOD

As mentioned above, the design of individual dwellings began by looking at a typical block and configuring units to fit into the buildable spaces between laneways. The considerations and conditions used to organize units on the site include:

- Blocks should not be seen as stand-alone entities but should connect and contribute to the larger urban fabric.
- Entrances to retail or rental spaces should face streets while the main portions of houses should face laneways.
- Houses should be organized around courtyard spaces.
- Mature trees should be kept where to provide shade.
- Communal courtyard spaces should be positioned and designed to accommodate a variety of activities: outdoor markets, community gardens, leisure, community oriented-events, etc...
- Houses should be no taller than two stories to integrate with the existing low-rise urban fabric.
- Parking should be made available via laneways to keep cars close to residents' homes.
- Space should be reserved for community-oriented and non-residential buildings, including daycares, churches, retail, services and professional offices.

Taking into account the above, I experimented with various ways of organizing dwellings, being careful to include both unit types on each block (*Figure 59*). For the typical block configuration, retail spaces for both unit types are oriented towards the street/laneway while the back sides face on to pedestrian paths. 4-metre pathways separate houses when they are arranged back-to-back. At 5-metres, laneways are wide enough to accommodate parallel

Fig. 60: Past, Present and Future Trench Town

parking and one-way movement. Laneways are configured in an 'H' formation and are entered from the quieter, east/west streets. The network of laneways makes it easy to access and to reach houses from the interior of the block. All houses are accessible by emergency vehicles.

Figure 60 compares 1) a typical Federal Gardens block from the 1930s, 2) what currently exists, and 3) the proposed transformation. Comparisons of residential density (UPA), floor space index (FSI/FAR), and persons per acre (PPA) are provided. Despite the decrease in the buildable area due to the addition of laneways and mid-block pathways, the proposed layout is higher in density than what was constructed in the 1930s and what currently exists. This exercise helped visualize density and arrive at a target of about double the current residential density.

The communal courtyards integrated into the design of each block range in size from 120 m² to 1000 m². The higher (two-storey) housing surrounding these courtyards draws attention to them. These courtyards are positioned in two ways within the grid of streets:

- Courtyards oriented east/west face the busier, north/south roads, i.e., Collie Smith Drive and West Road. These are intended to operate as commercial/public spaces that engage the wider community. They would be designed to accommodate markets, leisure parks and community events.
- Courtyards oriented north/south face mid-block laneways. These are envisioned as gardens and playgrounds for the exclusive use of residents within each block.

HOMEOWNERS ASSOCIATION

A Homeowners Association would need to manage all community assets: courtyards, playgrounds, community garden plots, planted common areas, mid-block pathways, laneways, etc. Ideally, each block would have its own HOA. While the ratio of community garden plots to dwellings would be the same on all blocks, the plots available to residents of house Type 1 would be smaller, as this house type incorporates a private yard. As is the case in many similar housing developments, residents would pay a small fee per month to the HOA, prorated to the size of their dwellings, and/or organize among themselves to maintain these common spaces.

Community HOAs comprise a diversity of voices and opinions about what should and should not be controlled. Market buyers will probably be more concerned with the way their neighbours enclose parts of their homes than residents who are offered relocation units. As freehold properties, what one resident does to their home will affect the value and desirability of other properties. The HOA would provide guidelines that ensure that the exteriors of the units are maintained while also giving residents flexibility to alter certain aspects of their properties. It is up to the community HOA to decide to what degree they control or limit what can be done to the exteriors of homes and with the garden plots that each household is assigned.

Below are two approaches that guidelines might take for managing the alternation and transformation of dwellings (*Figure 61*).

Guidelines with no flexibility might include the following:

1. All designs for the enclosure of any portion of any dwelling unit must be pre-approved and conform to pre-establish standards. To assure the larger cohesion of the community, regulations may require all terrace and porch enclosures to include certain features and follow a strict plan.

Fig. 61: Upper terrace and porch enclosures ranging in flexibility of alterations

2. Adjacent (attached) dwelling units must be painted the same color – selected from a pre-defined palette.
3. Laneway garden plots are strictly used for gardening (e.g., may not be built out or used at parking spaces).

Guidelines with greater flexibility might include the following:

1. Residents may enclose porches and upper terraces with any material they choose. However, to preserve housing unity, regulations can be enacted requiring enclosures to conform to certain standards and building proportions.
2. The units may be painted whatever colours the owner chooses. Additional elements (such as shutters) may be added to the exterior of the dwelling without prior approval of the HOA.
3. Assigned garden plots can be used for other purposes (e.g., converting the garden plots into sheds or parking spaces etc.).

Ultimately it is up to the HOA to decide which approach is best suited for the community. A hybrid approach can accommodate flexibility while controlling the extent of what individual owners can do to their houses and/or garden plots.

The redevelopment proposal also includes a program for “greening” the community that will be maintained by the HOA, this includes:

- Trees are provided in all of the courtyards facing Collie Smith Drive and West Road
- Trees are provided in the communal courtyards.
- Retention of existing mature trees.

HERITAGE AND CONSERVATION OF EXISTING BUILDINGS

An important consideration is the preservation, conservation and restoration of a number of existing buildings. These existing structures contribute significantly to the life of Trench Town and are key components of the cultural tours that operate in the neighbourhood. Three levels of heritage infrastructure are essential to Trench Town (*Figure 61*):

- The housing developed in the 1930s by the C.H.A. (Federal Gardens)
- Significant dwellings that correspond to the Marley era (the 1970s and ‘80s)
- Recently constructed buildings that have made a significant contribution to the community (e.g., the Trench Town Art Centre).

Similar to the Trench Town Culture Yard, such buildings have the potential to become tourist-related sites, restaurants, and shops, assuming they haven’t done so already. This will enhance the tourism experience and boost economic activity in the community. The selection of which buildings to preserve takes place in phase one of the redevelopment strategy.

SOLAR STRATEGY

Although the site is connected to a local power grid, the addition of solar panels to individual houses will reduce residents’ electricity costs. As Jamaica is located in the northern hemisphere, solar panels would be placed on sloped, south-facing roofs. Due to the various orientations of the houses, solar panels would also be positioned to face southeast and southwest (*Figure 63*). The NHT offers loans to homeowners for the purchase of these panels. These could also be factored into the mortgage on the house, as could certain appliances.

Fig. 62: Selected buildings for preservation

Fig. 63: Solar and Rain Harvesting Strategy

Fig. 64: Walls and Security Strategy using gates

RAIN HARVESTING STRATEGY

In Jamaica, access to water during drought periods is a major issue that affects vulnerable communities like Trench Town. To avoid water shortage one method of having running water in the home is through water storage tanks. This is typically done through barrels or underground cisterns. In February 2021, the Boys’ Town Community Centre in Trench Town launched a water project providing solar water pumps, water tanks and testing equipment. “This facility, apart from providing water for vegetation on the Boys’ Town complex, will also provide potable water. This same well will provide water supply for 3,000 persons around the community.”³ With knowledge of this, rather than collecting water in individual storage tanks, the proposal locates rain harvesting tanks around each courtyard space to supply water for the community gardens (*Figure 63*). Sheds in each courtyard would house gardening equipment. Rainwater would be collected from the rooftops of adjacent houses, be filtered through a pipe and stored in tanks beneath each shed.

WALLS AND SECURITY

Urban violence threatens the safety of individuals, jeopardizes employment opportunities, and harms community-based groups. The majority of violent crimes in Jamaica occur in low-income, urban communities, more than half of which are located in Kingston and St. Andrew.⁴ Trench Town has suffered more than its share of political strife and violence. As noted above, walls were erected around and throughout the neighbourhood in the 1970s to protect and control the community. To address the issue of security, the design uses attached houses to create what amount to walls around much of each block. Gates would be installed where mid-block pathways meet streets and laneways, as indicated in Figure 65. The inclusion of laneways and communal spaces in each block makes them easier to survey and police.

PHASES STRATEGY: INCREMENTAL URBAN REDEVELOPMENT

As noted above, the redevelopment focuses on the blocks comprising the former Federal Gardens development and includes the preservation of significant buildings. This four-block area is the most historically significant portion of Trench Town and is a focus for tourists. For logistical purposes, two vacant parcels on the opposite side of West Road have also been included. The urban renewal process uses ‘in-situ’ redevelopment (without the use of transit camps) and an incremental phased strategy. This consists of the following (*Figure 65*):

- Building new housing on the adjacent, vacant parcels.
- Relocating a portion of the residents from the four redevelopment blocks into the newly constructed housing.
- Demolishing the housing vacated by these residents and redeveloping the parcels at a higher density. The new housing will accommodate both replacement units for the next phase of redevelopment and units to be sold on the marketplace. Relocating additional residents into housing on these newly built-out parcels.
- Developing the vacated land at a higher density.
- Etc.

The process will continue until all residents have been relocated. Additionally, an equal number of “excess” units will have been constructed. Some of the units will be sold off at market rates while others can be made available as affordable housing to qualified buyers (e.g., at 80% of the market price). Profit from the sale of these units will help offset the cost of the replacement units for existing residents. Both unit typologies (i.e., house Types 1 and 2) will be available to buyers and existing residents. The terms of reference under which existing residents are given title to replacement units have yet to be determined but will likely vary with household size and income.

Phase 1

- Build new housing on adjacent vacant parcels.
- Determine which buildings should be preserved.

- Ambassador Theatre
Proposed Reggae Hall of Fame
- Playfield/Greenspace
Arnette Gardens/Mexico Communities
- Proposed Commercial Plaza
- 1st to 5th Street Inner Block
- Units Preserved
- 1970s Wall Path

Phase 2

- Relocate residents from Collie Smith Drive and West Road into new housing.
- Demolish and redevelop frontage properties along Collie Smith Drive and West Road.

- Ambassador Theatre
Proposed Reggae Hall of Fame
- Playfield/Greenspace
Arnette Gardens/Mexico Communities
- Proposed Commercial Plaza
- 1st to 5th Street Inner Block
- Units Preserved
- 1970s Wall Path

Phase 3

- Relocate residents from the middle of the blocks into frontage properties along Collie Smith Drive and West Road.
- Demolish and redevelop the middle of the blocks with new housing.

- Ambassador Theatre
Proposed Reggae Hall of Fame
- Playfield/Greenspace
Arnette Gardens/Mexico Communities
- Proposed Commercial Plaza
- 1st to 5th Street Inner Block
- Units Preserved
- 1970s Wall Path

Phase 4/5

- Develop non-residential uses in the urban fabric.
- Transform the trench into a bioswale green network.

- Ambassador Theatre
Proposed Reggae Hall of Fame
- Playfield/Greenspace
Arnette Gardens/Mexico Communities
- Proposed Commercial Plaza
- 1st to 5th Street Inner Block
- Units Preserved
- 1970s Wall Path

Fig. 65: Phase Development - General Strategy

As illustrated in Figure 66, the redevelopment will occur in four-phases:

Phasing	Running Tally
<u>Phase 1</u>	
1a. Construct new housing on vacant parcels on the west side of West Rd. (parcels A & B – a total of 4.4 acres), using the typical block configuration.	<ul style="list-style-type: none">• Replacement units constructed: 60• Additional units constructed: 58
1b. Determine which buildings in Federal Gardens will be removed and which will be preserved.	<ul style="list-style-type: none">• Total units constructed: 118
1c. Determine which parcels in Federal Gardens will be set aside for communal courtyards.	<ul style="list-style-type: none">• Net increase in units: 58
1d. Determine which parcels in Federal Gardens will be set aside for future, non-residential uses.	
1e. Relocate residents from parcels C1, C2, D1, D2, E1, E2, F1, F2 to replacement housing in parcels A & B.	
<u>Phase 2</u>	
2a. Demolish housing on parcels C1, C2, D1, D2, E1, E2, F1 & F2	<ul style="list-style-type: none">• Units replaced: 65• Additional units constructed: 37
2b. Construct new housing on parcels C1, C2, D1, D2, E1, E2, F1 & F2.	<ul style="list-style-type: none">• Total units constructed: 102• Net increase in units (Phases 1 - 2): 95
2c. Relocate residents from parcels C3, D3, E3, & F3 into replacement housing constructed on parcels C1, C2, D1, D2, E1, E2, F1 & F2.	
<u>Phase 3</u>	
3a. Demolish housing on parcels C3, D3, E3 & F3.	<ul style="list-style-type: none">• Units replaced: 77
3b. Construct new housing on parcels C3, D3, E3 & F3.	<ul style="list-style-type: none">• Additional units constructed: 19
3c. Relocate residents from parcels C4, D4, E4, & F4 & G to parcels C3, D3, E3 & F3	<ul style="list-style-type: none">• Total units constructed: 96• Net increase in units (Phases 1 - 3): 114

Phase 4

4a. Demolish housing on parcels C4, D4, E4, F4 & G.	• Units demolished: 77
4b. Construct new housing on parcels C4, D4, E4, F4 & G.	• Total units constructed Phase 4: 88
4c. Begin build-out of non-residential parcels on Blocks C, D, E, F & G.	• Net increase in units (Phases 1 - 4): 202

Phase 5

5a. Transform the trench into a bioswale green network.
5b. Extensive tree planning on either side of Collie Smith Drive and West Roads.

Total demolished: **202**

Total constructed: **404**

By the end of Phase 4, all existing residents are relocated and the residential density is effectively doubled. A total of 202 units are removed, with a total of 404 new units added to the site, divided between market and affordable units (see *Figure 68* for the breakdowns). Market units would help to subsidize the replacement units and contribute to a mixed demographic community. The balance of the cost of the replacement units could be made up through tax increment funding and other subsidies. Although the phasing strategy is designed in this manner, it may be necessary to complete both sides of the interior blocks at the same time.

With twice as many people on site, the neighbourhood’s economic profile is improved. Additionally, with a net buildable area of 42,191 m2, roughly 10 % of the land is reserved for non-residential uses (e.g., churches, daycares, or other community-oriented buildings). Furthermore, rather than providing all residents with yards, open space has been aggregated and made available for communal uses. These spaces represent some 15% of the buildable area. As seen in Figure 67, each open area has been designated for a particular use: market/leisure, allotment gardens, or playgrounds. This is looked at in greater detail in Figure 70.

Phase 1

1a. Construct new housing on parcels A and B

Acres Developed: 4.4
Units Built: 118

Breakdown

■ Replacement Units: 60
■ Market Units: 48
■ Affordable Units: 10
Net increase in units in: 58

Open Area: 13%
Non-residential uses: 4%

■ Units Preserved

1e. Relocate residents from parcels C1, C2, D1, D2, E1, E2, F1, F2 to replacement housing in parcels A & B.

Phase 2

2a. Demolish housing on parcels C1, C2, D1, D2, E1, E2, F1 & F2

Acres Freed for Redevelopment: 4.3
Units Built: 60

2b. Construct new housing on parcels C1, C2, D1, D2, E1, E2, F1 & F2.

Breakdown

■ Replacement Units: 65
■ Market Units: 37
Net increase in units (Phases 1 - 2): 100

Open Area: 8%

2c. Relocate residents from parcels C1, C2, D1, D2, E1, E2, F1, F2 to replacement housing in parcels A & B.

Phase 3

3a. Demolish housing on parcels C3, D3, E3 & F3.

Units Demolished: 65
Acres Freed for Redevelopment: 1.1

3b. Construct new housing on parcels C3, D3, E3 & F3.

Breakdown

■ Replacement Units: 77
■ Market Units: 19
■ Affordable Units: 10
Net increase in units (Phases 1 - 3): 114

Open Area: 10%

3c. Relocate residents from parcels C4, D4, E4, F4 & G to parcels C3, D3, E3 & F3

Phase 4

4a. Demolish housing on parcels C4, D4, E4, & F4 & G.

Acres Freed for Redevelopment: 2.8
Units Demolished: 77

4b. Construct new housing on parcels C4, D4, E4, F4 & G.

Breakdown

■ Market Units: 47
■ Affordable Units: 41

Open Area: 15%
Non-residential uses: 20%

Fig. 66: Phase Development - Housing Strategy

Fig. 67: Communal and Commerical Areas

Urban Renewal Housing Strategy

Units	Total Units
Total Units Demolished	202
Replacement Units	202
Market Units Added	151
Affordable Units Added	51
Total Constructed Units	404

Net Buildable Area	42,191 m ²
Residential	75%
Open Area	15%
Non-residential Uses	10%

Fig. 68: Housing Development Charts

Rather than leaving the “greening” of the community as the last phase of development, an alternative method would be to complete the landscaping of the open green spaces concurrently with the housing redevelopment. Parklets, garden plots, and communal market areas can all be utilised while further phases are being completed. This also eliminates the possibility of money running out before the landscaping is finished.

Residents will have the option of choosing between the two housing types and among several locations within the redevelopment. The selection process would take place through an interview or survey, enabling residents to indicate preferred locations on the site plan (lots labelled). These preferences would be accommodated as much as possible during each phase. It is envisioned that the entire redevelopment would take approximately 5 years to complete, with each phase taking about 1.5 years. Among other things, the phased approach allows for corrections and alterations to be made along the way. It is important to reassess the decisions and assumptions undelaying each phase and modify rules of engagement where it is deemed necessary or expedient.

BIOSWALE GREEN NETWORK

The final phase of the redevelopment includes the transformation of the trench that runs down Collie Smith Drive. Used for stormwater management, the trench is plain in appearance and often filled with debris. While the vision is to turn the trench into a bioswale – a kind of linear, park-like amenity -- careful study would be required inasmuch as the trench carries water and sewage from the Blue mountain range and communities north of Trench Town. As envisioned, the bioswale would use a variety of native drought- and flood-resistant plants to capture and help to remediate stormwater.⁵ To prevent the backflow of water onto the street during heavy rain events, beehive grate inlets are used to drain the excess water. As seen in Figure 71, the grate inlets protrude out from the bioswale draining water into a sewer below. These grate inlets would also prevent large debris from entering the sewer line.⁶

Re-envisioned as a bioswale, the trench would be a key aesthetic amenity in the community. As most people (erroneously) believe that Trench Town is named for this trench, its rehabilitation is all the more significant.

Building on the dynamism and diversity of Trench Town, the redevelopment proposes a highly integrated community with a strong mix of residential and non-residential uses. Efforts have been made to preserve significant portions of the existing fabric and to strike an appropriate balance between built density and open space. The redevelopment will occur incrementally, over time, in an organic fashion. The architecture attempts to root itself in the past rather than erasing it – taking its cues from the courtyard dwellings of the 1930s. While the scale, arrangement, and tenancy types of the dwellings are different from the older government yard, the overall approach carries the past into the 21st-century. The project strives to protect the character and diversity of this neighbourhood while helping it to embrace a more stable and sustainable future.

Fig. 69: Street view of existing trench with debris

Fig. 70: Detail Plan of Proposal between 3rd and 4th Street

Fig. 71: Bioswale Conceptual Diagram and Detail

ENDNOTES

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CHAPTER EIGHT:
URBAN RENEWAL VISION
VISUALIZED

Fig. 72: Urban Renewal Vision Aerial

Fig. 73: Urban Renewal Vision Aerial
Second Street to Fifth Street

Fig. 74: Rendering of Collie Smith Drive with the House Type 2 across the street and the bioswale down the centre of the road.

Fig. 75: Rendering of the courtyard space with weekend market activities displaying the communal life of the residents and tourists. When aggregating the units around the courtyard, it creates a broad verandah similar to the 1930's housing.

Fig. 76: This rendering displays the inner block along the laneway and the activities that take place in the communal areas.

CHAPTER NINE:
CONCLUSION

FINAL THOUGHTS

One of the key motivations for investigating Trench Town was the desire to stay rooted in the country that has formed my identity. In undertaking this thesis I hoped to better understand relationships between the various socioeconomic factors that influence Jamaica's urban development, as well as to find ways to reverse the devastating effects of poverty. To this end, I've been exploring if and how housing might be used to affect wider community change. The key to this process is enabling the urban poor to make the transition to the middle class by offering free and clear legal title to the dwellings they occupy and the land on which these dwellings sit. Residents of the community, however, must want this opportunity for themselves both individually and collectively. As it is commonly said in Jamaica, "you can lead a horse to water, but you can't make it drink".

The Trench Town community's desire for positive social change can be seen in its various initiatives and programs, including tourism. The groundwork for cultivating a thriving community already exists in Trench Town. This project strives to turn this into a built form. The goal of this thesis, then, is to propose a workable and realistic strategy for helping Jamaicans achieve a higher standard of living while addressing shortages in both market and subsidized housing. The proposed house typologies emphasize flexibility, i.e., the ability of owners to adapt to changing household sizes and to accommodate a variety of formal and informal economic activities. Both types are designed to enable residents to expand and transform their homes, whether upward (into the gable) or outward (onto the verandah in Type 1 or by enclosing the upper-level terrace in Type 2). This allows for self-building over time.

This thesis also explores a phased redevelopment strategy for the community as a whole. The objective is to do so with minimal disruption to existing social networks so that residents

can continue to access local jobs, schools, transportation and each other. By regularizing land tenure, residents are offered a valuable asset in the form of title to replacement units that will significantly improve their financial situation. By working with the existing context, applying strategic urban concepts, increasing density and accommodating incremental growth, the goal is to strengthen the existing community and plot out strategies that might be applicable to other, similar communities. The challenge, however, is to accommodate change while preserving the community's architectural character – both formal and informal -- its cultural history, and its personality. To this end, I have tried to learn from the past to propose a sustainable future.

Given the economic challenges facing Jamaica, housing solutions for low-income residents are hard to come by – despite the many efforts and programs in place. Many low-income housing projects implemented by successive governments over the last several decades have had little impact on poverty reduction.¹ Empowering residents, especially through the provision of housing, basic social services, and the creation of economic opportunities, is one of the most promising ways to improve struggling inner-city communities. In collaboration with existing government agencies and private sector developers, this thesis intends to address these problems and concerns.

Heading into this investigation I was not entirely sure how the project would unfold. Having an interest in Trench Town's arts and music industry, I considered several avenues of exploration. After speaking with local experts and watching several videos, however, I realized that Trench Town was already exploiting its creative heritage through tourism. As such, it became important that whatever I might propose should support, rather than disrupt or supplant, the mechanisms through which people are already making a living through tourism and creative industries.

Perhaps appropriately, then, the investigation turned to architecture and urban planning,

building on the well-defined street and block network of Trench Town and the legacy of Federal Gardens. I initially planned to focus on multi-unit or cluster housing. However, after reading about the failed attempts at multi-unit housing in the '70s and the importance of secure land tenure, it became evident that freehold housing presented greater opportunities -- especially given the larger goal of lifting residents out of poverty and breaking the cycle of intergenerational poverty. I also did not anticipate working at an urban scale; my initial thought was to redevelop a vacant lot. Over the course of this thesis, however, the scope of the project expanded to incorporate a phased redevelopment strategy for a 4-block portion of the neighbourhood. Among other things, the incremental approach to redevelopment would make it easier to raise funds for the project.

The goal was to create a flexible layout that met 21st century needs (e.g., cars), accommodated additional density, supported a mix of uses, and incorporated multiple, freehold housing types -- while preserving key fragments of the original urban fabric. The greatest area of vulnerability is the residents' ability to make the transition from squatting to ownership, with the range of obligations it entails. Most residents have lived in Trench Town their entire lives and are accustomed to certain ways of going about things. This proposal asks residents to give up something familiar to achieve a more sustainable future -- something they can see as either a risk or an opportunity.

NEXT STEPS

While I undertook a review of literature, reviewed precedents, communicated with local experts and watched documentaries, I was prevented from visiting Trench Town due to COVID-19, travel restrictions. Visiting Trench Town in the summer of 2021, however, will enable me to collect additional data, generate more ideas and think critically about the work I've completed to date. Interacting with residents and first-hand experience of the community, its people and its culture are an invaluable component of the process.

Additional next steps for the project include:

- Exploring how the strategies developed for Trench Town might be applied to other areas in Jamaica, as well as to other countries
- Creating alternative neighbourhood layouts that explore more numerous smaller courtyards rather than fewer larger ones.
- Additional research into the finance and legislative frameworks that might enable this project to happen.
- Presenting the project to residents and stakeholders (including private developers) for additional input.

Fig. 77: Trench Town Timeline

POSTSCRIPT: FINAL THOUGHTS

Among the issues raised at the thesis defense was the potential disconnect between the images I presented of an orderly and sanitized neighbourhood and the “on-ground” realities of a dynamic, hustling community such as Trench Town. As it “descended” into informality, controls were lifted. Residents improvised and did whatever was necessary to survive. The adaptations and alterations that occurred over time involved a thousand-and-one micro negotiations.

I was asked to consider how I would accommodate the informality, which was not only unlikely to disappear but should be encouraged. This raises questions about the role of the architect in, on one hand, communicating a cohesive and inspiring vision and, on the other, anticipating how the community might look after its residents have taken full possession of it. Correlate questions include how the community sees (or may come to see) itself and the amount of collective control it might wish to impose over the individuals that comprise it. In many communities, Homeowners’ Associations (HOAs) set the rules of engagement for what residents can and can’t do with their properties as well as managing enforcement.

It should be noted, however, that diversity has been designed into the redevelopment. No block is uniformly residential; the typical block is comprised of at least two dwelling types organized in a variety of orientations, heritage structures, open spaces of different sizes and orientations, and accommodation for non-residential uses. Moreover, as discussed in Chapter 7, residents can not only control how they use their dwellings but can opt to add to them, e.g., enclose the upper terraces on dwelling Type 2. Residents whose dwellings are grouped around a courtyard could opt to paint all facades the same colour or allow individual owners to personalize and differentiate them. Different rules might be established for the dwellings and open spaces that face streets than for those facing mid-block laneways. Similarly, owners could have more

Fig. 78: La Cité Frugès, Pessac, France [1924-1926]

leeway with the backs of their dwellings than for whatever portions are visible from the streets. As what one owner does might affect the desirability of adjacent dwellings, however, some level of control will likely be desirable. Some elements, e.g., front yard setbacks and the height of dwellings, and primary use, can be controlled through municipal bylaws.

An important case study for the transformations that can occur over time is the La Cité Frugès, a complex of worker's housing designed by Le Corbusier and Pierre Jeanneret in the 1920s (Figure 77). Over time terraces have been enclosed and facades have been painted colours that diverge from what the architects envisioned. When Le Corbusier saw the changes that owners had made to their houses, he said: "life is always right; it is the architect who is wrong."² This can be interpreted to mean that architects should expect and accept that owners will customize and personalize their homes with whatever resources and materials they have available. A similar phenomenon can be seen in Elemental's incremental "half-a-house" approach (Chapter 4).³ Residents are co-creators, using sweat equity and paying for the materials to finish their homes on their own terms. In so doing, they are free to depart from the original architectural vision as they choose. There is only so much the architect can do.

The lines between cohesion and informality are invariably blurred when incremental development is programmed into the design of a community. Is there, then, a middle ground for low-income development? One that grants neither the architect nor the occupant complete authority?

As noted above, the best path forward may be for the community to determine what is and isn't acceptable with respect to altering and transforming properties. The architect's role, then, would be to design a vision that can both anticipate and withstand these inevitable transformations. Part and parcel of this would be to identify what transformations residents are most likely to want to make and define strategies to accommodate them.

The tension between control, cohesion, flexibility, and personalization is explored visually in the pairs of renderings to follow. These speculate on how the community might look in five to ten years. The first pair represents rigid HOA regulations while the second set shows what's likely to happen with fewer restrictions. In finding a balance between incremental development and informality, architecture and urban design play an important role in stabilizing this dynamic and vulnerable community. Ultimately, it's up to the community to decide how to manage and cultivate the vision.

Fig. 79: Welcome to Trench Town

Fig. 80: 5 - 10 year transformation with HOA Regulations

Fig. 81: 5 - 10 year transformation with few restrictions

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