

# Proposed Guidelines for a Transformative Housing Model

*A Village All-in-One*



**WPI**



**human settlements**

Department:  
Human Settlements  
REPUBLIC OF SOUTH AFRICA

**Prepared for:  
Human Settlements Directorate  
City of Cape Town, SA**

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## **Acknowledgments**

*This document was developed by team composed of Isabelle Lachaux, Lorena Nunes, James Obermaier, and Samuel Ott, as part of a Worcester Polytechnic Institute's Interactive Qualifying Project in collaboration with the Human Settlement Directorate, City of Cape Town.*

*The team worked under the supervision of Mr. Duke Gumede from Human Settlement Directorate, City of Cape Town, and Professors Gbetonmasse Somasse and Thidinalei Tshiguwho of Worcester Polytechnic Institute*

*The Housing Team would like to acknowledge the contributions and advice from the engineers and urban planners, as well as NGO representatives interviewed.*

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# Introduction

The Proposed Guidelines for a Transformative Housing Model (THM) is a consolidation of key processes and considerations to successfully transform appropriate vacant buildings or properties into sustainable mixed-use housing projects. This document breaks down the THM by outlining its goal, who it affects, how to achieve this design, and why it is important. Social, legislative, locational, building structural, smart technology, financial, and marketing considerations will also be addressed and outlined thoroughly. Finally, potential strategic partnerships for developing a transformative housing model like “a village all in one” will be considered. The Proposed Guidelines for the THM emphasize the importance of a public-private-partnership and how each party could contribute to and benefit from this model.

These guidelines were developed to provide the Human Settlement Directorate (HSD) with a foundation to propose a new housing scheme called the transformative housing model. Using these guidelines, the HSD could have a concise overview on who is involved in the creation of the Transformative Housing Model, what each party’s role is in its creation, and a general framework on how to engage with each party. These guidelines are meant to consolidate the key elements learned through documentation on previous affordable housing projects, interviews conducted with stakeholders, and common threads noted through that research. More detail on the methodology used to conduct research can be found in Appendix A.

# Chapter 1: Transformative Housing Model

This section is an overview addressing four main questions: what the THM is, how it is organized, who it affects, and the benefits of the model. The goal of the THM is to create an all-in-one inclusive design that incentivizes the sense of community amongst residents through common spaces and collaboration of different developers.

## 1.1 Explanation of Model

The Transformative Housing Model aims to create a self-sustainable community within a building; ‘a village-all-in-one.’ In order to do so, it must promote social integration and inclusivity through tenure blind design. This would mean apartments are built equitably and common spaces and social amenities would be accessible to all residents.

The THM approach envisioned by the Human Settlements Directorate (HSD) is novel in the sense that it includes the mixed use, mixed income, and mixed tenure programs. This would mean having business and residential units in one building all sold on a sectional title ownership framework. The residential units would aim to provide housing for low-, middle-, and high-income residents. This mixed income approach integrates groups of different economic backgrounds into one residency (HSD representative, personal communication, November 7, 2022). This scheme aims to cross-subsidize, using income streams from businesses and higher income residents to aid lower income residents’ rents.

In terms of the actual property, the THM would transform an underutilized industrial or commercial building into residential properties. By transforming an existing property, a larger value/cost ratio would be achieved due to the capitalization and leverage of existing amenities in the area (roads, electricity, stores, etc.). Additionally, being closer to denser economic activity and having less of a monetary burden on housing, this scheme offers lower income residents more economic opportunity and social mobility (HSD representative, personal communication, November 7, 2022). By incorporating different schemes and developers, a more collaborative and inclusive building design can be created. Through this, the Transformative Housing Model aims to not only transform buildings, but also the surrounding communities.

## 1.2 Property Management Structure

The Transformative Housing model follows a sectional title framework, as defined by the Sectional Titles Schemes Management Act of 2011. In this structure, a single development is split into units for sale. Those who have bought a sectional title for a single unit are partial owners of the entire development. These owners can either choose to find tenants to rent their units to or live there themselves. Once a stakeholder buys into this scheme and becomes an owner, they become a member of the body corporate. The body corporate is made up of all the owners and is responsible for voting on all property decisions including the management and conduct rules. Upon completion of the project, the developer will act as a member of the body corporate for all units not yet sold. All management, conduct, and body corporate rules must

align with those prescribed in the Sectional Titles Schemes Management Act of 2011 (Republic of South Africa, 2011).

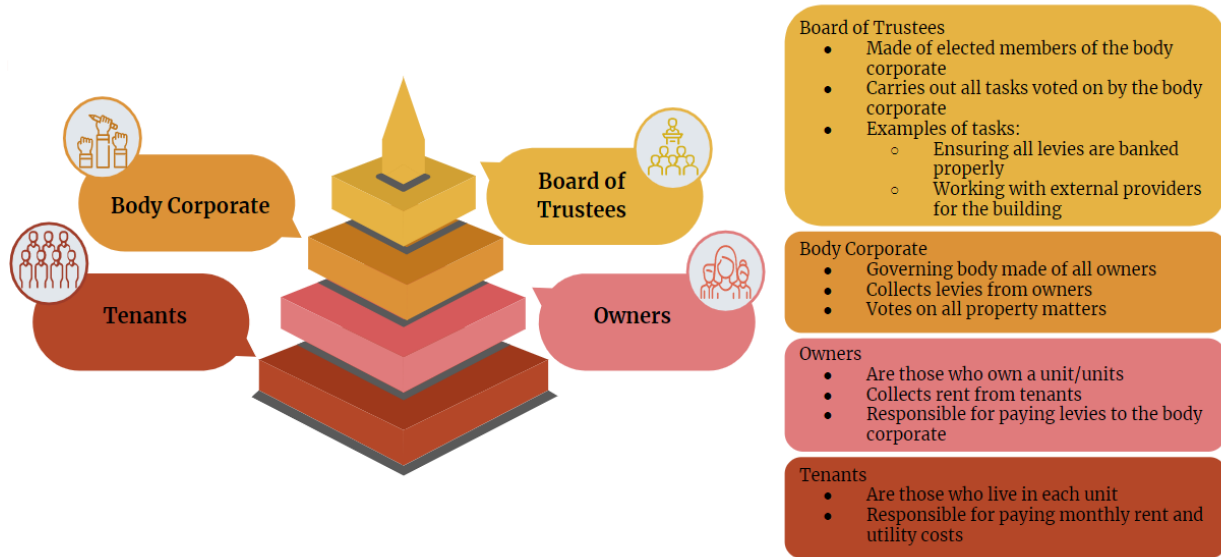


Figure 1: This diagram displays the hierarchy in terms of risk taken by each group involved in the sectional title scheme and their roles.

It is the role of the body corporate to establish a fund to pay for all agreed upon expenses which might include, but are not limited to, utilities, maintenance and upkeep, security, and insurance. Owners are prescribed payments in the form of levies to the body corporate to cover these expenses. This grants the owners access to these utilities and common areas as agreed upon by the body corporate (Republic of South Africa, 2011). In the envisioned framework, some examples of owners might be the City of Cape Town government, NGOs, low to middle income homeowners, and private investors.

It is also the role of the body corporate to elect a board of trustees. It is the trustee’s responsibility, on behalf of the body corporate, to manage and control the owners’ investments into the model. This could be anything from ensuring all levies are paid, banked, and used correctly to the hiring and management of cleaning, maintenance, and security providers. The trustees must act in accordance with the Sectional Titles Schemes Management Act No.8 of 2011. This means each trustee must act in the sole interest of the body corporate and “must avoid any material conflict between his or her own interests and those of the body corporate” (Republic of South Africa, 2011).

The sectional title framework is quite standard and can be seen throughout the Western Cape. This project introduces a novel focus on providing housing for low-income residents within the same sectional title building as residents with a range of other economic backgrounds. To make this scheme economically and socially viable for these lower income residents, a



variety of programs may be included to allow for greater economic mobility. Some examples could be allowing some residents to work for reduced rent options (“sweat equity”), implementing a rent to buy program, or having the government as a partial owner to ensure lower income residents have long term access to this housing.

### 1.3 Stakeholders

When breaking down the stakeholders involved in the THM, there are three main categories of beneficiaries: the private sector, the public sector, and the civil society. These groups would contribute in the development or maintenance of the property and in return receive certain benefits for their contribution. Within each broad category exist smaller subgroups, each of which contributes either labor, finances, feedback, or management. The private sector consists of private developers, financial institutions, and private owners. The public sector on the other hand consists of only the Cape Town Municipal Government and its relevant directorates and teams. Finally, the civil society category is made up of tenants, members of surrounding communities, and NGOs that represent the public. The figure below further breaks down the individual contributions of each group and their benefits.

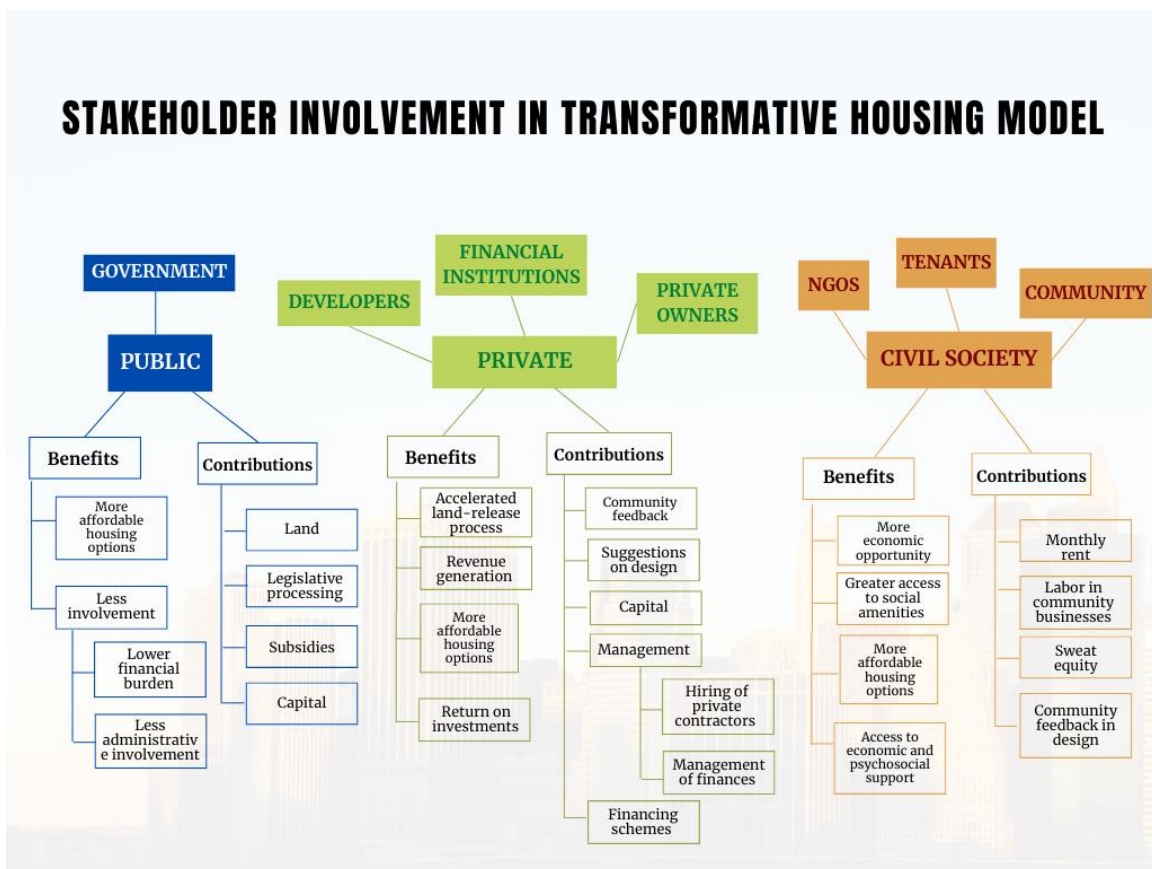


Figure 2: Diagram illustrating the contributions and benefits seen by each stakeholder’s involvement in the THM.

A list of potential stakeholders is seen in Appendix B. The financial institutions and private developers would contribute and benefit from this collaboration model as demonstrated in the private sector section of the diagram. The NGOs would contribute and benefit according to the civil society section of the diagram.

## 1.4 Benefits of Transformative Housing Model

The Transformative Housing Model differentiates in nature in many ways from previous housing projects seen in Cape Town. The THM would incorporate all positive aspects from previous relief efforts and incorporate innovative strategies to improve the aspects that have not been proven to be successful. This model is beneficial to Cape Town because it provides an opportunity for a self-sustainable community, something that has not been completely accomplished beforehand. What differentiates the THM from other projects is that all benefits complement each other, thus creating a repeating cycle, as demonstrated in the figure below.

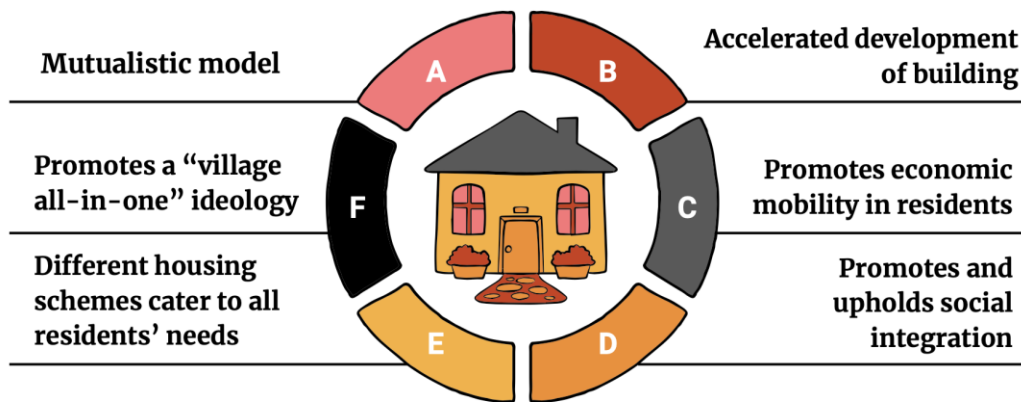


Figure 3: Diagram demonstrating the cycle of benefits the Transformative Housing Model provides.

The benefit of creating a mutualistic model is that through collaboration between different sectors, the needs of each stakeholder are catered to while still aiming to create a self-sustainable community. The specific benefits each stakeholder would gain are outlined in Figure 2, found in section 1.3. The second benefit mentions the accelerated development of this project due to the partnerships made between the public and private sector. The City of Cape Town has an immense demand for housing developments; therefore, collaboration of different entities would provide an accelerated supply to account for the ever-increasing demand. The third benefit is regarding the promotion of economic mobility in residents. Through the novel housing and financial schemes within this model, as well as the different development programs (both psychological and financial), economic growth is promoted within the residents. Consequently, this aids them in becoming more economically independent from the government. The more economically independent residents in this building become, the more revenue it generates, and the less intervention from the government is needed. The sense of community within the building is also strengthened, given tenants can participate in this community for a longer period. The

fourth benefit focuses on the fact that this model not only promotes but upholds social integration of lower income residents. Due to the tenure blind approach, the communal areas that are accessible to all, and the inclusive design of this model, the THM offers lower income residents a place in the system and a way for them to maintain their position. Promoting social integration is essential in reducing the disparities amongst the residents of different income groups and increasing the sense of community and belonging within all residents. The benefit of offering different housing schemes all within the same building, is that rental and ownership opportunities are both offered to account for all residents' needs considering the fluctuations in economy. This benefit reiterates the fact that the THM is offering residents the opportunity to maintain their position in the system. The final benefit is concerning the promotion of 'a village all-in-one' ideology. This benefit ties into all previous benefits. The social amenities that will be offered within the building are equally accessible to all residents and cater to all of their needs no matter their economic background. This allows for the creation of a self-sustainable community, which is a goal of this model.

## Chapter 2: Main Considerations

This section consists of the main considerations that developers (either public or private) must follow to achieve a holistically successful transformative housing development. The main considerations in this section are as follows:

- Social
- Locational
- Legislative
- Structural
- Potential for smart enhancements
- Financial
- Marketing/ advertisement

### 2.1 Social Considerations

Cape Town still faces many challenges regarding lack of housing and social integration. The Transformative Housing Model (THM) aims to reduce these social disparities through sustainable housing. For this model to be successful, it is imperative for the government to make partnerships with groups that prioritize the needs of the people. Partnerships with NGOs are extremely beneficial due to the nature of their goals and supporting causes. NGOs such as Development Action Group (DAG) and Ndifuna Ukwazi (NU) have very different approaches but work to achieve the same goal: greater social integration and equitable opportunities for lower income groups, through advocating for higher quantity and better quality of affordable housing options. An example of the NGOs in action was the case of the Foreshore Freeway Project (Proposal C) in the Central Business District of Cape Town. In which affordable housing options were offered in the building, however there was an immense spatial inequity and disparity in comparison with the open market units, as demonstrated in the figure below. The NGO NU was the face of the ‘resistance’ against this proposal (Cogger, Park-Ross, 2022).

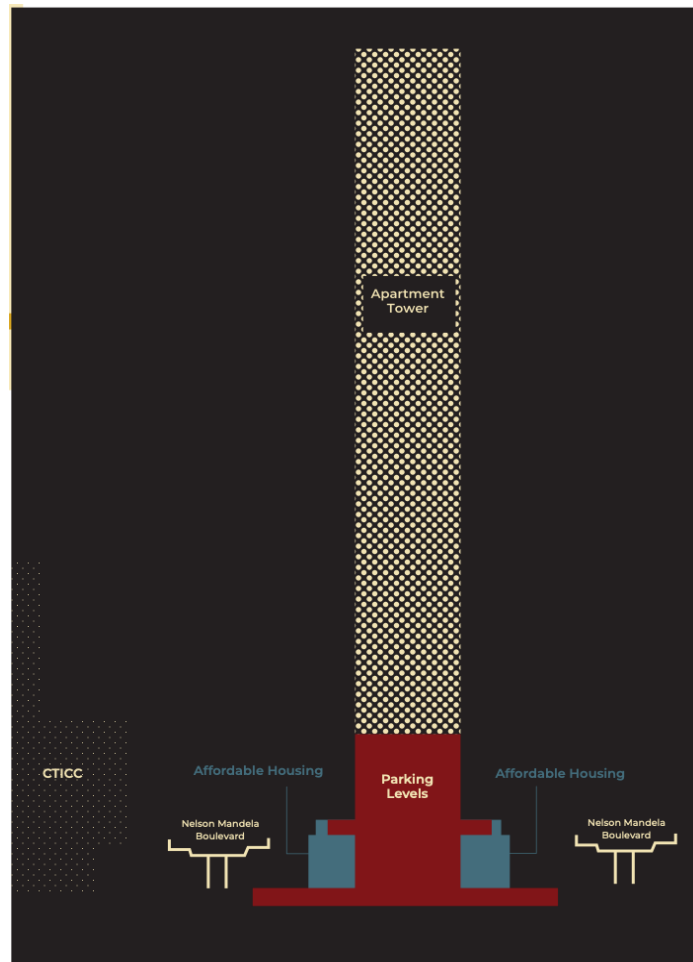


Figure 4: “Private sector proposal for the Foreshore Freeway project (Proposal C) where affordable housing (in blue) is only provided below the level of the freeway and mixed within the parking (red), while the market related housing (yellow) is provided above the parking and the freeway.” (Cogger, Park-Ross, 2022).

Another fundamental aspect that cannot be ignored is to incorporate financial schemes that accommodate for fluctuations in the economy, which affect most tenants. A huge problem Social Housing projects face is tenants struggling to keep a stable job/income due to these fluctuations in the market and irregularities with seasonal jobs (NU representative, personal communication, November 18, 2022). Difficulties keeping up with a steady rent often results in eviction. By implementing programs such as reduced rent through “sweat equity” or options where tenants can pay different amounts towards their rent according to their income, it would allow for people to have a better opportunity at maintaining their position in the building and their homes. Another important consideration would be to offer transitional housing apartments within the building complex. In doing so, tenants would have a place to live while they are regaining their finances in the case of unemployment, rather than simply evicting them. By offering transitional housing, tenants can ‘get back on their feet’ and potentially even move back to their previous rental apartment. Finally, implementing a rent-to-buy scheme is just as important to provide low-income residents the opportunity of becoming first time homeowners,

such opportunity that is rare in Cape Town and would make an immense difference in the low income population's lives.

It is essential that all residents have equal access to social amenities that would be implemented either on the first few floors or in the surroundings of the building. These amenities must apply to all residents' needs, despite their economic background, as referenced in section 1.4. It is counterintuitive to implement 'high-end' amenities such as luxurious cafes/stores and expensive services in the name of promoting innovation. The design would become 'out of touch' with the residents' true needs, given many residents would not be able to utilize such amenities. All tenants should have access to the same high-quality and accessible amenities to promote inclusivity and social integration of lower-income groups. The equitable standard should also be reflected in the design of the apartments themselves. Despite the different amenities within open market units and affordable housing options, all units should maintain the same quality standard and should look the same from the outside of the building (tenure blind) to promote inclusivity (JSP Development Services, 2021, p. 7).

Finally, it is fundamental to understand the residents' backgrounds and their psychosocial needs. Many residents carry trauma from their previous living situations. Therefore, it would be ideal to implement psychosocial support programs within the building. These programs can be held in the common spaces of the building and can include but are not limited to counseling sessions, occupational therapy, and mental health courses. The goal of these programs is to increase residents' sense of well-being and belonging, consequently creating a better sense of community within the building. Another form of social support that would make an immense difference in the tenants' lives is implementing an economic development program. This program would include classes teaching basic financial sustainability such as budgeting, career development, setting up savings, and how to get out of the "blacklisted" status. The implementation of these programs would promote more economic mobility and independence from government subsidies, and consequently the building would become more self-sustainable.

## **2.2 Locational Considerations:**

The guiding principle in determining the location of a new project should be promoting densification. This would mean bringing people to existing utilities and services, instead of implementing new utilities and services further from the CBD. Therefore, the location of the site should be in an area that allows easy access to social amenities such as healthcare, education, childcare, utilities, and other resources. The infrastructure should be within a reasonable walking distance from the site. Areas that do not have preexisting infrastructure that is needed for a THM development should not be considered as feasible. These include, but are not limited to, water, electricity, sanitation, and stormwater management. Below is a diagram from the City of Cape Town's Municipal Spatial Development Framework which depicts the capacity for these essential amenities in the Western Cape province:

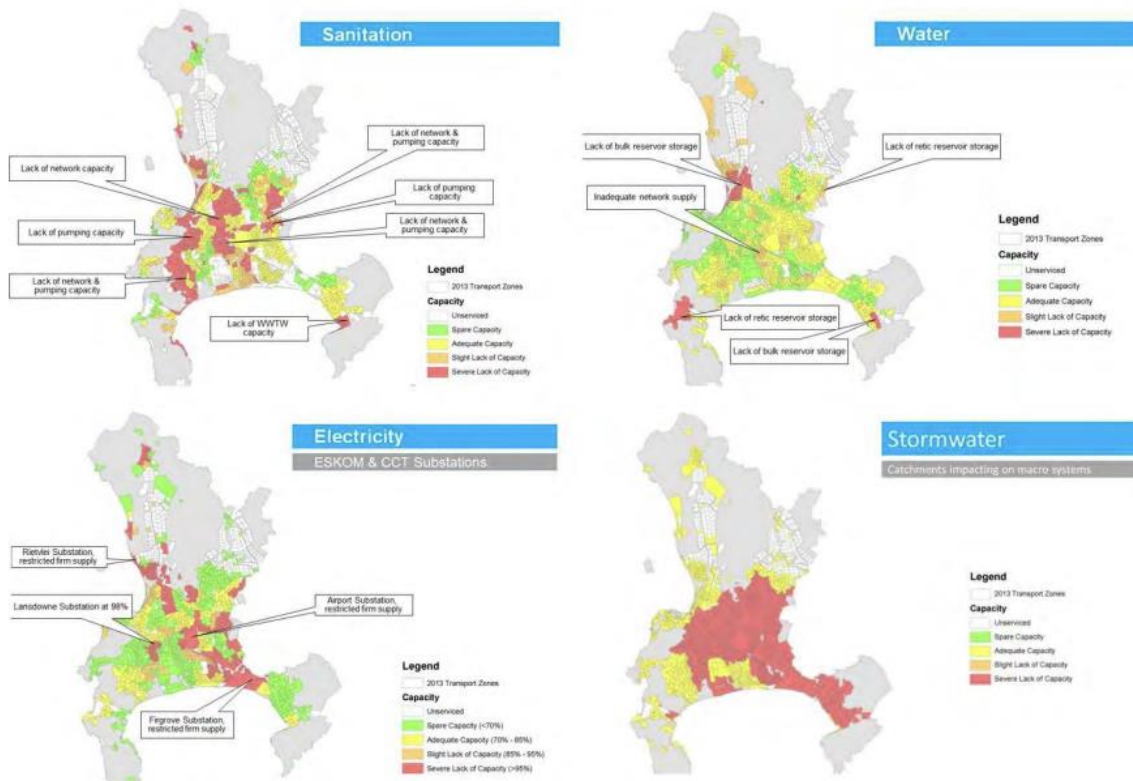


Figure 5: "Current infrastructure capacities associated with the sanitation, water, electrical and stormwater networks." (City of Cape Town, 2022b)

One notable exception exists to the above requirements; site connectivity to the surrounding area can improve the shortfalls that can come with the lack of social infrastructure. What this means is if a site can be deemed feasible even with a lack of social infrastructure in the immediate area, if connection to adequate public transportation exists. An example of this can be seen in a site called Pickwick. As described previously, this site should not be an acceptable site as it lacks essential social infrastructure in the immediate area as shown by Image 1 (JSA Architects and Urban Designers, 2021). Pickwick became an acceptable site by counterbalancing the lack of social infrastructure with its proximity to major roads. In this case, the major roads would allow for public transport to necessary social facilities.

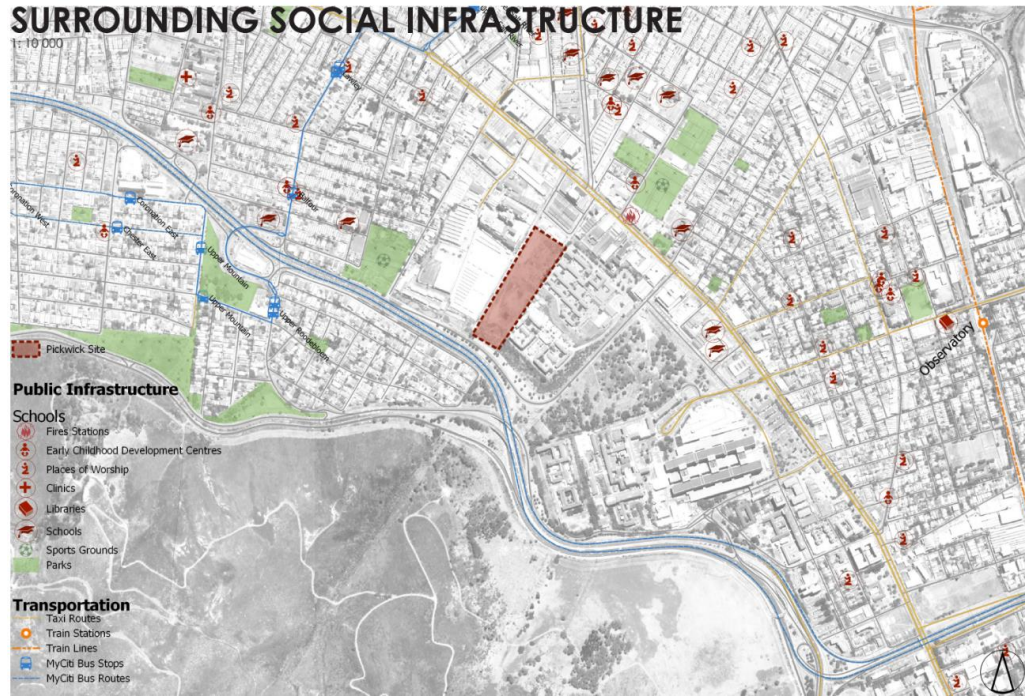


Image 1: Map of Pickwick site demonstrating social infrastructure surrounding the site. (JSA Architects and Urban Designers, 2021)

Using the information above, a compiled checklist of the necessary social amenities in a given area to be considered feasible for the THM is included in Figure 6 below. The feasibility of a site in this checklist is based on “reasonable” access to these social amenities. It is important to note that the term “reasonable” depends on a given project, however the figure provides a summary of key amenities that should be considered.



<b>To be deemed feasible, a site should have reasonable access to:</b>	
<input type="checkbox"/> <b>Transportation</b> <ul style="list-style-type: none"> <li><input type="checkbox"/> A MyCiTi bus stop</li> <li><input type="checkbox"/> Golden Arrow Bus Services (GABS)</li> <li><input type="checkbox"/> A Metrorail Western Cape station</li> <li><input type="checkbox"/> Metered/Minibus taxis</li> <li><input type="checkbox"/> Private transportation (Access to major roads, highways, and parking)</li> </ul>	<input type="checkbox"/> <b>Essential Goods</b> <ul style="list-style-type: none"> <li><input type="checkbox"/> Grocery stores</li> <li><input type="checkbox"/> Clothing stores</li> <li><input type="checkbox"/> Pharmacies</li> <li><input type="checkbox"/> Home goods stores</li> <li><input type="checkbox"/> Convenience stores</li> <li><input type="checkbox"/> Petrol stations</li> </ul>
<input type="checkbox"/> <b>Healthcare</b> <ul style="list-style-type: none"> <li><input type="checkbox"/> Emergency medical services</li> <li><input type="checkbox"/> Clinics/General women's and men's health services</li> <li><input type="checkbox"/> Child healthcare</li> <li><input type="checkbox"/> Psychiatric care</li> </ul>	<input type="checkbox"/> <b>Essential Services</b> <ul style="list-style-type: none"> <li><input type="checkbox"/> Electricity</li> <li><input type="checkbox"/> Waste management</li> <li><input type="checkbox"/> Water supply</li> <li><input type="checkbox"/> Sewage</li> <li><input type="checkbox"/> Stormwater management</li> <li><input type="checkbox"/> Sanitation</li> <li><input type="checkbox"/> Information and Communication Technology (Wifi, towers, and antennae)</li> <li><input type="checkbox"/> Safety and Security services</li> <li><input type="checkbox"/> Financial and banking services</li> <li><input type="checkbox"/> Opportunity for work</li> </ul>
<input type="checkbox"/> <b>Childcare</b> <ul style="list-style-type: none"> <li><input type="checkbox"/> Preschool/Daycare</li> </ul>	
<input type="checkbox"/> <b>Education</b> <ul style="list-style-type: none"> <li><input type="checkbox"/> General education public schools (Grades R - 9)</li> <li><input type="checkbox"/> Private/International public schools</li> <li><input type="checkbox"/> Universities</li> <li><input type="checkbox"/> Technical Vocational Education and Training (TVET) colleges</li> </ul>	

Figure 6: Essential social amenities checklist for properties to be deemed feasible.

## 2.3 Legislative Considerations

Section 26 of the Bill of Rights included in The Constitution of the Republic of South Africa 1995 states, “Everyone has the right to have access to adequate housing [...] The state must take reasonable legislative and other measures, within its available resources, to achieve the progressive realization of this right.” It is therefore the City of Cape Town’s responsibility to not only provide housing to all citizens, but to ensure that housing is “adequate”.

With the introduction of the new Spatial Planning and Land Use Management Act 16 of 2013 (SPLUMA), there exists a new framework in the spatial planning surrounding new housing projects. This framework works to provide housing where “the intention is to create the conditions for social, cultural and economic development that enables the empowerment of citizens who are then able to participate in the full spectrum of activities in their communities” (Department of Human Settlements; Planning Directorate, 2019a). This goal is summarized in Figure 7 below which has been compiled in the Guideline for the Preparation of Municipal Human Settlement Plans; Background and Resources Document:

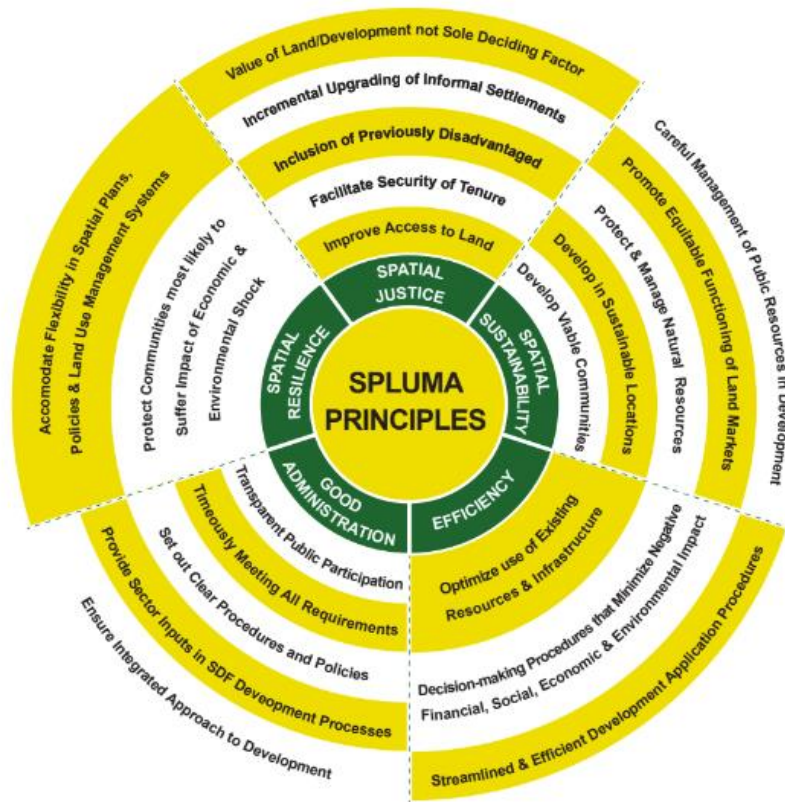


Figure 7: Summary of key elements of the SPLUMA (Department of Human Settlements; Planning Directorate, 2019a)

New housing projects should adhere to the SPLUMA principles and follow the intention to provide more efficient, inclusive, and sustainable spaces. A checklist in the guidelines includes important questions to ensure new projects follow the sustainable principles. The checklist is scored based on a yes or no answer to each question, with an ideal project having a total score of 30. The checklist is seen in Figure 8 below:

Category	Question	Yes	No	Category	Question	Yes	No	
Land Use, Activities and Social Services	Does the proposed development include a mix of activities such as spaces for businesses, workshops, shops, cafes etc?	1	0	Infrastructure: Services, Layout and Housing	Has existing engineering infrastructure capacity been considered to accommodate the new development?	1	0	
	Does the proposed development include social facilities such as schools or clinics?	1	0		If new infrastructure is to be installed - what are the capacities and can it potentially accommodate future expansion?	1	0	
	Will new schools be required (or are future residents already living in the area with children already attending schools in close proximity?)	1	0		Has green building standards and technologies been incorporated into the design of services and housing?	1	0	
	Does the proposed development include community services?	1	0		Do block widths conform to the minimum distance for pedestrians to walk to nearest service or destination? 60m	1	0	
	Are social and community services and mixed use activities clustered in areas of highest access?	1	0		Does the exterior edges of the development face outwards to ensure for safety and exposure?	1	0	
	Does the layout allow for a local destination or centre within the development to create a "heart" for the neighbourhood?	1	0		Has walls been avoided as far as possible to avoid for dead spaces lack of interaction with surrounding neighbourhoods?	1	0	
	Does the development include opportunities for sustainable employment or skills development (more than just construction jobs)?	1	0		Are street frontage of residential plots as narrow as possible to optimise engineering services provision?	1	0	
	Does the development positively respond to and complement surrounding land uses?	1	0		Typologies and Design	Has landscaping been included in the budget for implementation and design?	1	0
	Does the development include public transport facilities such as bus or taxi stops?	1	0			Are these spaces linked in the form of a network of public spaces, parks, greenways etc?	1	0
	Does the layout allow for active open spaces, public spaces and linked NMT routes?	1	0			Does the development include a variety of housing types, sizes, densities and/or tenures? (Always aim for medium density of 40-100 du/ha gross)	1	0
Infrastructure: Transport and Roads	Does the layout of roads link into the surrounding movement network?	1	0	Are higher density typologies strategically located around social facilities and soft and hard open spaces?		1	0	
	Does the layout allow for future connections into new developments that could come in future or areas for possible expansion?	1	0	In the case of brownfield developments - are there any existing buildings on site that could be refurbished for cultural significance or repurposed for a specific use?		1	0	
	Does the layout of roads follow a hierarchy and grid structure to create permeable streets that area safe and legible? (layouts that use unnecessary curves are costly)	1	0	Do plot sizes allow for possible backyard dwellings or incremental changes to structures?		1	0	
	Are sidewalks clearly defined and wide enough to ensure for NMT/cycling, spaces for trading?	1	0	Are houses facing onto the street to create active neighbourhoods and clear eyes on the street?		1	0	
	Are there existing footpaths on the site and how have these been incorporated?	1	0	<b>TOTAL SCORE</b>		<b>30</b>	<b>0</b>	
	Does the development allow for community urban agriculture projects?	1	0					

Figure 8: “Checklist for Layout Plans to ensure for Sustainable Neighborhoods” (Department of Human Settlements; Planning Directorate, 2019a)

According to the Cape Town Municipal Spatial Development Framework (MSDF), applications for new developments are checked against a variety of documents which includes, but is not limited to, the City of Cape Town Integrated Development Plan (IDP), the MSDF, the District Spatial Development Framework (SDF), and the City of Cape Town Municipal Planning By-law (MBP-L) (City of Cape Town, 2022b). Of all these documents, the MSDF serves “as the principal policy tool for evaluation applications for new or enhanced land use rights” (City of Cape Town, 2022b). This document will provide most guiding principles in the creation of new developments.

A key focus of the MSDF is collaboration among the National, Provincial, and City spheres of government. Therefore, it is essential that the THM incorporates efforts to facilitate collaboration among these entities. Below is a document in Technical Supplement D of the MSDF which displays necessary legislation for spatial development that must be considered on the National, Provincial, and City level (City of Cape Town, 2022b).

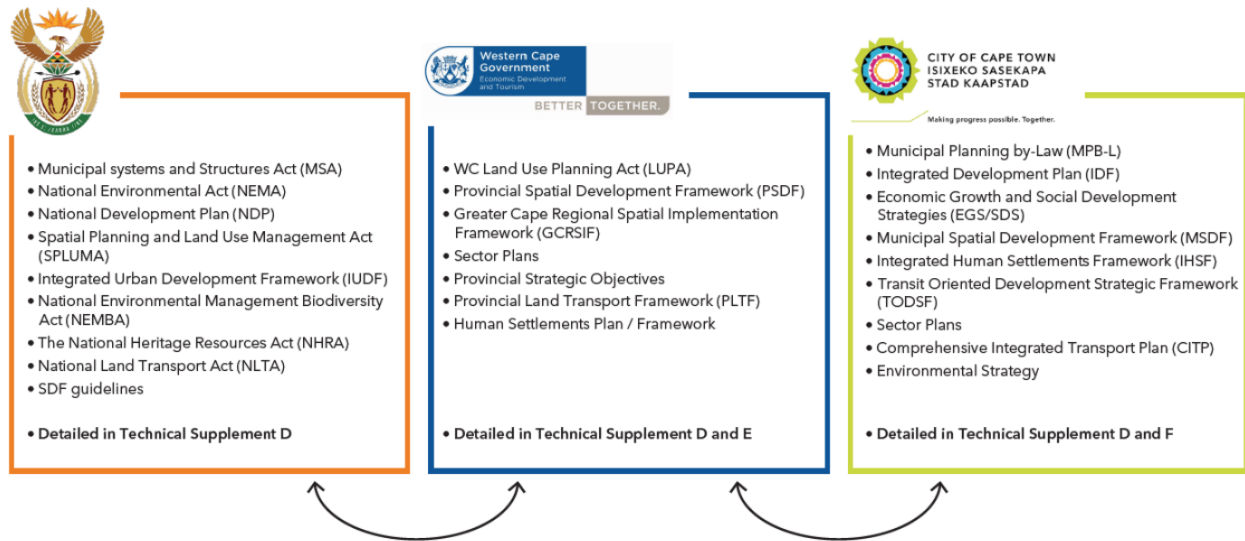
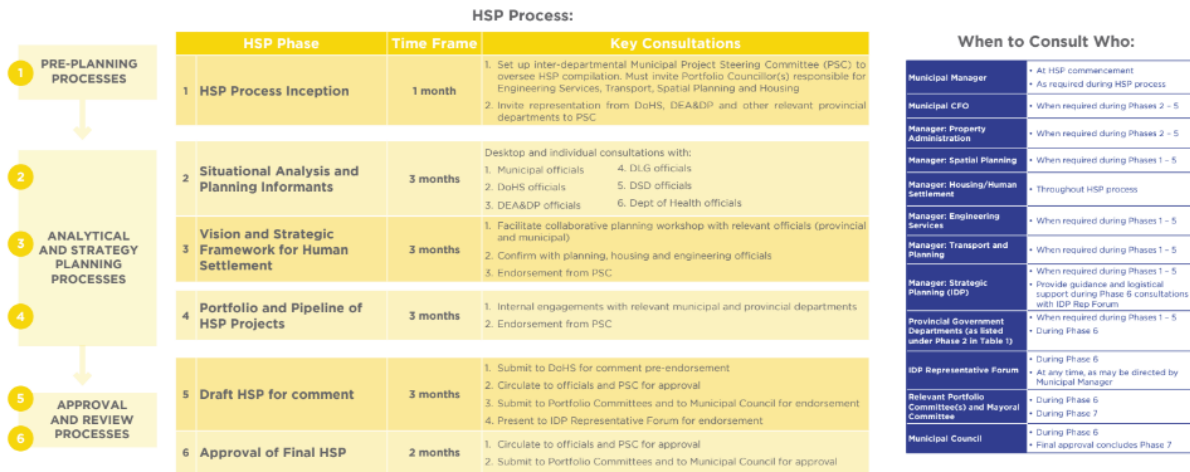


Figure 9: Diagram D1 of the Municipal Spatial Development Framework: Policy context across the spheres of government (City of Cape Town, 2022b)

The Planning Directorate of the Department of Human Settlements outlines a process for generic Human Settlement Plans (HSPs). This includes 3 overarching processes with 6 total phases that details the creation of municipal HSPs from inception to approval. Figure 10 displays the 6 phases within the pre-planning, analytical and strategy planning, and approval and review processes. Also included is an outlined timeframe for these phases, a list of important stakeholders, and when to contact them. Figure 11 contains a series of chapters with more details on each phase and the outcomes/deliverables from each phase (Department of Human Settlements; Planning Directorate, 2019b). These figures are included below:

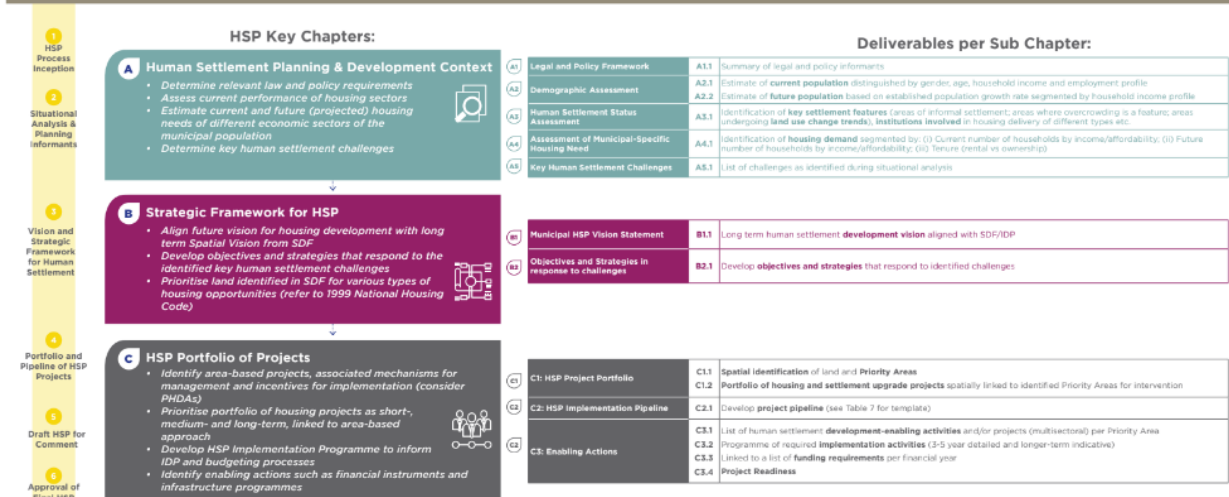
# PROCESS



# KEY CONSULTATIONS

Figure 10: “Generic Municipal HSP Process and Engagements” (Department of Human Settlements; Planning Directorate, 2019b)

# CONTENT



# DELIVERABLES

Figure 11: “HSP Key Chapters” (Department of Human Settlements; Planning Directorate, 2019b)

Using the guiding principles set out in Figure 7, the checklist in Figure 8, and the processes laid out in Figures 10 and 11, this chapter provides the necessary legislative framework to create sustainable Transformative Housing Model developments. This chapter provides a brief overview of key legislation that should be referenced; however, a more in-depth review of the referenced documents will be necessary upon the start of this project. Examples of this documentation include the Municipal Planning By-Law (MPB-L), Integrated Development Framework (IDF), Municipal Spatial Development Framework (MSDF), Integrate Human Settlements Framework (IHSF), National Environmental Act (NEMA), and the Human Settlements Plan/Framework for the Western Cape. The full range of legislation that must be considered from the national, provincial, and municipal perspectives is depicted in Figure 9 above. To ensure the following of all necessary legislation, the municipalities must approve any THM model before its implementation.

## **2.4 Building Structural Considerations**

Proposed sites for a THM development could be vacant commercial and industrial buildings. To repurpose these buildings for residential use, they must fall within certain zoning specifications. Because this model aims to promote densification, appropriate zoning for a THM development would be under a high density residential/mixed use classification; a large building with several floors, many units per floor, varying sizes of units, and allowance for businesses to operate in that same building. The vacant commercial and industrial buildings of interest for the THM, however, will most likely already be classified under an industrial or business classification. Therefore, it is likely that a rezoning of the land for a THM development will be necessary. The rezoning process is described in section 44(6) of the City of Cape Town Municipal Planning By-Law where it states: “the City may on its own initiative rezone land which it does not own to give effect to approved spatial development frameworks and other City policies” (City of Cape Town, 2019). Since the THM follows other City policies aimed at making more sustainable and integrated neighborhoods explained in the sections above, it seems like rezoning would be feasible through the proper rezoning application process.

The city of Cape Town has made available an interactive City Map and Zoning Viewer on their official website. This viewer can be found using the following link: <https://www.capetown.gov.za/Work%20and%20business/Planning-portal/Online-planning-and-building-resources/Online-zoning-viewer>

This resource can be used to help keep track of current zoning and areas set for rezoning. The Image below is a snapshot of the City Map and Zoning Viewer showing the Pickwick site. You can see various zoning classifications such as general business, general industrial, and general residential.

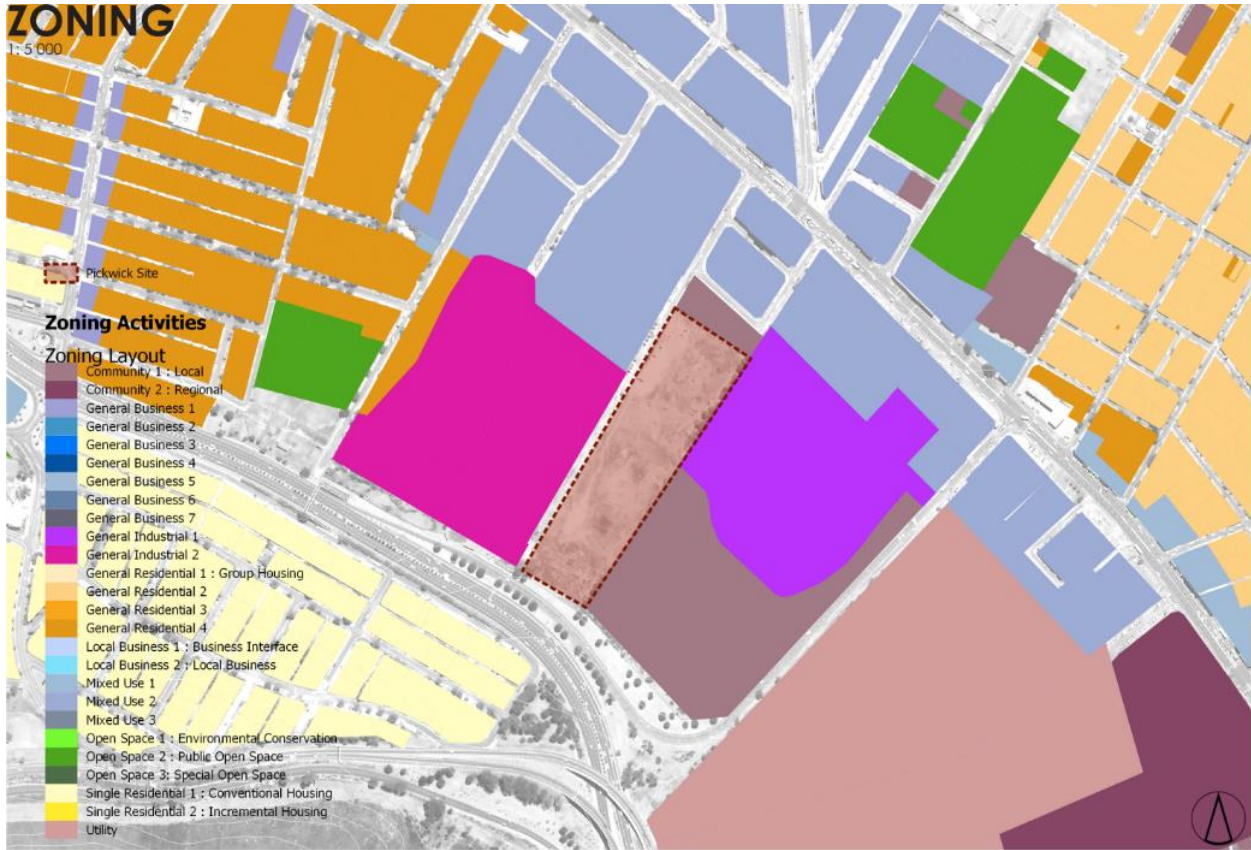


Image 2: Zoning of the surrounding area of Pickwick (JSA Architects and Urban Designers, 2021)

Before any thought can be put into design, these buildings must be surveyed by qualified professionals to ensure that they have not passed their structural lifetime. These buildings must also be assessed to ensure the structural feasibility of retrofitting into housing. To identify the structural and conversion feasibility, a series of surveys must be conducted which may include general structural, mapping, topographical, environmental, and geotechnical surveys. If the building is deemed not structurally sound or cannot be modified into the desired housing, it should be deemed not feasible for the THM.

All structural analyses can be checked against the National Building Regulations and Building Standards Act No. 103 of 1977. This extensive piece of legislation was created “for the promotion of uniformity in the law relating to the erection of buildings in the areas of jurisdiction of local authorities; for the prescribing of building standards” (Republic of South Africa, 2008). This document covers topics such as general principles and requirements, structural design, public safety, floors, walls, stairways, lighting and ventilation, fire protection, energy usage, and more (Republic of South Africa, 2008). This document therefore provides all necessary information on whether a given building is feasible for retrofitting into housing and should be used for a THM development.

## 2.5 Smart Technology Enhancements

The City of Cape Town Integrated Human Settlements Sector Plan (IHSP) is a document outlining the Human Settlements contribution to the City's five-year Integrated Development Plan (IDP) plan starting in 2022. Section 1.5.8 of the IHSP, "City's Climate Change commitments", details various commitments taken by the City of Cape Town towards climate friendly policy. More specifically this section mentions that the City of Cape Town is a member of a global leadership group named C40 (City of Cape Town, 2022a). This group advocates for effective governmental responses to reduce climate change at a local level. Following these initiatives, the IHSP states "the city is committed to accelerating transformative climate action by delivering carbon neutrality for all new buildings by 2030" (City of Cape Town, 2022a). New technologies should therefore be considered to move towards carbon neutrality.

Alternative Building Materials and Systems (ABMS) are key to building environmentally sustainable buildings. Typically, ABMS are materials and systems aimed towards maximum resource efficiency. These can range anywhere from solar panels, motion sensor lighting, and LED lights for energy efficiency to water saving faucets and gray water recycling systems for water use efficiency. An example of a low-income housing project which incorporated green initiatives is the Belhar CBD project. Here, "energy saving technologies such as solar water heaters, heat pumps, improved insulation and gas were ... employed in the project. Residential recycling projects, food gardening and urban greening initiatives are currently also being investigated" (Western Cape Department of Human Settlements; Policy and Research Directorate, 2018). Choosing which materials and systems are best suited for a given project, however, depends entirely on the details of that project. For this reason, partnering with an ABMS provider could be useful as they will be able to provide suitable feasibility assessments for their green technologies on a given project.

A study was conducted in 2019 on the benefits of alternative technologies for low-income housing in Cape Town. The study identified alternative technologies that can aid in the cost, durability, and manufacturability of materials used in construction. These materials include alternative block systems, new forms of insulation, and paneling systems. All the technologies identified have the potential to provide benefits, however not all are feasible (Grady, Brendan, Dante Muzila, Kate O'Neill, and Arden Tanner, 2019).

One factor the study highlights is the influence of public perception. When it comes to housing in South Africa, the public generally gravitates towards the traditional brick and mortar style of housing. This is most likely due to familiarity with traditional materials in housing. The unfamiliarity with new alternative materials conversely creates a lack of trust in residents regarding their durability and effectiveness. This makes it difficult to convince people to trust and live in buildings that utilize alternative technologies (Grady, Brendan, Dante Muzila, Kate O'Neill, and Arden Tanner, 2019). It is essential that if ABMS are to be used that potential residents are informed on the new material, its benefits, and uses. An example of how to achieve this may be through infographics and advertisement campaigns. Below is an infographic made by the 2019 study detailing the uses and benefits of sandbag building:





Alternative Building Technologies

## SANDBAG BUILDING

### How Does it Work?

- 1 A timber frame is constructed
- 2 Sandbags are stacked into the frame
- 3 A fiber mesh and plaster are put on the walls

### Advantages

-  **Acoustically Insulating**
-  **Bulletproof**
-  **Thermally Insulating**
-  **Water Resistant**
-  **Fireproof**

Figure 12: Infographic displaying the uses and benefits of sandbag building housing (Grady, Brendan, Dante Muzila, Kate O'Neill, and Arden Tanner, 2019)

## 2.6 Financial Considerations

When determining the financial feasibility of a project there are two questions that need to be answered; how much will it cost and who will pay for it? This section begins with an analysis of potential development costs of the THM. This provides a ballpark cost estimate based

on previous affordable housing projects. Next this section outlines potential investors and funding schemes. This section discusses revenue streams and important concerns with financing the THM.

The estimated cost to develop the THM is expected to fall within the range of R17,661.50 to R19,756.50 per square meter. This range was determined by referencing data from previous housing projects, such as the Pickwick Site, and consulting with experts in the field (JSP Development Services, 2021). Additionally, the Social Housing Regulatory Authority provided average and high estimates for the cost of developing social housing units, which aligned with the financial information from the Pickwick Site (Alcari Consulting, 2018). Based on this information, an average low and high estimate for the general development cost per square meter of an affordable housing project was derived. The THM is divided into four main space categories: common space, storefronts, social housing, and open market units. Table 1 below provides an example of how these space categories might be distributed. The development cost for each space category is calculated by multiplying the overall development cost per square meter by the percentage allocated to that space category. These costs can then be added together to determine the total development cost per square meter, which can be converted into cost per hectare for different development sizes. Formula 1 and 2 below summarize these calculations. Note that the percentage allocated to each space category can be adjusted as needed for a given project.

$$\begin{aligned} \text{Formula 1: Dev. cost of space type} \\ &= (\% \text{ allocated to space} \times \text{general development cost per m}^2) \end{aligned}$$

$$\begin{aligned} \text{Formula 2: Total dev. cost} \\ &= \text{dev. cost of common space} + \text{dev. cost of storefronts} + \dots \\ &+ \text{dev. cost of parking} \end{aligned}$$

Space Type	% GCA Allocated to Space Type	Development Cost per sq m		Cost with respect to allocated space per sq m	
		Low	High	Low	High
Common Space	20.00%	R17,460.00	R19,530.00	R3,492.00	R3,906.00
Storefronts	15.00%	R15,730.00	R17,600.00	R2,359.50	R2,640.00
Social Housing	20.00%	R13,310.00	R14,880.00	R2,662.00	R2,976.00
Open Market Housing	45.00%	R21,550.00	R24,110.00	R9,697.50	R10,849.50
<b>TOTAL</b>	<b>100.00%</b>			<b>R18,211.00</b>	<b>R20,371.50</b>

There are many different types of investors that developers can seek out to provide funding for new projects. Not only do these investors exist across the public-private sector of South Africa, but they may also be international. These investors provide funding for projects, but only if developers can show they can meet the stipulations put forth by the investors. These stipulations could be anywhere from meeting green initiatives to providing housing for low-income residents. An example of this is seen through a major investor at the national level called the Social Housing Regulatory Authority (SHRA). They offer grants such as the Consolidated Capital Grant (CCG) to developers. This grant provides funding for rental housing up to R328,867 per unit. This funding, however, comes with the condition that the developer must ensure the housing is affordable, well-constructed, and in a well-located area (Social Housing Regulatory Authority, 2021). Some investors for affordable housing projects can be seen below in Figure 13.

Type of investors	Examples of institutions/ organisations
Government Investment	<ul style="list-style-type: none"> <li>• The National Housing Finance Corporation (NHFC)</li> <li>• National Urban Reconstruction and Housing Agency (NURCHA)</li> <li>• Rural Housing Loan Fund (RHLF)</li> <li>• Social Housing Regulatory Authority (SHRA)</li> </ul>
Foreign Institutional Investors	<ul style="list-style-type: none"> <li>• DFI Investment</li> <li>• International Private Equity</li> </ul>
Foreign Institutional Investors	<ul style="list-style-type: none"> <li>• Capital Markets</li> <li>• Real Estate Investment and Service companies</li> </ul>
Pension Funds	
Financial Service Providers	<ul style="list-style-type: none"> <li>• Old Mutual</li> </ul>
Private Equity	<ul style="list-style-type: none"> <li>• International Housing Solution</li> <li>• Musa Group</li> </ul>

Figure 13: Examples of institutions and organizations that provide funding to developers (South African Housing and Infrastructure Fund, 2020)

The grants received by developers from these investors will not cover the total cost of development. This means a certain amount of funding needs to come from the developer themselves. When that occurs, developers will make up the shortfall in equity. This can come from profits from increasing the selling price of private market spaces. In the THM this could mean increasing the selling price of open market units and storefront to cross subsidize the affordable housing units.

The THM's aim to provide affordable housing should be reflected in all aspects of the financial considerations, including rental costs and levies. Following this aim, the body corporate should ensure that units are being sold and rented to tenants in an affordable and sustainable manner. Additionally, levies prescribed by the body corporate should be given equitably according to the unit. This would rely on 2 main factors: standard and non-standard levy costs. There will be a standard rate that is reflective of the cost to maintain communal areas, amount of money that the body corporate sets aside for future projects, as well as the cost to cover the salary of managerial staff. This will be distributed according to unit size per square meter. The second factor is based on the utility costs for the specific unit. Each unit's utility usage will be transparently monitored by the board of trustees and charged accordingly.

It is important to note that all calculations and prices above are based on averages of previous affordable housing projects. These should only be referenced as a general idea of the cost of this project. Many aspects of the project such as location or materials used will alter costs greatly from the above metrics.

## **2.7 Marketing Strategies**

There is a huge misconception around affordable housing projects and their benefits. Many low-income residents have not heard of new affordable housing schemes, not learned about the opportunities offered, or are simply ignorant of their true function (DAG Representative, personal communication, November 11, 2022). The lack of understanding has caused the people of Cape Town to associate new affordable housing schemes with previous government relief efforts, such as fully subsidized, poorly designed government housing. The inclusion of affordable housing in the THM suggests that the stigma surrounding affordable housing may also extend to the THM. Therefore, rebranding affordable housing and increasing its visibility through advertising could help the THM distance itself from that association. To break away from that stigma, the promotion of a lifestyle rather than the building itself is key. This lifestyle must be one that promotes inclusion, economic development, and sustainability. This way, potential residents view the transformative housing model to access a better life and are more encouraged to participate. It is recommended that the HSD hire professionals to create advertisements that cater to this lifestyle to all prospective stakeholders.

In order to appeal to potential residents there must be targeted advertisements for the 3 main groups to market to: low income residents, middle to high income residents and potential developers. The focus on these groups and their corresponding marketing strategies is the result of a comprehensive review of previous housing projects and expert consultation. The figure below displays these groups and their respective marketing strategies.

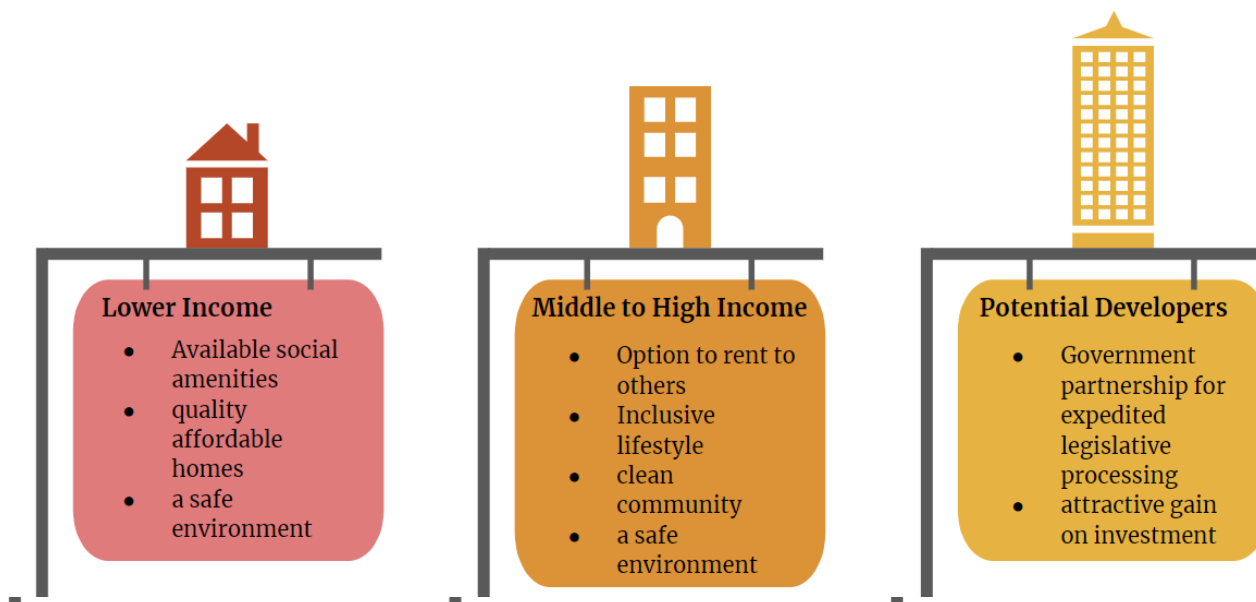


Figure 14: Diagram demonstrating main marketing focuses according to each targeted group

When marketing to lower income residents, the key is to target social amenities provided and proximity to public transport. These residents are in the income range of R1500 -R22000 per month and therefore qualify for affordable housing subsidies. Marketing social amenities that might not have been available to these residents such as the businesses on the ground floor, free wifi in communal areas, and communal laundry will attract many potential residents. By targeting advertising that displays similar units for both open market and affordable housing, it will promote a perception of equity in this model. This equity will be appealing to lower income residents who wouldn't have access to quality housing otherwise. The best approach to target this group is to hire professionals to distribute brochures in the areas these communities live in. Another strategy would be to advertise through social media, to target a larger sample of low-income residents.

The THM must also appeal to middle to high income tenants residing in the open market and luxury apartments. These residents are in the income range of R22000 per month and above. When marketing to these groups, transparency is key to ensure residents are willing to participate in the lifestyle of an inclusive community. Marketing gated perimeters, facial or passcode secured building entry, and around the clock security guards will appeal to these residents. Additionally, communal areas and surrounding streets must remain clear of trash and crime. Quality appearance of the building and its amenities is key to attracting the high-income residents along with online advertisement. The option for high income earners to buy a property with the intention to rent to a tenant rather than live there themselves should also be advertised. This way, even if they are not willing to live in a project like this, they can still contribute and become an owner of a unit.

Finally, the Transformative Housing Model must also appeal to potential developers. To appeal to private developers, it must be clear that they will benefit financially and managerially through this scheme. Under the THM, a private developer will benefit from a partnership with

the City of Cape Town government due to expedited land release processes of ideal properties under certain stipulations. Under this purview, a private developer might receive expedited and discounted rezoning and sale of land from the city, but only if they ensure a certain amount of the development is reserved for low income residents. Private developers will be looking for a secure plan with reasonable gain on investment from developing this housing scheme. For this reason, an acceptable level of profit for the developer must be included in the scheme. Holding conferences and personal contacts with private developers will be the best way to market the THM.

It is important to understand and acknowledge the history of housing in South Africa, more specifically, Cape Town. Many times, gentrification is enabled due to efforts to regenerate neighborhoods. With this, historical areas are transformed in the name of promoting innovation, consequently increasing the market value of that area. In doing so, citizens that have occupied that area for many generations are 'driven out' of the neighborhood because they can no longer afford that area's cost of living. Therefore, it is crucial to market the Transformative Housing Model as giving low to mid-income residents 'a place' in that area. This way, we aim to achieve the exact opposite of gentrification by welcoming long-term residents into the area rather than driving them out.

## Chapter 3: How We Envision It

This chapter provides an example of how the above considerations can be used to create a THM development. The hypothetical below is not the only way to design a THM development and should be modified to match site specifications.

Following chapter 1, the THM development envisioned includes the mixed use, mixed income, and mixed tenure programs. This would mean having business and residential units in one building all sold on a sectional title ownership framework. The explanation of the sectional title framework is described in section 1.3. The residential units would aim to provide housing for low-, middle-, and high-income residents. This mixed income approach integrates groups of different economic backgrounds into one residency.

To ensure this project is following necessary principles seen in recent legislation as outlined in section 2.2, the checklist in figure 5 and the SPLUMA principles prescribed in figure 4 should be used. These resources provide a good foundation for decision making throughout this project. Figures 7 and 8 contain the legislative processes that must be considered throughout this project. The six phases outlined in figure 7 guide the project from inception to approval considering the pre-planning process, analytical and strategy planning process, approval and review process, and key consultations along the way. This provides a general timeline for each phase, a content breakdown for each phase, and when to contact the key consultants.

Following the structural considerations in section 2.4, the site for this THM development is a vacant 5,000 square meter industrial building currently in an industrial zone. It consists of two floors each with a 2,500 square meter area, 1000 square meters for common space, and 250 square meters for parking. An application has been submitted and approved for rezoning into a more appropriate high density/mixed use classification. Additionally, preliminary surveys of the site confirm that the building is still structurally sound, can be modified, and is in an approved area for new construction (There are no environmental or cultural relevancies that must be taken into account before construction).

Following considerations from sections 2.3 and 2.1, this site has reasonable access to essential social amenities according to the checklist in figure 10. This site does lack 3 things within walking distance however: Universities/TVET schools, home goods stores, and financial/banking institutions. Luckily, this site is close enough to major roads to have access to both metered/minibus taxis and a MyCiti bus stop. Due to the site's connectivity to public transportation, this site has still been deemed viable despite this shortfall. These amenities have also been surveyed and found to be used by both low-, middle-, and high-income earners. This is essential to the integration of lower income residents as this allows less separation between income groups.

The main objective of this building is to provide affordable housing in an environment that allows for economic growth and social mobility for low-income earners. This means much of the housing should be affordable and the rest should be made up of storefronts, common spaces, and some higher income earners. As such, this THM development will be broken into the

following percent allocation of space: 20% social housing, 20% affordable open market units (included as open market), 20% common spaces, 20% Standard open market, 15% storefronts, and 5% luxury housing. Affordable and social housing units come in 32 and 42 square meter sizes, whereas standard open market units come in 22, 32, and 42 square meter sizes. Storefront units come in 75 and 100 square meter sizes and luxury units only come in a 52 square meter size.

Following a tenure blind approach outlined in section 2.1, there should be no major distinctions in quality between areas occupied or used by lower income earners when compared to areas occupied or used by higher income earners. As such, affordable housing units will be within the same residential areas as open market units and storefronts in the first floor will cater to both high and low income earners. This will allow for lower income earners to feel more equal and integrated with the rest of the community.

Following the City of Cape Town's green initiatives detailed in section 2.5, various forms of energy saving smart technologies will be incorporated into our project. The technologies chosen for this project are automated motion sensor lighting to save on electricity, water saving shower heads and faucets, and gray water recycling systems to save on water. This will not only lower costs of electricity and water but lower the usage of each which limits the environmental impact. Additionally, this project partnered with an alternative building materials provider that makes new kinds of paneled walls. These walls are made of environmentally friendly and recycled materials. They were used in the construction of units within the allocated floor space which saved on cost and time spent on construction.

The estimated total cost to develop this site is in the range of R91,055,000 to R101,857,500. This was derived by multiplying the total space of the site (5,000 square meters) by the cost estimates per square meter of R18,211.00 and R20,371.50. The cost estimates per square meter of the THM can be found in Table 1 of section 2.6. Formula 3 and 4 below summarize these calculations.

*Formula 3: Estimated Low Development Cost = 5,000m<sup>2</sup> × R18,211.00 = R91,055,000*

*Formula 4: Estimated High Development Cost = 5,000m<sup>2</sup> × R20,371.50 = R101,857,500*

Following the funding schemes detailed in section 2.6, there are multiple investors that can contribute to this project. A detailed list of possible investors can be seen in figure 12. An example of an investor in this project is the Social Housing Regulatory Authority (SHRA). Due to the inclusion of social housing in this development, they would be an ideal investor as they provide funding for rental social housing up to R328,867 per unit via the Consolidated Capital Grant (CCG).

Finally, following considerations from section 2.7, advertising for this project should be less about the building itself and more about the lifestyle. This lifestyle is one that promotes inclusivity, sustainability, and a clean style of living. That way the building is seen as a necessity in order to achieve that desired lifestyle. This project was marketed to 3 main groups: low-



income residents, high income residents, and potential developers. To be most effective, advertisements should be tailored to how desired groups would interact with them. For example, if the low-income residents use cell phones, then the advertisements should be distributed on media accessible on cell phones. To advertise the effectively, advertisements were distributed through online media, pamphlets handed out in public, and billboards on popular transportation routes.

## Chapter 4: Conclusion

The proposed guidelines for the Transformative Housing Model have the potential to redesign affordable and government-subsidized housing. This model gives an outline for how the HSD should address the housing crisis by creating economically and socially self-sustainable buildings independent of continual maintenance from HSD and initial private investors. The Transformative Housing Model creates a self-sustainable community within one building, in other words: ‘a village all in one.’ However, this addresses only one part of an intricate issue involving social inequities. Further steps will need to be taken by the HSD to minimize the gap between housing demand and availability.

These proposed guidelines aim to be the start of a long process toward mending social disparities through housing. Much work remains in finding a feasible alternative housing scheme that supports the City of Cape Town’s housing initiatives. With strategic steps towards realizing sustainable alternative housing schemes, the Human Settlement Directorate could move forward in fulfilling the ever-increasing demand for housing.

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# Appendices

## Appendix A: Methodology of research

Our team worked alongside Cape Town’s Human Settlement Directorate to aid with the current housing shortage. The goal of this project was to promote sustainable urbanization by developing a model for the repurposing of underutilized industrial and commercial buildings into transformative housing properties. To meet our goal, we focused on the following three objectives:

1. Examine the implementation of mixed program models in affordable housing based on previous projects
2. Determine stakeholders' perspectives and preferences on repurposing properties into transformative housing
3. Develop a model for the repurposing of industrial and commercial buildings into transformative housing properties

### **1. Examine the implementation of mixed program models in affordable housing based on previous projects**

This objective aimed to better understand the processes necessary to begin development on new mixed-use housing projects. This encompassed everything from the initial idea to the approval to begin construction.

Our team worked with the City of Cape Town and various urban city planners employed by the HSD to analyze previous and ongoing housing projects. These were commercial buildings, industrial buildings, or vacant lots scheduled for repurposing into mixed-use social housing. Our team identified social housing projects as the closest model completed to a mixed program framework. For this reason, we investigated the successes and shortcomings of processes practiced in creating suitable social housing.

When analyzing documents and project proposals, we looked for common threads and outliers between the proposals and outcomes of similar housing projects. This helped us gain insight into which decision factors were worth pursuing. We also interviewed engineers and members of HSD about the process and implementation of housing projects to better gauge the process of creating a proposal. This gave our team not only the requirements set out by the city, but also improvements from what was seen in the practice in the creation of relevant housing projects.

### **2. Determine stakeholders' perspectives and preferences on repurposing properties into transformative housing properties**

Our team was interested in the perspectives of various stakeholders involved in this project. In order to accommodate the needs of potential residents, we interviewed NGO

representatives, urban city planners, and technical specialists such as engineers and architects. The purpose of interviewing these specific groups was to identify the essential social requirements as well as the physical feasibility of affordable housing projects.

Interviews were our preferred method of data collection as they allowed us to attain qualitative data conversationally. Using a semi-structured interview process, we were able to keep respondents on task with our questions while still allowing them the freedom to add additional information.

When interviewing, it was important that we positioned ourselves in a manner that did not imply we were leading but rather an amplifier of the respondents' voices. In the book *Researching the City: A Guide for Students*, it is further explained: "there is a risk that the power relations involved may limit rather than enable other voices to be heard" (Ward, 2020, p. 52). Our team proposed questions that minimized the risk of limiting their responses, thus preventing their experiences from being misunderstood. As the author also stated: "an interview is most valuable as a means of allowing and enabling people to discuss their own experience, their own position, and encouraging them to reflect on their understanding of it" (Ward, 2020, p. 52). Therefore, we learned from our respondents' experiences and implemented their perspectives in our proposal design.

We compiled public opinion from these interviews for the HSD. Interviews of NGO representatives and urban planners were all oriented to collect opinions on the necessities of a home and how to make those requirements feasible. Sample questions and scripts for each stakeholder are listed in the Appendices (see Appendix B-E). The qualitative data was interpreted and discussed in the Findings and Analysis chapter.

### **3. Develop a model for the repurposing of industrial and commercial buildings into Transformative housing properties**

This objective aimed to create a guide of our recommended process for repurposing commercial and industrial properties into transformative housing developments. It was a consolidation of all processes and considerations that must be taken into account to successfully construct the mixed program model development previously described. The processes and considerations were an accumulation of all research conducted through sections 3.1 and 3.2. The guidelines addressed factors such as the management structure of the building and essential property considerations and even outlined potential partners in this development. Overall, it emphasized the importance of a public-private partnership and how each party would benefit from this model.

The guidelines were developed to fast-track the delivery of new kinds of housing that better align with the City of Cape Town's sustainability goals (See section 2.2). It would achieve this by providing the HSD with a foundation to propose the transformative housing model. By utilizing these guidelines, the HSD would have a concise overview of who is involved in the creation of transformative housing developments, what each party's role would be in its creation and a general framework on how to engage with each party.

## **Appendix B: List of potential collaborations for the HSD regarding the development of the THM**

The following list consists of potential partners the HSD could collaborate with in the development of the Transformative Housing Model. Underneath each potential partner is a brief explanation of how they could contribute to the development process.

### Private developers:

- Calgro M3 (<https://www.calgrom3.com>)
  - This private developer is “A property investment company that specializes in the development of integrated residential developments such as BNG housing, CRU housing, GAP and FLISP housing, Social Housing, open market affordable housing and mid-to-high income housing.” (Calgro m3, 2022)
    - Calgro m3 could aid in providing investment or managing the selling of units.
- Greenfield Developments ([http://www.greendev.co.za/about\\_us.html](http://www.greendev.co.za/about_us.html))
  - This developer “Was established with the clear intention of identifying property opportunities in the Western Cape on land that had hitherto been underutilized.” (Greenfield development, 2022 )
    - Greenfield Developments could partner with the HSD as a developing partner for THMs and attaining underutilized properties for conversion.
- FWJK (<https://fwjk.co.za/>)
  - Real estate developer in Cape Town is “A professional services company that has been developing a wide range of developments with our disruptive Co-Development at Cost Methodology since 2008” (FWJK, 2022)
    - FWJK could partner with HSD in advertising the THM and promoting the lifestyle it offers.

### Financial institutions:

- NHFC (<https://www.nhfc.co.za>)
  - National Housing Finance Corporation
  - “Our mission is to provide innovative and affordable housing finance solutions for the low-to-middle income market.” (NHFC, 2022)
    - The NHFC could aid in providing loans to private developers that will be investing in the THM.
- CAHF (<https://housingfinanceafrica.org/about/about-cahf/>)
  - Center for Affordable Housing Finance in Africa
  - “All of CAHF’s work is directed at shifting investor interest towards the much larger market of the emerging middle class in urban areas across Africa, and using this to champion both improved housing conditions and economic growth, while also addressing inequality with the asset potential that housing offers.” (CAHF, 2022)

- Could aid in the legislative financial process to ensure low income residents have fair opportunities at housing options and maintenance.
- Could also aid in getting better involvement of the private sector in the development of the THM, while implementing equitable policies.

## NGOs:

- DAG (<https://www.dag.org.za>)
  - Development Action Group
  - DAG’s mission is to support community-led developments addressing all social discrepancies
  - “DAG is leading Non-Profit Organization that supports communities to strengthen community organizing; enabling affordable housing, land and tenure security; resist evictions; and shape urban development policies.” (DAG, 2022)
    - Could partner with the HSD in implementing equitable policies and regulations for low-income residents living in affordable housing units within the model.
- NASHO (<https://www.nasho.org.za/about/>)
  - National Association of Social Housing Organizations
  - “Its primary objective is to assist to build a strong and sustainable social housing sector in South Africa with Social Housing Institutions at the heart of the delivery.” (NASHO, 2022)
    - Potential partner for the HSD regarding Social Housing units within the building (could potentially help develop units as well).
- NU (<https://nu.org.za>)
  - Ndifuna Ukwazi
  - NGO that advocates to promote more spatial equality
  - “We advocate for a more equal, spatially just and inclusive city by protecting and expanding access to well-located land and affordable housing.” (NU, 2022)
    - Could partner with the HSD in ensuring low-income residents are truly socially integrated in the model.



### Appendix C: List of Interview Participants

<b>Interviewee Occupation</b>	<b>Date of Interview</b>
Architect	October 31, 2022
NASHO Representative/ Urban Planner	November 3, 2022
Civil Engineer	November 4, 2022
Duke Gumedede, HSD Representative	November 7, 2022 and December 5, 2022
DAG Representative	November 11, 2022
NU Representative	November 18, 2022
Real Estate Agent (marketing expert)	November 29, 2022
NHFC Representative (finance expert)	November 29, 2022

\* All interviewees have agreed to be cited within this document. No identifying factors were shown in order to maintain confidentiality. The only interviewee who was personally cited was Mr. Duke Gumedede, the project sponsor, who has consented to being identified.