

An aerial photograph of New York City, showing the dense urban grid and the Hudson River. Overlaid on the image is a complex network of teal-colored lines, representing proposed transportation routes or infrastructure. The lines crisscross the city, connecting various parts of the urban landscape.

RECONCEPTUALISING THE PERIPHERY

A regional restructuring proposal for Northern New Jersey to catalyse its economic, cultural and environmental capacities from an integrative metropolitan perspective.

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Master Thesis
August 2014
MSc Urbanism
Delft University of
Technology

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GRADUATION PROJECT
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Preface

My graduation project is based on a research effort I initiated in May 2012 with a San Francisco-based partner, Cliff Lau. I am collaborating with a research team funded by and affiliated with Open Communities, an NGO based in the New York City area. The New York metropolitan area is a complex region consisting of three US states: New York, New Jersey, and Connecticut, with the latter areas serving as urban peripheries. Based on our current and previous work in the New York region, we've observed that northern New Jersey in particular, has been heavily impacted by urbanisation processes emanating from New York City, where the boundaries between the city and its suburban communities have been steadily blurring

Of particular note is how the introduction of new transport infrastructures has played a foundational role in catalysing the urbanisation of northern New Jersey, since the late 1800's. (Heyer, Gruel et. al, 2002) However, the recognition of north New Jersey (North Jersey) as an urban sub-region has been overshadowed by a monocentric, reactive self-conception that has prioritised connecting to New York City as an preeminent epicentre. I believe that the critical gap between the reality of North Jersey as a dynamic urban entity and an economically-centred, mono-sectoral planning system presents an opportunity to rethink its place within the New York City region and propose a way to successfully integrate transit and land-use planning to build up local socio-economic capacities.

Colophon

Title: Reconceptualising the Periphery.

Subtitle: A regional restructuring proposal for Northern New Jersey to catalyse its economic, cultural and environmental capacities from a metropolitan perspective.

MSc Thesis

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Keywords: Urban periphery, regional planning, social-spatial fragmentation, Transit-Oriented Development, New Jersey, New York metropolitan region, urban regeneration

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List of Key Terms

EPA: United States Environmental Protection Agency

HBLR: Hudson-Bergen Light Rail

HUD: United States Department of Housing and Urban Development

FEMA: Federal Emergency Management Agency

FTA: Federal Transportation Agency

NJDEP: New Jersey Department of Environmental Protection

NJMC: New Jersey Meadowlands Commission

NJTPA: North Jersey Transportation Planning Authority

MOS: minimum operable segment

TOD: Transit Oriented Development

USACE: United States Army Corps of Engineers

Abstract

This thesis proposes an Integral, inter-municipal planning/governance and regeneration framework for Northern New Jersey (North Jersey), a major sub-region of the New York metropolitan region facing major urbanisation challenges, namely socio-economic transformations and mobility gaps. The aim is to present a counter proposal seeking to directly engage operational gaps between local socio-spatial conditions and path-dependent regional/municipal planning processes prioritising Smart Growth(a US version of the Compact City)/ TOD and high-level economic growth. Current socio-spatial outcomes of this mismatch are often generic developments that ignore or displace existing communities and/or fail to enhance local spatial fabrics. Focusing on TOD-based urban regeneration, the thesis presents the case that improving the linkage between planning processes and socio-spatial outcomes through an integrative governance/planning framework is the key to ensuring the developmental stability of North Jersey and other sub-regions within the New York area.

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1. INTRODUCTION

1.1 An Invisible Periphery // North Jersey

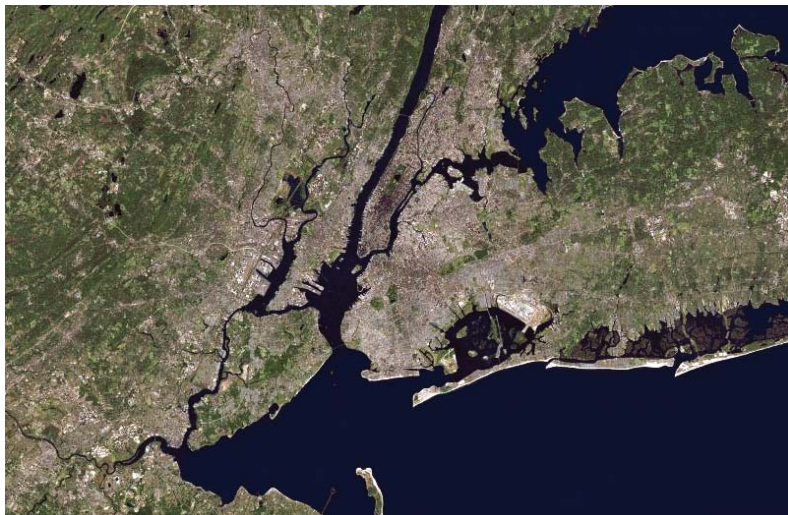


Fig 1.1 New York Metropolitan Region (Bing Maps)

Located in the Northeast US, the New York metropolitan area consists of three different states: New York, New Jersey, and Connecticut. With a population of 19 million people and area of 30,670 km², the New York area is the most populous and economically significant region in the US. Here, the development of the metropolitan centre of New York City and its surrounding periphery has been closely intertwined, especially in the last 100 years. Furthermore, the region's location within a estuary has played a major role in ensuring its economic prosperity, however with projections of increased flooding, it also reveals its ecological vulnerability.

As seen in Fig 1.2 and Fig 1.3, the extent of the metropolitan area goes significantly beyond New York City itself, where a vast array of different jurisdictions present complex planning challenges. Within a 30 km radius, we see a periphery of secondary former industrial cities and suburbs. This reveals a diverse socio-spatial structure that is arguably invisible to the region's predominant planning paradigms, but which in fact is a vital part of any future metropolitan plans. Here, the thesis argues that we must begin to see and plan for this periphery as it truly exists: where there is a disconnect between existing planning perspectives path-dependent on New York and local-scale demands, resulting in significant negative costs. Of particular interest is northern New Jersey (North Jersey), which represents the peripheral zone with the most extensive infrastructural and economic connections to New York.

North Jersey's urbanisation has been largely driven by its proximity to New York City and as a crossroads of major transport networks. Specifically, we see a symbiotic relationship where transport infrastructures

have played a generative role in the development of northern New Jersey is closely tied to the evolution of the metropolitan centre, where we can see three major urbanisation paradigms each following the other. However, as will be shown, there are imbalances in the current planning system which reinforce a highly polarised urban structure. The following sections reveal the roots of this state of disequilibrium, helping to gain a clearer understanding of the linkage between planning processes and spatial outcomes, focusing on transit planning and land-use patterns.

+ In the US, administrative units are organised into three descending levels: States, Counties, and Municipalities.

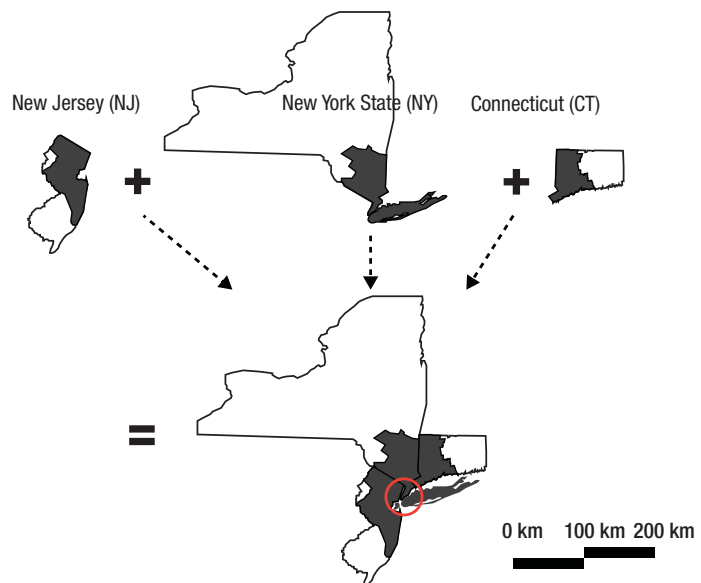


Fig 1.2 NJ-NY-CT Metropolitan Region (Author)

+ In the NY area, the sheer number of different jurisdictions presents complex governance and planning challenges, which are exacerbated by a lack of cooperation between planning entities and systems.

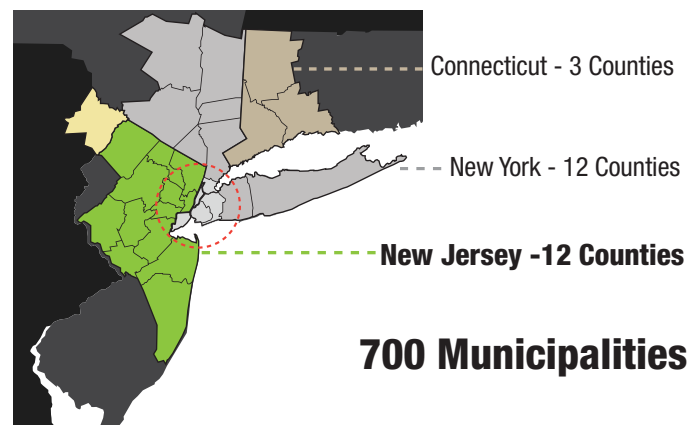


Fig 1.3 NJ-NY-CT Metropolitan Region Jurisdictions (Author)

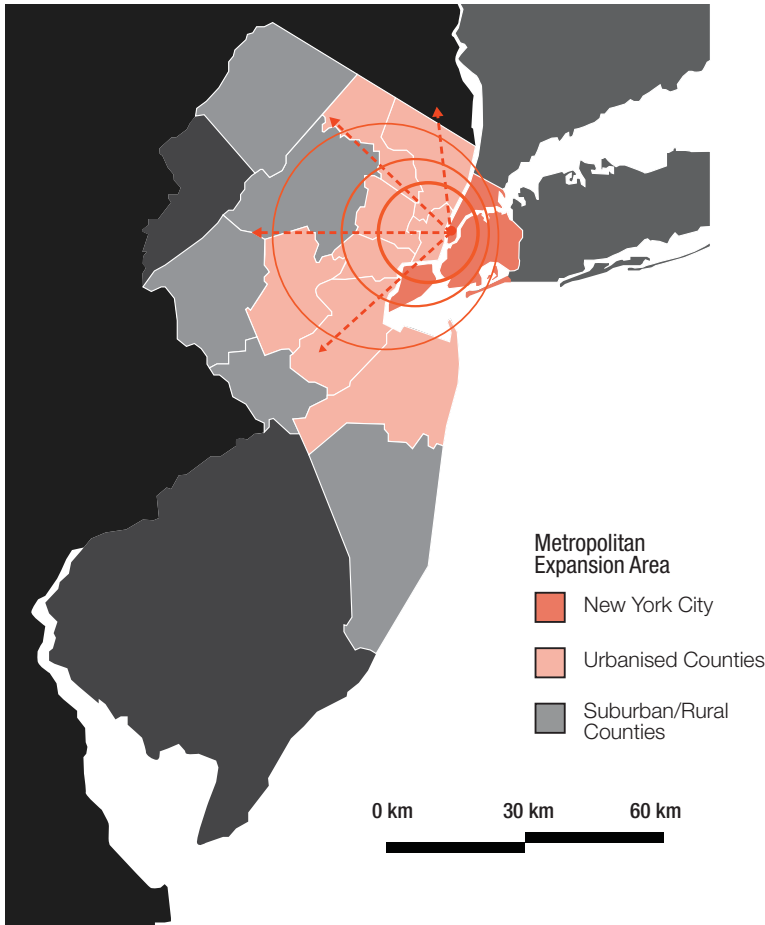


Fig 1.4 North Jersey Urbanisation Impact (Author)

1.2 Urbanisation Paradigms

1.2.1 Industrial-Era Urbanisation

North Jersey's initial stage of urbanisation begins in the early 19th century, where the formerly agrarian areas of Hudson and Essex Counties were transformed into industrial and shipping centres via the construction of railways and canals. (Heyer, Gruel et. al, 2002) This allowed for the emergence of North Jersey's major cities: Jersey City, Newark, Paterson, and Elizabeth. The key to this transformation was the region's strategic location between New York City and the rural hinterlands further west in New Jersey. North Jersey served as a complementary manufacturing counterpart to the financial centre of Manhattan. Furthermore, we see a sharp contrast between the urban centres and a rural hinterland of farms and small towns.

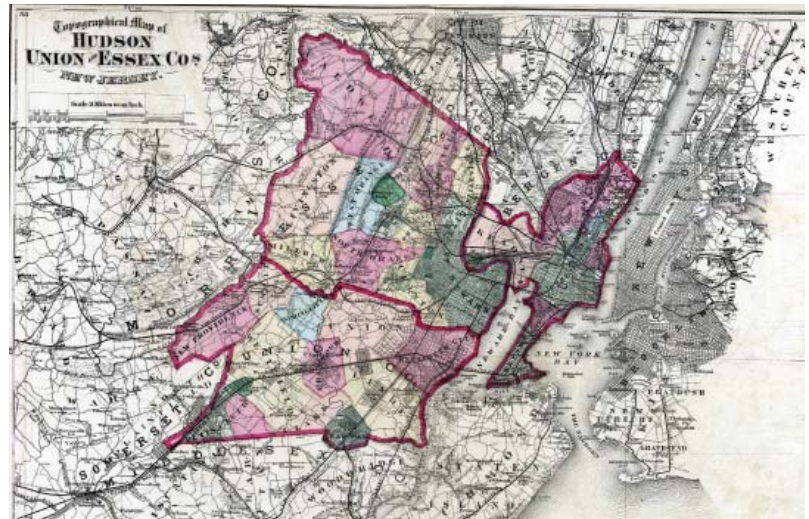


Fig 1.5 Hudson, Union Essex 1873 (Rutgers University Cartography Lab)

+ As shown in the map to the left, the genesis of Northern New Jersey's emergence as a urban sub-region in the late 1800's was catalysed by the construction of new freight rail lines and port facilities. In other words, from its beginnings, the urbanisation of North Jersey has been tied to the relationship between transportation infrastructure and land-use patterns connected to New York City.

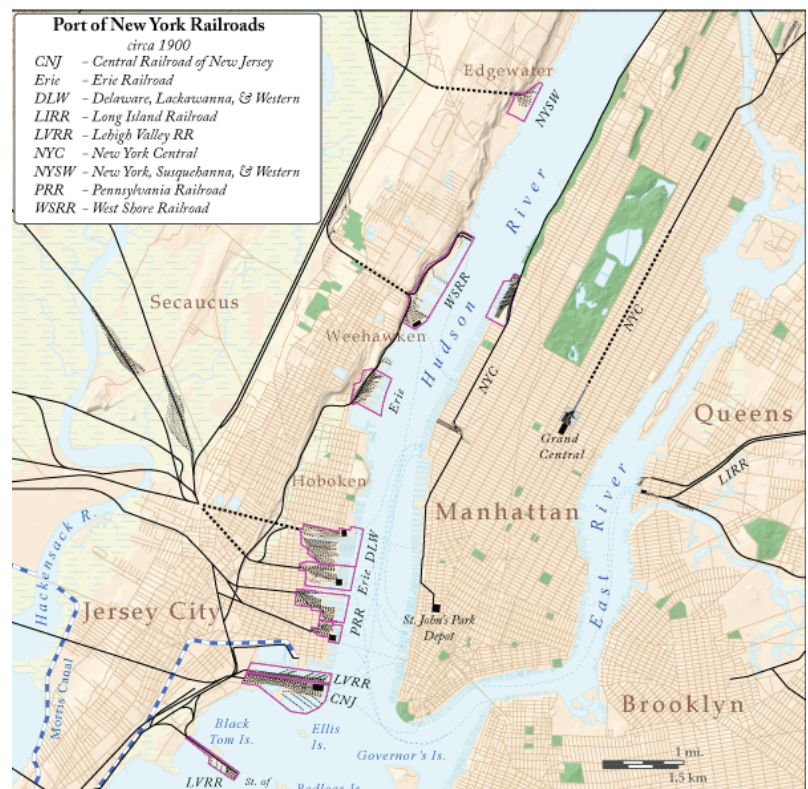


Fig 1.6 Port Terminals, Hudson County ca.1900 (James R. Irwin)

1.2.2 Postwar Suburban Expansion

Moving into the 1940s, we see a shift towards a car-centric Postwar era which saw the second stage of regional urbanisation. This was manifested through a process of suburban expansion into formerly rural areas, which occurred along with the construction of interstate highways. While commuter towns had been emerging in the 1930s, it was the wide-scale introduction of the automobile that catalysed the full-scale suburbanisation of New Jersey (Wikipedia, 2013). The Postwar model was predicated on a logic of decentralised development, with metropolitan employment centres surrounded by suburban commuter towns. The result was an intertwined but binary structure between New York and predominately white middle class or working-class suburban towns.

This period also saw the gradual decline of the urban centres in North Jersey, largely due to the migration of the white middle class into the suburbs and racial tensions triggered by an influx of African-American and Puerto Rican migrants, at a time when industrial jobs were decreasing. A seminal moment was the 1967 riots in Newark, New Jersey's largest city, which further accelerated the middle-class's exodus into suburbia. Here, it is important to note how discriminatory Federal and municipal planning/housing policies perpetuated this cycle of urban decay and racial segregation. From 1935 to the early 1970s, housing and urban planning policies subsidised suburban home ownership for whites while divesting in urban, mostly non-white, communities and restricting home mortgage loans for African-Americans. Hence, we see a pattern of structural inequity whose legacy continues to shape the present-day.



Fig 1.7 Suburban expansion facilitated by automobiles and government subsidies (Life Magazine)



Fig 1.8 1967: Riots in Newark, NJ, which triggered the flight of the white, middle-class into the suburbs (*The New York Times*)

1.2.3 Current Era

From the 1950s to the early 2000's, the suburban expansion process continued apace, with new suburban communities spreading out into the former hinterland. Starting in the 1970's, the decline of industrial jobs in the region exacerbated the pre-existing socio-spatial problems of North Jersey's urban areas. This led to the emergence of an inner periphery of struggling industrial cities and more recently, older inner-ring suburbs. In contrast the introduction of neoliberal economic and planning policies began to transform New York into an epicentre of a globally-oriented financial sector and multinational corporations. The socio-spatial impact of this has been a trend of urban intensification, whereby New York City has experienced extensive high-end real estate development built to accommodate the needs of white-collar executives and professionals.

This has initiated a process of regeneration since the 1990s, expanding into adjacent areas of New Jersey, especially the waterfront districts of Jersey City and Hoboken. A critical component of this transformation has been the introduction of a light-rail line, the Hudson-Bergen Light Rail line in 2001, which by improving public transit access to New York City, has played a catalytic role in the revitalisation of this part of North Jersey. Concurrently, a combination of an influx of new immigrants into the suburbs as well as young professionals' preferences for living near urban centres has introduced complex new urbanisation pressures into North Jersey (NJTPA, 2013). In short, the Postwar tripartite model of a metropolitan centre, declining industrial cities, and homogenous middle-class suburbs has proven to be obsolete.

Here, the benefits of the high-end approach for North Jersey is unclear at best for middle- and low-income communities. While overtly racist planning policies ended in the 1970s, the area is still dealing with a complicated legacy of structural inequality and segregation that is at best, only partially acknowledged by current urbanisation models.



Fig 1.9 1100 Madison Place rendering; Hoboken, NJ (Toll Brothers, 2013)

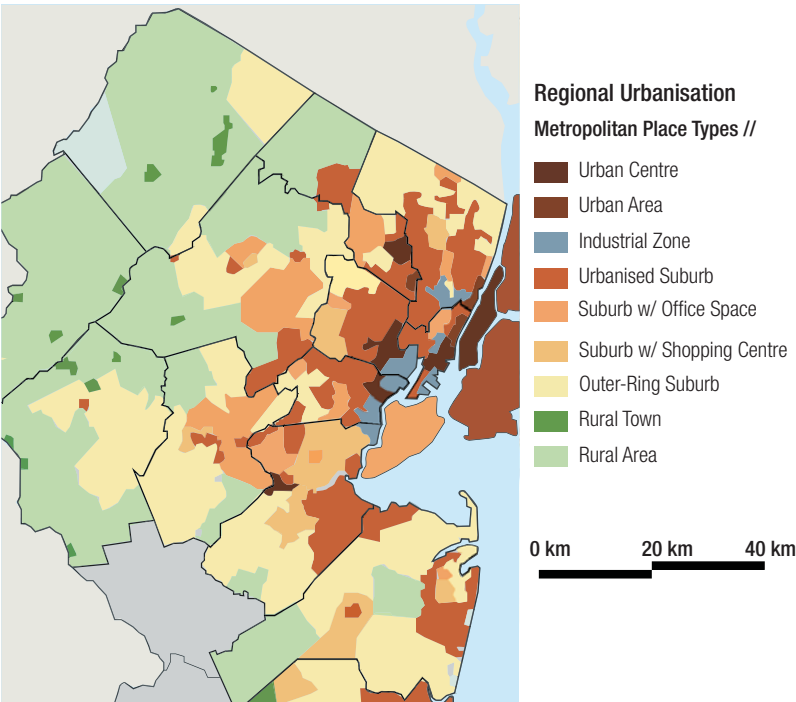


Fig 1.10 North Jersey Metropolitan Place Types (Author, elaborated from NJTPA)

1.3 Governance & Planning Context

1.3.1 Lack of a coherent regional framework

North Jersey is a highly urbanised area whose current governance and planning systems are now struggling to catch up with intense regional-scale urbanisation pressures that have emerged over the last 15-20 years. Specifically, the region has been a predominantly suburban region that has been transformed by the recent revitalisation of its urban waterfront areas just west of Manhattan and the demographic transformation of former commuter towns. These developments illustrate how urbanisation processes have crossed over state, county, and municipal boundaries to make North Jersey an integral part of a complex urban region, where the distinctions between New York City and its periphery are increasingly blurred.

However, the full recognition of this dynamic evolution has been hindered by the current spatial planning perspective and governance system of North Jersey, which reflect a path dependency on New York City as a preeminent global centre. In effect, they belie a monocentric logic which prioritises globally-oriented centralities over that of regional or local socio-spatial demands, specifically that of former industrial cities and inner suburbs. Furthermore, existing planning structures are fragmented, lacking in integration between different governance tiers and sectors.

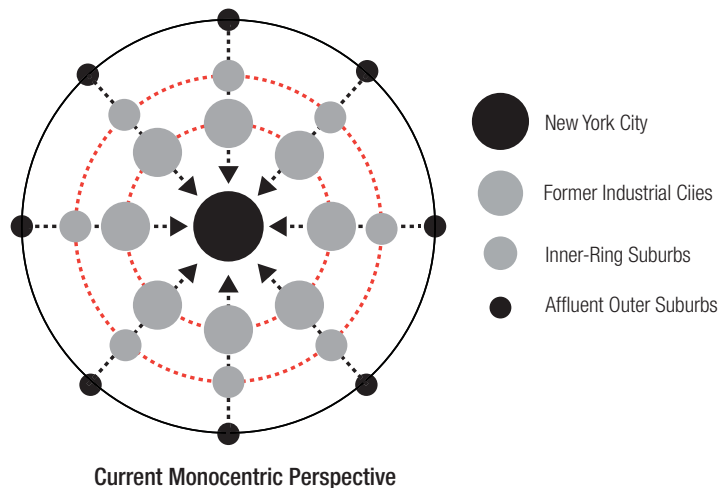


Fig 1.11 North Jersey Monocentric Planning Perspective (Author)

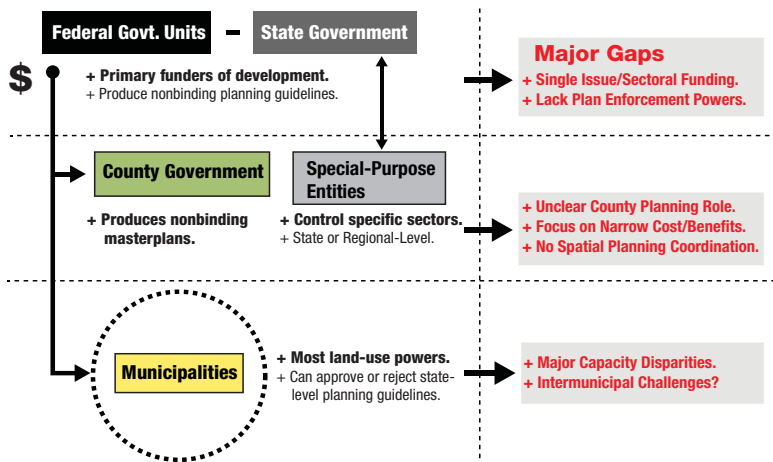


Fig 1.12 North Jersey governance gaps (Author, elaborated from Danielson, Doig, 1982)

An overview of the area's decentralised multi-tier spatial planning governance structure illustrates this point. As shown in Fig 2.2, the fragmented current planning system incentivises each level of governmental actors to pursue narrow, short term goals at the expense of having a comprehensive grasp of the regions' challenges. The decentralised governance structure is especially problematic for lower-income suburban municipalities dependent on property taxes for revenue, as a recent influx of lower-income immigrants and native-born migrants has emerged, causing strains on public services and land values (Danielson, Doig, 1982; NJTPA, 2013).

Ultimately, this is tied to the revitalisation of New York City and the nearby Hudson River waterfront areas of Jersey City and Hoboken, fueled by the success of Manhattan's financial sector. However, this has come at a heavy cost: such developments have resulted in an ongoing process of ever rising land prices and the subsequent displacement of lower to moderate-income groups (e.g. immigrants, ethnic minorities etc.) further into the metropolitan periphery.

1.3.3 Roots of Fragmentation // Home Rule

The one of the fundamental forces behind North Jersey's unbalanced planning system is the role of the municipalities and their often tense relationship with one another as well as Federal and State-level entities. As seen in Fig 2.2, the situation of the municipalities, especially those of low-income areas, can be described as a Catch-22. Here, they may possess extensive local land-use powers but lack the financial or political capacities to tackle larger-scale socio-spatial challenges, e.g. immigration, structural poverty.

This is rooted in large part to the long-standing political tradition of 'Home Rule', in municipalities are free to set their own policies for almost all public services (e.g. spatial planning) as long as they do not violate

the Federal or State-level constitutions (Danielson, Doig, 1982). However, this proves to be a double edged sword. Unlike countries such as the Netherlands or UK, there is no structured national or regional-level redistributive system to help balance out inequities between municipalities or regions. Instead, the burden of providing public services is almost solely on the municipalities. This helps to further reinforce long-standing imbalances in economic and political power between affluent communities and lower-income areas.

1.3.4 Flawed Public-Sector Revenue Model

The problematic situation seen above is further exacerbated by how municipalities are dependent on property taxes to generate revenue. A combination of Home Rule and reliance on property taxes encourages an adversarial system in which municipalities each seek to attract high-revenue land-uses and residents, at the expense of cooperation or socio-spatial inclusion. Moreover, North Jersey municipalities operate in an uneven playing field: already powerful communities seek to maximise their existing advantages at the expense of their neighbours. One clear example also tied to the legacy of structural racism, is how many wealthy suburbs have implemented exclusionary zoning laws to actively prevent lower-income, often black or Latino, people from moving in.

The result is a Darwinian system of winners and losers, whereby areas with the greatest socio-spatial needs possess the least governance capacities. For low-income municipalities, the only recourse is to seek out financial aid from Federal or State agencies. However, this is an uncertain, hyper-competitive process that bypasses intermunicipal governance tiers, further hindering the very cooperation that is the key to resolving the region's urbanisation challenges. In summary, we observe a governance/planning structure in which there is a clear scalar gap in planning capacities between the higher- and local tiers, further exacerbated by Home Rule.



Fig 1.13 North Jersey municipal revenue model (Author)

1.2.5 Polarised Development Structure

The result has been a highly polarised socio-spatial regional structure, where select urban areas such as Hoboken have been transformed into affluent enclaves, surrounded by a growing inner periphery of struggling mid-sized cities and older suburbs. It is here that the most dynamic and challenging transformations of former commuter towns is taking place. However, communities in this zone are hampered by a structural imbalance of financial resources and planning capacities, which are heavily tilted towards affluent urban centres. The inner periphery is in turn adjacent to an outer ring of wealthy towns or recently built exurbs, whose own long-term status is in doubt due to changing socio-economic trends. This is illustrated by Fig 2.4.

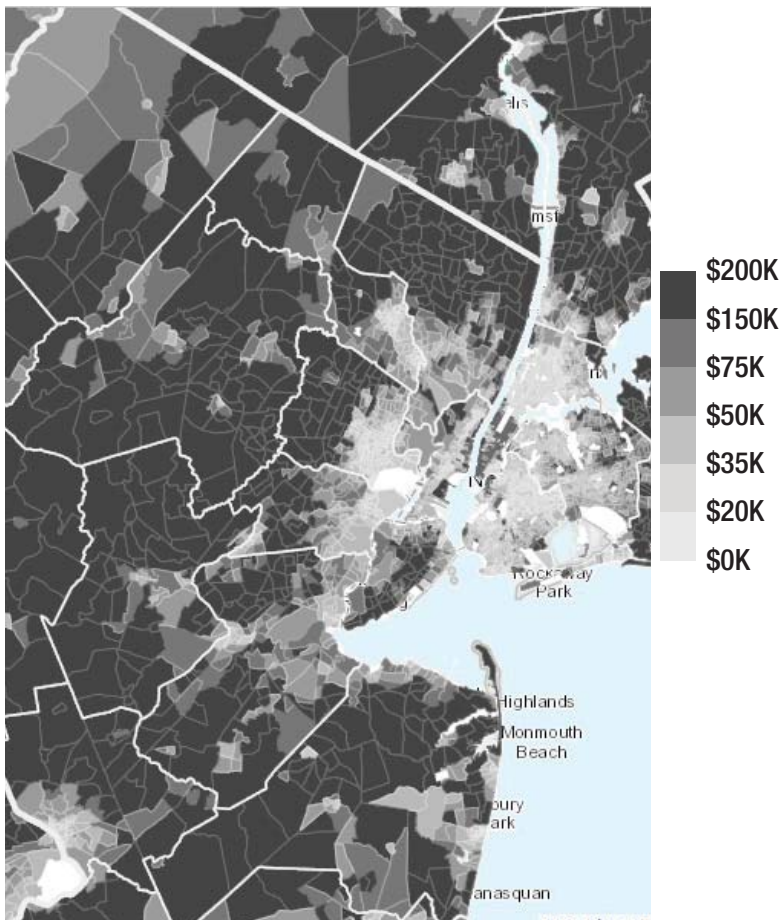
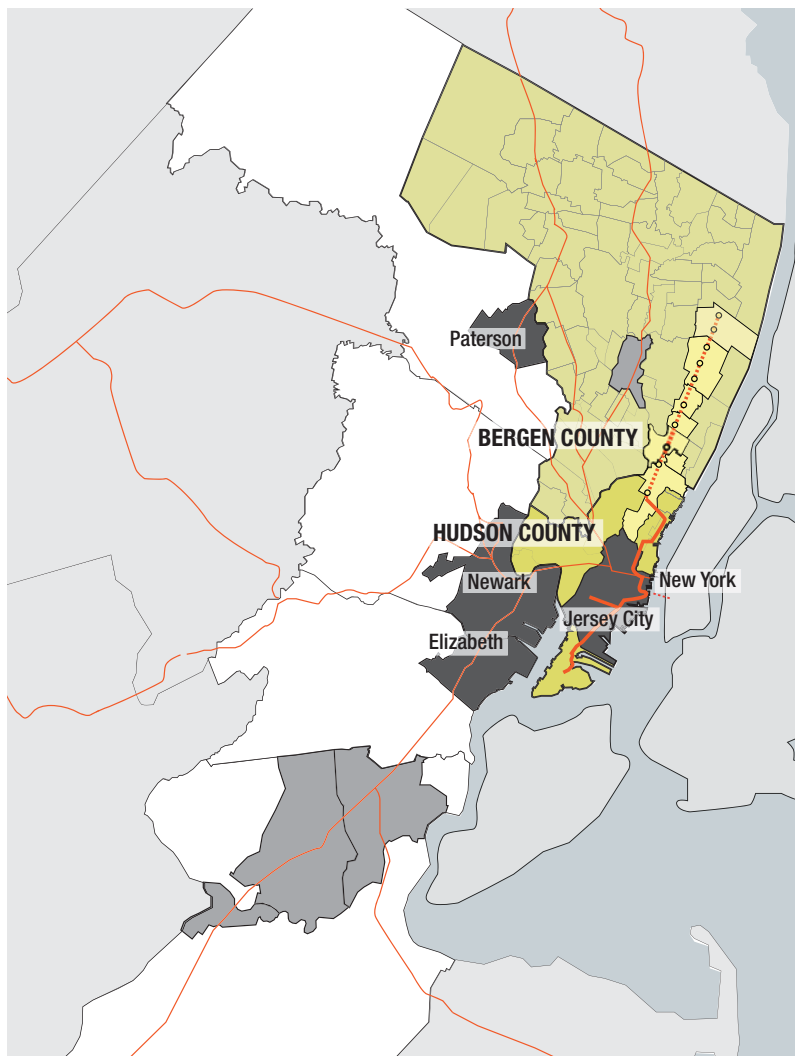


Fig 1.14 North Jersey annual median income levels (2010 US Census)

2. PROPOSAL APPROACH

2.1 Smart Growth/TOD as Determinant Model



+ Fig. 2.1 Gateway Region , with a population of 4.3 million people, this is the most urbanised and diverse region in New Jersey. It represents the peripheral sub-region in North Jersey that is most heavily impacted by Smart Growth/TOD policies.

Fig 2.1 North Jersey // Gateway Region (Author)

Due to a combination of population growth and increasing transit congestion, state and regional planning entities have recognised the need to move away from the automobile-centric suburban development. Instead, their most recent plans have focused on Smart Growth: an Americanised version of the Compact City concept, prioritising denser spatial development with easy access to public transit and amenities (NJTPA, 2013). A complementary tool to Smart Growth has been Transit Oriented Development (TOD), which refers to mixed-

use residential and commercial developments with sufficient density that is oriented to and in walkable distance to public transportation.

Together with Smart Growth, TOD has been adopted by the state and many municipal governments as their main spatial development instrument to manage the challenges of urban sprawl and congestion. The area where these planning policies will or are having the most significant impacts is the Gateway Region, which represent the six most urbanised and diverse counties within North Jersey. Figure 2.1 shows this area's proximity to New York City, as well as how it contains a cluster of New Jersey's largest cities. In addition to these urban centres, there is a diverse network of small cities, inner suburbs, and lower-density bedroom communities, revealing the complexity of the urbanisation challenge here.

2.2 Problem Statement

Current regional transit planning systems aim to utilise Smart Growth and TOD as part of their metropolitan-scale mobility and economic growth strategies. However, this perspective reflects a path dependency on New York City, by primarily focusing on high-level, metropolitan-scale development and connections, it ignores local-scale socio-spatial needs: improving local mobility networks, enabling inter-municipal cooperation on integrating transit and land-use planning, as well as building up existing communities. The result is a fragmented planning system which results in negative socio-spatial outcomes stemming from a disconnect between local-scale conditions and regional Smart Growth plans. The key problem is the lack of adequate planning tools to fully integrate spatial design with inter-municipal land-use strategies, mobility challenges, and environmental issues (e.g. flood-risk).

2.3 Proposal Premise & Approach

North Jersey's long-term development stability will depend on a more coherent regional planning framework and greater governmental cooperation. Here, a shift in the essentially monocentric planning perspective will be necessary, moving away from a generic, growth-centric logic based on unrealistic assumptions that capital-intensive development approaches can uniformly revive the area's regional and local centres. Therefore, in order to assess and build upon the true potentialities of North Jersey, this thesis focuses on improving upon existing Smart Growth and TOD tools to strengthen existing small- to intermediate-scale socio-spatial capacities and meet a wider range of stakeholder demands.

The main goal here is to improve upon specific operational gaps within North Jersey's Smart Growth/ TOD planning model, focusing primarily on the urban regeneration possibilities connected to TOD. In short, this thesis project's approach focuses on how specific improvements

to existing planning process deficiencies via an integral planning framework, can offer regional and local stakeholders a tangible starting point for shaping a more inclusive, socio-spatially resilient urban structure for North Jersey. Figure 2.2 illustrates the primary aims stated above.

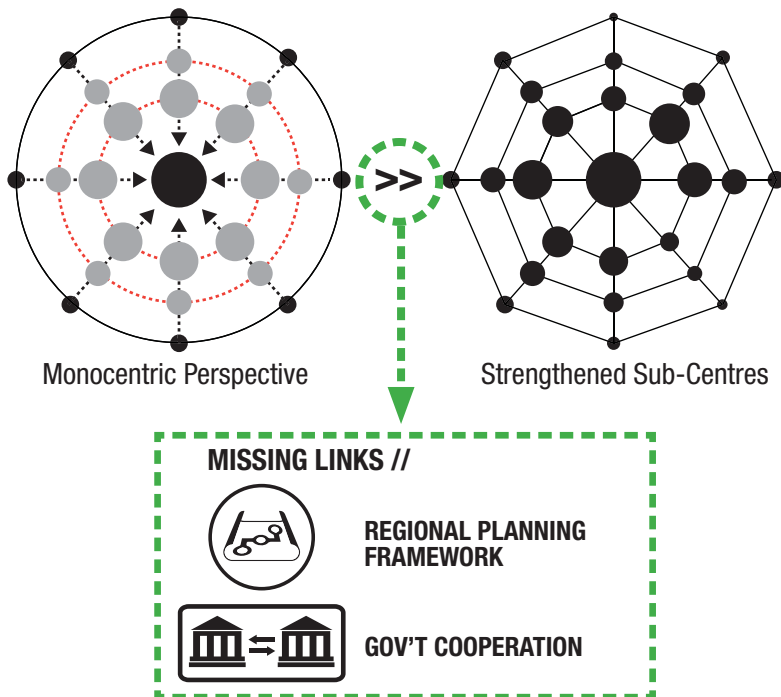


Fig 2.2 Proposal premise diagram // focusing on addressing missing links (Author)

2.4 Research Tools & Questions

The thesis' Problem Statement and Proposal Approach, focusing on improving North Jersey TOD planning processes, serve as the basis for the research questions which are presented below.

2.4.1 Research Tools

To obtain the information necessary to complete this proposal, the following tools are utilised:

1. Literature review
2. Data analysis to verify technical & socio-economic information
3. Web search
4. Interviews via phone calls and in-person meetings
5. Mapping/Observations
6. Visualisations: infographics, photographs

2.4.2 Research Questions

Main Research Question

How can TOD and Smart Growth be critically examined and incorporated as part of an integral planning framework that can generate or strengthen regional socio-economic activities in North Jersey's major centres to be more responsive to local needs and generate new functional identities?

Research Sub-Questions

i. Which are the most critical mobility, environmental and land-use patterns to evaluate and engage in order to improve land-use and mobility challenges within Northern New Jersey?

Research Tools: Mapping/observations, data analysis, interviews, visualisations, web search, design

ii. Likewise, what kinds of governance and planning tools related to land-use and transit planning would enable municipal and county governments to adapt to ongoing demographic and socio-spatial changes: an aging population as well as the influx of non-white immigrants and lower-income residents into older suburbs?

Research Tools: Mapping/observations, interviews, literature review, visualisation, design, data analysis, web search

iii. How can TOD-based planning instruments and institutional frameworks enable greater levels of inter-municipal cooperation between different governmental and other key stakeholders to address regional mobility, housing, and public transit challenges?

Research Tools: Interviews, literature review, data analysis, mapping/observations

2.5 Project Methodology

The methodological framework is based on a close linkage between research and a proposed integral planning framework. The research area of North Jersey, specifically the Gateway Region, will serve as a testing ground for proposing an alternative TOD/Smart Growth operational model for metropolitan peripheries, providing the context and focus for the thesis. The project's approach can be summarised as follows. First, North Jersey has been greatly impacted by urbanisation pressures due to its strategic position within the New York metropolitan region. Secondly, the primary instrument of urbanisation has been the construction of new transport infrastructure, which in turn has historically catalysed housing and commercial development.

Here, an Analytical Framework focusing on a multi-scalar analysis is

used to identify key aspects that are directly connected to TOD frameworks, such as multi-level governance structures, identification of key land-use and transit planning gaps and a demographic analysis of local users. This serves as the basis for a regional diagnosis and integral TOD strategic framework. Concurrently, a Theoretical Framework will provide the conceptual and research background for TOD-based planning and design approaches. This information, which some material derived from the North American and Western European contexts, forms the basis for a set of principles, strategic goals, and evaluative criteria to be used examine current institutional and TOD frameworks.

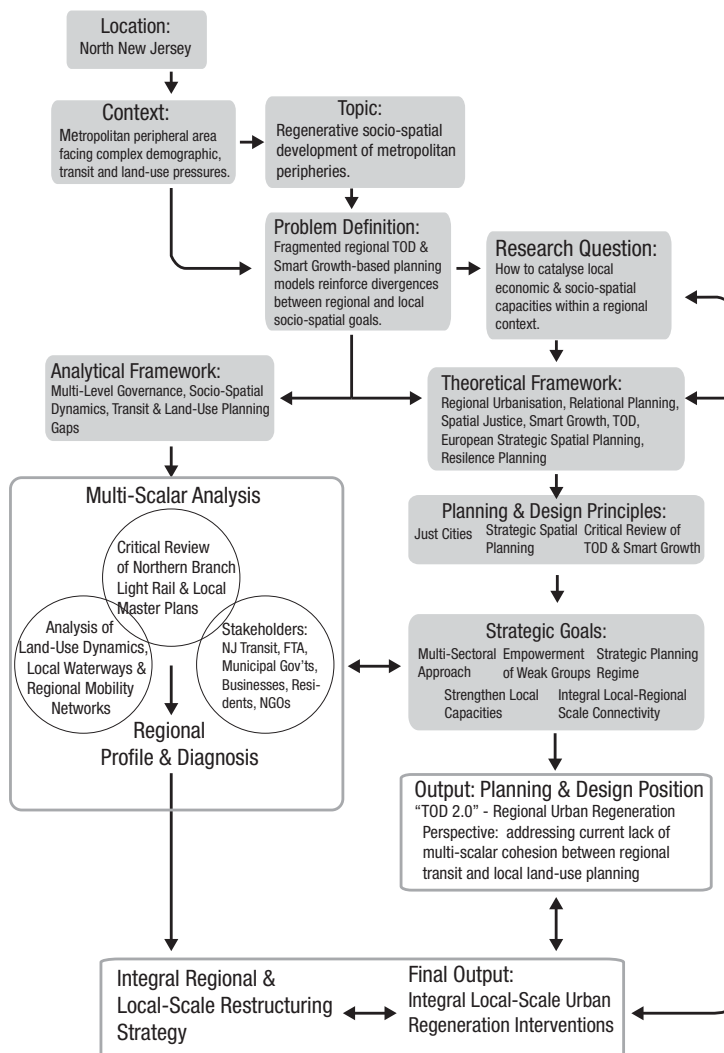


Fig 2.3 Proposal methodology scheme (Author)

3. THEORETICAL FRAMEWORK

3.1 Existing Planning Framework



Fig 3.1 Current operational gaps within North Jersey's Smart Growth/ TOD model (Author)

As mentioned in the previous section, Smart Growth and TOD are the predominant planning concepts that are shaping development in North Jersey, especially the Gateway Region. In terms of engaging the region's urbanisation trends, they recognise and seek to engage issues such as densification as well as regional-scale mobility networks. However by primarily focusing on higher-scale economic development, the Smart Growth/TOD planning perspective fails to adequately account for a number of significant challenges and needs, as shown in Figure 3.1. This indicates the necessity to augment the existing Smart Growth/ TOD paradigm with additional perspectives that would provide the conceptual foundation for a more inclusive model of TOD-based urban regeneration in North Jersey.

Firstly, in section 3.2, North Jersey's predominant planning concepts of Smart Growth and TOD are explained in further detail. Next, these perspectives are augmented by additional theoretical perspectives which directly relate to the socio-spatial conditions that are now overlooked by the

Smart Growth/ TOD model. These concepts in total comprise this thesis' Theoretical Framework, that aims to be a foundation for a more holistic planning perspective for the Gateway Region as well as comparable peripheral urban areas that have been impacted by TOD. Likewise, this is complemented by a set of Evaluative Criteria to assess the operability of TOD as a regeneration model in relation to local socio-spatial conditions. The following will serve as the theoretical basis of the thesis' Integral Planning perspective and proposed operational planning model.

3.2 Existing Planning Perspectives

3.2.1 Smart Growth

An American version of the Compact City concept, Smart Growth has recently been adopted as a spatial planning policy and design paradigm by state and local-level governments within New Jersey in order to manage increasing urban development pressures. Smart Growth emphasises the following principles (New Jersey State Planning Commission, 2001; NJ Transit, 2011):

1. Mixed-Use Land Uses
2. Compact Clustered Community Design
3. Range of Housing Choices
4. Walkable Town Centres
5. Mass Transit Options

In summary, the emphasis is on locating compact developments within existing spatial fabrics, while providing greater proximity to housing and commercial functions. Examples of Smart Growth policy goals can be seen in official reports drafted by the state of New Jersey and regional transit entity, North Jersey Transportation Planning Authority. While, this accurately accesses many current physical planning problems, it arguably does not account for how to effectively deal with complex social-economic issues, such as affordable transit access to local employment centres and equitable provision of public spaces. Smart Growth, will accordingly be critically reconsidered as a starting point for a more holistic urban regeneration approach

3.2.2 Transit Oriented Development

Along with Smart Growth, Transit Oriented Development (TOD) has been adopted in New Jersey as a key critical urban development tool in order to accomplish two major goals: reduction of automobile traffic congestion by greater provision of public transit services and generating increased economic benefits for municipalities by attracting new real estate projects. Specifically, this planning model is predicated on how proximity to mass transit facilities can catalyse greater economic activities and improved spatial qualities.

However in practice, this approach seems to primarily work according to a logic that prioritises regional-scale mobility and introduction of new

residential and commercial functions, as opposed to strengthening existing communities and local mobility/spatial systems. Thus, TOD arguably fails to consider how to engage local-scale social, functional, and travel demands. Given its significant role as a development tool in the New York metropolitan region, TOD will be engaged through its role as a central planning framework (Tan, 2013; Belzer, 2002).

3.3 Additional Theoretical Perspectives

3.3.1 Regional Urbanisation

The concept of regional urbanisation is based on the observation that urban development has become a transboundary phenomenon that has blurred the lines between metropolitan centres and urban peripheries. Both traditional urban centres and their peripheries alike have been experiencing complex urbanisation pressures that are upending accepted Euro-American conceptions of centralities. (Soja, 2011). This is an emergent phenomenon within North Jersey and other peripheral areas of the New York metropolitan region, that has gone largely unnoticed by current planning paradigms. It also points to the need for a regional, multi-sectoral approach concerning urban regeneration initiatives, in terms of effectively managing actor, place and institutional interactions. Said approach recognises how once clear boundaries between the city and suburbs are now obsolete and require more integral spatial governance models (Tosics, 2009).

3.3.2 Relational Planning

Relational planning argues that the planning and physical spaces are inherently embedded within a complex array of political, social, as well as technological networks and relationships. It follows that planning has an inherently political dimension, and that physical spaces are significantly shaped by specific agendas and perceptions regarding space. Likewise, territories are arenas of political negotiations and conflicts (Healey, 2006; Hajer et al, 2010). In a contentious area such as North Jersey, which has a wide range of conflicting governmental and private interests, it is arguably a necessity for any planning strategy to incorporate an in-depth understanding of local stakeholders and governance processes. Specifically, the relational perspective helps to improve upon existing, often unisectoral, actor frameworks by incorporating sectors and stakeholders now excluded from planning processes. This offers the possibility for improved socio-spatial outcomes by integrating metropolitan-scale and local-scale planning perspectives.

3.3.3 Spatial Justice

North Jersey as well as the entire New York metropolitan region has become part of a highly polarised socio-economic structure that has provided highly inequitable access to job opportunities, public transportation, and affordable housing. Here, Edward Soja's theory of spatial justice is of particular relevance. Soja's concept of spatial justice argues that in order to successfully resolve socio-economic injustices, having a spatial perspective can play a crucial role in achieving such goals (Soja,

2010). An example of this is seen in equitable access to affordable housing and public transportation, which has clear spatial implications. Thus, the thesis will utilise the perspective of Spatial Justice to inform the proposed TOD-based planning framework, and spatial evaluation.

3.3.6 European Strategic Planning Perspectives

Planning in the Northern New Jersey region is at a cross-roads, where the sheer scale and complexity of urbanisation challenges has brought a recognition by planning entities of the necessity for a regional planning perspective. As of yet, there is no local precedent for a governance and spatial planning framework that integrates spatial and transportation planning, especially one with a strategic long-term perspective. (Danielson, Doig, 1982) In this context, there is a need for generating alternative planning models that can meet the complex regional-scale planning challenges of Northern New Jersey. Strategic spatial planning theory as advanced by Luuk Boelens (2010) and Louis Albrechts (2004), provides a potential starting point for such an effort. Namely, it can help provide a practical basis for creating a sustainable governance system of integral transport and land-use development that bridges the current gaps between the regional and local scales (Nadin, Stead, 2008). The primary focus here will be reexamining the criteria and foundational premises of the TOD model now being implemented in Northern New Jersey.

3.3.7 Community-Based Planning Perspectives

Current Smart Growth/TOD paradigms are predicated on a pro-growth perspective based on unrealistic assumptions of continual economic expansion and prioritising short-term financial benefits and physical criteria (e.g. noise): overlooking the demands of local places and users. A starting point for an alternative approach is examining the socio-economic profiles of the residents living within a proposal location. A bottom-up perspective can generate planning processes that actively respond to future user demands (Boelens, 2010). Secondly, instead of solely relying on a pro-growth agenda predicated on high-end development, Angotti (2008), Legacy (2013) and Rydin (2014) show the necessity for incorporating development models that can operate in peripheral locales where presumptions of rapid economic growth are not feasible or desirable. A more flexible, community-based perspective recognises and strengthens the unique place identities and potentialities of North Jersey's communities within a regional context. This prevents generic development plans that often cause displacement or fail by ignoring the actual capacities of existing places. By complementing growth strategies with locally-oriented approaches, regeneration efforts can help catalyse the emergence of North Jersey as a vibrant, inclusive sub-region that truly complements New York.

3.3.8 Evolutionary Resilience Perspectives

TOD as exemplified by the Northern Branch proposal reflects an environmental planning approach that focuses on minimising negative impacts (e.g. locating housing away from floodplains), without considering more

systematic approaches to balancing spatial development with ecological dynamics. A resilience planning perspective is of particular relevance to the Northern Branch area, where a flood plains zone is adjacent to a heavily populated urban sub-region. Due to its focus on building up adaptive organisational capacities and integrating urban with ecological systems, a evolutionary resilience-based approach presents a way to consider how TOD-based strategies can propose different urban forms and governance processes with respect to the vulnerabilities of this region. In place of trying to return to the status quo, it offers a way to shape adaptive urban systems that can change and transform in response to ecological disturbances (Eraydin, Tuna-Tasan, 2013; Dessai, 2013).

3.4 TOD Evaluation Framework

The aforementioned theories serve as foundations for generating a set of evaluative criteria with which to examine the socio-spatial context and TOD planning framework of the North Jersey. These concepts were selected on the basis of being the most relevant ones for discussing the urbanisation dynamics of the research area, namely land-use patterns/ planning, transport planning, governance processes, and the area's demographic diversity. Specifically, this evaluation framework is used to assess the operational process and capacities of an existing example of North Jersey's Smart Growth / TOD model, the Hudson-Bergen Light Rail Line, located just west of New York City, presented as a case study in Chapter 4. The case study validates this proposal's premise and approach which focus on how North Jersey's existing planning paradigm results in concrete negative socio-spatial outcomes.

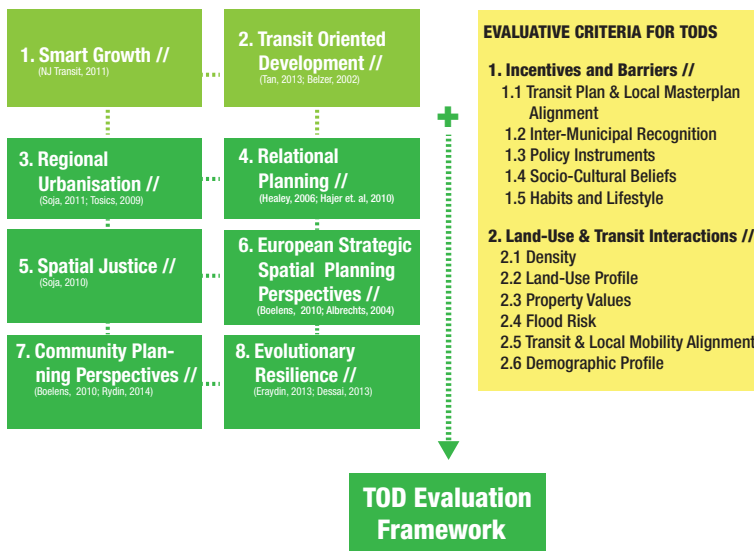
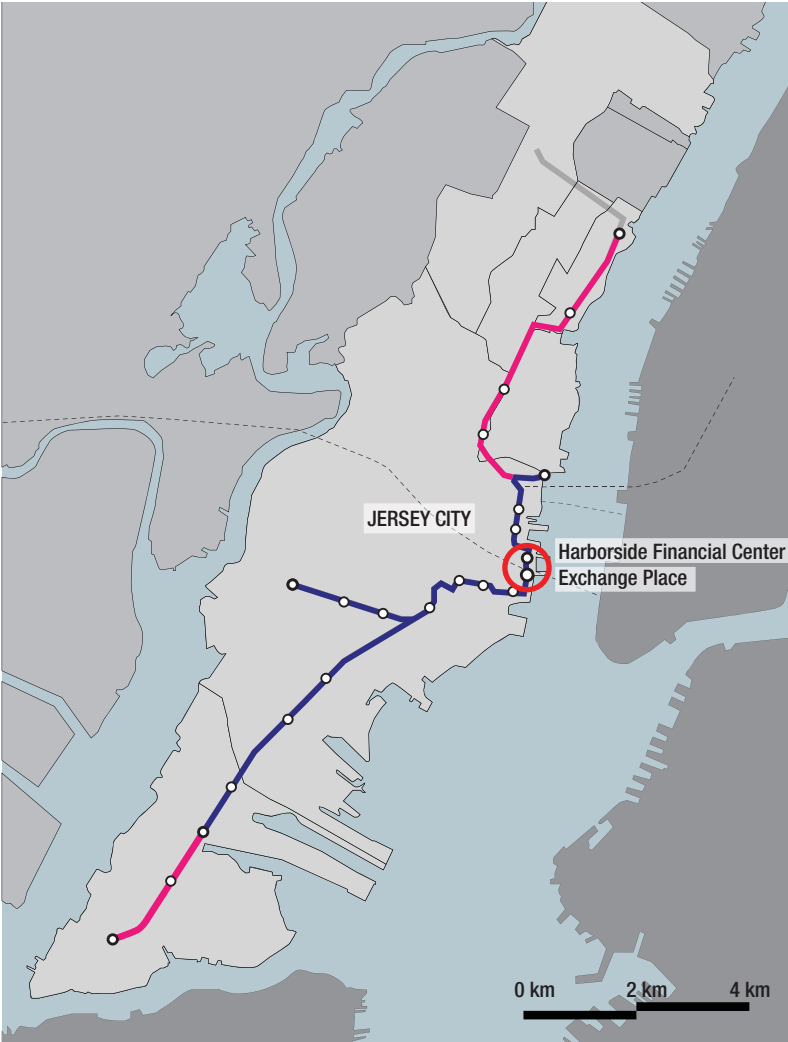


Fig 3.2 TOD Evaluation Framework (Elaborated from Tan, 2013; Clifford et. al, 2005)

4. CORROBORATIVE ANALYSIS

4.1 Existing TOD Model

4.1.1 Introduction // EXCHANGE PLACE, JERSEY CITY



MAP LEGEND

- MOS-1 Phase (2000-2002)
- MOS-2 Phase (2002-2006)

Fig 4.1 HBLR (Hudson-Bergen Light Rail) Line (Author, elaborated from NJ Transit)

Using the TOD Evaluation Framework shown in Chapter 3, a corroborative case study of North Jersey's existing TOD model is presented in this section. Located just south of the proposed Northern Branch project area,

the Hudson-Bergen Light Rail (HBLR) line is a major transit connector within Hudson County, part of North Jersey's urban core. Beginning its operations back in 2000, the HBLR system was first constructed through two initial phases, MOS-1 (2000-2002) and MOS-2 (2002-2006). In addition to reducing traffic congestion and increasing transit access, the HBLR line has catalysed the extensive urban regeneration that has taken place in this area, particularly along the Hudson River waterfront. Figures 4.2 and 4.3 illustrate the drastic transformations that have taken place over the last thirty years, where a once derelict industrial waterfront has become a high-end CBD, directly tied to the success of New York's financial sector.



Fig 4.2 Exchange Place, Jersey City (Gryffindor); Fig 4.3 Exchange Place ca. 1980, (Photo-scream)

4.1.2 Operational Model Analysis



Fig 4.4 Hudson-Bergen Light Rail Line, Jersey City Waterfront (Google Maps)

The critical factors behind how the HBLR, and by extension TOD, played a crucial role in the Hudson River Waterfront's (also known as the 'Gold Coast') can be summarised as follows: proximity to New York City, lower real estate prices and existing public transit connections. As seen previously the Gold Coast is located directly west of New York's Financial District. When NJ Transit began planning for the HBLR back in 1984, the proposed line was building off an existing heavy rail rapid transit line, the PATH Rail Service. Connecting Manhattan with the two largest cities in North Jersey: Jersey City and Newark, it has been an important east-west bi-state transit connection. The proximity of the proposed HBLR to the PATH line and Manhattan served to create an attractive potential transit and business hub, where pioneering companies had already moved into the Exchange Place district by the late 1980s (Fitzsimmons, Birch 2003).

Jersey City further incentivised new investments for urban regeneration by offering relatively low-priced land with excellent connectivity for private-sector developers and commercial tenants. It is clear then, that there was no single factor for the Gold Coast's revival. Rather, the HBLR as a TOD project, was complementing a synergistic array of the incentives mentioned above such as attractive real estate prices and pre-existing public transit connections to Manhattan. Alongside these factors, it is clear that NJ Transit and Jersey City played crucial roles in facilitating this process, specifically by restructuring their existing operational processes for implementing TOD. In relation to urban regeneration, Jersey City took a particular active role in fostering the regulatory and financial conditions that would attract both prospective investors and developers. Here, the role of the city can be summarised as being the main facilitator of urban regeneration. This is explained in greater detail in the subsequent sections.

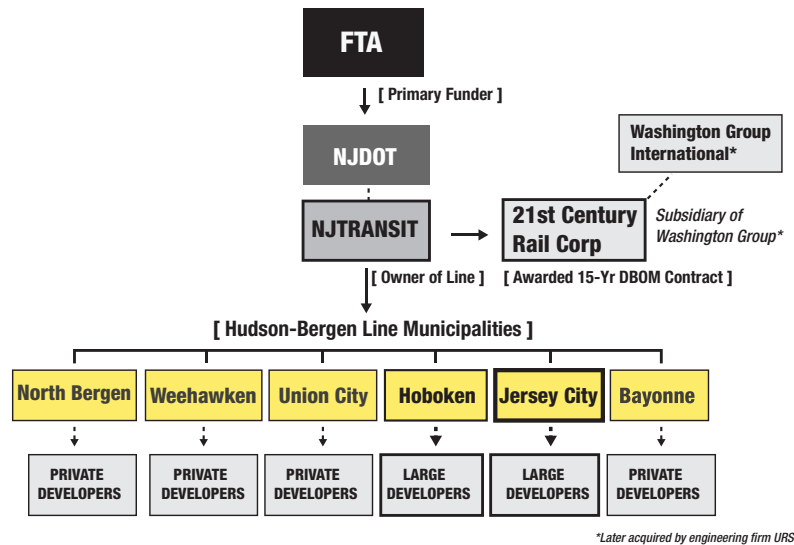


Fig 4.5 Hudson-Bergen Light Rail & Regeneration Implementation (NJ Transit, 2006)

A critical part to understanding the HBLR in relation to TOD impacts, is its plan implementation process, which reflects the fragmented governance structure shown in Chapter 1. As shown in Fig 5.15, the key financiers for the HBLR were Federal and State-level government agencies namely the FTA (Federal Transportation Agency) and NJDOT (New Jersey Department of Transportation). In conjunction with NJ Transit, New Jersey's semi-public state transportation agency, these higher-level actors played leading roles in planning and financing the proposed light rail system. The operational model chosen to implement the HBLR was a variant of a Public-Private Partnership (PPP). Here in 1996, NJ Transit awarded a 15-year DBOM (Design Build Operate Maintain) contract to a private-sector corporation, the 21st Century Rail Corporation (Fitzsimmons, Birch 2003).

This implementation structure has NJ Transit act as the owner of the light rail infrastructure and facilities, whereas 21st Century Corporation took the lead role in designing, constructing and operating the HBLR. The benefit of this PPP approach for NJ Transit was that it streamlined the implementation process by allowing them to rely on a single vendor from start to finish, reducing both costs and time. What is notable about this operational process is that urban regeneration took place as a parallel process, specifically in terms of its planning and financing. While both the HBLR and Jersey City's waterfront revitalisation ultimately worked together symbiotically, in operational terms each municipality along the line responded to the transit plan in a reactive, case-by-case manner. In other words, transport plans and urban regeneration plans were never fully integrated into a more strategic plan for this region as a whole.

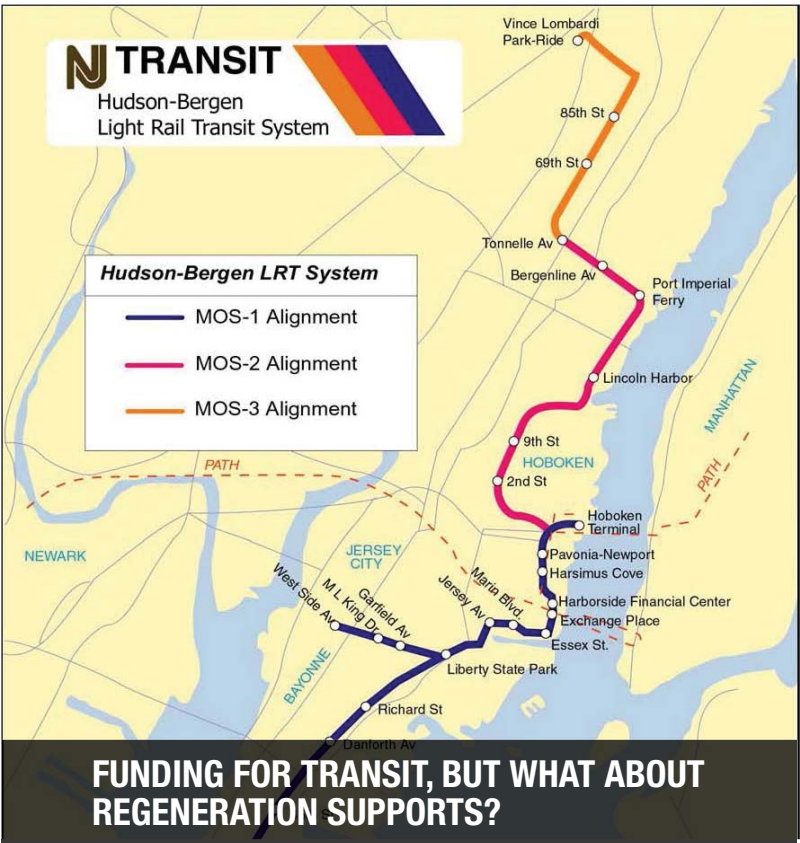


Fig 4.6 NJ Transit Hudson-Bergen System Map (NJ Transit)

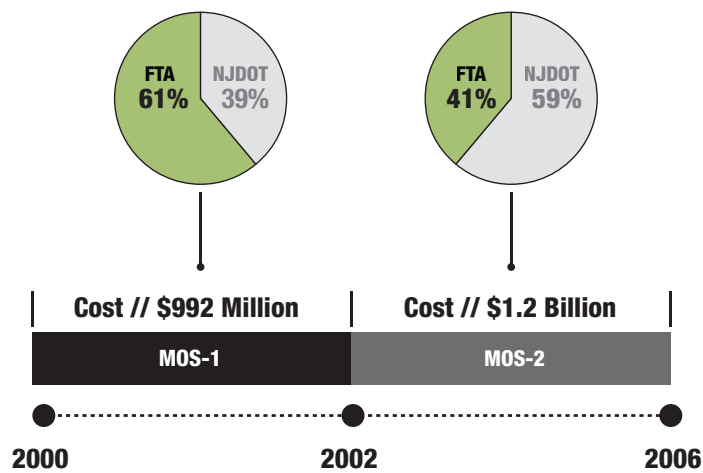


Fig 4.7 Hudson-Bergen Line Funding for Initial Phases (Elaborated from NJ Transit)

+ Federal & state funding play a pivotal role in TOD implementation, However they operate in a primarily mono-sectoral manner.

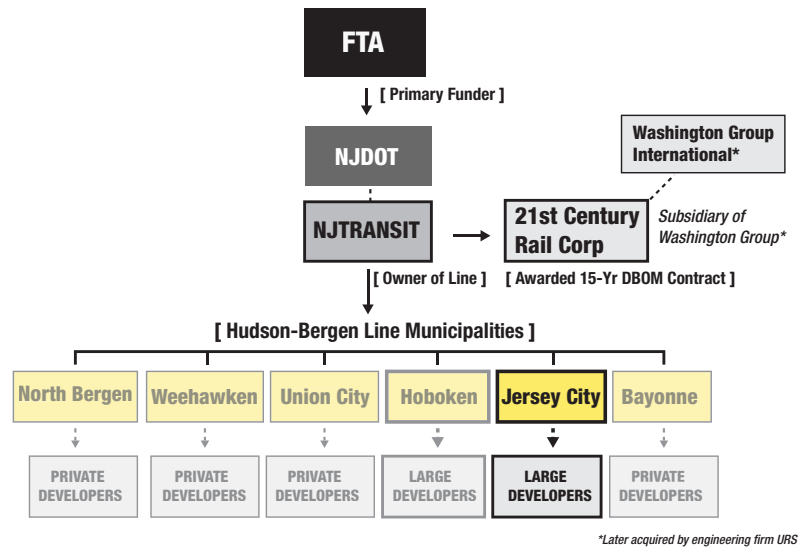


Fig 4.8 Hudson-Bergen Line Regeneration, Leading Municipalities (Author)

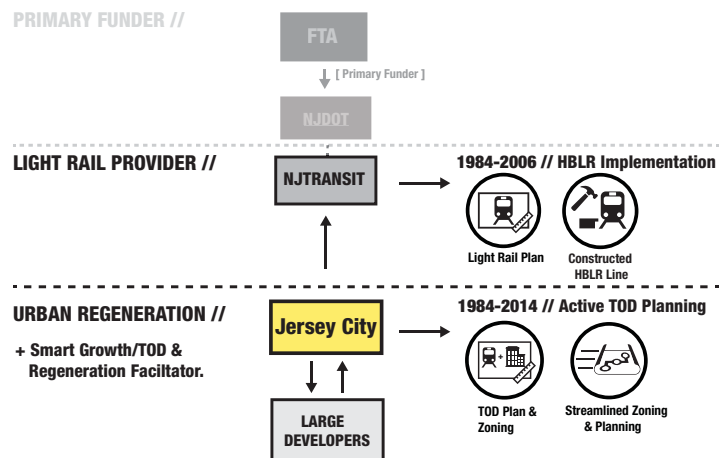


Fig 4.9 Hudson-Bergen Line Regeneration Process 1984-2014 (Author)

In summary the history behind the Hudson-Bergen Light Rail (HBLR) project illustrates parallel processes for transit planning and urban regeneration initiatives in relation to TOD and the revitalisation of Jersey City's waterfront districts. NJ Transit played the leading role in planning and implementing the HBLR, whereas Jersey City responded by reshaping its planning processes and policies. This reflects the respective goals of the leading actors, ridership rates and urban renewal via attracting major real estate investments.

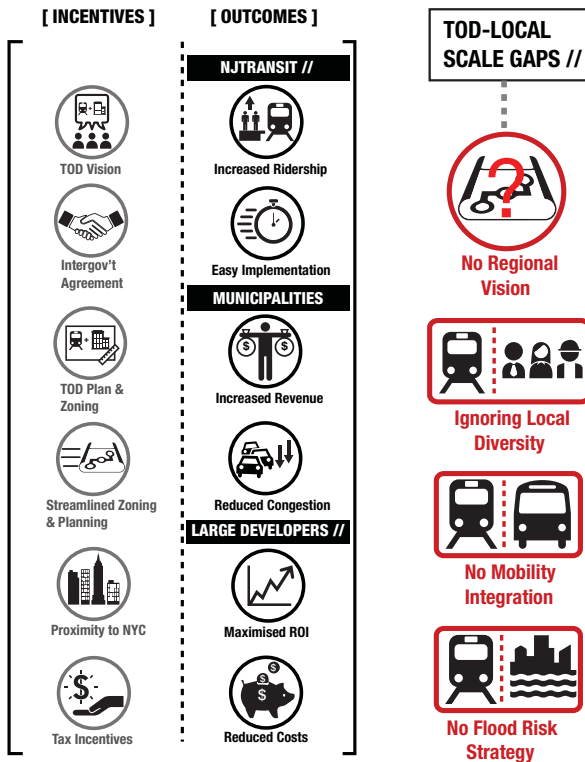


Fig 4.10 Hudson-Bergen Regeneration Benefits for Major Actors (Author)

Jersey City took a number of concrete steps to reorganise its operational planning processes and tools in order to foster the necessary policy, financial and physical conditions necessary to catalyse the revitalisation of its waterfront area. Consequently, the city's active role resulted in major benefits for the large-scale actors involved in the area's regeneration.

Upon reviewing the course of the HBLR's development, the light rail as an example of TOD, has been a critical component of the Gold Coast's renewal. This in turn has delivered a number of significant benefits for the main stakeholders directly involved with this regeneration process. Fig 4.10 summarises these specific TOD incentives and subsequent benefits, using a evaluative matrix derived from Wendy Tan's research (2013). Here, it is clear that the HBLR has been a success in terms of delivering financial and qualitative benefits for the main actors, which are exemplified by areas such as Exchange Place.

However, as indicated in the last column in Fig 4.10 which reveals significant operational gaps within the HBLR proposal, a decidedly different story emerges once one moves away from the Gold Coast area.

+ Upon moving away from Jersey City's waterfront to the western part of the city, a significantly different picture of the reneeration impacts from the HBLR emerges, with a sharp contrast between the gentrifying waterfront and poorer inland districts.

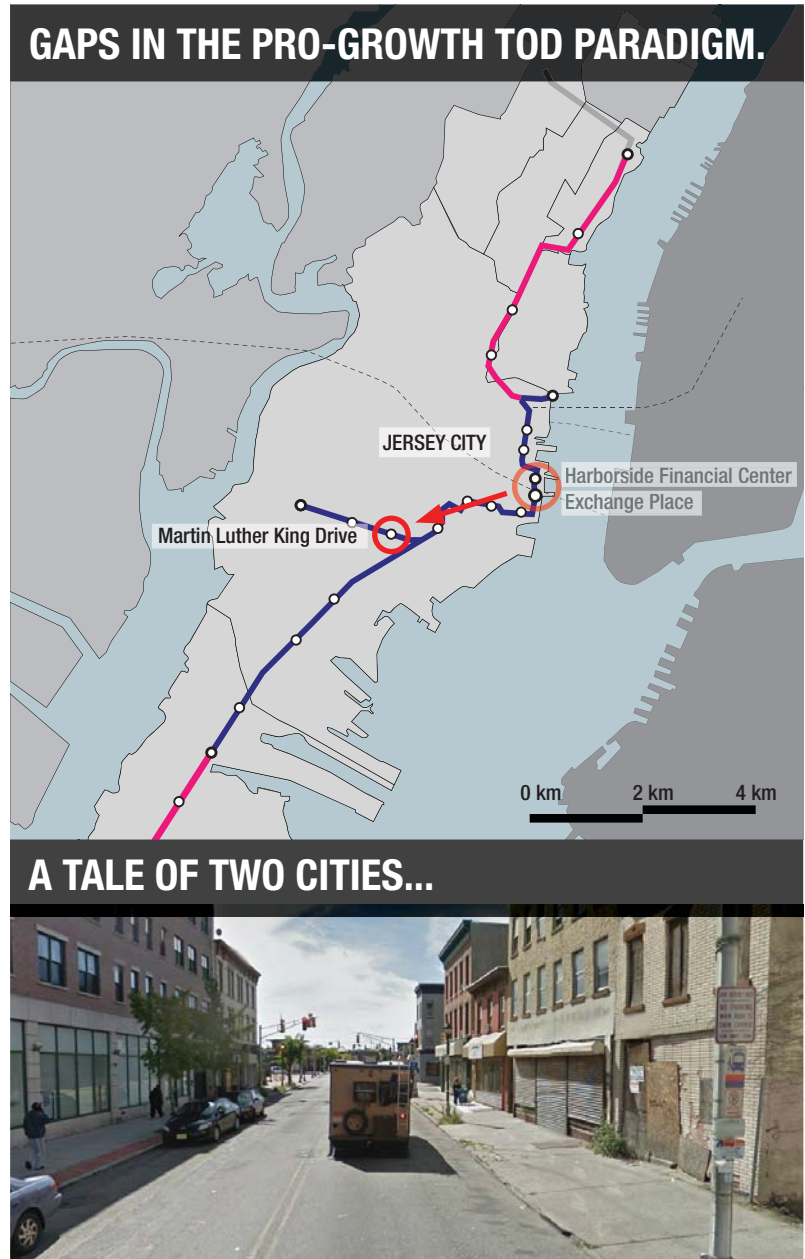


Fig 4.11 Hudson-Bergen Map (NJ Transit); Fig 4.12 MLK Ave Station Area (Google Maps)

The mismatch between the HBLR project and local-scale conditions is illustrated by the following series of maps, which reveal how area's existing TOD model ignore issues of socio-economic and racial disparities.

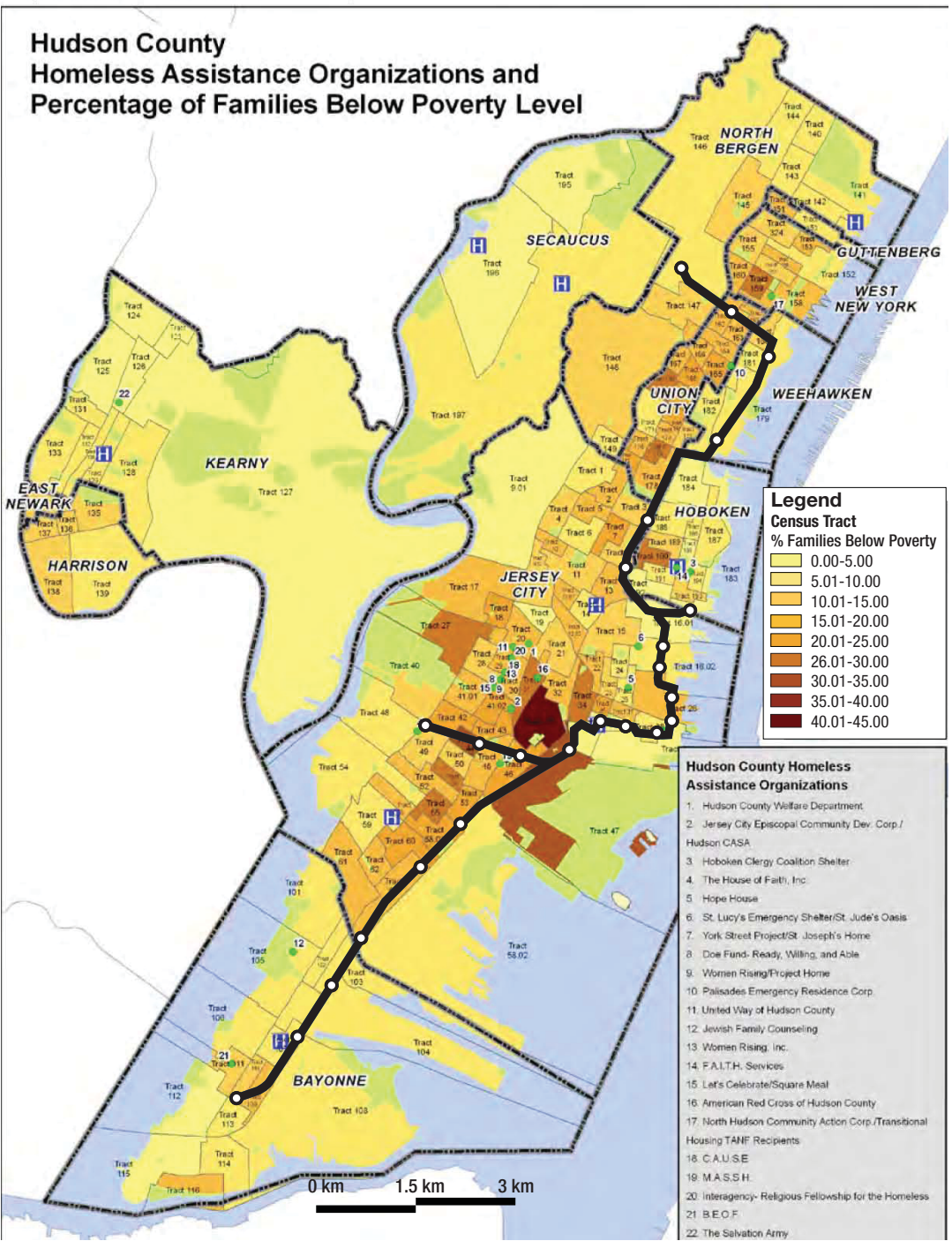


Fig 4.12 HBLR Area % Families Below Poverty Line (Hudson County)

Map 9- Hudson County African American Population

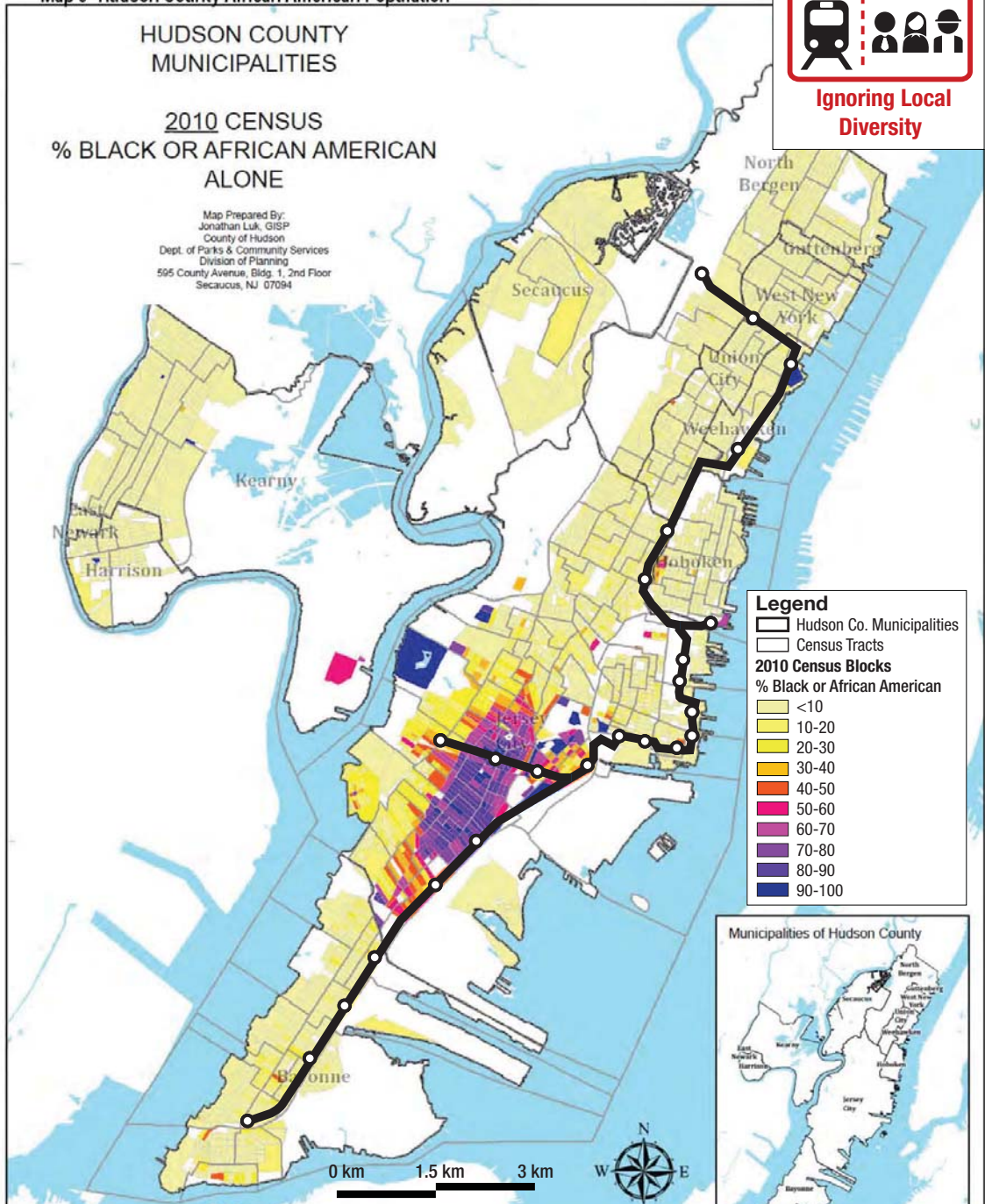


Fig 4.13 HBLR Area African-American Population (Hudson County)

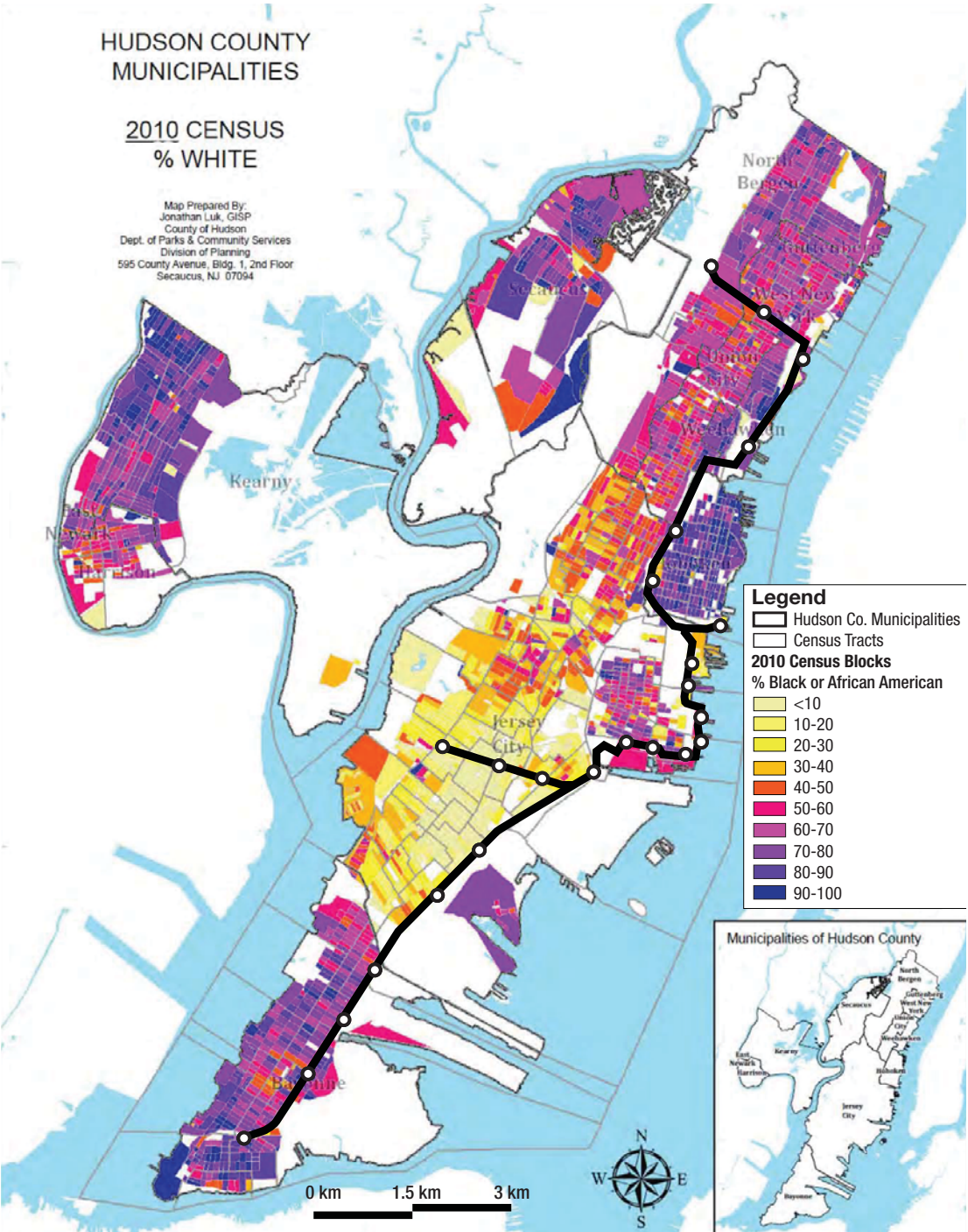


Fig 4.14 HBLR Area White Population (Hudson County)

Map 12- Hudson County Hispanic Population

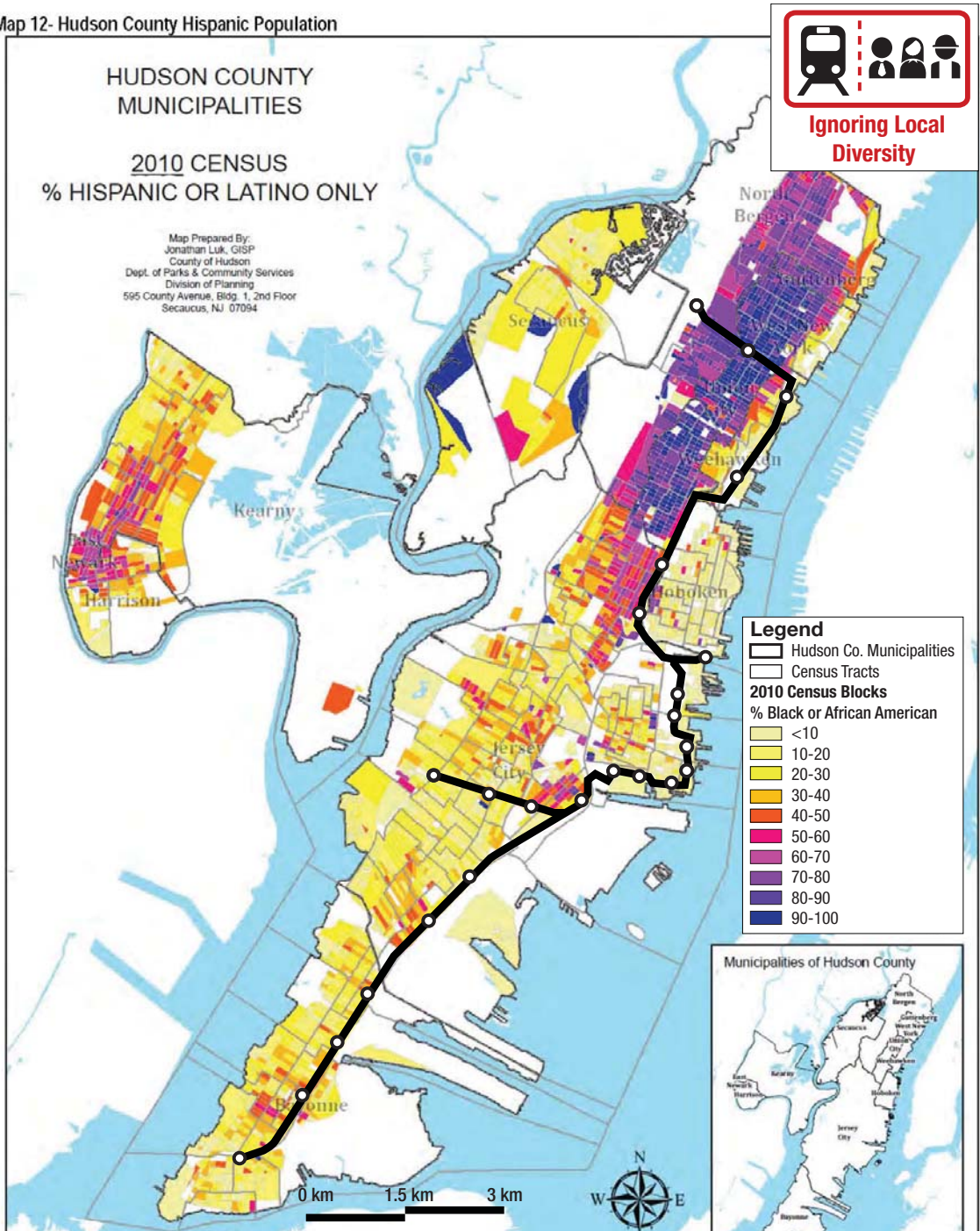


Fig 4.15 HBLR Area Poverty Levels (Hudson County)

4.1.3 Corroborative Analysis Conclusion

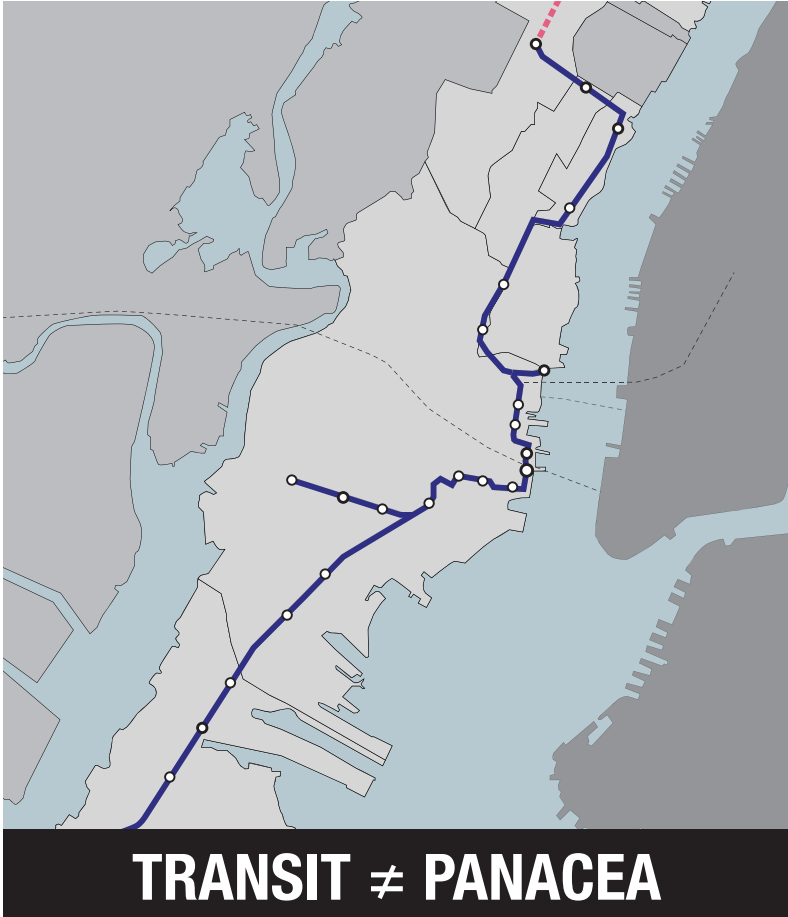


Fig 4.14 HBLR Line (NJ Transit)

The previous analysis of the HBLR operational model and examples of its socio-spatial implications, shows that it offers an incomplete approach at best. These are illustrated by comparing the outcomes of Jersey City's waterfront with that of MLK Ave station area, an inland neighbourhood less than 4km to the west. Given that the HBLR is in effect, the direct predecessor to the Northern Branch proposal, it can be assumed that any gaps seen in the HBLR's operational model will be applicable to the latter. In summary, the HBLR TOD model illustrates North Jersey's mismatch between path-dependent planning & local-scale realities. This thus validates the necessity of improving tangible gaps in an unbalanced planning system now contribute towards negative outcomes. Based on this, a comparison of the HBLR's operational deficiencies and a proposed Integral Planning goals, the Regional Diagnosis is presented next.

4.2 Regional Diagnosis

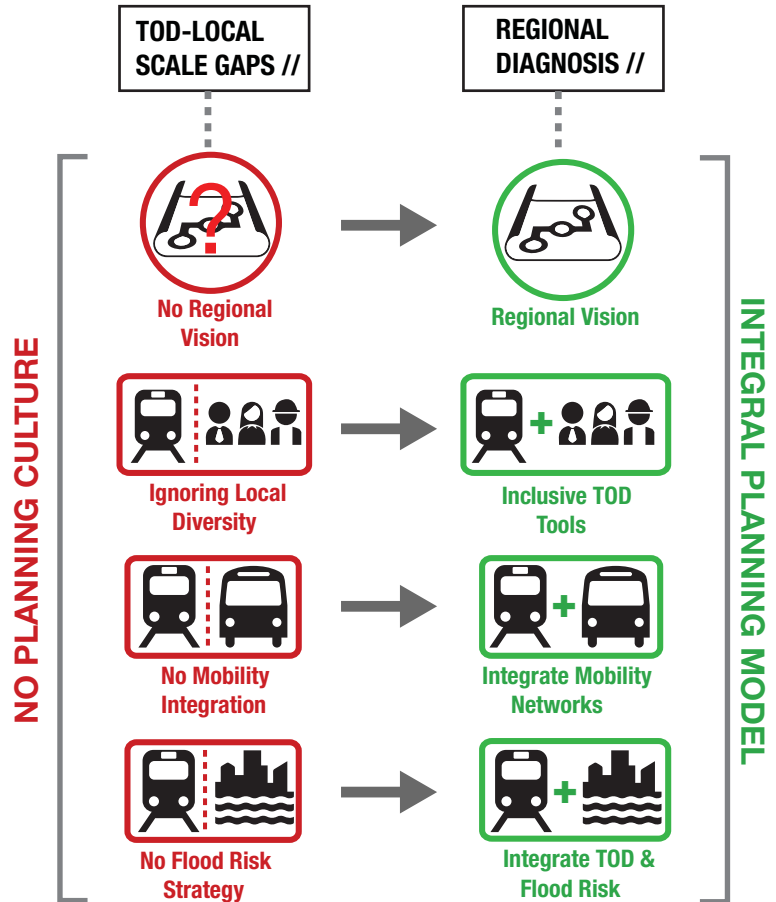


Fig 4.15 Regional Diagnosis (Author)

The operational gaps shown in the HBLR plan implementation process are symptomatic of a lack of coherent regional planning culture or institutional structures within North Jersey, as shown in Fig 4.15. These major planning gaps found in the previous analyses serve as the starting point for a Regional Diagnosis, which introduces four major strategic planning goals. Said goals comprise a proposed Integral Planning Model, which aim to directly improve upon the existing TOD paradigm's regional-level weaknesses.

5. OPERATIONAL MODEL

5.1 Integral Regeneration Perspective

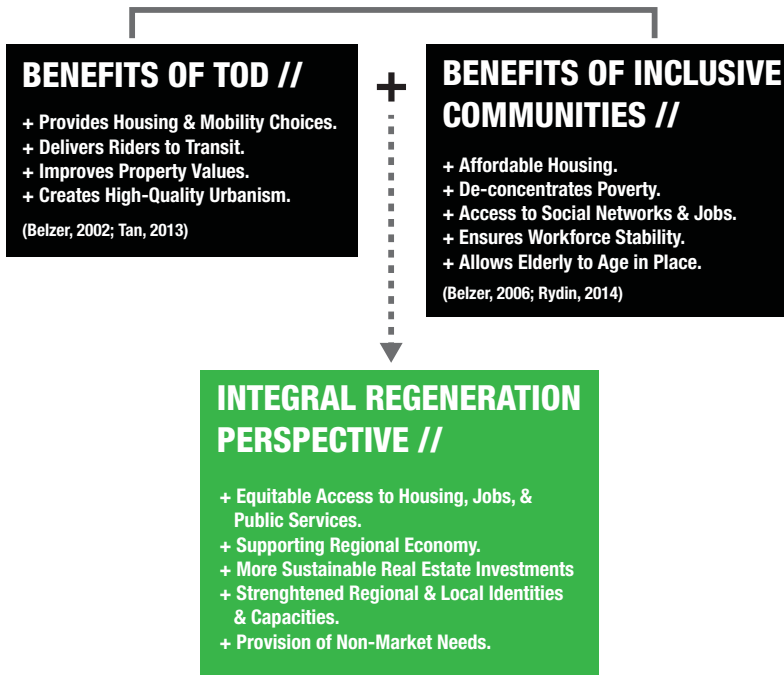


Fig 5.1 Integral Regeneration Perspective (Author)

Serving as the conceptual starting point for the subsequent final thesis outputs, the Integral Regeneration Perspective comes out of the literature surveyed in Chapter 3. These concepts are first distilled into two main conceptual categories, TOD (Belzer et. al, 2002; Tan, 2013) and Inclusionary Community Development (Belzer et. al, 2006; Rydin, 2014; Angotti, 2008). In turn these two major concepts serve as the two main components of the Integral Regeneration Perspective, with a focus on integrating the benefits of both theoretical perspectives, e.g. equitable access to housing and jobs. Specifically, the primary aim here is to provide a set of tangible planning criteria that will form the conceptual foundation for the proposed Integral Regeneration operational planning framework.

Moreover they directly inform the framework's strategic integral planning recommendations which touch upon the weaknesses identified in the previous sections. In addition to this primary conceptual base, two comparative examples of urban regeneration from the Northwest European context are presented in the next sections to show key lessons and further validate this proposal's main premise and focus on the linkage between operational planning processes and socio-spatial outcomes.

5.1.2 Integral Regeneration Precedent // AREA DEVELOPMENT



Fig. 5.2 IJburg, the Netherlands (Global Site Plans)

Dutch Equitable Regeneration Model

Area development in the Netherlands since the 1970s has been characterised by an emphasis on social mixing, which emphasises preventing social segregation through inclusive urban regeneration interventions. One major issue is ensuring a funding source that will enable such initiatives to be implemented and maintained. The primary major revenue source for municipal governments was their role as land developers: purchasing, rezoning and reselling land to private sector developers at a profit. Neighbourhoods perceived by municipalities to have major social disadvantages have been targets for regeneration efforts tied to measures aiming to enhance social mixing, following policies set by the national government. Furthermore, neighbourhood regeneration initiatives have involved a high degree of coordination among municipal public agencies, to subsidise equitable planning initiatives (e.g. social housing).

One result of the aforementioned financing model for inclusive regeneration has been that municipalities have been dependent on revenue generated from reselling properties, as well as national and regional subsidies predicated on expected economic growth. However, a top-down, neighbourhood centred approach to equitable regeneration resulted in interventions that did not address socio-economic realities & how many social issues required broader structural changes (Janssen-Janssen, 2014). While the planning contexts of the Netherlands and North Jersey display significant differences, both areas reveal operational gaps in terms of their financing models and a lack of adequate integration between regional and local-scale planning capacities. This indicates the necessity for a multi-scalar perspective as well as viable alternatives to financing mechanisms predicated on rapid growth.

5.1.3 European Regeneration Perspectives

NJ - NYC REGION MODEL //	NORTHWEST EUROPE //
<ul style="list-style-type: none"> + Highly Flexible Real Estate & Labour Markets. + Private Investments are Primary Funding Sources, Strong Presence of Private Actors. + High Residential Mobility. + Low to Minimal Provision of Public Housing. + High Levels of Income & Racial Segregation. + Municipalities Mostly Unprotected from Economic Cycles. 	<ul style="list-style-type: none"> + Public Interventions & Funding Have Driven Regeneration. + Relatively Low Residential Mobility. + Much Higher Share of Public Housing & Public Land. + Social Housing & Policies Reduce Segregation & Promote Social Mixing. + State Subsidies & Regional Policies Protect Municipalities From Economic Cycles.

Fig 5.3 Comparison of NJ/NYC and Western European Regeneration Models (Kazepov et. al, 2005)

A particular useful comparison to learn from is comparing North Jersey's development model with that of Northwestern European countries such as the Netherlands. Compared with American cities, European cities are less dependent on business interests. Likewise, they have a legacy of strong welfare states, where governmental action plays a more decisive role in expressly guiding spatial development. This illustrates how socio-political contexts have spatial impacts. In short, spatial plans and outcomes depend on how they intersect with existing institutional structures.

Common Challenges

Housing and social policies are predicated on expectations of continual economic growth. However there is a need for adapting to new immigration, aging populations and unstable, globalised labour markets, as well as climate change. A comparison of Northwest European and North Jersey regeneration models reveals a superficial convergence of the two development models (Kazepov et al. 2005). Recent developments in North Jersey mimic European urban design, but ignore how to adapt planning measures to the socio-cultural context of the New Jersey/New York region. There is a need to focus on socio-political processes in place of seeing cities as physical layouts or privileging large-scale economic interests. Here, Northwest Europe's focus on social mixing policies and higher share of public housing offers relevant lessons for developing more inclusionary regeneration models in North Jersey.

5.2 Integral Regeneration Proposal Focus

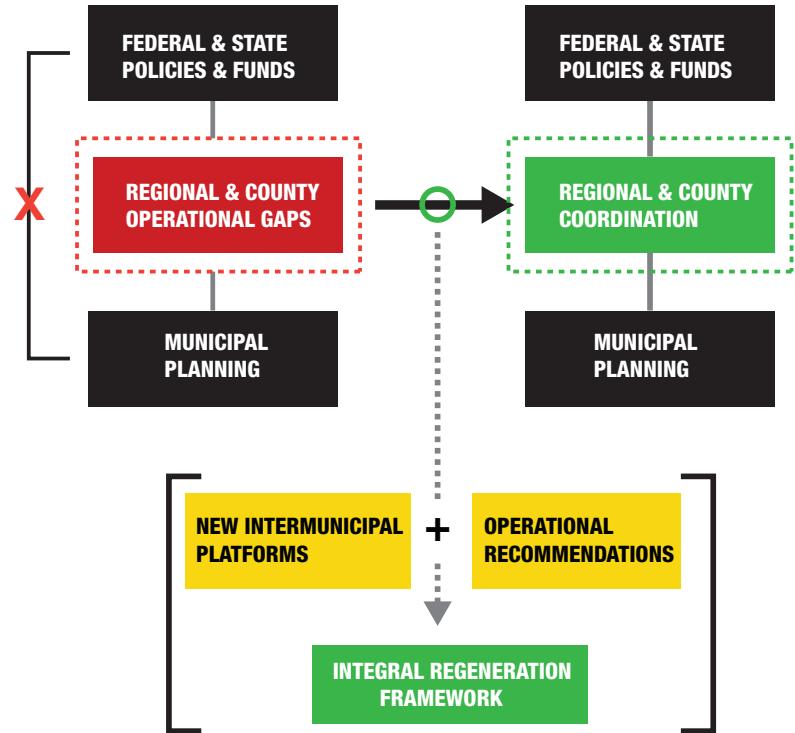


Fig 5.4 Northern Branch Regeneration Strategy (Author)

Based on the analyses shown in the previous sections, Fig 5.4 demonstrates the scope and goals of this thesis' proposed Integral Regeneration Strategy. It aims to complement existing TOD and regeneration tools by specifically focusing on operational and where applicable, institutional gaps, at the intermunicipal level. The two major aspects that will be focused on are new intermunicipal-scale horizontal governance platforms and operational planning tools.

Engaging these two elements through a set of strategic planning recommendations serve as the backbone of this thesis' proposed integral TOD-based regeneration model, the Integral Regeneration Framework. In summary, the primary aim to help improve the specific policy and operational gaps that currently exist in the proposal location. The following section demonstrates how Integral Regeneration Framework could be applied to a strategically significant area within the Gateway Region, the Northern Branch Corridor.



Englewood // Englewood Hospital

Englewood // Town Center

Route 4

Englewood // Englewood South

Leonia

I-95 Highway

Palisades Park

Ridgefield

North Bergen // 91st St.

Northern Branch Corridor

Fig 5.5 // Northern Branch Light Rail Line & Future Station Locations (Author, elaborated from Bing Maps)

Located north of Hudson County's urban centres, the Northern Branch Corridor is part of New Jersey's largest regional interstate gateway to New York City, as seen in how several major connections converge here: the George Washington Bridge, Route 4 etc. In regards to regional regeneration efforts, it is also a crucial transition zone between the small cities and working-class towns in the southern end of the proposed line and lower-density, more affluent towns in the north.



5.3 Operational Model // Northern Branch

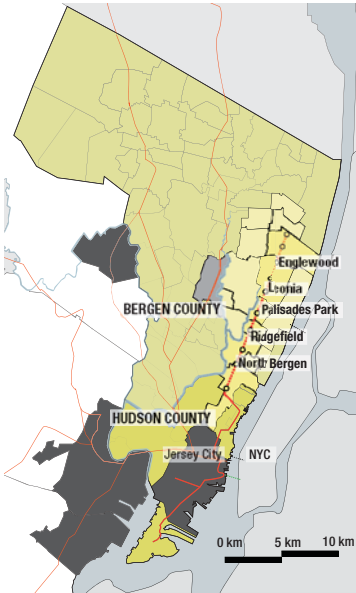


Fig 5.6 Northern Branch Region

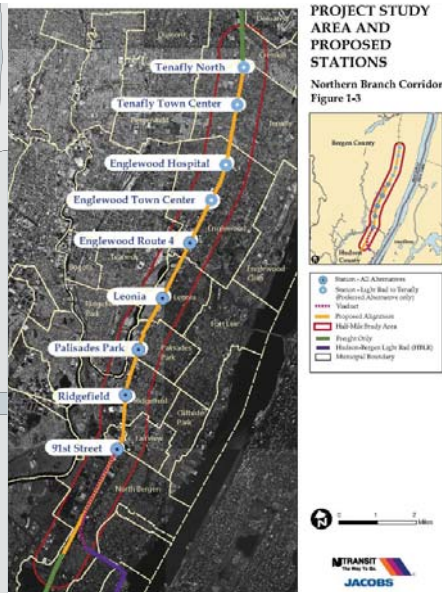


Fig 5.7 Northern Branch Corridor (NJ Transit)

Located in southeast Bergen County, just north of Hudson County, the Northern Branch Corridor is part of a regional gateway with extensive infrastructural and economic interstate connections to New York City. Headed by NJ Transit, the Northern Branch Proposal aims to reintroduce passenger rail to the area by using an existing freight rail line that formerly had passenger service until 1966. As seen in Fig 5.5, this area is a complex transitional zone where TOD will have significant implications for regeneration. Specifically, it is a potential testing ground for different paradigms of TOD-based small city and suburban regeneration.

5.3.2 Northern Branch Potentialities

The current TOD implementation process of the Northern Branch Light Rail proposal reflects the general socio-political fragmentation identified earlier in the general problem statement. An key example of this is how NJ Transit has adhered to a mobility-centric planning process that failed to adequately consider local demands or the area's complex socio-spatial diversity. This is demonstrated through a series of analytical maps which show existing potentialities now overlooked by the TOD planning process for the Northern Branch. Seen in total, these oversights are consistent with the operational gaps of the Hudson-Bergen Light Rail line. They also validate the Integral Regeneration Framework's focus on the intermunicipal scale, via examples of how the Northern Branch's regeneration challenges extend beyond individual municipal boundaries.

TOD-Local Scale Potentialities // SOCIO-ECONOMIC DIVERSITY

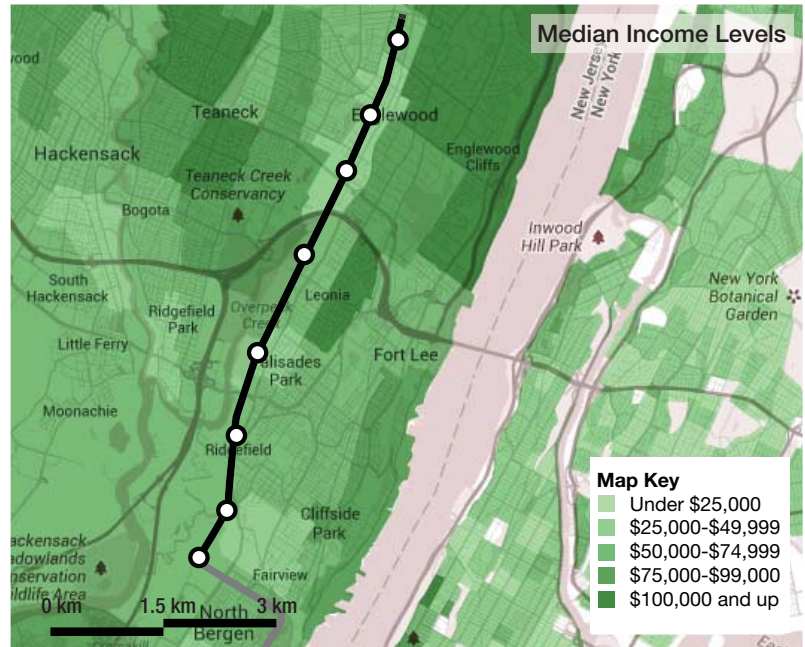


Fig 5.8 Northern Branch Median Income Levels (New York Times, 2013)

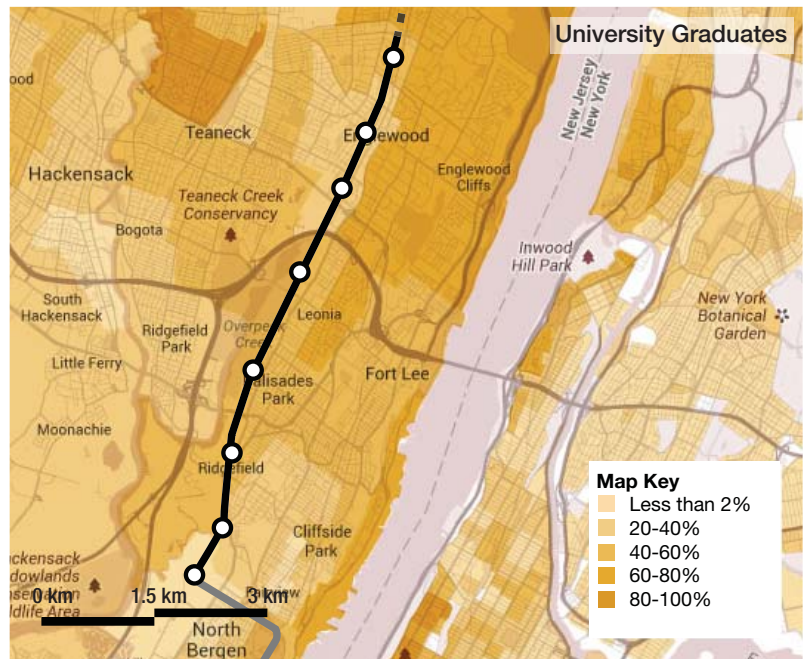


Fig 5.9 Northern Branch University Graduates (New York Times, 2013)

TOD-Local Scale Potentialities // RACIAL & ETHNIC DIVERSITY

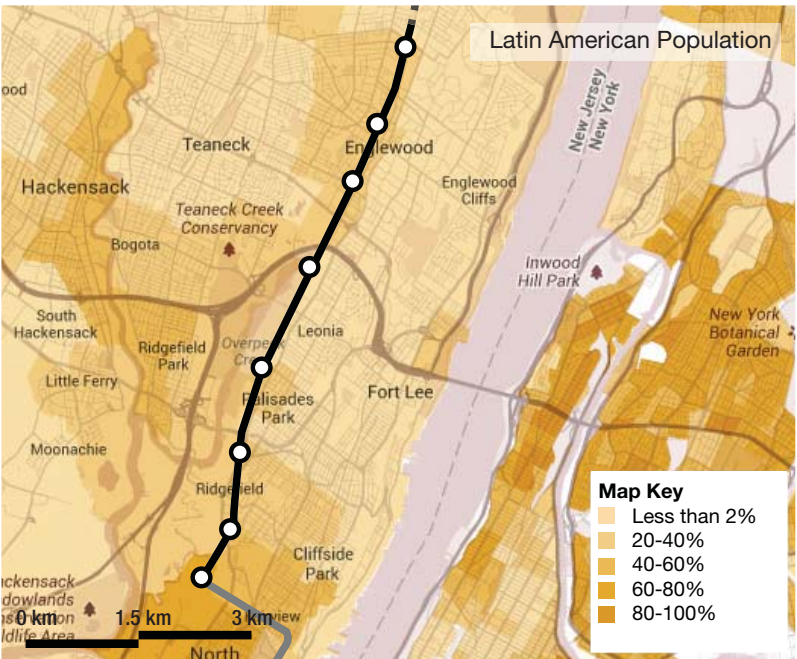


Fig 5.10 Northern Branch Latin American Population (New York Times, 2013)

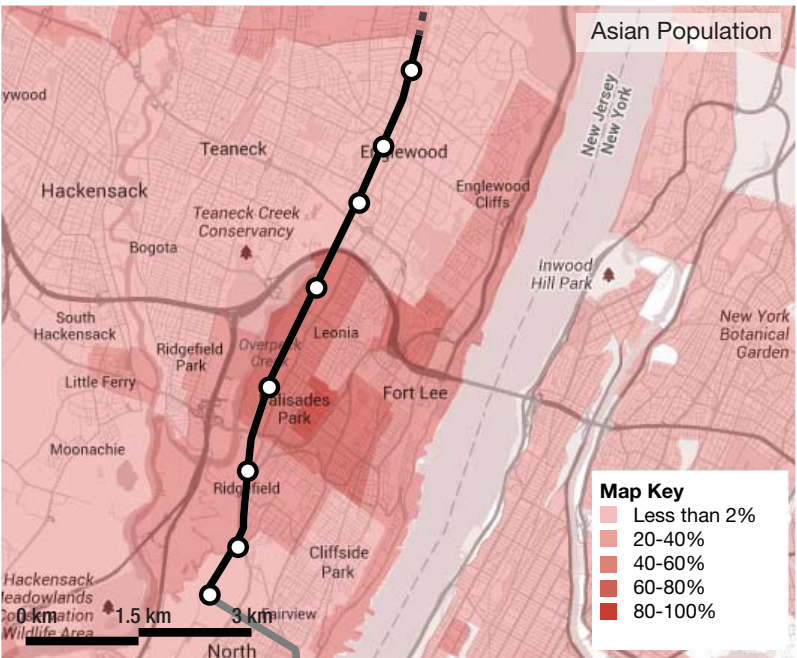


Fig 5.11 Northern Branch Asian-American Population (New York Times, 2013)

TOD-Local Scale Potentialities // INTEGRATED MOBILITY NETWORK



Fig 5.12 Proposed Northern Branch Line and Existing Local Bus Network (Elaborated from dougandadrienne.info)

TOD-Local Scale Potentialities // **INTERMUNICIPAL FLOOD VISION?**

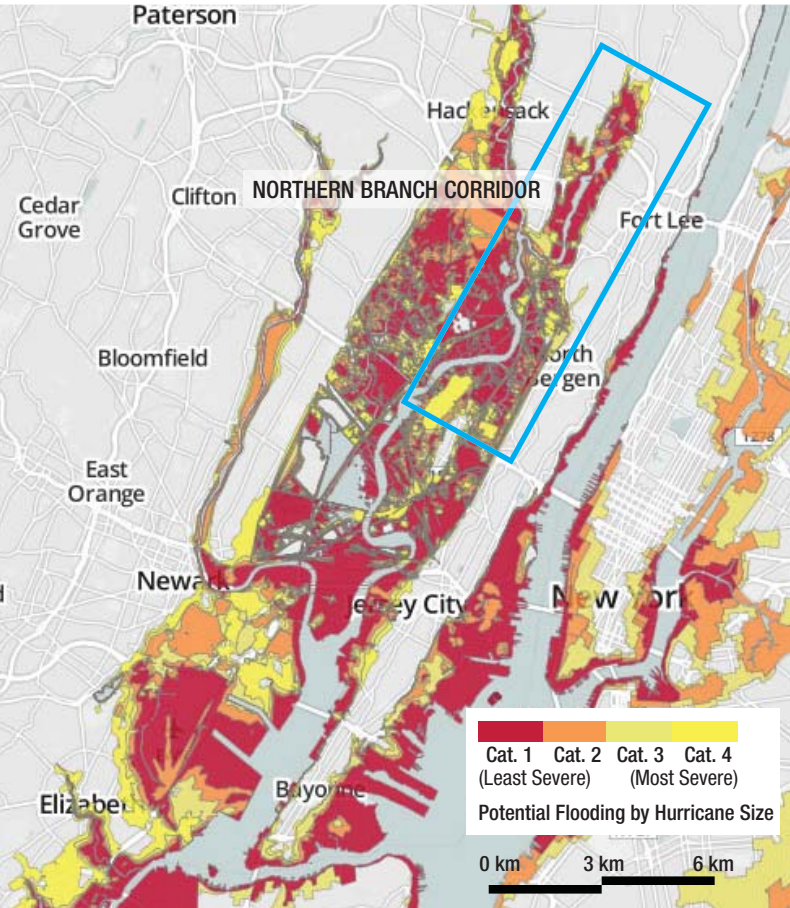


Fig 5.13 Northern Branch Flood Risk Map (John Keele/WNYC)

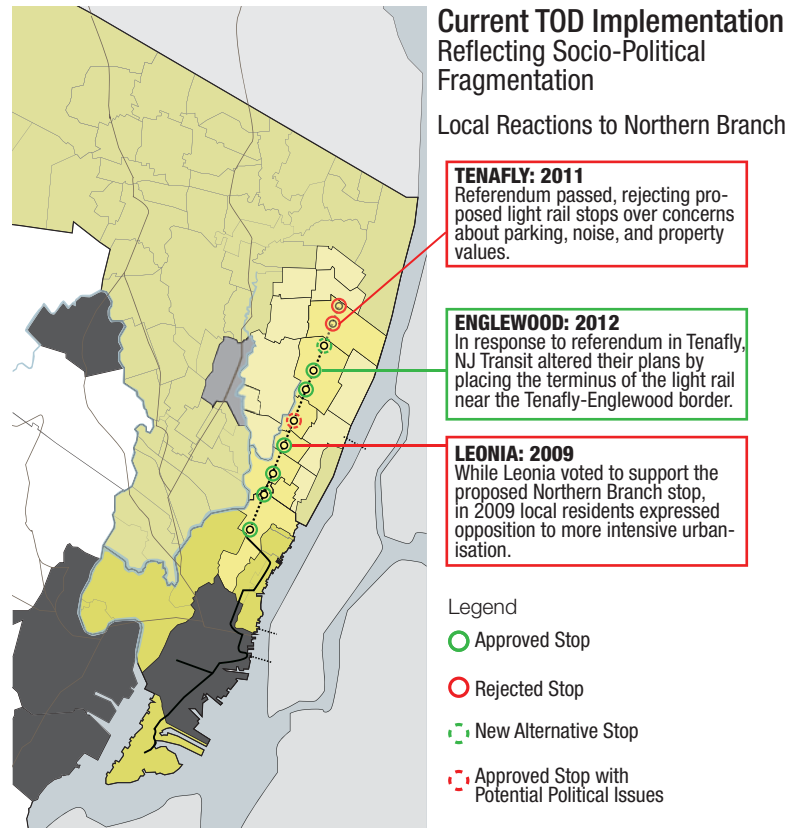


Fig 5.14 Existing Northern Branch Public Outreach Process (NJ Transit, 2011)

5.3.3 Current TOD Process // **NORTHERN BRANCH**

The lack of attention given to the area's regeneration potentialities by is rooted in the existing implementation framework for the Northern Branch light rail proposal, which reflects the sectoral, path dependent seen in the Hudson-Bergen line. Upon reviewing the Northern Branch planning process now led by NJ Transit, the following operational gaps are identified:

Focus on Efficient Regional Mobility

NJ Transit's primary objective is to resolve the issue of traffic congestion and maximise ridership rates. However, the mobility-centric perspective of the Northern Branch plan fails to effectively address the necessity for a multi-actor and multi-sectoral framework to successfully coordinate future regeneration in relation to TOD implementation.

Local-Scale Socio-Spatial Dynamics Overlooked

The sectoral, path-dependent logic of the light rail plan prioritises the implementation of public transit. However, it focuses on mobility at the

expense of other, equally important aspects of the proposal area. Namely, southeastern Bergen County's diverse socio-economic, ecological, and land-use patterns are mentioned only in passing and almost exclusively in terms of ensuring the efficient implementation of the proposed light rail line.

No Mechanisms for Intermunicipal Cooperation

A major operational gap in the Northern Branch planning process is the lack of formal mechanisms or channels for enabling inter-municipal coordination on regional planning issues. Thus, each municipality is essentially left on their own in terms responding to pressing issues such as potential regeneration impacts and significant local mobility gaps.

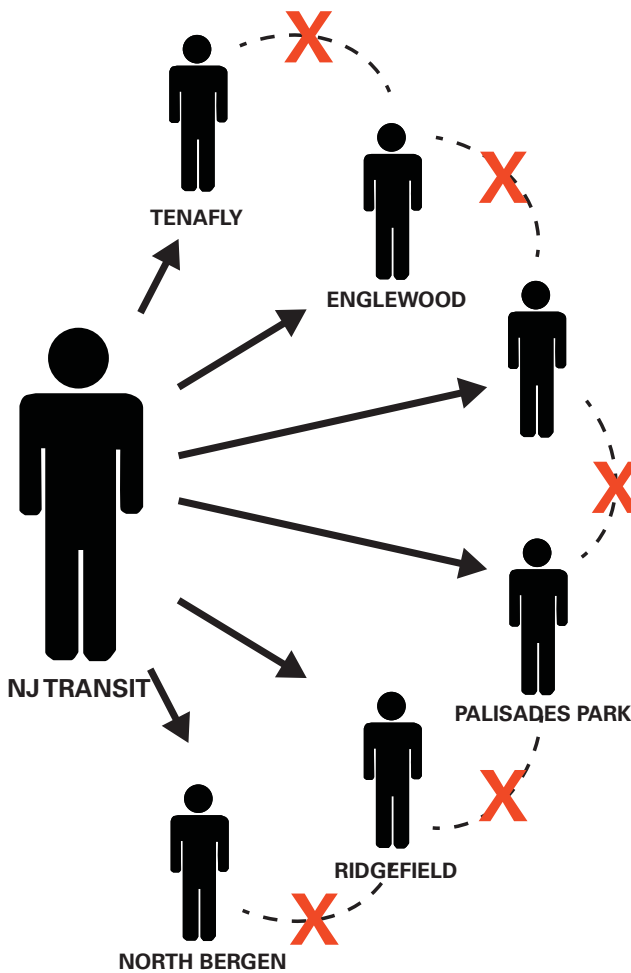


Fig 5.15 Existing Northern Branch Dialogue/Public Outreach Process (NJ Transit, 2011)

Regional Regeneration Strategy // CURRENT TOD FRAMEWORK

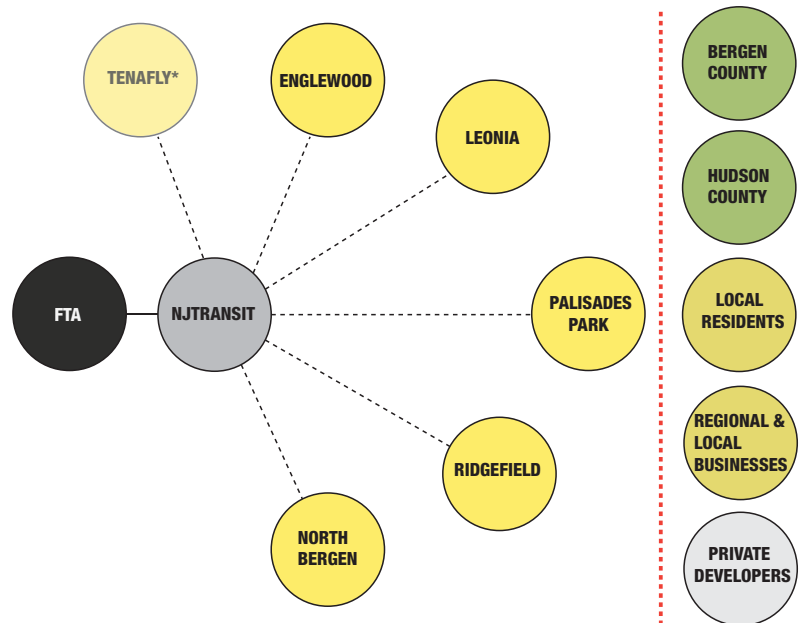


Fig 5.16 Current Northern Branch Corridor Stakeholder Framework (Author)

Mayor's Hudson-Bergen commission to push light rail expansion

Apr 03, 2014 | 713 views | 0 | 12 |



City, Hoboken, and Bayonne.

ENGLEWOOD — Englewood Mayor Frank Huttie III and Jersey City Mayor Steven M. Fulop will co-chair a newly-formed mayors' commission to spearhead an ambitious plan to extend the long-awaited northern portion of the Hudson-Bergen Light Rail line (HBLR) through Bergen County, Mayor Huttie's office has announced.

The Mayors' Hudson/Bergen Light Rail Commission is comprised of all of the mayors from Hudson and Bergen counties representing towns along the rail line and its proposed northward extension, including Englewood, Jersey City, Palisades Park, Fairview, West New York, Weehawken, Leonia, Ridgefield, North Bergen, Union

Fig 5.17 Recently formed Mayor's Commission advocating for Northern Branch line (Hudson Reporter, 2014)

+Fig 5.16 // An emerging example of intermunicipal cooperation is the recently formed coalition of twelve mayors in the Hudson-Bergen and Northern Branch line municipalities. This provides a starting point for an alternative operational model for TOD-based regeneration.

Regional Regeneration Precedent // MAYORS' COMMISSION

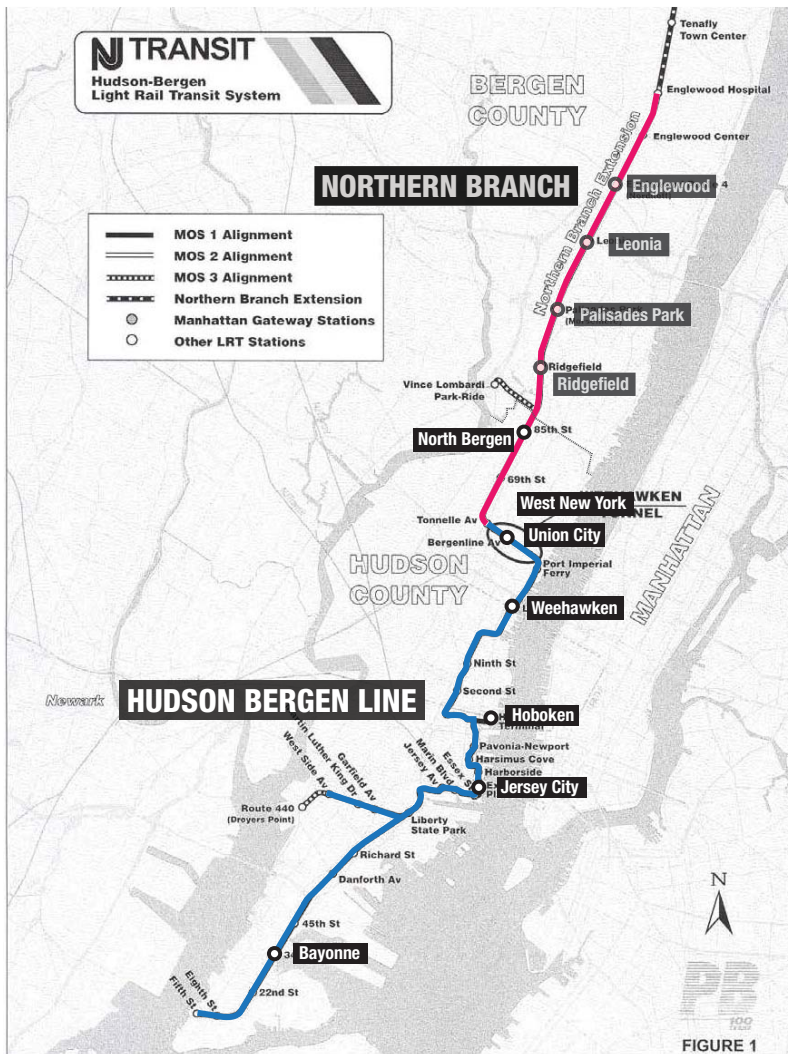


Fig 5.18 Mayors' Hudson-Bergen Light Rail Commission members (Hudson Reporter, 2014)

In response to shared economic challenges and a recognition of potential regeneration benefits from TOD, the mayors of the twelve municipalities along the existing Hudson-Bergen Light Rail (HBLR) line & proposed Northern Branch joined together in April 2014 to push for extending the HBLR into southeastern Bergen County. This follows recent trends of inter-municipal cooperation between Hudson County municipalities. Next, the Mayors' Commission operational structure is presented in the following page on Figure 4.20.

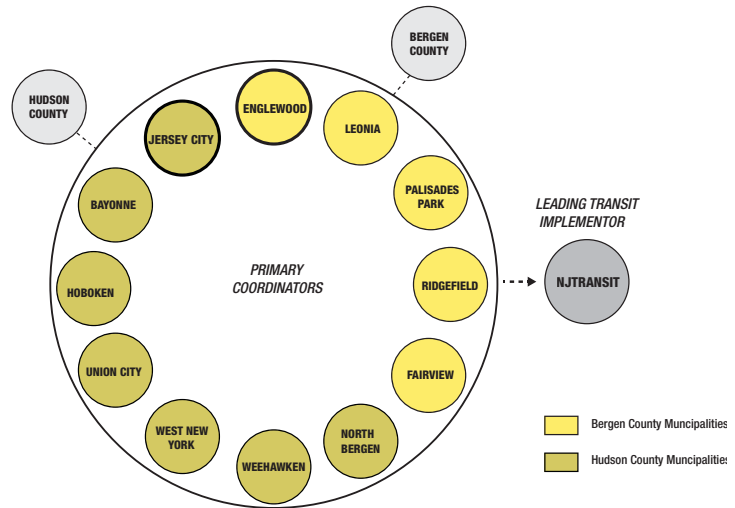


Fig 5.18 Mayor's Light Rail Commission structure (Hudson Reporter, 2014)

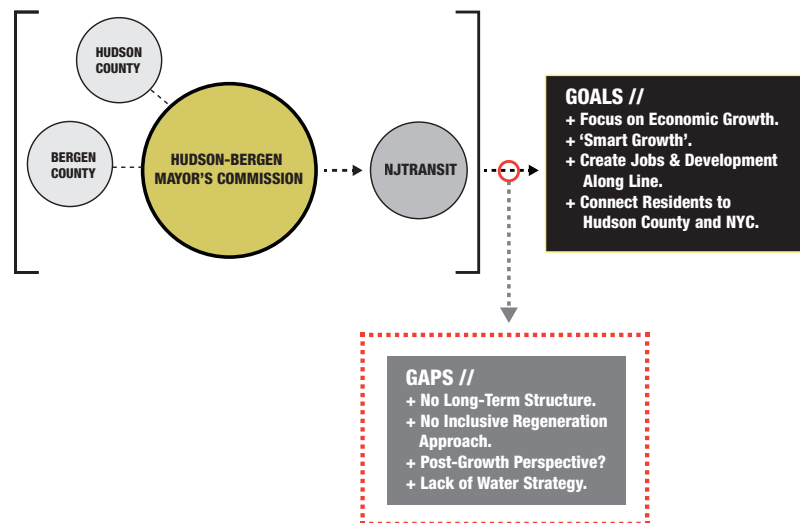


Fig 5.19 Analysis of Mayor's Light Rail Commission goals (Author)

A new semi-permanent body co-chaired by the mayors of Englewood and Jersey City, the Commission unifies the twelve municipalities of the HBLR and Northern Branch to coordinate local planning resources among the municipalities and counties (Hudson Reporter, 2014). One primary goal is to push for the implementation of the Northern Branch light rail extension, by acting as a direct conduit to NJ Transit. As a horizontal TOD planning platform, the Commission illustrates how the local political context is potentially favorable for an integral inter-municipal approach. However, Fig 5.19 shows that its key flaw is a lack of a strategic planning perspective and inclusionary TOD tools.

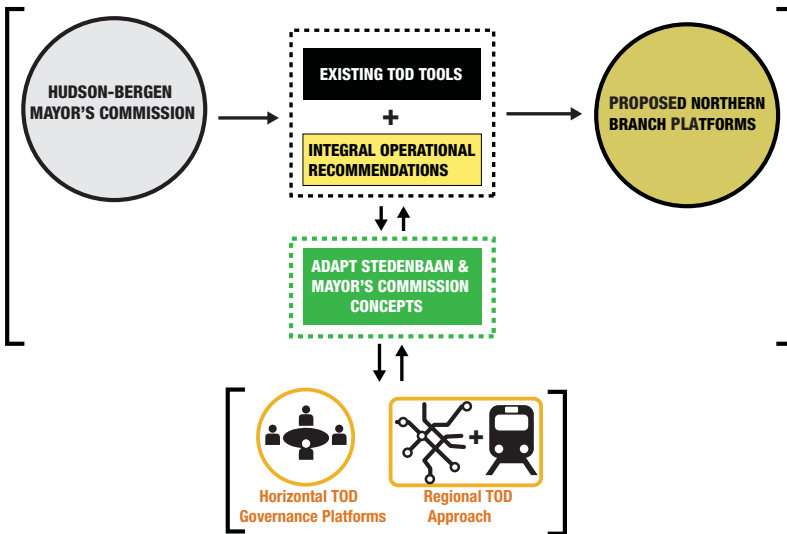


Fig 5.20 Operational concepts from the Stedenbaanplus project (Author)

The operational and to a lesser extent, political, context of the Mayor's Commission is analogous to the Stedenbaanplus initiative in the Netherlands. A TOD-based regional development project started in 2004, the Stedenbaanplus shares the following similarities with the context of the Northern Branch. Firstly, they both demonstrate the establishment of horizontal regional planning platforms, with the goal of coordinating public resources and ensuring multi-level communication between major stakeholders. Likewise, the two projects are rooted in the premise of coordinating a regional-level development programme, specifically in terms of generating economic growth and beneficial regeneration impacts. Secondly, the Stedenbaanplus' model also offers an methodological tool: a regional-scale assessment of proposed transit station areas in terms of their specific potentialities for TOD-based urban regeneration.

This is of particular relevance to the Northern Branch Corridor, where the proposed light rail stop areas illustrate a diverse range of functional and land-use characteristics which point to the necessity for a inter-municipal analytical assessment. The operational concepts derived between the Northern Branch and the Stedenbaanplus are summarised in Fig 5.20. Using these as a starting point, the operational concepts adapted for North Jersey will inform the set of proposed Integral Operational Recommendations, which seek to augment the region's existing TOD planning process. By specifically engaging the operational gaps identified in the previous sections, the integral operational recommendations will be the foundation for proposed horizontal governance platforms in the Northern Branch area. In the following section, the operational concepts taken from the Steenbaanplus will be reviewed in greater detail.

Concept 2. Stedenbaan Regional TOD Methodology



Fig 5.22 Stedenbaanplus station area plans (Stedenbaanplus)

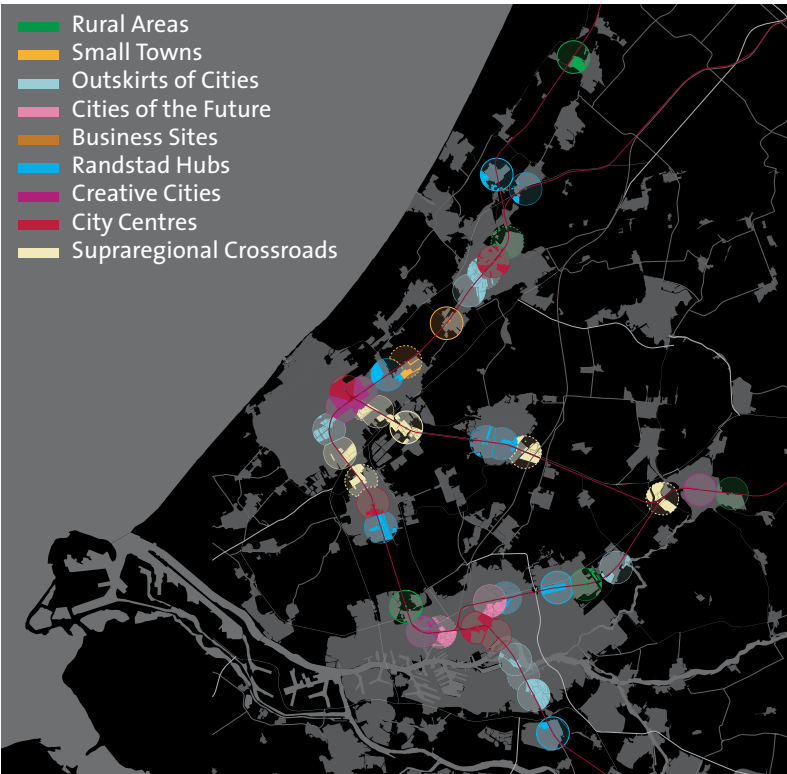


Fig 5.23 Stedenbaanplus regional scenario (Stedenbaanplus)

+ Concept 2.1 Station Area Survey // A regional survey was taken of proposed Stedenbaan station areas, assessing their local land-use and place characteristics.

+ Concept 2.2 Place Typologies // The survey served as a basis for assigning place typologies for each station, a starting point for generating TOD scenarios.

5.3.4 Proposed TOD Governance Platform

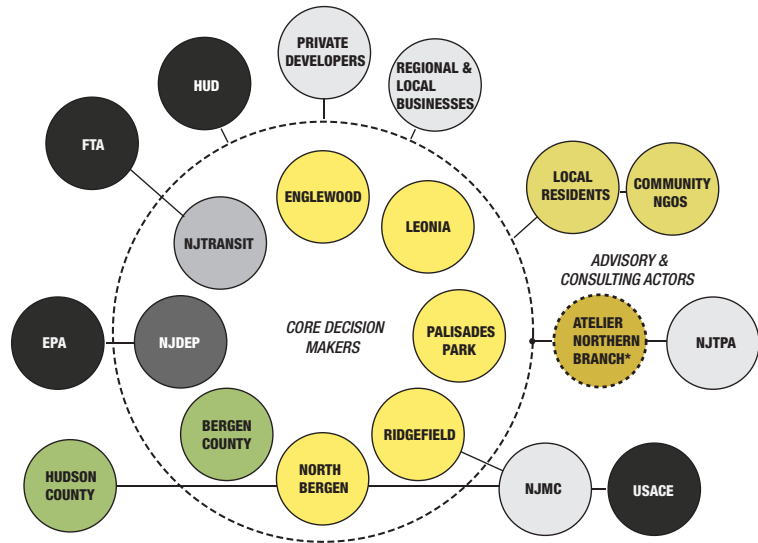


Fig 5.24 Proposed regional planning platform // Northern Branch Collaborative (Author)

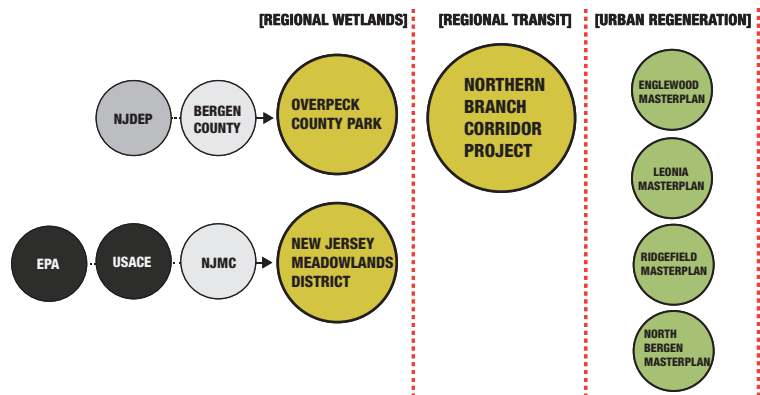
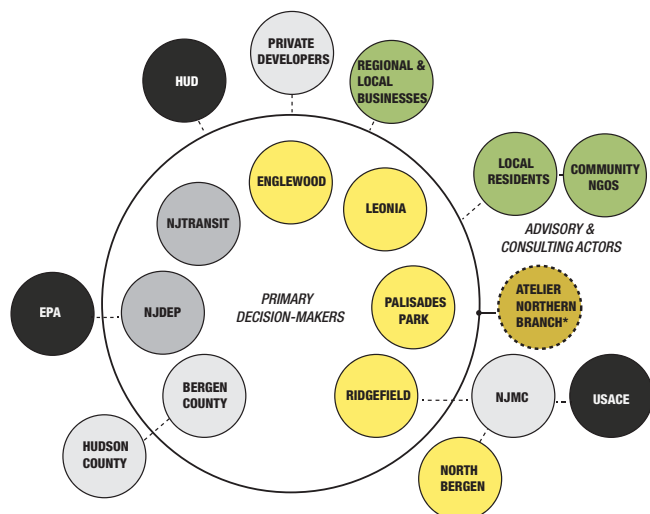


Fig 5.25 Current wetlands management gaps in the Northern Branch area (Author)

Based on the general Integral Regional Regeneration recommendations including the two operational concepts drawn from the Steenbaanplus initiative, Fig 5.38 presents a proposed TOD planning and governance platform for the Northern Branch Corridor. One major goal is to build upon the potential of the Mayor's Commission by addressing its previously mentioned operational gaps. Likewise, these mismatches are applicable to the issue of regional water management, especially in relation to flood risks. Thus, an analogous process will be also required for this issue.



+ Atelier Northern Branch* // A concept taken from the Stedenbaan-plus, the Atelier Northern Branch is a proposed regional planning studio attached to the Northern Branch Collaborative, providing members with urban planning/design and technical supports for vision making and strategic planning at both the intermunicipal and local scales.

Fig 5.26 Proposed Overpeck Creek Water Authority // Northern Branch Corridor (Author)

Concerning the operational gaps found in existing water management processes, Fig 5.26 presents a proposed operational platform to manage Overpeck Creek, a tributary of the Hackensack River to the south, also a major flood zone. The Overpeck Creek Water Authority is envisioned as a affiliated task force, complementing the regional governance capacities of the Northern Branch Collaborative. The two proposed platforms incorporate a cross-sectoral, inclusionary process. A significant benefit that this integral approach offers is the opportunity to incorporate TOD as part of a comprehensive and equitable regeneration model that can 'fill-in' the existing divide between regional TOD processes and local-scale demands. Four types of operational planning tools are proposed to accomplish this. Based on the work of Tiesell and Allmendinger (2005), they are understood as policy actions aiming to impact the decision environment or actors to achieve more diversified, equitable socio-spatial outcomes (Legacy, Leshinsky, 2013). These tools are described as follows:

1. Shaping Tools // Planning documents such as implementation plans that provide and overall context in which planning decisions and actor transactions take place.

2. Regulatory Tools // Regulatory controls, such as land-use codes, dictate how a parcel of land can be used and developed by its owner or users.

3. Stimulation Tools // Stimulation tools, e.g. tax incentives, seek to spark economic activity and to strengthen designated growth areas.

4. Capacity Building Tools // To accommodate growth and changing demographics, urban intensification policies can meet the growing need for housing and infrastructure.

This approach offers benefits not just for a limited set of large-scale ac-

tors, but directly engage all stakeholders who are most heavily affected by future regeneration impacts, shown in Fig 5.27. Along with the proposed organisational platforms, another key component to the model's success is integrating the now sectoral public financing process, specifically the flow of funds from the federal/state to the local levels, with inter-municipal platforms serving as the critical link, as shown in Fig 5.28

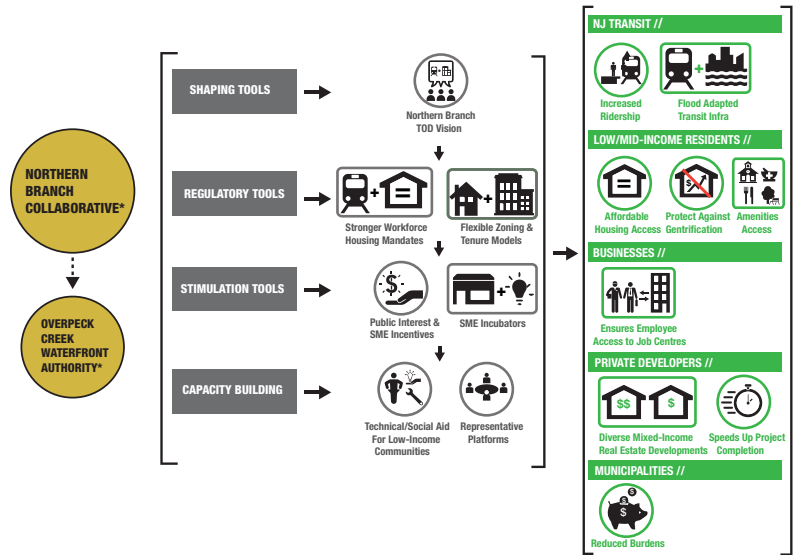


Fig 5.27 Northern Branch Stakeholder Benefits (Legacy, Leshinsky, 2013)

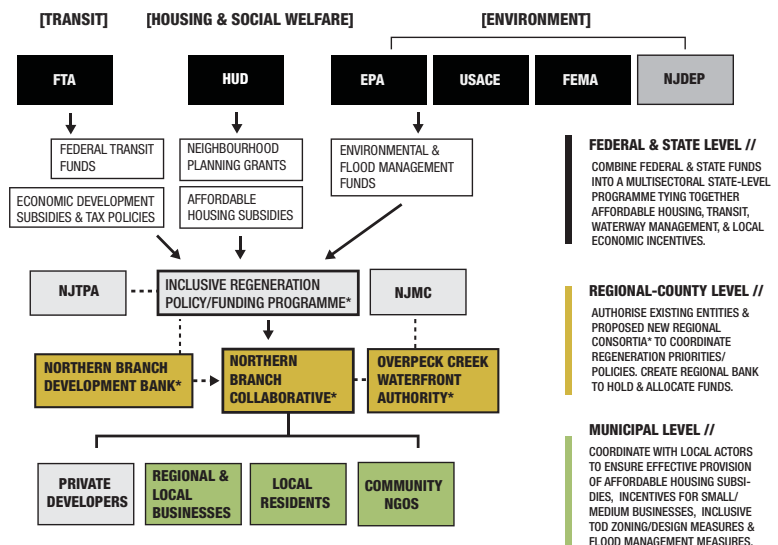


Fig 5.28 Northern Branch // Integral Funding Structure (Author)

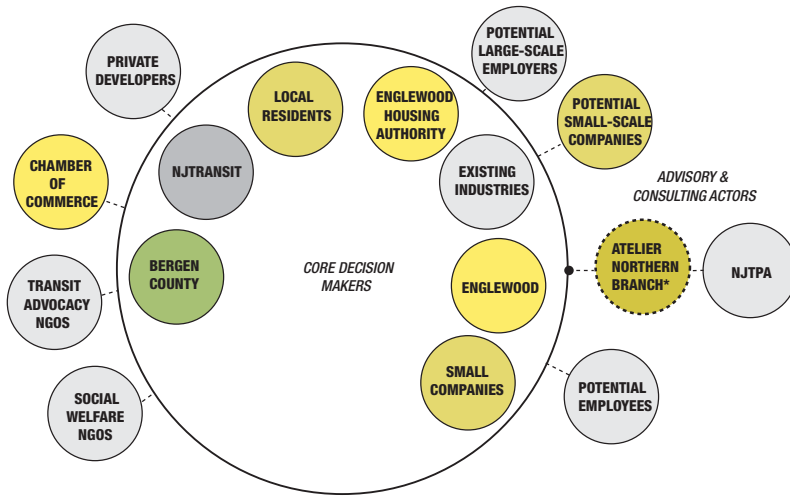


Fig 5.29 Proposed municipal platform (example) // Northern Branch Collaborative
(Author)

In addition to proposing a regional-scale platform for the Northern Branch municipalities concerning inter-municipal planning issues, the Integral Regeneration model offers individual municipalities an opportunity to form horizontal platforms for local-scale planning issues, as shown in Fig 5.29. As an affiliated, but autonomous regional planning studio, the Atelier Northern Branch acts as a critical link in balancing inter-municipal and local demands. This is a critical step, as no one municipality functions as a single entity. Rather, they are part of a highly interdependent regional system, in which each municipality plays a distinct role within a larger network. This is especially true of the Northern Branch Corridor, which functions as a transitional gateway between the urban centres of Hudson County/New York City and bedroom communities to the north.

As will be explained previously, the Northern Branch municipalities reveal a diverse range of functional and spatial characteristics that defy the preconception of North Jersey as a place of generic suburban towns or struggling industrial cities. Both the specificity and overall scalar context of the proposed light rail station areas demands a regional-scale understanding of what can be called their 'Place Typology', which refers to their specialised roles within a network context. Such an approach points to how the potential TOD locations are simultaneously local and regional entities, for instance in terms of economic networks or housing patterns. Likewise, the issue of flood risk further points to the necessity of having accurate Place Typology assessments form the basis for an Integral Regional Regeneration Strategy, prioritising an inclusionary, long-term strategic planning vision and process.

5.4 Operational Recommendations

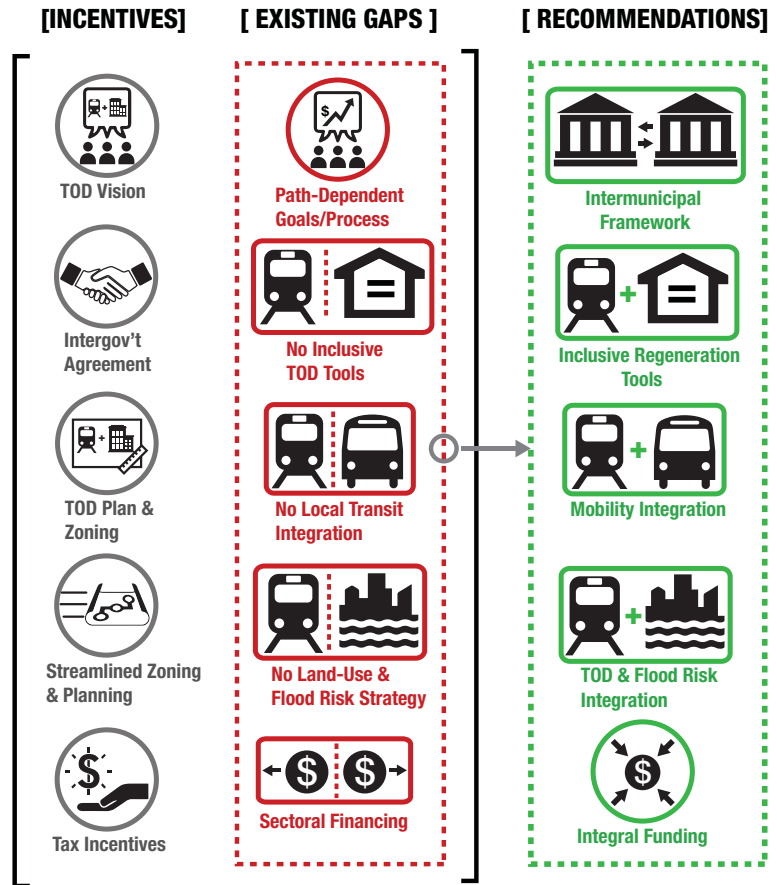


Fig 5.30 Northern Branch // Integral Intermunicipal Recommendations (Author)

In order to operationalise the proposed institutional model, one of the starting points for the Northern Branch platforms is a set of strategic recommendations. As seen in Fig 5.30, the North Jersey's current TOD system has a set of beneficial incentives, however they have several significant deficiencies with negative socio-spatial outcomes. These operational gaps are directly addressed through set of intermunicipal-scale recommendations shown above. The proposed TOD planning platforms combined with the Operational Recommendations form the Integral Regeneration Framework for the Northern Branch Corridor. In summary, the aim is to augment existing TOD incentives by incentivising intermunicipal cooperation, inclusionary regeneration tools and other aspects that are currently lacking. The next step is to translate these intermunicipal framework into municipal-scale policy and spatial design recommendations.

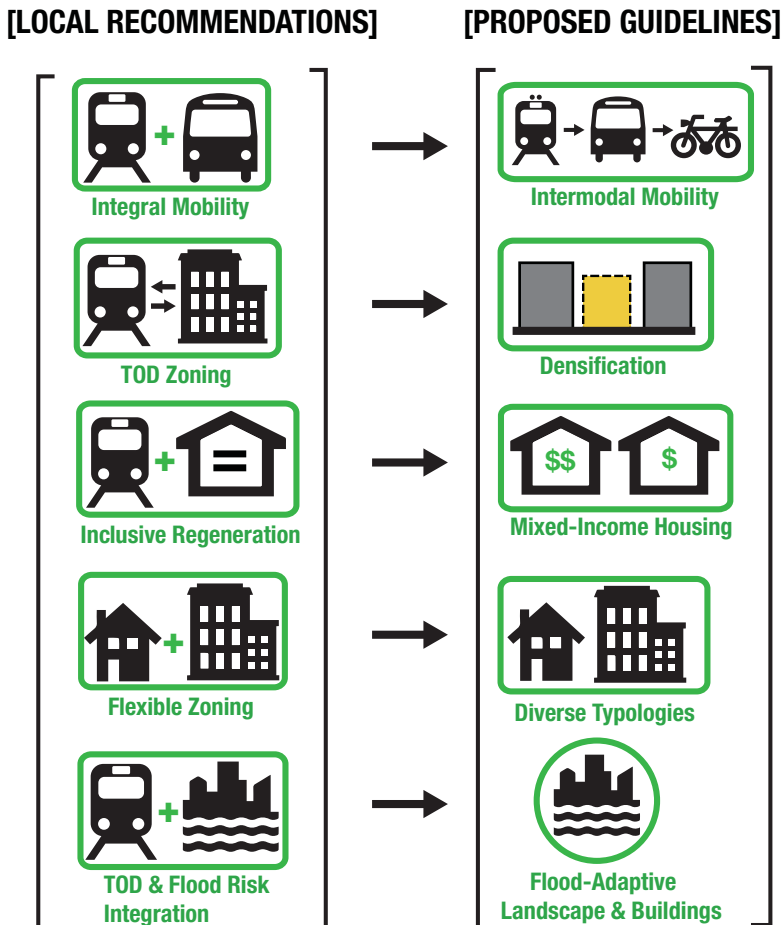


Fig 5.30 Northern Branch // Local Recommendations & Spatial Design Guidelines
(Author)

To ensure its operability at the municipal scale, the intermunicipal framework is transferred to the municipal scale via a set of local planning policy recommendations and spatial design guidelines. By being connected to a larger planning framework for the entire Northern Branch Corridor, municipalities gain the capacity to actively manage current urbanisation challenges. It recognises how the feasibility of the Integral Regeneration proposal is dependent on bridging intermunicipal and municipal planning priorities. The proposed framework creates a set of tangible TOD/regeneration recommendations that can adapt to specific local demands. By translating the policy recommendations into municipal-scale spatial guidelines, the Integral model enables involved actors to see how TOD/regeneration policies can directly improve existing urban structures.

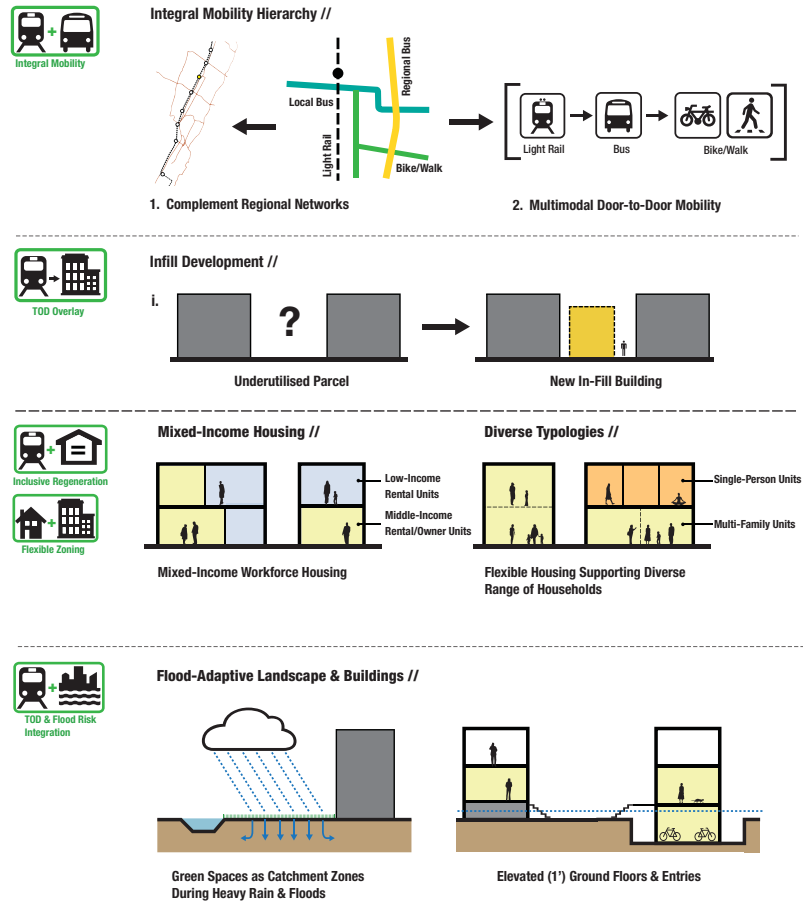


Fig 5.31 Northern Branch // Spatial Design Guidelines (Author)

Fig 5.31 shows how the local-scale operational recommendations are translated into urban planning/design guidelines, e.g. Mixed-Income Housing, Flood-Adaptive Structures. When applied to the municipal scale, it offers a tangible framework which allows involved actors to utilise the proposed TOD/regeneration recommendations together with the spatial guidelines to shape existing urban morphological structures in more optimal ways. They specifically create a morphological framework which serves as a foundation for implementing more detailed urban design and architectural interventions. In other words, the Integral Regeneration model offers a concrete methodology to improve not just operational processes but also the existing spatial structures within the Northern Branch corridor. The following series of Northern Branch maps illustrate the socio-spatial context in which the proposed Integral framework will operate within, as well as a regional vision map for this dynamic region now in transition.

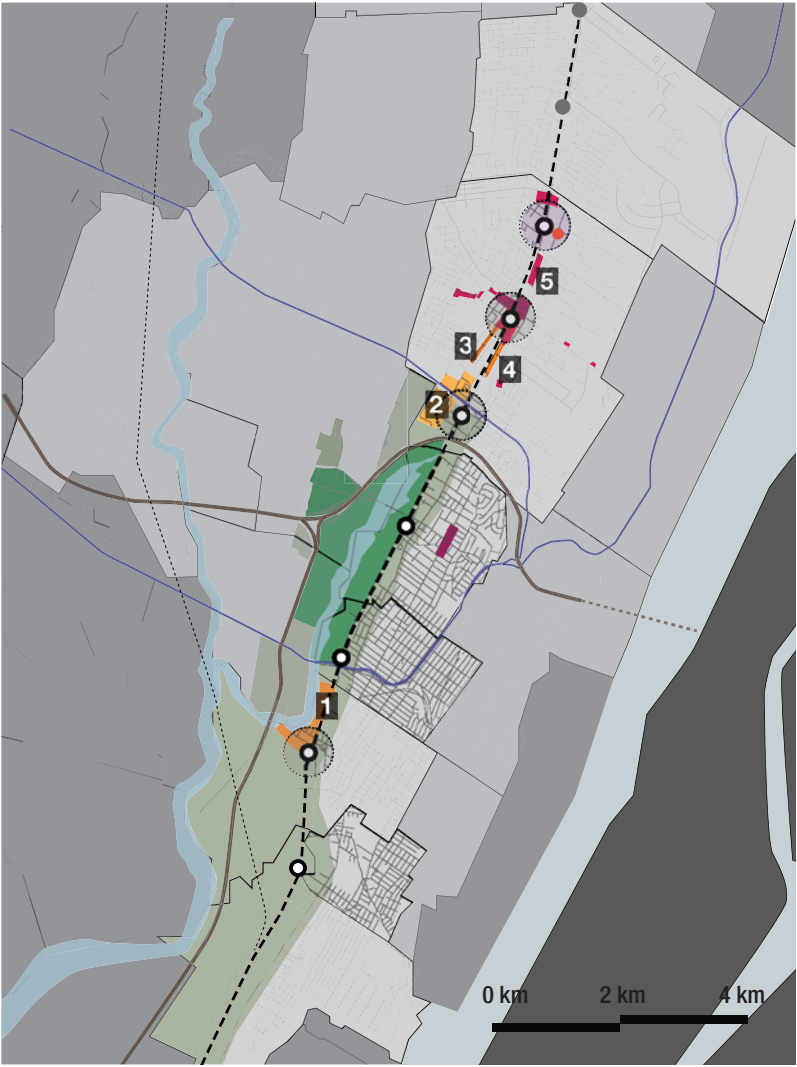


Fig 5.32 Northern Branch // Existing Regeneration Plans (Author)

**Existing Regeneration
Place Types**

- Proposed Industrial Re-Use Zones
- Existing Industrial Re-Use Zone
- Proposed Retail/ Small Business Zones
- Overpeck County Park
- Industrial Wetlands Corridor

- Proposed TOD Areas
- Proposed Medical Centre Campus
- Englewood Medical Center

**Current Regeneration
Areas or proposals**

- 1** Overpeck Creek Redevelopment Plan // housing, office space
- 2** Office-Industrial Zone // mixed-use housing, commercial
- 3** Incubator District // area for small mfg & artisans
- 4** Live-Work District // live-work spaces for artists
- 5** Service Business District //
- 6** Overpeck County Park // conversion of landfill - riverfront

+ Fig 5.33 // In contrast to Fig 5.32, this map shows that in reality, the Northern Branch is a intermunicipal network of diverse land-uses, local centralities and mobility connections. Now overlooked by the current regeneration plans, there is a variety of potential regeneration zones in this area.

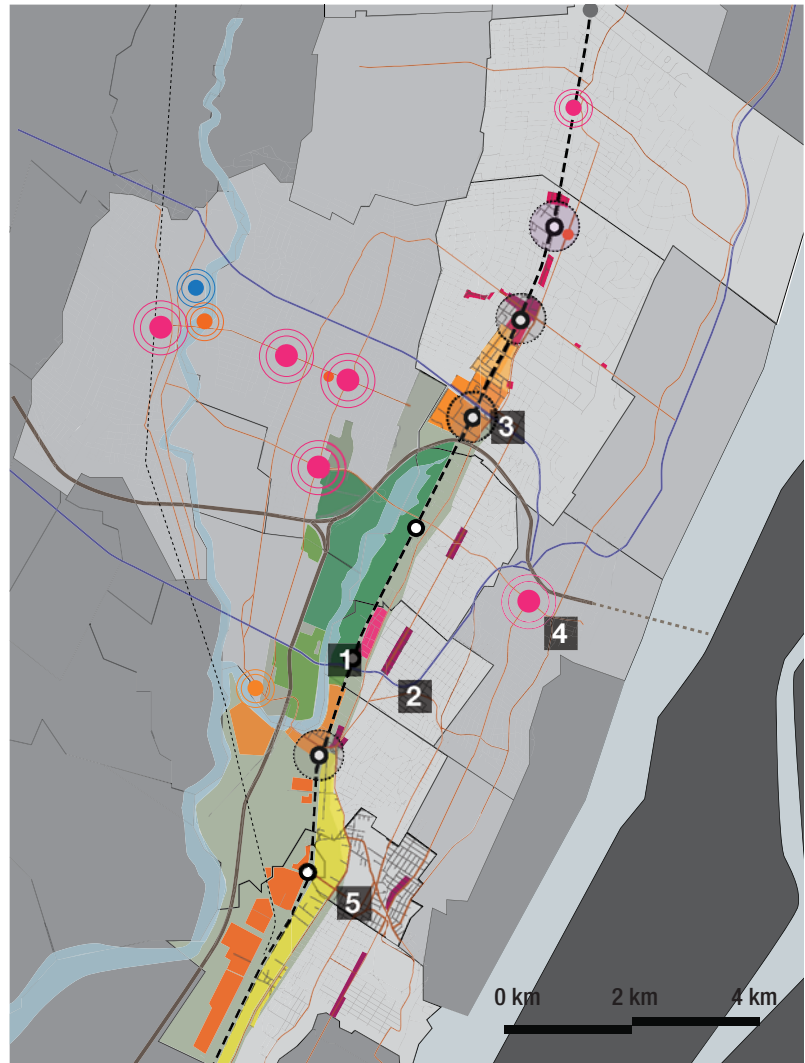


Fig 5.33 Northern Branch // Overlooked Regeneration Areas (Author)

- | | |
|---|--|
| <p>1 Overpeck Park //
Need for Integrated Land-Use & Water Management Strategy</p> <p>2 Mixed-Use Industrial Park //
Ongoing Conversion of Industrial Structures into Community Businesses by Immigrants.</p> <p>5 Industrial & Retail Zone //
Opportunities For Improving Local Mobility & Urban Sprawl Not Addressed</p> | <p>3 Englewood South //
Current Development Plans Overlook Low- & Moderate-Income Residents.</p> <p>4 Adjacent Local Centres //
Impact On & Opportunities for Integrating With Neighbouring Centres Not Defined.</p> |
|---|--|

Palisades Park // 2. MIXED-USE INDUSTRIAL PARK



+ Fig 5.34 // Located in the municipality of Palisades Park, this small-scale industrial district has recently been converted into a vibrant mixed-use zone by Korean immigrants. Former industrial buildings have been retrofitted into a variety of uses: churches, a spa complex, tutoring centres.

Fig 5.34 Palisades Park Station Area (Google Maps), Fig 5.35 Renovated Industrial Building (Image: Google Maps)

Summary of Findings

Upon reviewing the existing regeneration proposals or built projects, it is clear how they largely manifest the critical gap between the TOD planning perspectives of major actors and intermunicipal demands, e.g. multi-modal mobility networks. However, as Figures 5.34 and 5.35 demonstrate, there are potential regeneration zones which can be the starting points for a Integral Regeneration vision. The crucial step to achieving that goal will be ascertaining and building upon the actual functional and spatial potentialities of the Northern Branch Corridor. As Figures 5.33-5.35 show, this sub-region possesses a diverse range of regeneration areas that can be the basis of an Integral Regeneration vision. Accordingly, in the next page, the unique place qualities of each proposed station area are identified.

Regional Regeneration Strategy // REGIONAL TOD ASSESSMENT

Northern Branch TOD Station Zones//

North Bergen //

- 1. 91st Street Station //
Industrial & Retail Centre

Ridgefield //

- 2. Ridgefield //
Local Commuter & Retail Hub

Palisades Park //

- 3. Palisades Park //
Local Commuter & Retail Hub

Leonia //

- 4. Leonia //
Small-Town Commuter &
Recreational Hub

Englewood //

- 5. Englewood South //
Mixed-Use Industrial Zone
- 6. Town Center //
CBD & SME Area
- 7. Englewood Hospital //
Regional Medical Centre

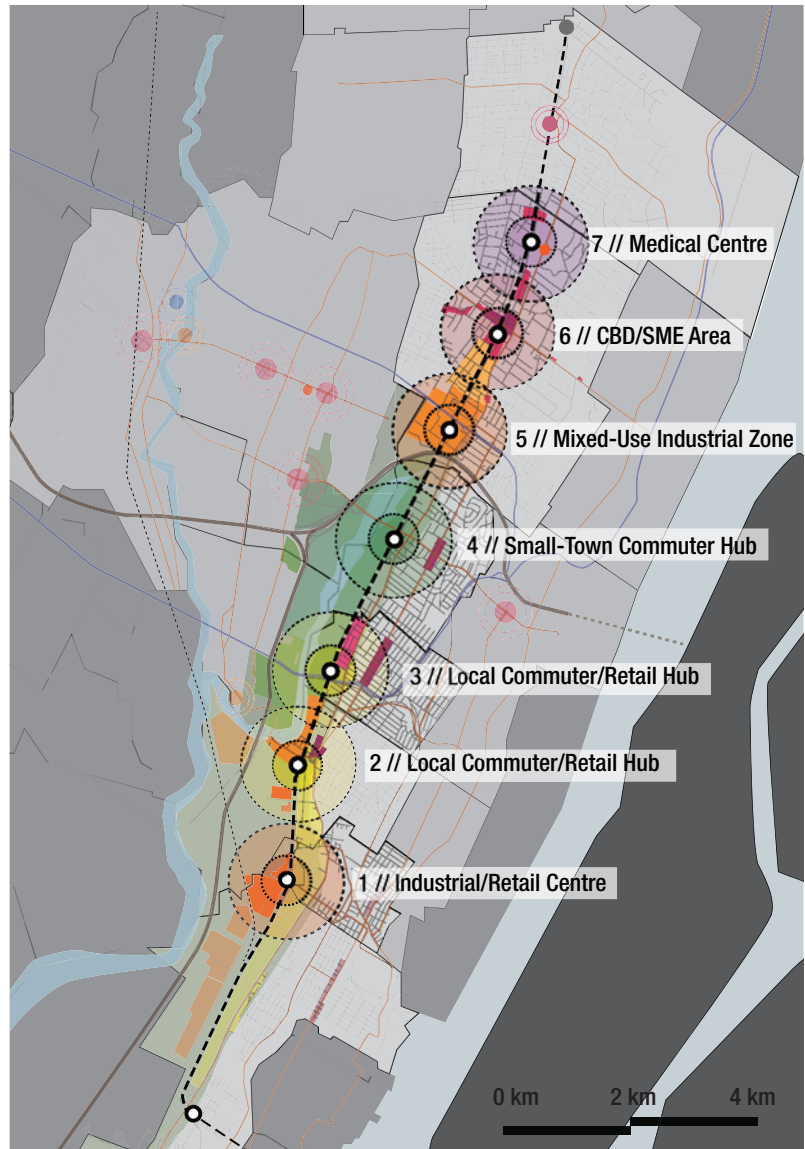


Fig 5.36 Northern Branch TOD Place Typologies

Using the concept of a regional TOD place assessment from the Stedenbaan, an intermunicipal survey was used to determine the unique functional and spatial characteristics each Northern Branch station area. The distinct typologies of each station area are then compiled, seeing them as unique places, not simply as transit hubs. As seen in Fig 5.36, this method shows how this corridor is in fact, a dynamic system in each station can contribute to the larger network by strengthening their unique qualities.

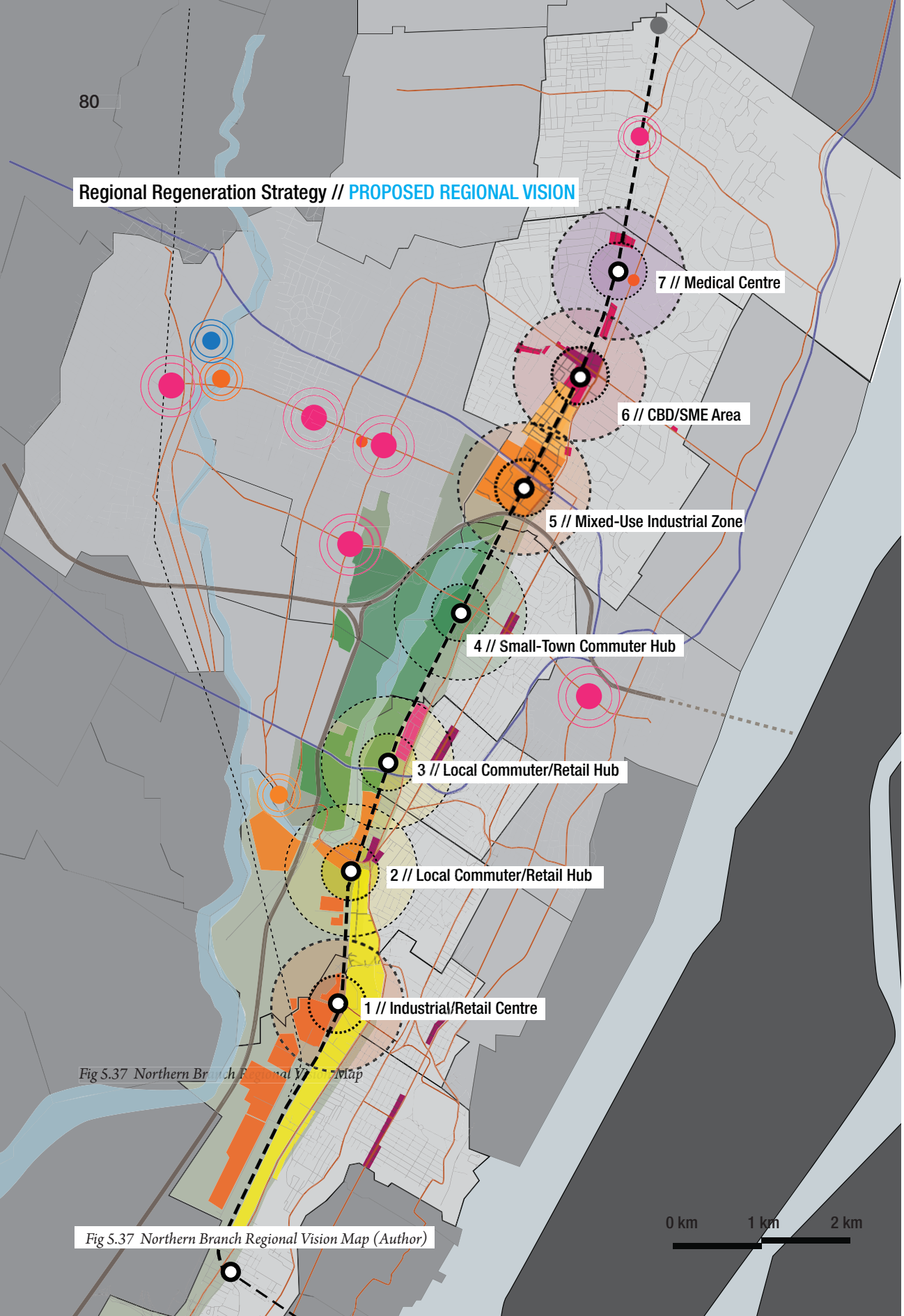
Regional Regeneration Strategy // PROPOSED REGIONAL VISION

Fig 5.37 Northern Branch Regional Vision Map

Regional Regeneration Strategy // REGIONAL VISION SCENARIO

Map Legend

Infrastructure //

- - Northern Branch Line
- Light Rail Stop
- TOD Area
- I-95 // Interstate Highway
- Route 4 // State Highway
- Local Arterials/Bus Routes*
- Local Streets
- - - Commuter Rail Line

Existing/Proposed Land-Uses*//

- Mixed-Use Industrial Areas*
- Small & Medium Enterprises*
- Industrial Waterfront Area*
- Medium-Scale Industrial/ Retail
- Community Business Area
- City/Town Centre
- Neighbourhood Business Areas
- Commercial/Local Centre
- Overpeck Waterfront Park*
- Meadowlands District

Municipalities //

- Northern Branch Municipalities
- Projected Light Rail Service Area
- Bergen / Hudson Municipalities

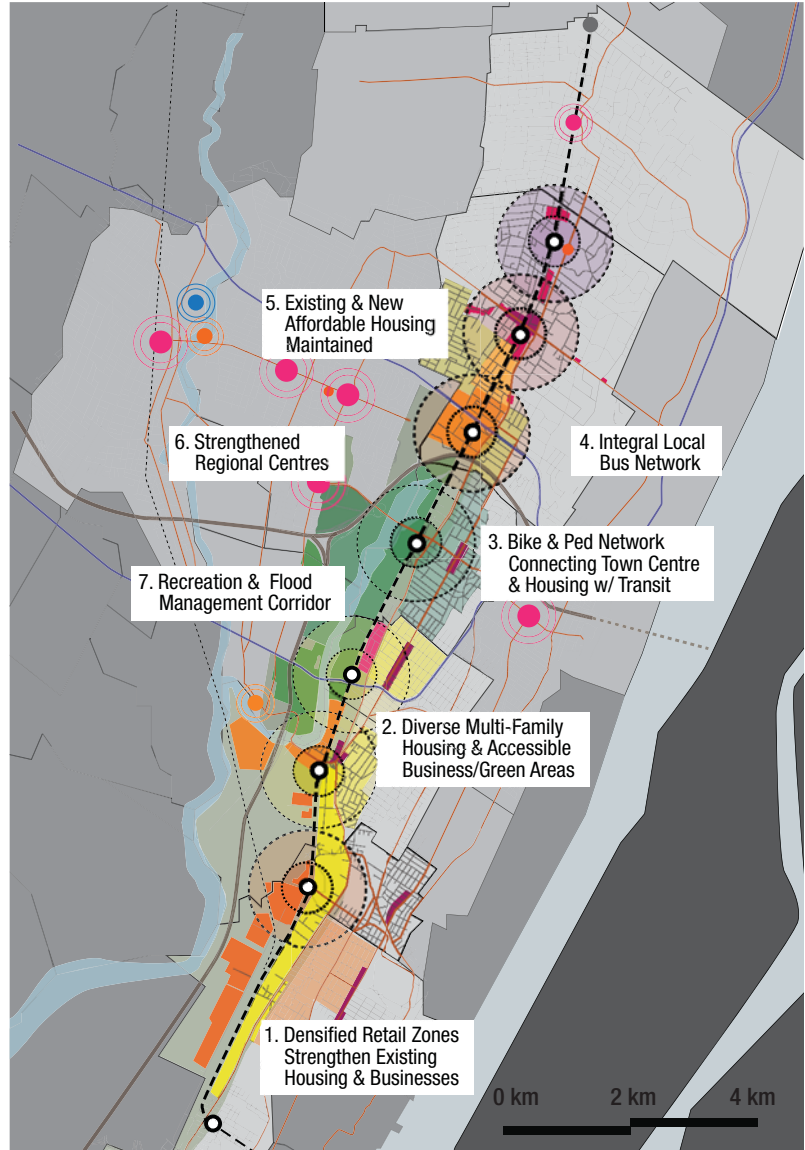
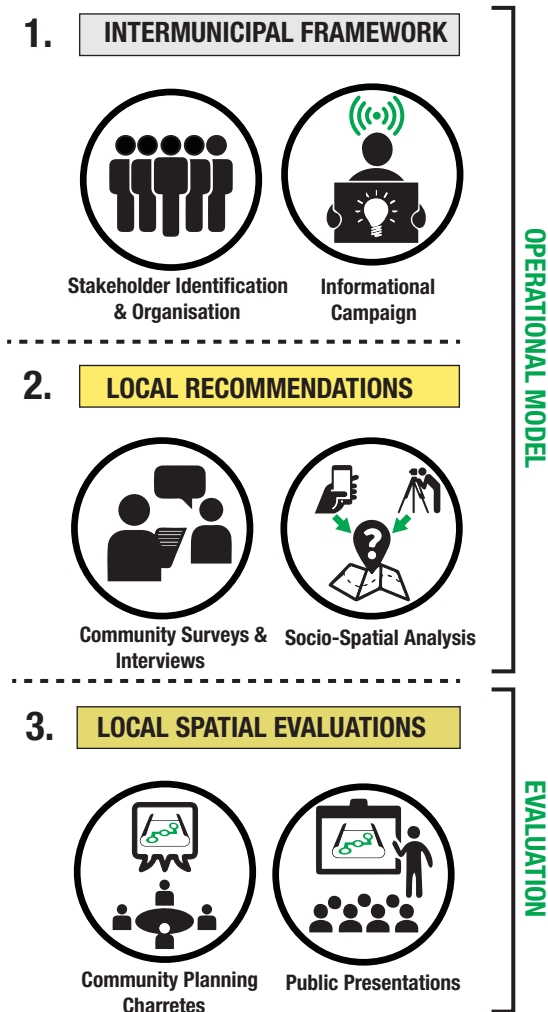


Fig 5.38 Northern Branch Regional Regeneration Scenario (Author)

5.5 MODEL IMPLEMENTATION

5.5.1 Implementation // Actor Relational Proposal



+ Fig 5.39 // A set of Actor Engagement mechanisms enable the Integral Regeneration Framework to directly involve local actors in TOD-based regeneration planning efforts. As a dedicated planning studio, the Atelier Northern Branch can use these tools to take the lead in developing and coordinating community planning initiatives.

Fig 5.39 Implementation Phases & Actor Engagement Tools (Elaborated from Hajer et. al, 2010; Planning for Real)

One of the critical steps towards validating the feasibility of the Integral operational framework consist of two main elements. First, establishing a implementation timetable comprised of three phases moving from the intermunicipal to local scales. Next, every phase is matched with specific engagement tools that enable the governance platforms to incorporate involved stakeholders within the Northern Branch Corridor.

5.5.2 Actor Relational Proposal

The Actor Relational mechanisms summarised in Fig 5.39 enable the proposed operational model, the Northern Branch Collaborative, to translate the Integral Regeneration recommendations into tangible planning initiatives. The Engagement mechanisms accomplish this by directly involving regional and local stakeholders in community planning processes. Furthermore, these tools are implemented according to the three major implementation phases of the Integral Regeneration Framework, as shown in Fig 5.39. As a dedicated planning entity, the Atelier Northern Branch will play a lead role in coordinating this effort and serving as a liaison between governmental entities, the private sector and local residents.

The phases and engagement tools are described in greater detail as follows:

1. Establishment of Intermunicipal Framework //

The first stage will be establishing the intermunicipal TOD-based regeneration planning framework, the Northern Branch Collaborative. The main priority is to successfully organise a critical mass of participants around the issue of regional-scale TOD-based regeneration. Accordingly, the following tools are proposed to achieve this aim:

1.1 Actor Identification & Organisation //

Identify and incorporate key actors and institutions who will be most impacted by TOD/regeneration planning efforts. This ensures that the Collaborative is an inclusive, broad-based governance platform which accurately represents both small and large-scale stakeholders within the subregion.

1.2. Informational Campaign //

Upon identifying the leading and/or most impacted intermunicipal and local actors, launch informational campaigns and platforms (e.g. website) to raise public awareness of the Integral Regeneration Framework proposal. The primary goal is to incentivise potential stakeholders to participate in future planning efforts, ensuring the successful formation of the Northern Branch Collaborative.

2. Local Framework Development //

Upon launching the Northern Branch Collaborative, the next steps are to organise actor frameworks to develop an initial set of local planning goals and ensure that all participants have access to accurate information about existing socio-spatial conditions. This helps create a common knowledge base for involved parties (Hajer et. al, 2010). Using current operational weaknesses as a starting point, existing knowledge gaps can be filled through the following tools which seek to incorporate both qualitative and quantitative data:

2.1 Community Surveys & Interviews //

Organise and conduct community surveys and interviews within municipalities to ascertain local concerns and/or perceptions regarding intermunicipal TOD/regeneration. Likewise, this campaign can also help resolve knowledge

gaps concerning local socio-spatial conditions, especially in regards to qualitative data. The advantage of this is it enables planning initiatives to integrate a more holistic understanding of the Northern Branch and reach out to marginalised groups.

2.2 Socio-Spatial Analysis //

Next, complementing the research information compiled by the Community Surveys, conduct a Socio-Spatial Analysis initiative to analyse data and/or areas now overlooked by NJ Transit and the Northern Branch municipalities. Here, a combination of digital crowdsourced mapping and field surveys are utilised. The aim is to create a comprehensive overview of the area's morphological structure, acting as a starting point for proposed spatial improvements.

3. Local Framework Development

The information collected from the previous phase serves as a baseline from which intermunicipal and local actor frameworks, under the guidance of the Atelier Northern Branch, can establish clear planning goals and begin evaluating in spatial terms, the Integral operational recommendations. The goal here is not to produce a set of detailed design plans, but to first establish a comprehensive spatial framework that serves as a springboard for future urban design and architectural interventions. To that end, the following tools are proposed:

3.1 Community Planning Charrettes //

Organise Community Planning Charrettes as well as other interactive events, whereby stakeholders can directly participate in decision-making/planning processes and explore various socio-spatial outcomes. One key priority is ensuring that alternative viewpoints are not unilaterally suppressed and that all of the most impacted actors are involved in shaping the basic premises and goals of proposed TOD/regeneration initiatives.

3.2 Public Presentations //

During and after the Community Planning Charrettes, the Atelier Northern Branch can lead public presentations of the plans and proposals developed by participants. The aim is to gather further input from stakeholders and/or raise general awareness of how the Integral Regeneration proposal is progressing. Feedback from these sessions can serve to inform the content and goals of ongoing or future community planning initiatives.

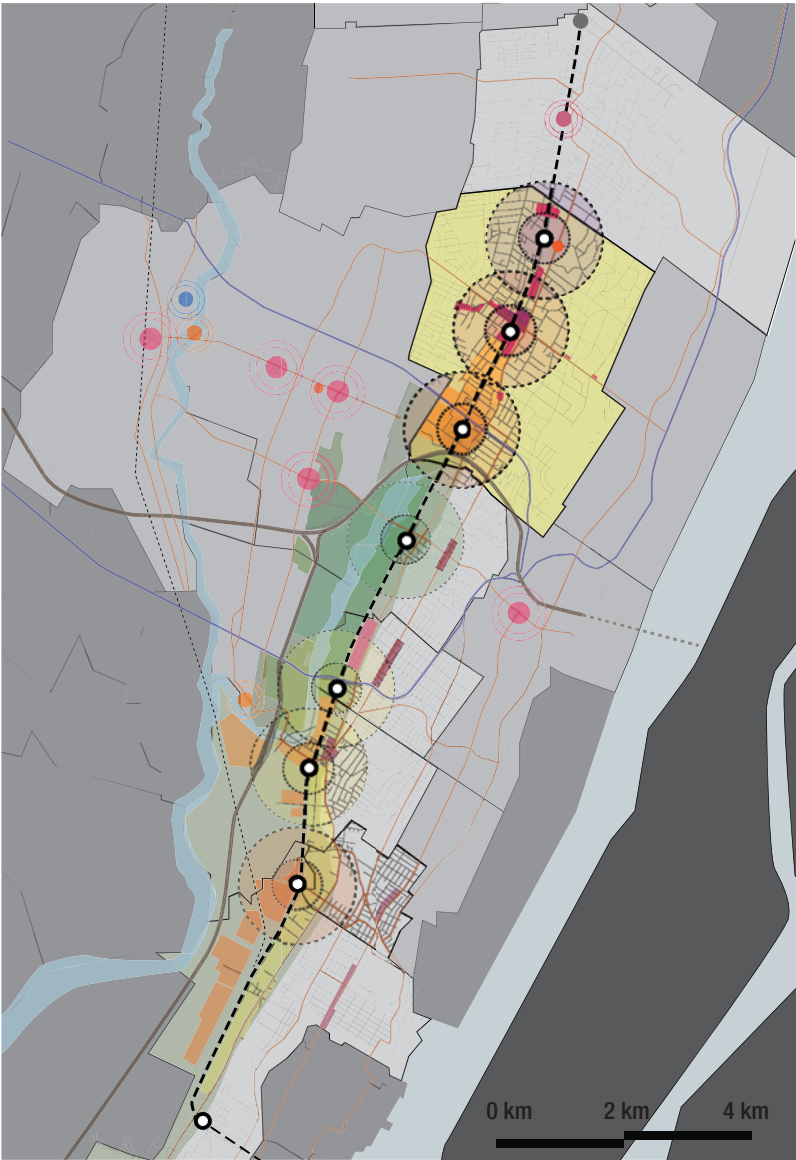
Conclusion

The previous sections summarise how the Integral Regeneration proposal can be translated from an operational model to concrete planning outcomes. As shown, actor engagement tools serve as critical link that catalyses this process. However, a crucial first step will be a preliminary local spatial evaluation of the model, presented in Chapter 6.

6. MODEL EVALUATION

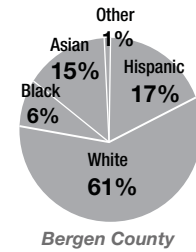
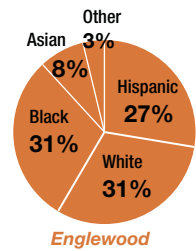
6.1 Integral Regeneration Scenario

6.1.1 Englewood // REGIONAL HUB

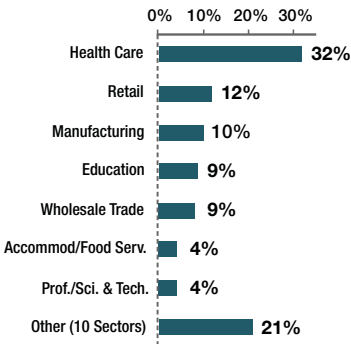


Regional Centre //
27,147 RESIDENTS

DIVERSE POPULATION



ECONOMIC CENTRE



- + Attracts approx. 12,000 workers everyday.
- + Provides jobs in a variety of industry sectors.

Fig 6..1 Regional position of Englewood within Northern Branch Corridor (Author)

(City Of Englewood, 2014)

Local Regeneration Scenarios // ENGLEWOOD SOUTH



Fig 6.2 Englewood topological and throughfare map (City of Englewood, 2013)

With the partial exception of North Bergen, Englewood is unique among the Northern Branch municipalities in that manufacturing employment is relatively high. These jobs are primarily clustered within the southwestern portion of the city, known as Englewood South. This area hosts many manufacturing, distribution, wholesale, and other companies that employ skilled workers. Moreover, it complements local employment centres further to the north, specifically the CBD centred around Palisades Avenue as well as Englewood Medical Center, a major healthcare sector employer. Such economic diversity reflects the regional significance of Englewood.

Local Regeneration Scenarios // **ENGLEWOOD SOUTH**

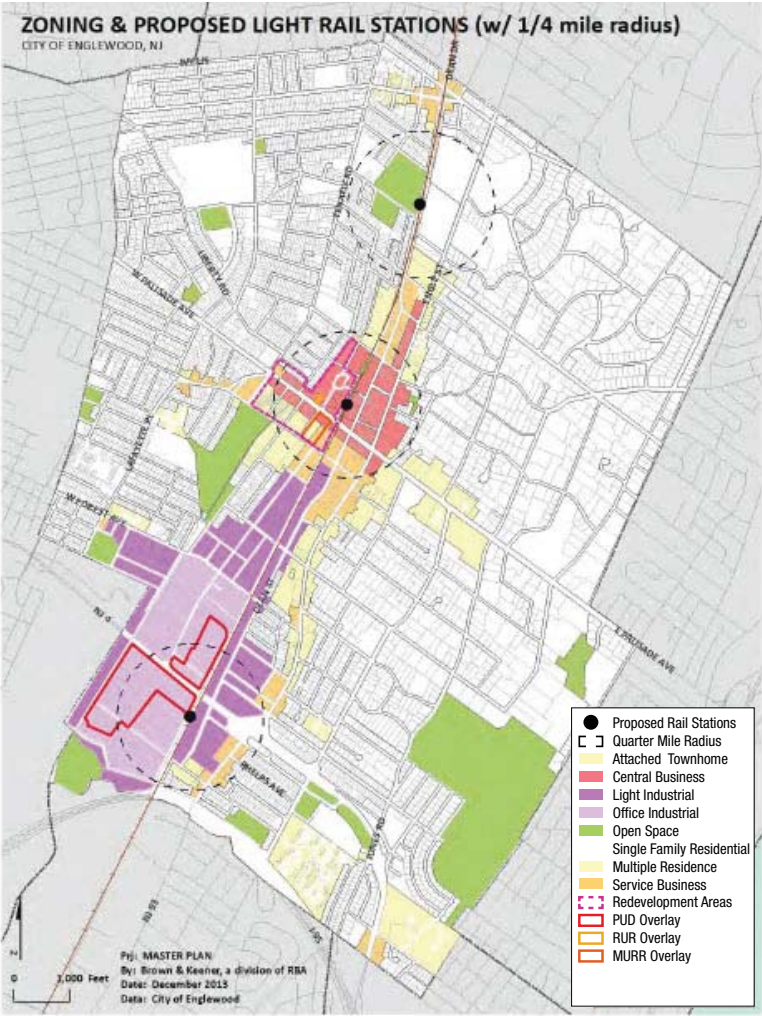


Figure 34: Zoning map with proposed light rail stations and 1/4 mile radius drawn

Fig 6.3 Englewood zoning and proposed rail station areas (City of Englewood, 2013)

Fig 6.3 shows how the land-use composition of Englewood is primarily single-family residential housing. However, along with the CBD Englewood South form an notable exception to this, with their respective high-concentrations of commercial and industrial functions.

Englewood South // MORPHOLOGICAL MAP

Map Legend

Infrastructure //

- Northern Branch Line
- Light Rail Stop
- I-95 // Interstate Highway
- Route 4 // State Highway
- Local Arterial Roads
- Local Streets

Existing Land-Uses //

- Large/Medium-Scale Industry
- Small-Scale Industry/Office
- Retail Commercial
- Housing
- Public/Institutional
- Park

Landscape //

- Overpeck Creek

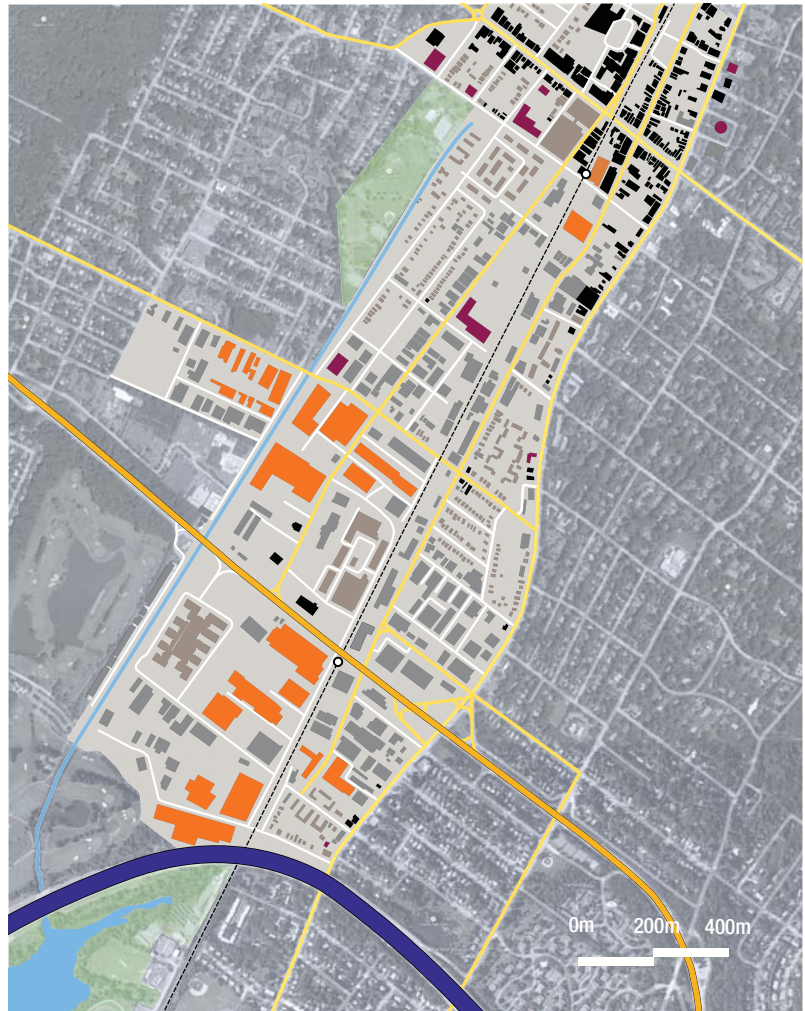


Fig 6.4 Englewood morphological and land-use map (Author)

Upon analysing the morphological and land-use characteristics of Englewood South, there is a visible transition from large-scale, industrial parcels with low-densities in the southernmost portion into much more compact primarily commercial and residential lots towards the north.

Englewood South // MUNICIPAL ZONING MAP

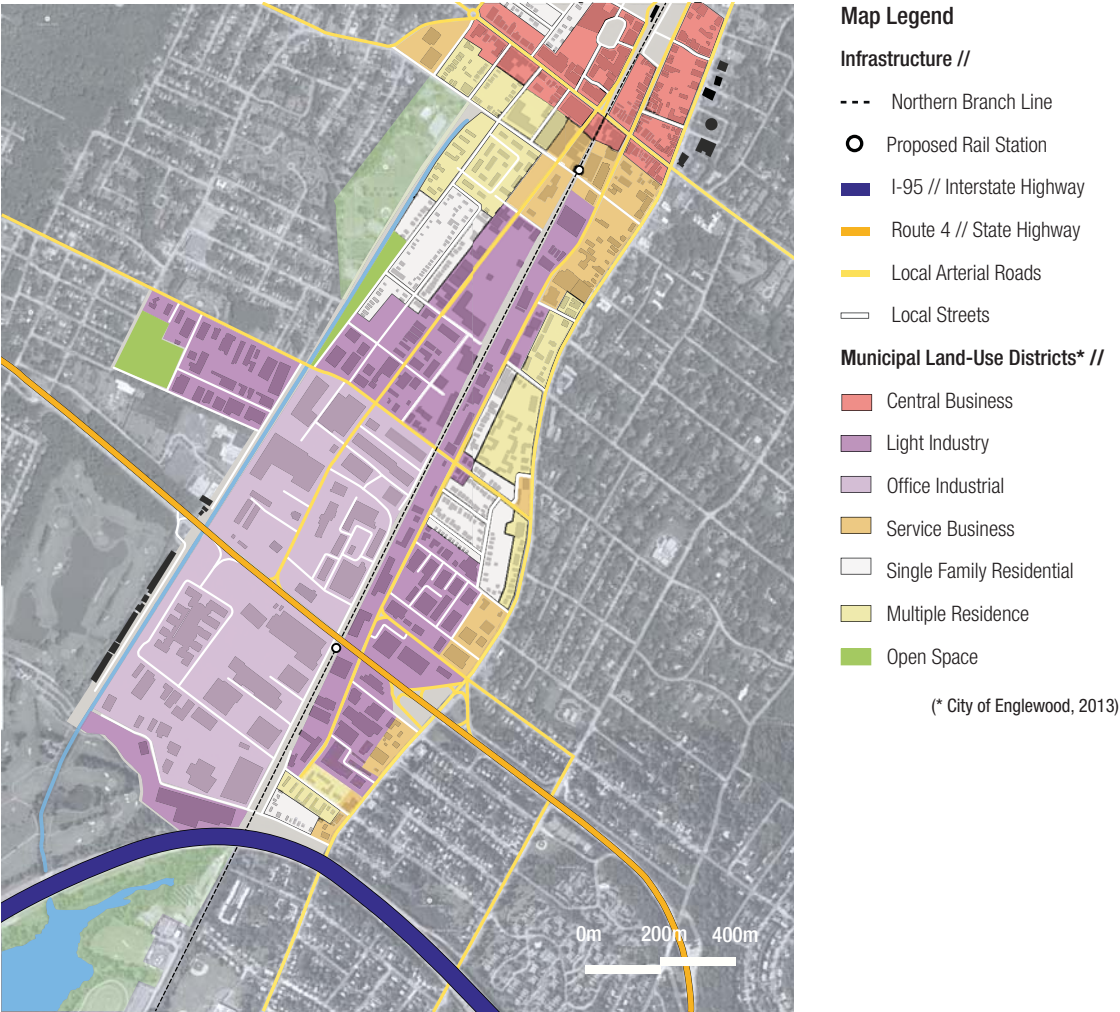


Fig 6.5 Englewood land-use district map (Author, elaborated from City of Englewood)

Fig 6.5 shows the current land-use districts of Englewood South. Its primarily industrial zoning reflects the high concentration of manufacturing, logistics, and production companies here. As seen above, this stems in large part due to the strategic location of this area, which is proximate to two major highways and a arterial county road. This shows how Englewood South now functions as an economic centrality at both the local and regional level.

Englewood South // MUNICIPAL REDEVELOPMENT AREAS

Map Legend

Infrastructure //

- Northern Branch Line
- Proposed Rail Station
- ⊖ TOD Overlay Districts

Municipal Land-Use Districts* //

- Central Business
- Light Industry
- Office Industrial
- Service Business
- Single Family Residential
- Multiple Residence
- Open Space
- Rezoned or Redevelopment Areas

(* City of Englewood, 2013)

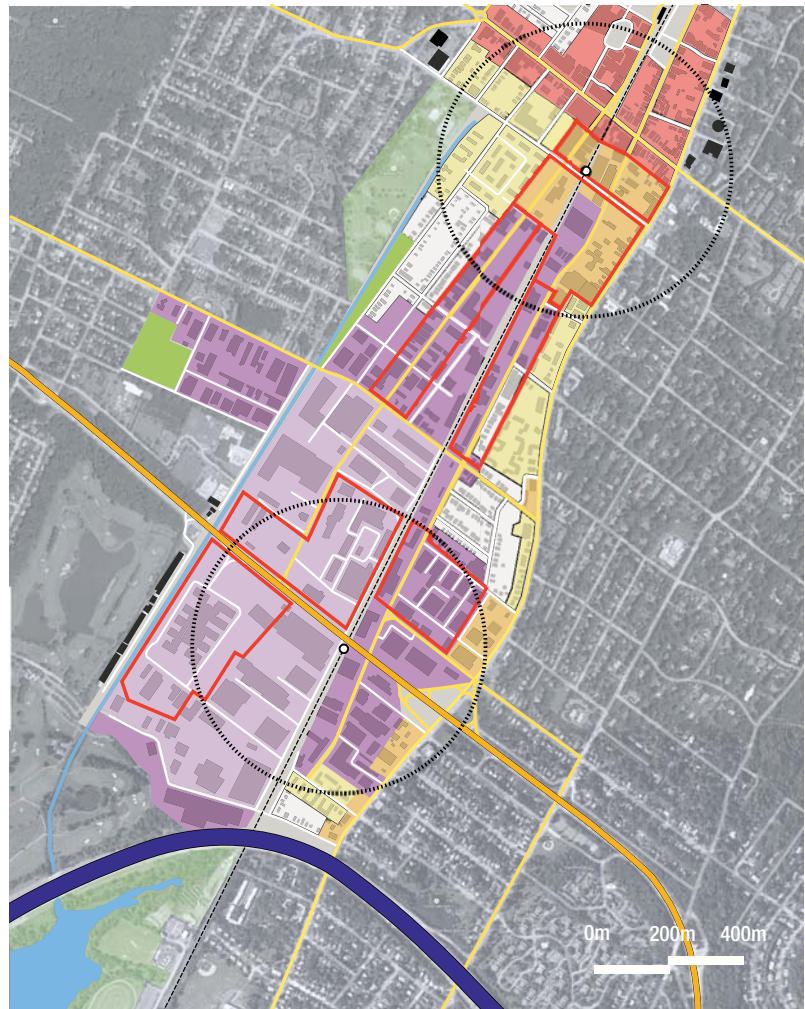


Fig 6.6 Englewood redevelopment areas (Author, elaborated from City of Englewood)

As shown in Fig 6.6, Englewood South has been a primary focus for the city's regeneration ambitions. In the last fourteen years, the municipality has rezoned approximately sixty percent of its 'Light Industry' districts as 'Office-Industrial' districts. This reflects the city's goals of introducing commercial and residential functions into these zones, creating mixed-use districts. Furthermore, specific areas (outlined in red) have been designated as redevelopment areas, whereby the municipalities aims to facilitate the introduction of projects which reflect its regeneration vision.

Englewood South // MUNICIPAL LAND-USE VISION

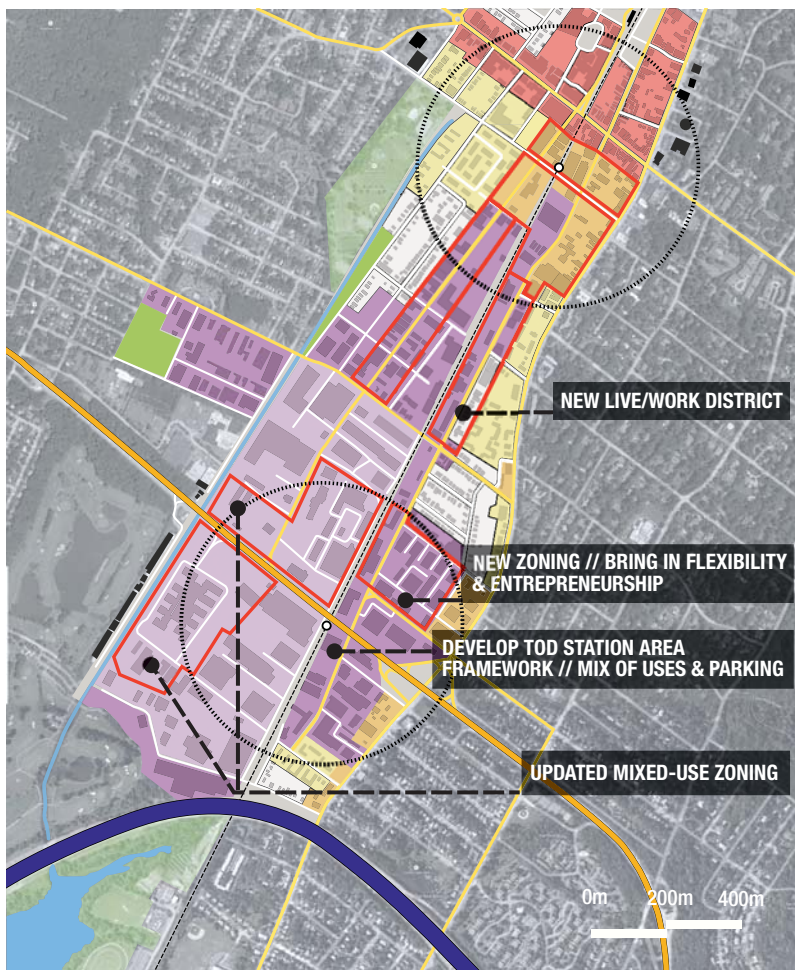


Fig 6.7 Englewood regeneration vision (Author, elaborated from City of Englewood)

Fig 6.7 summarises the regeneration proposals the municipality has envisioned for Englewood South. As shown above, there is an emphasis on TOD planning, mixed-use zoning and introducing arts/cultural and entrepreneurial spaces. However, whether this is a regeneration strategy that adequately meets local-scale demands is open to question. This was indicated in a public hearing on the most recent city master plan, where citizens were sceptical about the economic feasibility of focusing on artist spaces and noted the absence of a community centre, something highly desired by local residents (NorthJersey.com, 2014). The next section shows a series of SWOT analyses that illustrate existing socio-spatial conditions that are most relevant to TOD-based regeneration in this area.

Englewood South // INTEGRATIVE SWOT ANALYSIS

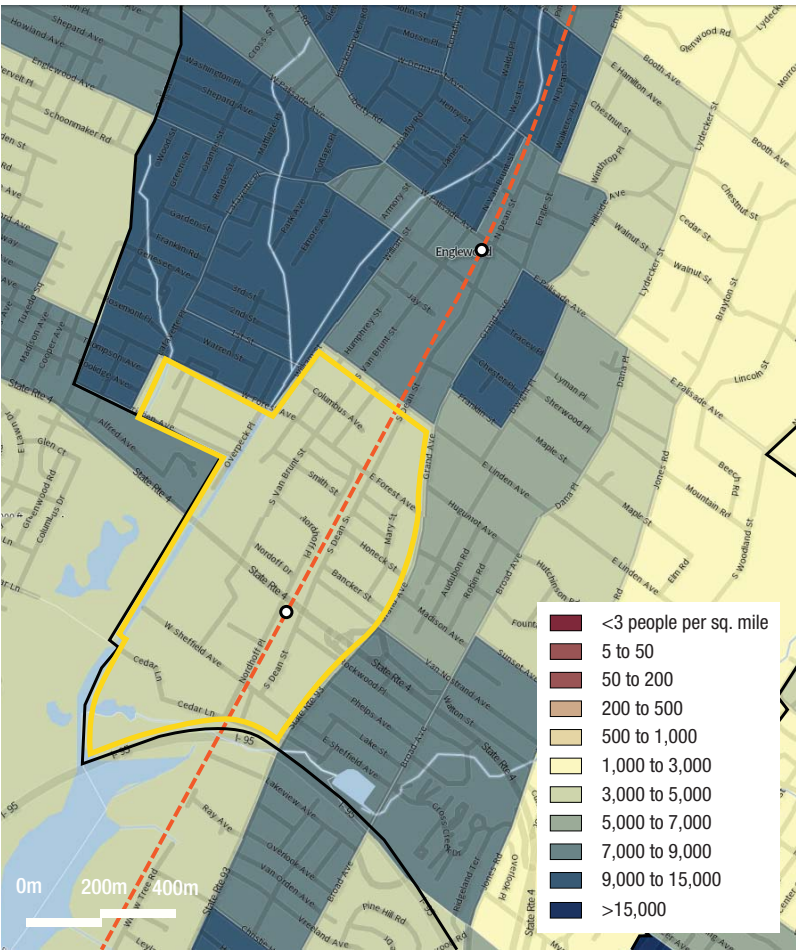


WEAKNESS // Socioeconomic Segregation

Fig 6.8 Englewood annual household income map (New York Times, 2013)

Fig 6.8 illustrates a socio-economic division within Englewood, where the western half is visible poorer than the affluent eastern half, known as the 'East Hill', something that is not adequately acknowledged by the municipal regeneration proposals. Notably, the map shows how the proposed light rail line, is in effect a boundary separating what are essentially two different worlds.

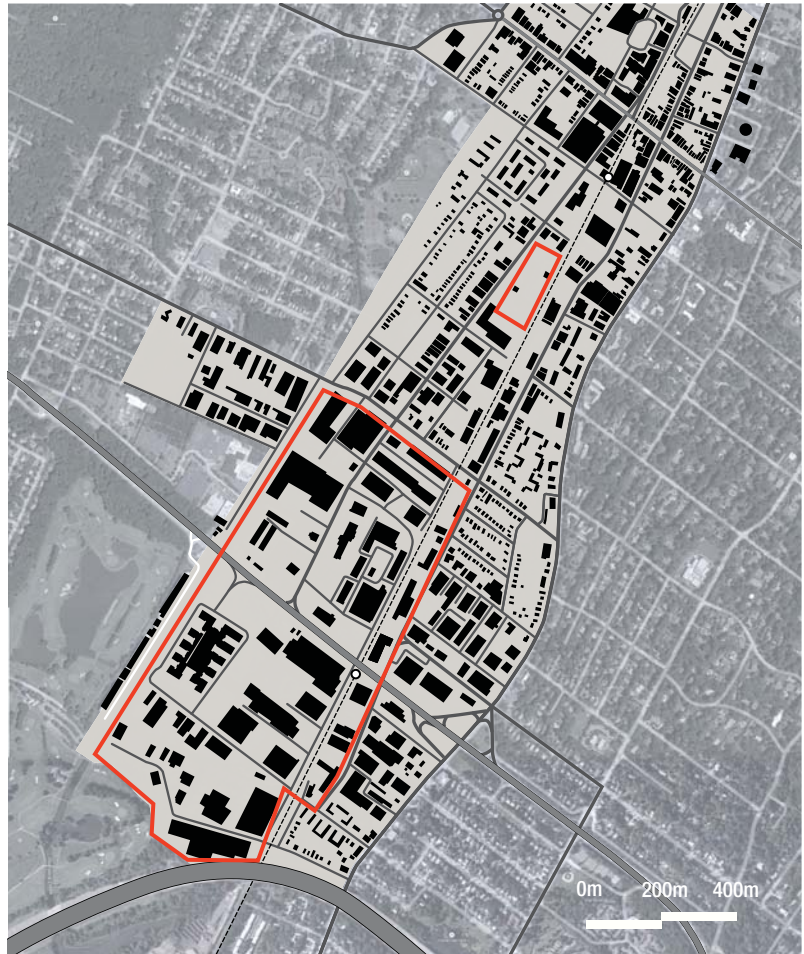
Englewood South // INTEGRATIVE SWOT ANALYSIS



OPPORTUNITY // TOD Intensification Potential
Fig 6.9 Englewood population density map (Social Explorer)

Fig 6.9 shows the population densities within Englewood, which with the exception of the primarily industrial Englewood South area, there is a contrast between the relatively dense western neighbourhoods and the East Hill, which is noticeably less dense. The proximity of Englewood South to areas with relatively high densities, suggests a potential opportunity for urban intensification.

Englewood South // INTEGRATIVE SWOT ANALYSIS



OPPORTUNITY // Large Parcel Sizes

Fig 6.10 Building footprint and open space map (Author)

Fig 6.10 shows parcel sizes in relation to existing building footprints. As seen there, the average parcel sizes show a transition from large-scale, low-density plots to compact areas along a south-north axis. This indicates an opportunity for intensive regeneration potentials in the southern parts of Englewood South.

Englewood South // INTEGRATIVE SWOT ANALYSIS

**WEAKNESS // Excess Surface Parking***Fig 6.11 Parking space map (Author)*

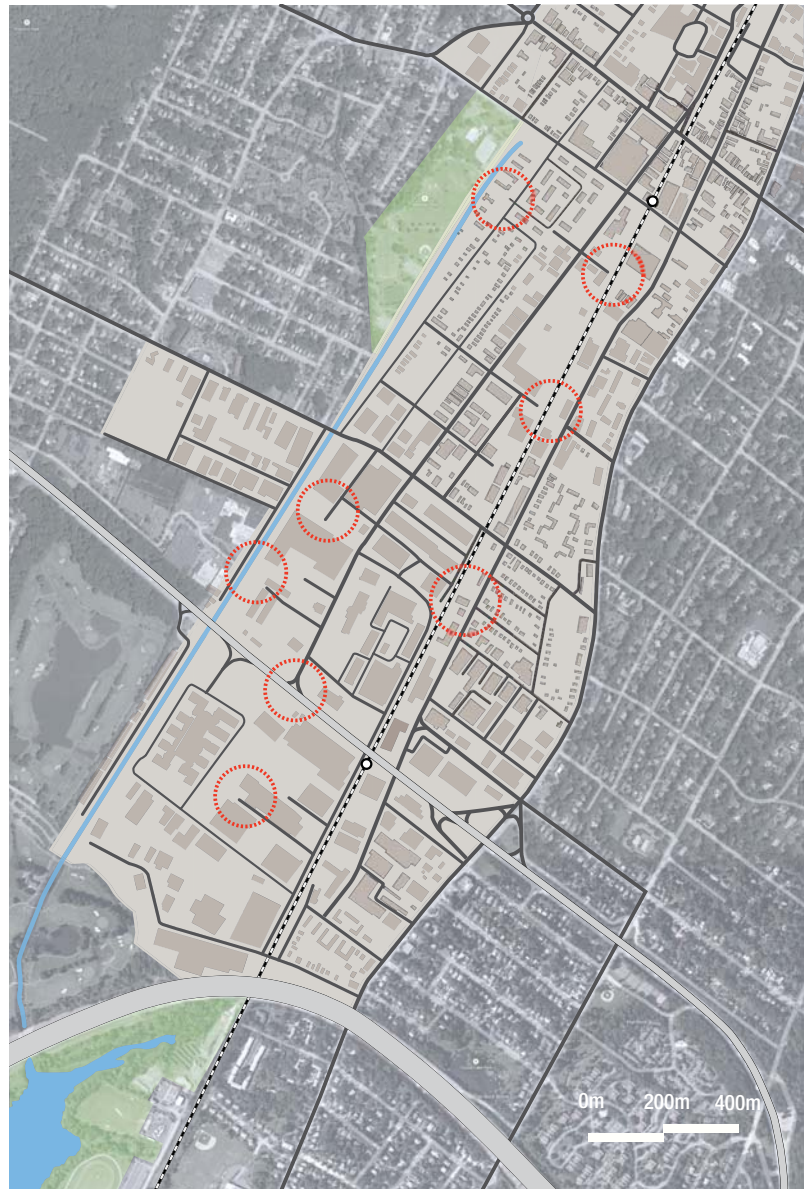
As shown in Fig 6.10 which showed large-scale parcels in the southern end of Englewood South, Fig 6.11 shows there is a significant proportion of the district (approximately 60-70%) is occupied by surface parking lots, representing a significant underutilisation of spaces in this area. This offers an opportunity to adapt the existing urban structure to accommodate a more diverse array of programmatic functions by creating compact, human-scale blocks supported by new locally-oriented mobility infrastructure, e.g. living streets, bike lanes etc.

Englewood South // INTEGRATIVE SWOT ANALYSIS

Map Legend

Street Hierarchy //

- Highways
- Major Arterials
- Collector Roads
- Local Roads
- Northern Branch Line*
- Mobility Gaps

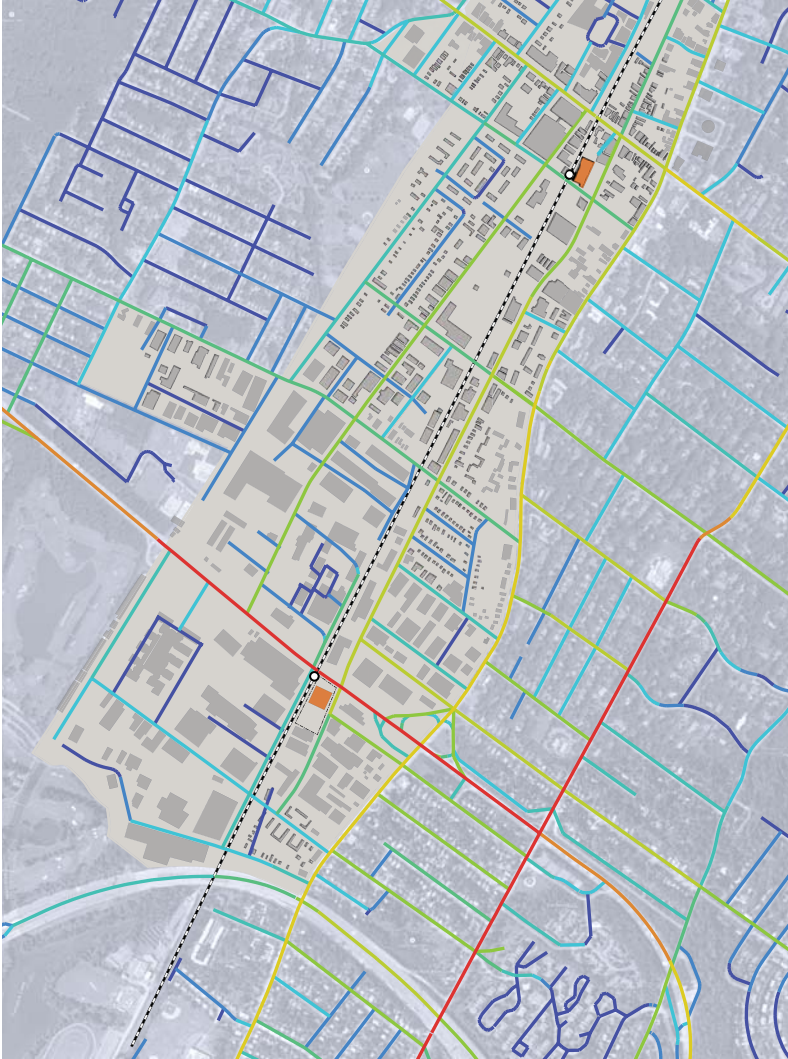


WEAKNESS // Local Mobility Gaps

Fig 6.12 Traffic gaps analysis map (Author)

Fig 6.12 shows the local-scale mobility gaps (circled in red) that currently exist in Englewood South.

Englewood South // INTEGRATIVE SWOT ANALYSIS



WEAKNESS // Local Mobility Gaps

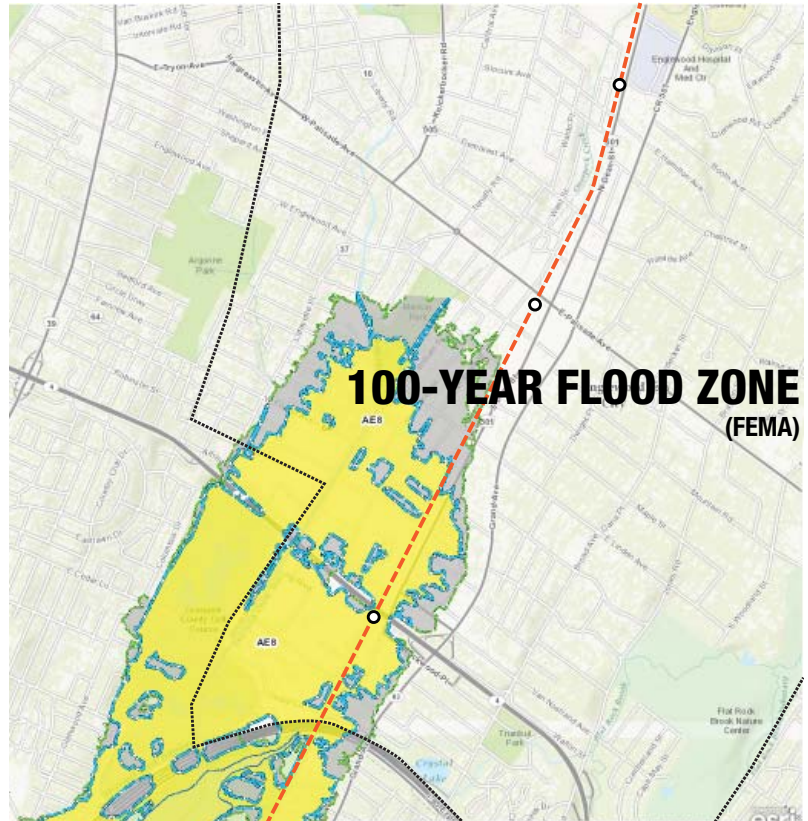
Fig 6.13 Space Syntax angular analysis R3 map (Author)

The analytical map shown in Fig 6.13 measures the suitability of local roads to pedestrian and vehicular traffic. The existing network shows high levels of integration (shown in red or orange) along major north-south axis routes while east-west routes show much lower levels of integration. In relation to accessibility, this shows that regional north-south routes offer good access for vehicles, however local roads, especially those near the station area, are poorly accessible for pedestrian and bicycle traffic.



+ Fig 6.14 // Space Syntax analysis, using a RGB gradient, red and orange indicate high levels of mobility integration, whereas green and blue show lower levels of integration.

Englewood South // INTEGRATIVE SWOT ANALYSIS



THREAT // FLOOD RISK

Fig 6.14 100-year Flood Zone map (FEMA)

Fig 6.14 demonstrates how vulnerable Englewood South is to future flooding. As shown above, most of the areas slated for regeneration by the municipality are also the zones with the greatest flood risk. Illustrated in yellow, the extent of the 100-year flood zones is nearly identical with the flooding that took place during Hurricane Sandy in 2012. Given emerging climate-change trends, the frequency of similarly severe floods is expected to increase in the upcoming decades. This indicates the necessity of integrating water management with TOD and urban regeneration strategies.

Englewood South // SPATIAL ASSESSMENT SYSTEM

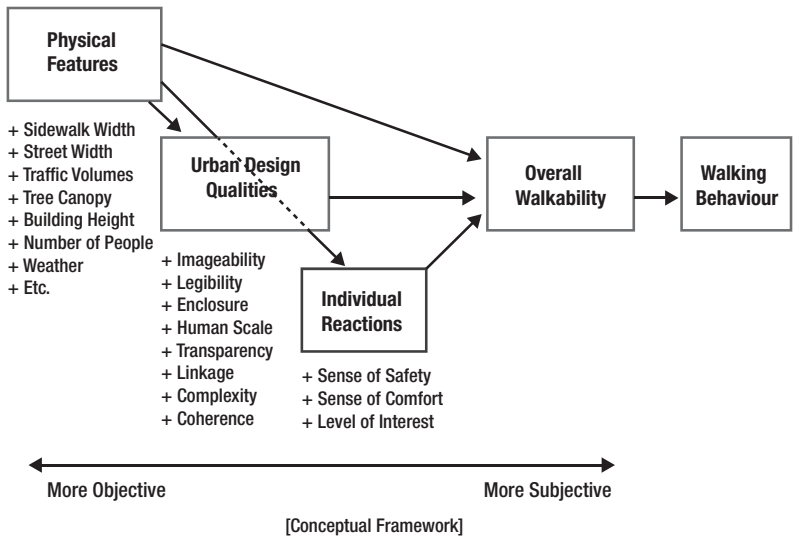
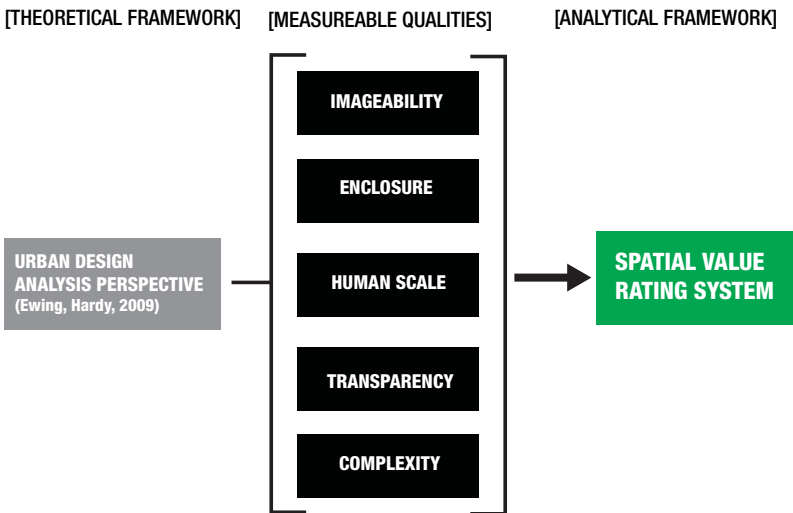


Fig 6.15 Urban design analysis conceptual framework (Ewing, Hardy, 2009)



+ Fig 6.16 // Based on the urban design perspective presented by Ewing (2009), five measurable spatial qualities are selected and then aggregated into a Spatial Value Rating System.

Fig 6.16 Spatial Value Rating System summary (Author)

Englewood South // SPATIAL ASSESSMENT SYSTEM

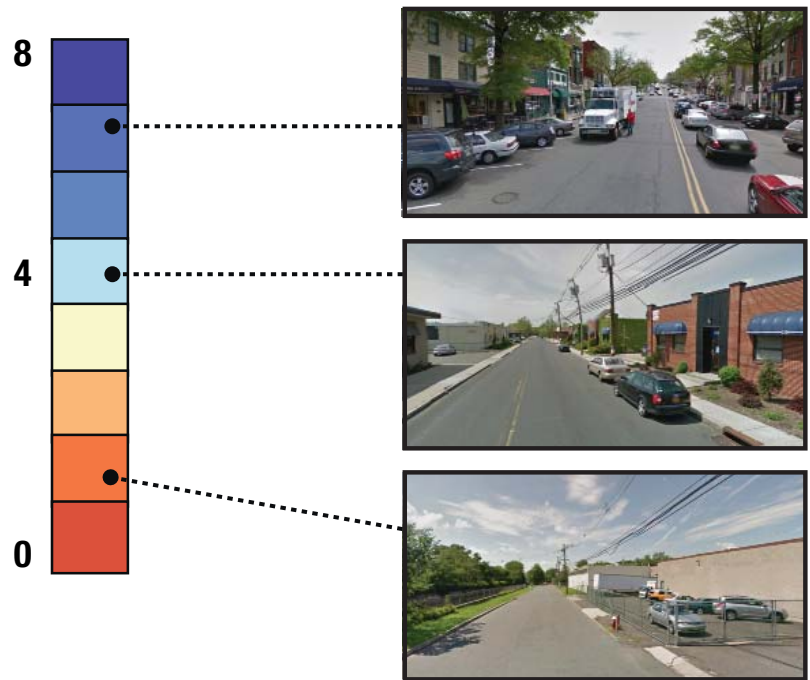


Fig 6.17 Spatial Value Ratings (Ewing, Hardy, 2009)

Fig 6.17 shows the Spatial Value Rating System that will be used to analyse the local-scale spatial qualities of Englewood South, specifically in relation to their compatibility with the proposed Integral Regeneration proposal. Using a scale of 0 to 8, 8 indicates the highest aggregate ratings whereas 0 indicates the lowest possible measurements. This serves as the basis for a local-scale spatial assessment shown in the following map.

Englewood South // SPATIAL ASSESSMENT

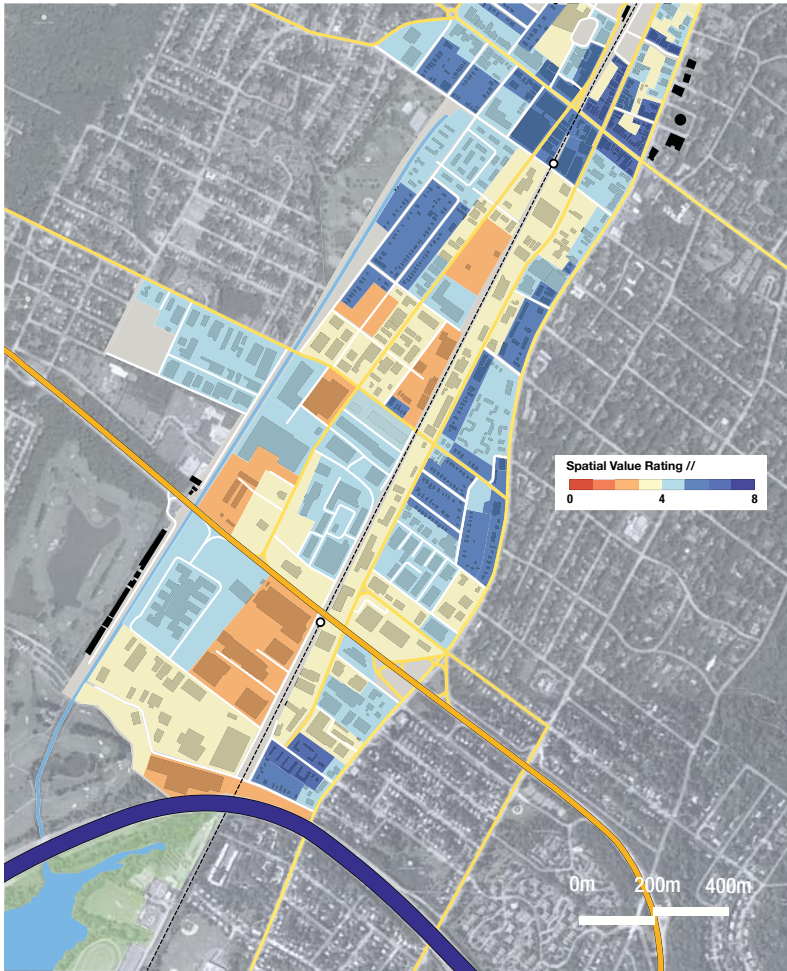


Fig 6.18 Spatial Assessment Map (Author)

By applying the Spatial Value Rating System to Englewood South, we can see distinct patterns concerning local-scale spatial quality. The interior and southern parcels which have large-scale industrial functions generally have lower qualitative ratings, specifically in relation to pedestrian-scale experiential qualities. In contrast, the more compact parcels with housing or retail programming near the perimeter of the district have notable higher ratings. The findings of this evaluative map suggest that the southern portion of the site show the greatest need for intensive regeneration interventions.

Englewood South // SPATIAL ASSESSMENT

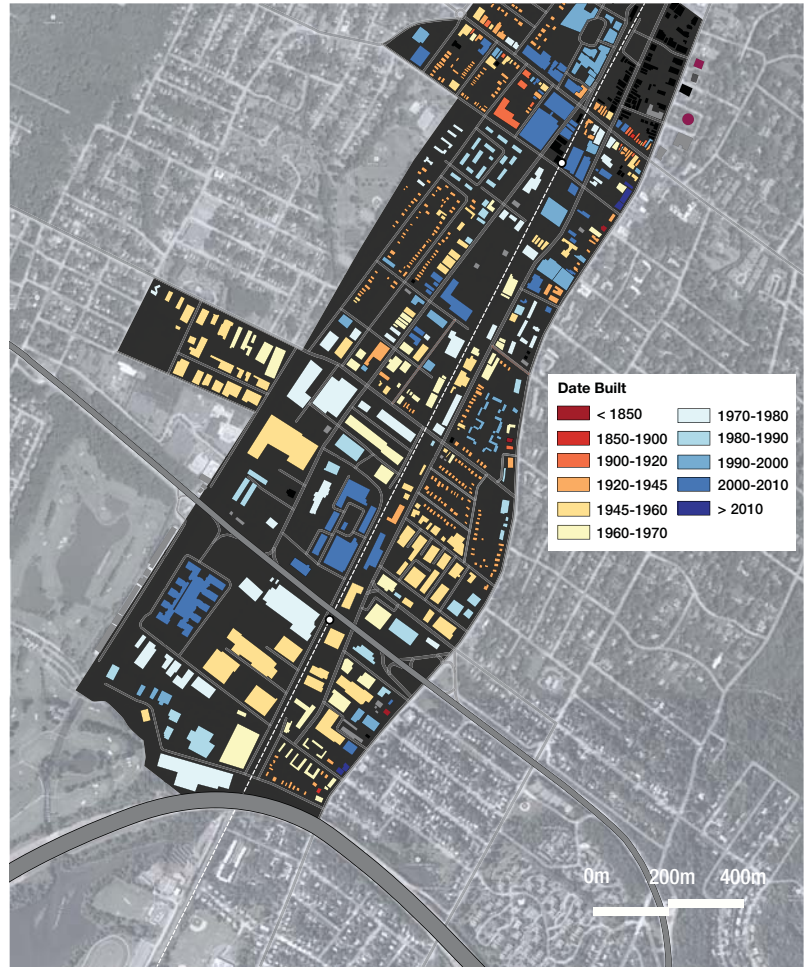


Fig 6.19 Building Age Map (Author)

Along with the Spatial Assessment Map shown in Fig 6.18, the next step in terms of evaluating which specific areas show the greatest potential for testing TOD/regeneration outcomes, is to determine the estimated construction dates of existing structures. As seen in Fig 6.18, there are distinct clusters of buildings with similar programming and construction dates. Likewise, the map supports the findings of Fig 6.17 that the southern part of Englewood South is most compatible as a starting point for testing the Integral Regeneration framework.

Englewood South // SPATIAL ASSESSMENT

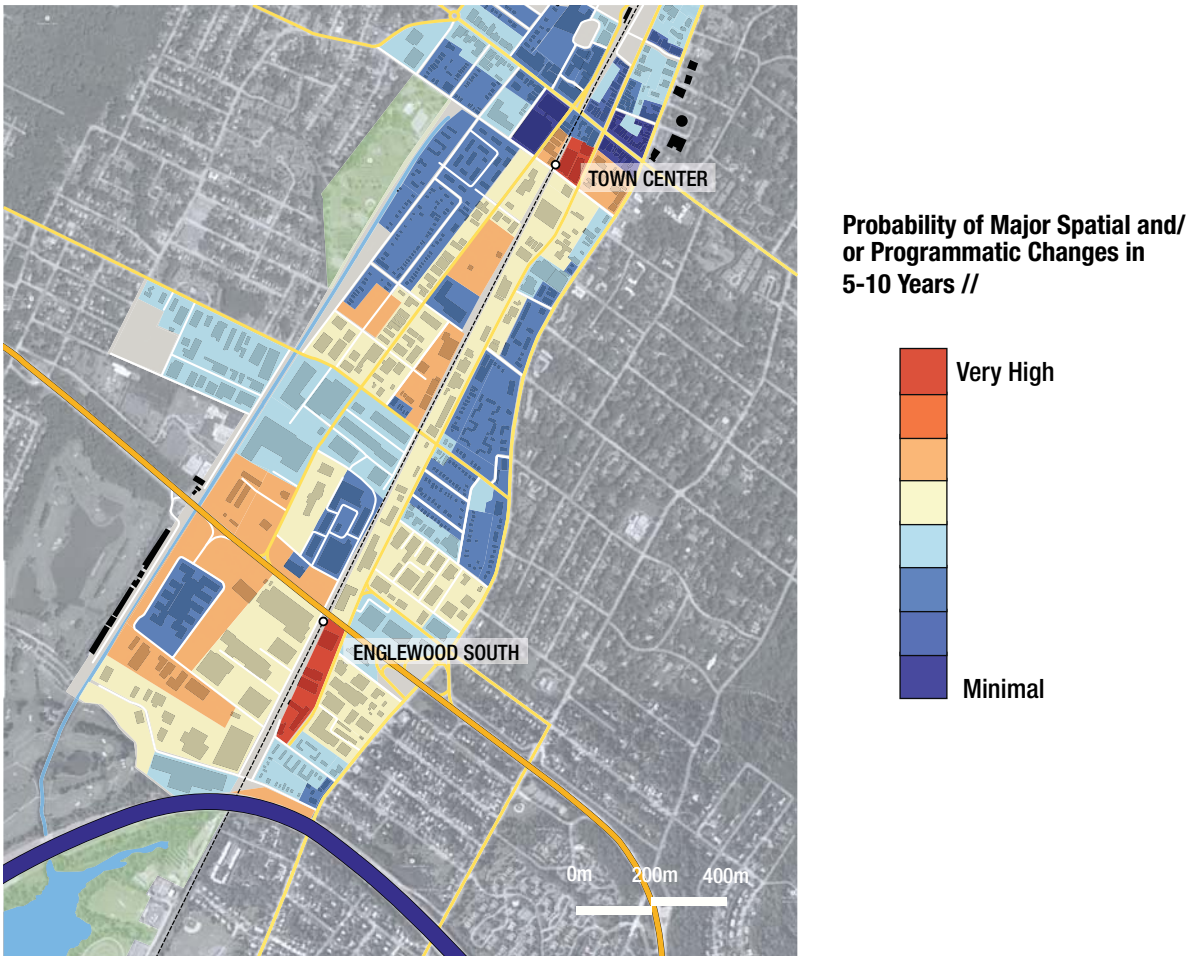


Fig 6.20 Projected Change Map (Author)

The Spatial Assessment Map shown in Fig 6.18 and Building Age Map in Fig 6.19 are aggregated into the Projected Change Map (Fig 6.20). Here, the spatial quality ratings and estimated construction date form the basis for ascertaining the projected probability of how soon places within Englewood South will experience major spatial or programmatic changes within the next five to ten years. As shown above, the area around the proposed Englewood South light rail station shows a particularly high potential for near-term spatial transformations, especially once the implementation of the Northern Branch line is confirmed.

Englewood South // SPATIAL ASSESSMENT

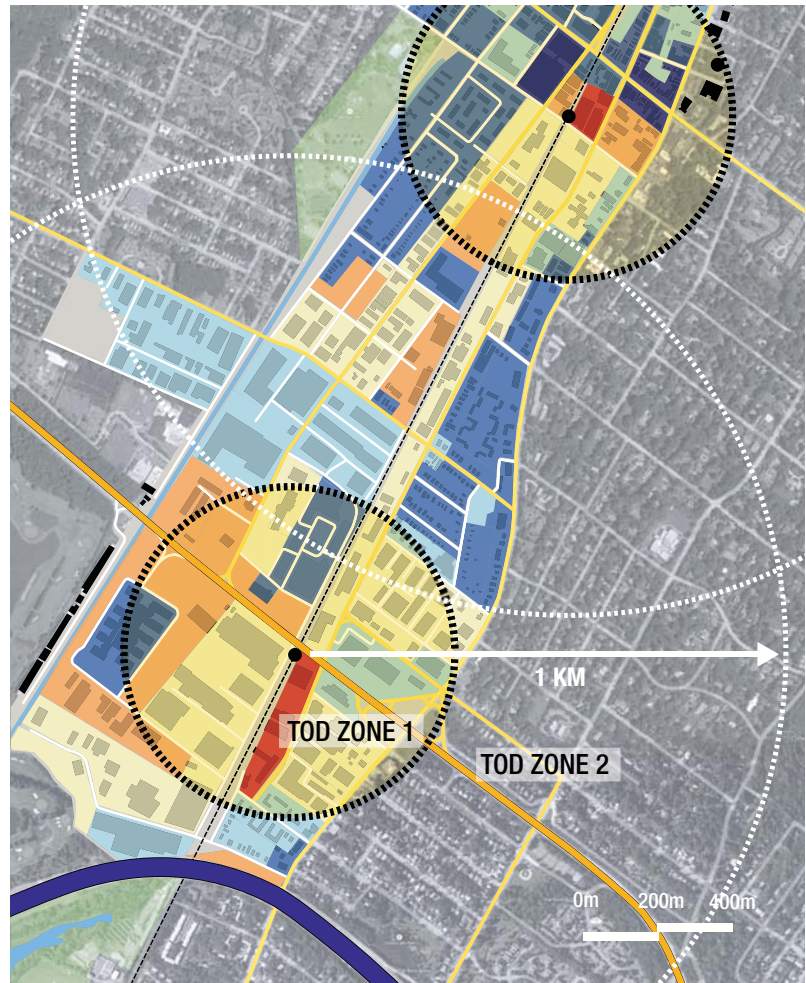


Fig 6.21 Englewood South Station // Proposed TOD Zones (Author)

Based on the analysis presented in the previous sections, the Englewood South Light Rail Station area proposed by NJ Transit has been selected as the local-scale site location for testing the feasibility of the Integral Regeneration operational model. Shown in Fig 6.21, two regeneration zones have been designated by using travel distance radiuses. Using a radius of 400 metres, TOD Zone 1 indicates the general area in which the primary focus will be on showing potential outcomes concerning spatial fabric and programmatic improvements. With a radius of 1 kilometre for TOD Zone 2, the main focus is improving the accessibility of local mobility networks, with an emphasis on generating a inter-modal system

Englewood South // SPATIAL ASSESSMENT

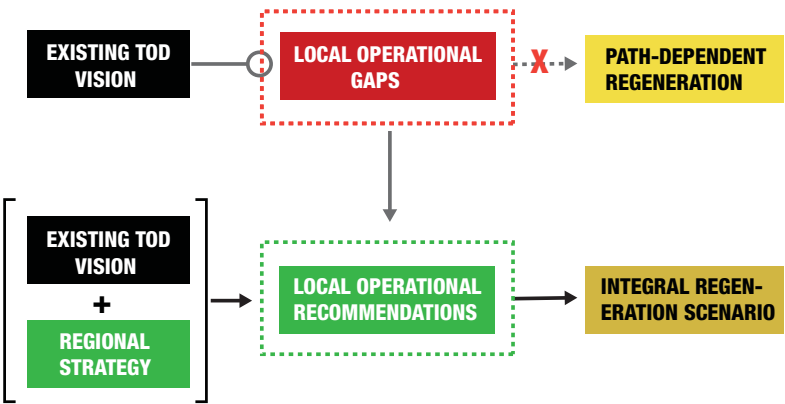
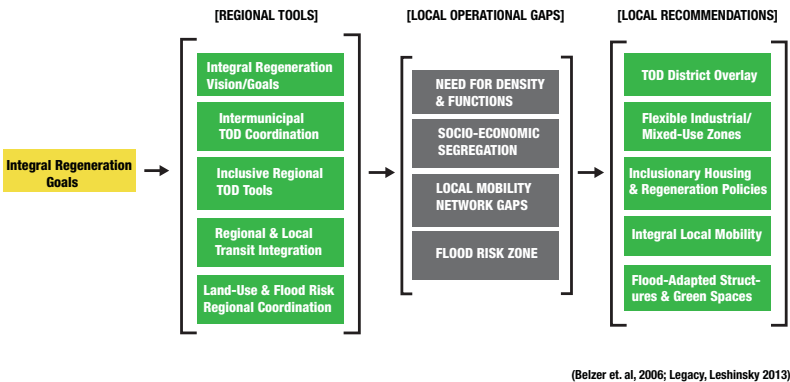


Fig 6.23 Local-scale Integral Regeneration process // Englewood South (Author)



(Belzer et. al, 2006; Legacy, Leshinsky 2013)

Fig 6.24 Local-scale operational recommendations // Englewood South (Author)

Fig 6.23 and Fig 6.24 summarise how the regional-scale operational model presented in the previous sections is translated into local-scale operational recommendations for Englewood South which target existing municipal-scale gaps. As mentioned previously, this area will serve as a test location for illustrating the spatial potentials of the local-scale regeneration tools shown in Fig 6.24. The goal is to evaluate the validity of the Integral Regeneration model.

Englewood South // SPATIAL ASSESSMENT

Map Legend

Current Functions //

- Large-Scale Industry
- Medium-Scale Industry/Commercial
- Small Business
- Residential
- Englewood South Station*
- Existing Green Space



Fig 6.25 Englewood South Station area // Existing Site Analysis (Author)

TOD Compatibility Rating //

- Very High
- Minimal



Fig 6.26 Englewood South Station // Integral Regeneration ratings (Author)

Large-scale industrial lots & buildings

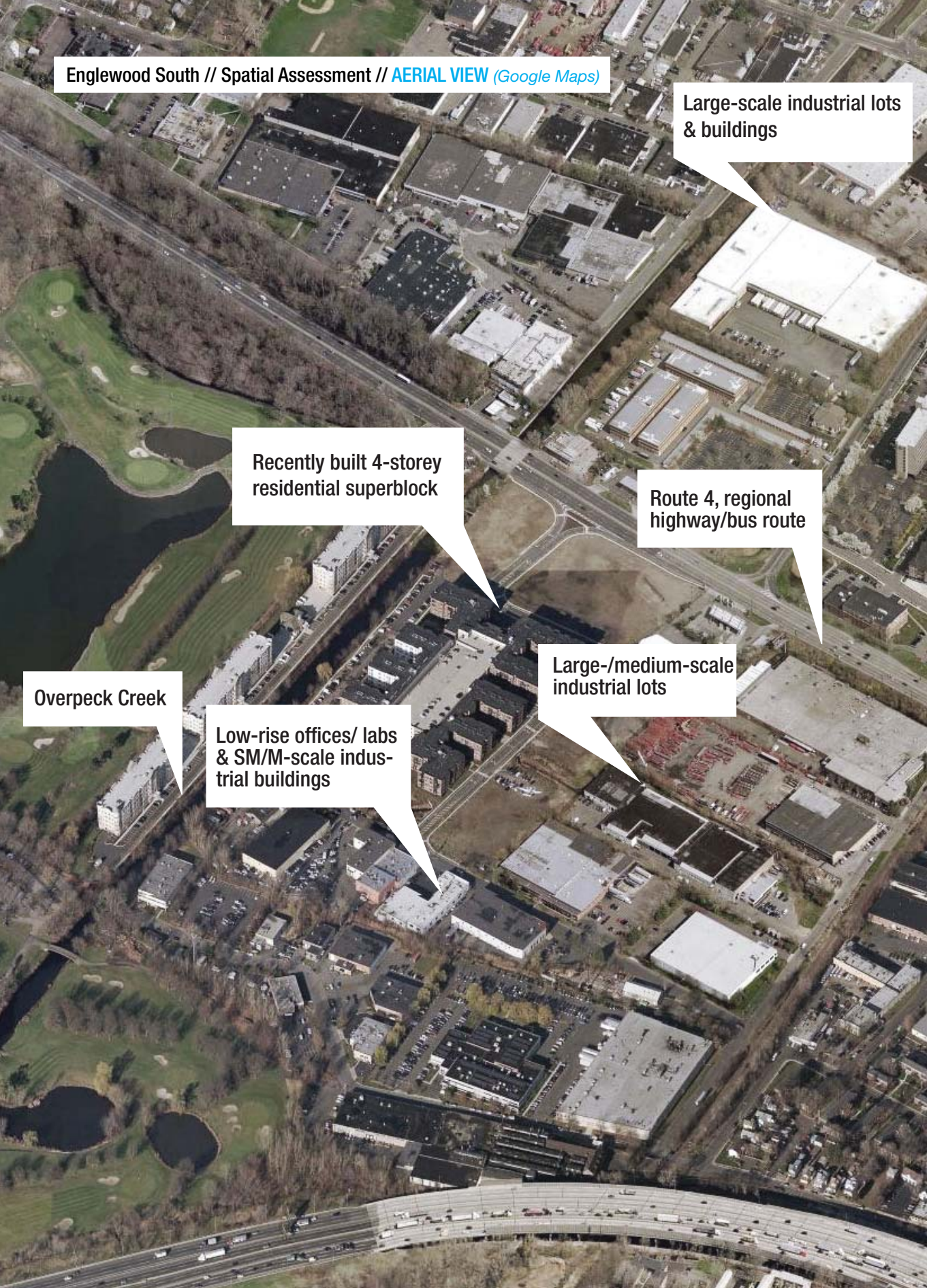
Recently built 4-storey residential superblock

Route 4, regional highway/bus route

Overpeck Creek

Low-rise offices/ labs & SM/M-scale industrial buildings

Large-/medium-scale industrial lots





S. Dean St, major
arterial/bus route

Future light rail
line & station area

Small-/medium-scale
industrial area

Detached 1-2 family
working-class houses

Englewood South // SPATIAL ASSESSMENT



Fig 6.27 Englewood South Station // Existing street: Nordhoff Place, due west of future station (Google Maps)



Fig 6.28 Englewood South Station // South Dean Street, 5m north of future station location & regional highway, Route 4 (Google Maps)

6.1.2 Englewood South // STATION AREA SCENARIO

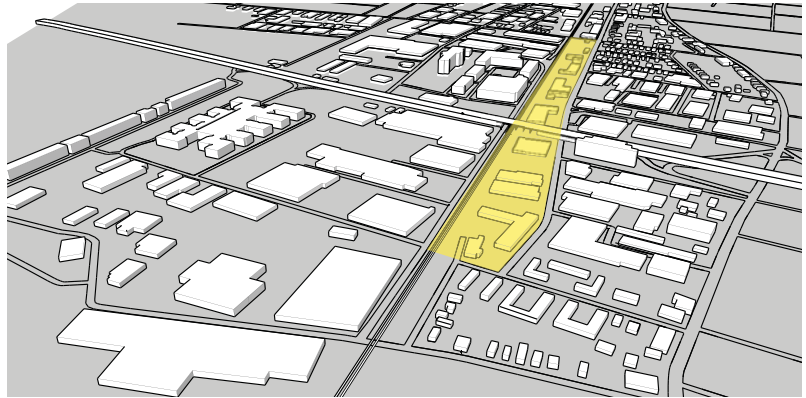
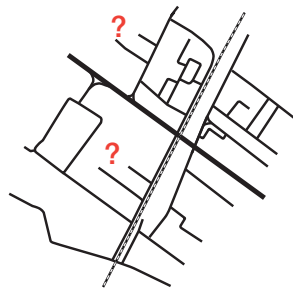


Fig 6.29 Englewood South // Station Corridor Zone (Author)

Local Spatial Diagnosis & Recommendations



Disconnected Mobility Network // Integral Multi-Modal Network



Integral Mobility



Intermodal Mobility



Fragmented Open Spaces // Cohesive, Flood-Adaptive Public Spaces



Inclusive Regeneration



Flood-Adaptive Landscape & Buildings

+ Fig 6.30 // Based on the SWOT and other preceding analyses of Englewood South's existing spatial structure, Fig 6.30 and 6.31 present a diagnosis of local-scale conditions concerning the most critical spatial elements/patterns that should be improved to ensure compatibility with human-scale, diverse TOD regeneration. Moreover, the diagnosis connects with and illustrates how specific Integral Regeneration guidelines could be applied in practice.

Fig 6.30 Englewood South // Integral Design Principles (Author)

Englewood South // ENGLEWOOD SOUTH STATION SCENARIO

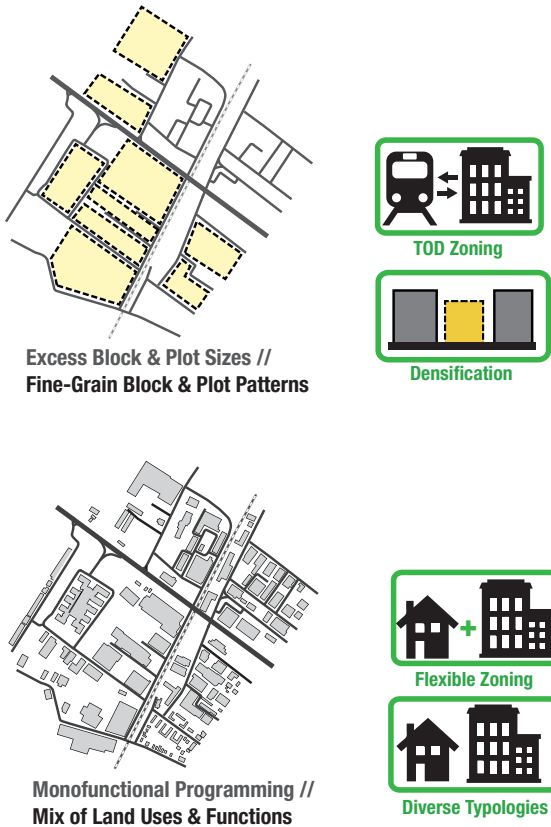


Fig 6.31 Englewood South // Proposed Spatial Design Principles (Author)

The proposed morphological principles in Fig 6.30 and Fig 6.31 illustrate two major points. Firstly, they show how the Integral Regeneration guidelines can be applied to concrete improvements of existing spatial elements, namely: block patterns, mobility network gaps, green/public spaces and programmatic patterns. Next, taken as a whole, they form the basis for a local-scale Integral urban design/planning framework that can ensure socio-spatially sustainable and inclusionary future for Englewood (and other Northern Branch municipalities). The main design concepts underlying this are the use of hierarchies to ensure more cohesive networks (e.g. mobility, green spaces) and the introduction of greater diversity to activate socio-spatial capacities. However, before proposing spatial improvement options for the station area, the first step is to understand how the current morphological configuration of Englewood South can be improved in relation to the aforementioned Integral Design Principles.

Englewood South // ENGLEWOOD SOUTH STATION SCENARIO

+ Fig 6.32 // As shown in Fig 6.13, Space Syntax allows us to assess the accessibility of Englewood South's existing mobility system, which now shows major access gaps along east-west routes just west of the future light rail station. In place of a coherent, liveable district, the area now exists essentially as a set of four isolated fragments divided by a regional highway (red line bisecting the middle of the map and a lack of adequate local east-west connections.



Fig 6.32 Englewood South // Space Syntax angular analysis map R3 // Existing Situation (Author)

+ Fig 6.33 // Fig 6.32 & Fig 6.33 illustrate how the mobility configuration tests touch upon not just mobility networks but also another critical morphological element addressed by the Spatial Design Principles: block & lot patterns. With the goal of more diverse, human-scale and pedestrian-friendly spatial structure in mind, these elements can form the basis for generating more coherent and accessible public space and programmatic hierarchies.



Fig 6.33 Englewood South // Space Syntax angular analysis map R3 // Test 1 (Author)

Space Syntax was used to test six possible configurations to assess which specific alterations to the existing mobility system would result in a more integrated, accessible mobility and spatial structure.

Englewood South // ENGLEWOOD SOUTH STATION SCENARIO

Fig 6.34 Englewood South // Space Syntax angular analysis map R3 // Test 2 (Author)



Fig 6.35 Englewood South // Space Syntax angular analysis map R3 // Test 3 (Author)

Englewood South // **ENGLEWOOD SOUTH STATION SCENARIO**



Fig 6.36 Englewood South // Space Syntax angular analysis R3 // Test 4 (Author)



Fig 6.37 Englewood South // Space Syntax angular analysis R3 // Test 5 (Author)

Englewood South // STATION AREA SCENARIO



Fig 6.38 Englewood South // Space Syntax angular analysis R3 // Test 6 (Author)

Upon reviewing the six different configurations tested via Space Syntax, the street pattern shown in Fig 6.38 demonstrated the most optimal configuration for improving Englewood South's local-scale mobility structure. As mentioned previously, improving the mobility networks through increased connections also enables the generation of more human-scale street/block patterns. This is verified in Fig 6.38, where there are now compact, walkable blocks as well as accessible local mobility routes, showing how these two spatial elements are interconnected. The morphological configuration above was thus chosen as the starting point for evaluating how the Spatial Design Principles could be applied as part of an Integral framework to improve the existing context. More specifically, this is shown through a set of urban design guidelines as well as a potential spatial scenario for the Englewood South station area.



Fig 6.39 Englewood South // Existing situation // South Dean St., facing future station location and Route 4 (Google Maps)



Fig 6.40 Englewood South // Existing situation // Nordhoff Place, facing north of future station location (Google Maps)

Englewood South // STATION AREA SCENARIO

Station Corridor as Socio-Spatial Anchor

Fig 6.41 Englewood South // Station Corridor Zone // Existing Situation (Author)

Using the street/block pattern shown in the previous page as a baseline, the station corridor (highlighted in Fig 6.37) emerged as the most significant location to serve as a connector for Englewood South. A roughly 90m by 400m strip between the future light rail line and South Dean Street, a local arterial road, it can be a starting point for framing the first phases of TOD development by placing the light rail and station area as a central element for the proposed spatial structure. In addition to offering greater local-scale mobility connections and reinforcing a cohesive public space network, the corridor can also help convert the existing railway from being a socio-spatial barrier to an integrative focal point. Thus, the station corridor is considered as a crucial spatial anchor that can integrate the four now fragmented sub-zones of this district and initiate its transition from a monofunctional zone into a inclusionary live/work neighbourhood.

A series of maps are shown in the subsequent pages to demonstrate how the Integral Design Principles could be applied to start the initial development phases. The proposed sequence for spatial restructuring through implementing the Integral Regeneration framework in Englewood South is summarised thusly: first increasing accessibility by introducing more local-scale mobility connections and a more compact block/street pattern. This new, human-scale grid acts as the foundational framework for generating a cohesive public space network, and then in turn, a programmatic strategy via a structural plan. Moreover, the proposed Station Corridor becomes a critical lynchpin that binds the main socio-spatial elements/improvements together into a integrated structure.

The aforementioned sequence is illustrated in greater detail in the following pages. First, Fig 6.41 shows how to potentially improve two major elements within the current morphological structure that now inhibit TOD-based regeneration: a disconnected mobility network and excessive block sizes.

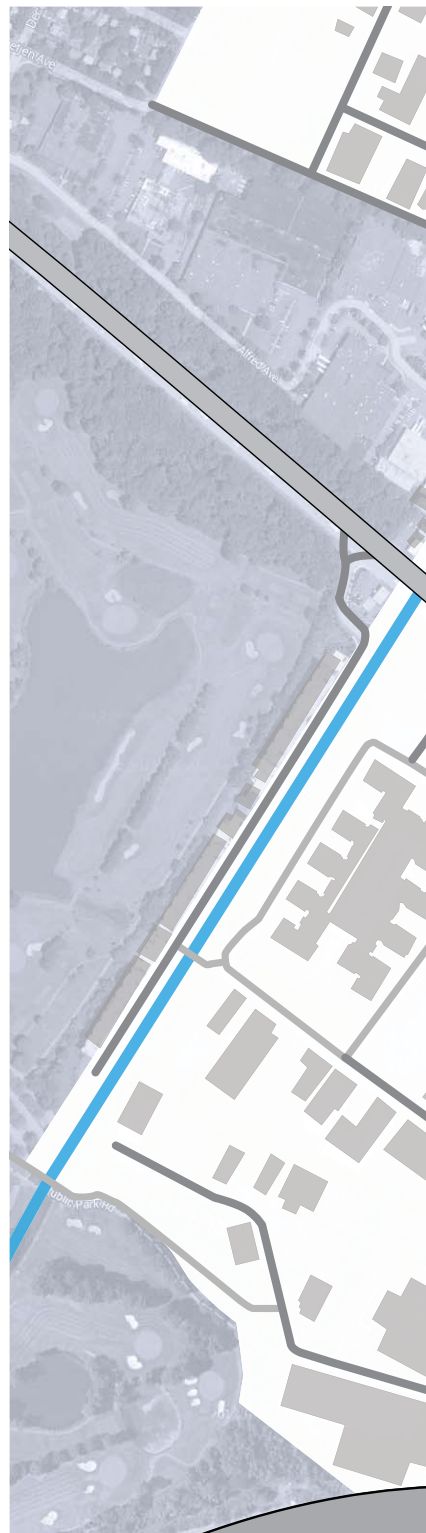
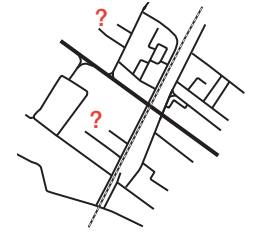


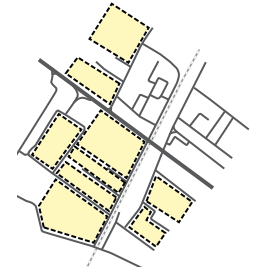




Fig 6.42 Englewood South // Station Area // Fine-grain, multi-modal street pattern



Disconnected Mobility Network //
Integral Multi-Modal Network



Excess Block & Plot Sizes //
Fine-Grain Block & Plot Patterns



Fig 6.43 Englewood South // Station Area // Existing fragmented green spaces (Author)

+ Fig 6.43 // Fig 6.43 demonstrates the present green spaces which are now fragmented and mainly inaccessible. Using the proposed new street/block grid shown in Fig 6.42 as a backbone, this situation can transition to a much more usable, coherent public space system.



Fragmented Open Spaces //
Cohesive, Flood-Adaptive
Public Spaces

**Integral Public Space &
Mobility Systems //**

- New Green Spaces
- Regional Arterial
- Local Arterial
- Collector Road
- Living(Local) Street
- Bike/Ped Path



Fig 6.44 Englewood South // Station Area // Proposed public space system (Author)

Fig 6.44 shows how the combination of a compact TOD-compatible street grid and a more extensive public space system can create a baseline for a more mixed-use, inclusionary programmatic strategy. This validates the multi-layer approach of the Integral Regeneration/ Design guidelines. It also indicates the crucially important role of proper phasing regarding spatial transformations. Namely, the improvement of the mobility network and public spaces should be prioritised first by the municipal and higher-tier government entities (county, state etc.), in order to facilitate subsequent programmatic and typological improvements. Looking at Englewood South's existing structure, its current operational gaps appear to stem from a failure to fully integrate the city's planning goals of mixed-use redevelopment with a clear spatial vision/ strategy, especially for local-scale mobility and public space networks.

The result has been distortions such as the recent construction of two multi-story apartment complexes that are isolated superblocks, cut off from rest of the city's local street grid and spatial fabric. By making a explicit linkage between strategic planning guidelines and concrete improvements of spatial elements, the Integral Regeneration approach offers a tangible framework that can prevent such unfavourable outcomes. In the next section, a proposed Structural Vision derived from the generation of an improved street and public space network is shown.

Land-Use & Programmatic Scenario // Structural Vision

Fig 6.45 Englewood South // Station Corridor Zone // Structural Vision (Author)

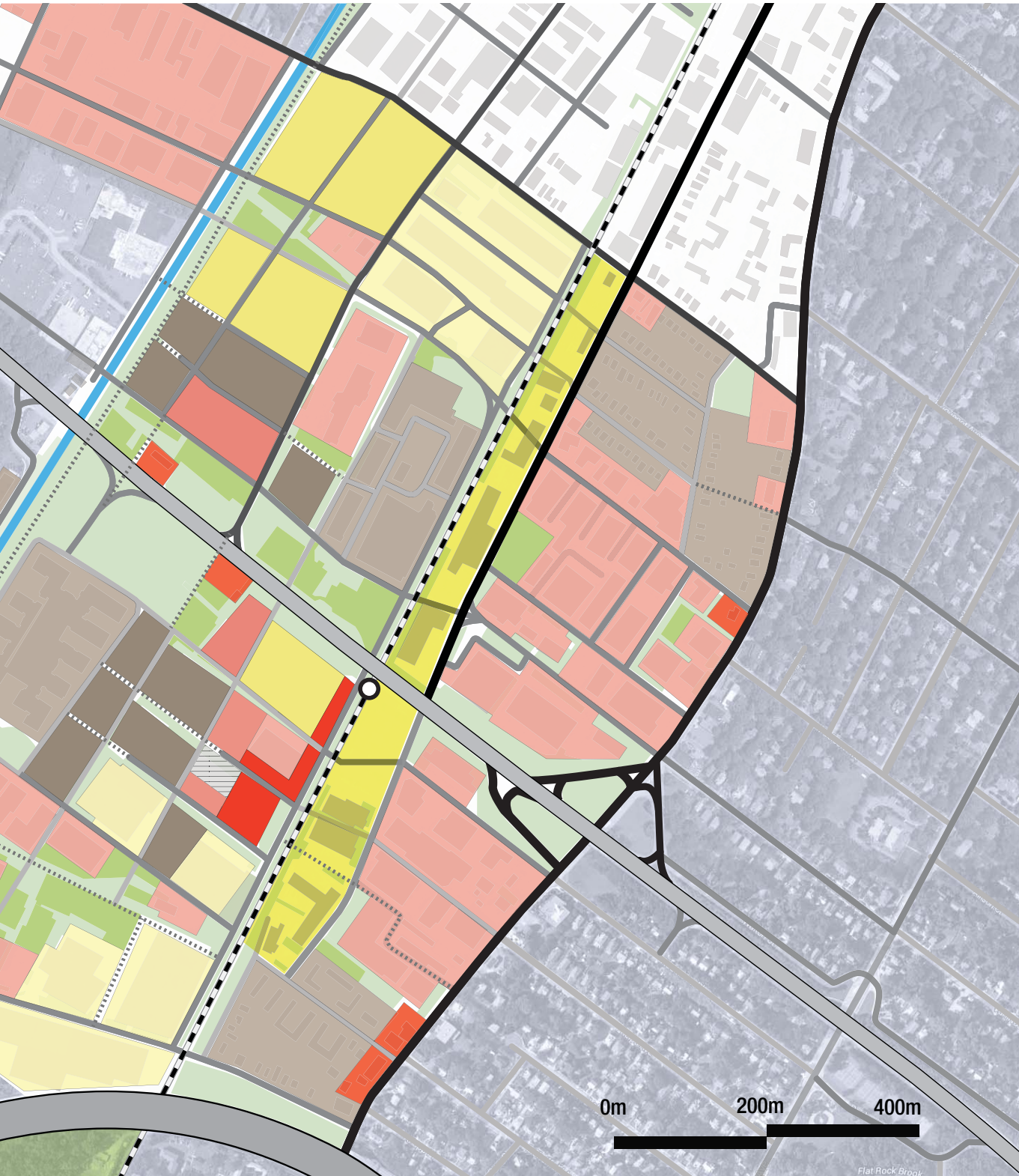
Fig 6.45 presents a Structural Vision focusing on the Englewood South Light Rail Station area, looking at an approximately 500-600m radius. It proposes a two-fold strategy of introducing spatial/mobility hierarchies and greater programmatic diversity. The area's strategic position as a production/logistics centre within both Englewood and the Northern Branch sub-region, is taken also into account. The Vision thus seeks to retain and build upon existing production zones and other critical local/regional economic functions. It also introduces a greater array of programmatic functions (e.g. housing, retail, community services etc) to transform Englewood South into a vibrant live/work neighbourhood that capitalises on both its regional and local-scale connections.

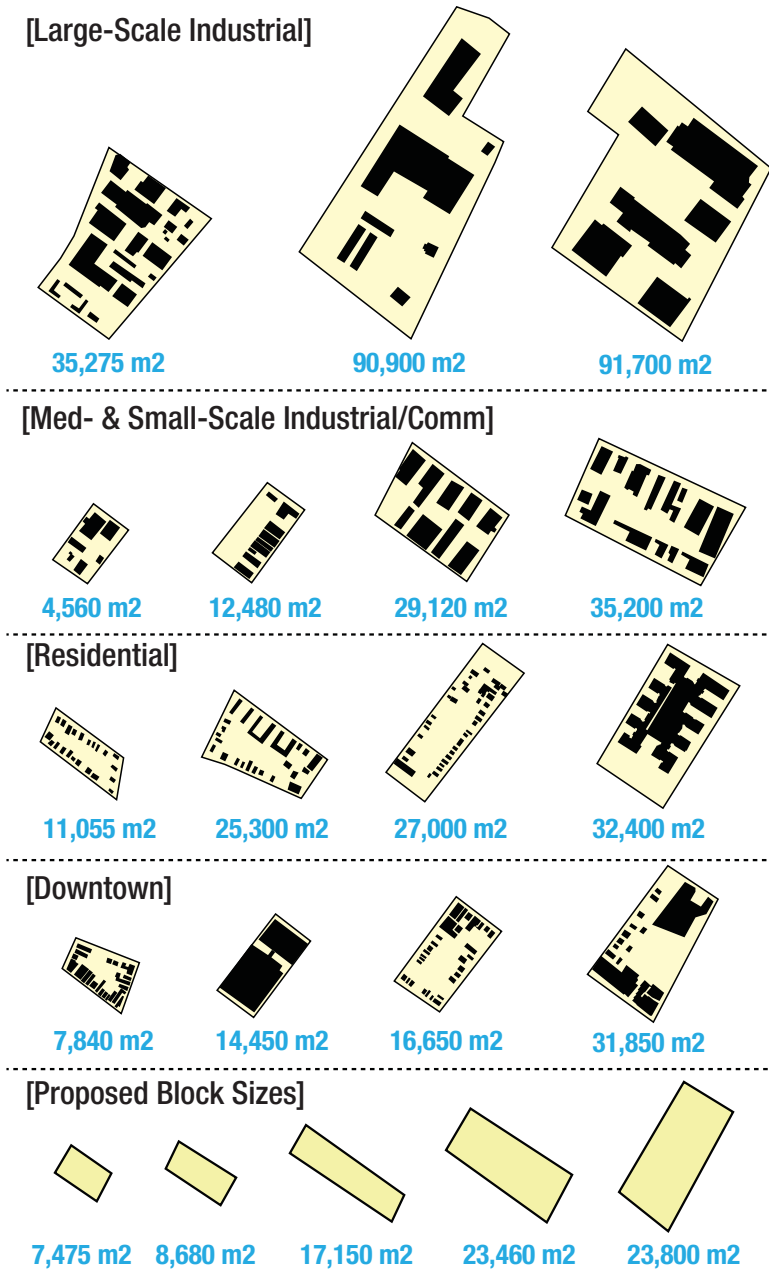
A key first step towards this is a clear but flexible set of zoning and urban design guidelines that ensure both high levels of spatial quality and catalysing new opportunities for local residents and businesses by effectively meeting current/emerging socio-spatial demands. Here, in place of strict divisions between different functions, all proposed zoning districts allow and encourage differing degrees of mixed-use programming.

Structural Vision // Zoning Districts

- R-X // Existing Residential**
Retain existing structures. Implement streetscape improvements, allow for multi-family units & residences.
- RM-1 // Residential Mixed-Use**
Up to 85% (max) for residential programming, 15% (min) for permitted non-residential functions: retail shops, grocery stores, workshops/studio spaces, small offices, community facilities/amenities & public/communal open spaces.
- C-X // Existing Commercial/Retail**
Retain existing structures. Implement streetscape improvements.
- CM-1 // Commercial Mixed-Use Overlay**
Up to 85% (max) for commercial programming, 15% (min) for residential and/or public programming. Allowed uses: retail shops, workshops/studio spaces, offices, community facilities/amenities, hotels/restaurants, small-scale production facilities, housing & public/communal open spaces.
- PM-X // Existing Small-Scale Industrial**
Retain existing structures. Implement streetscape improvements, allow & provide financial incentives for future in-fill developments between or replacing existing buildings/lots.
- PM-1 // Small-Scale Production Mixed-Use**
Up to 85% (max) for small-scale industrial programming (up to 3000m² each), 15% (min) for permitted non-industrial programming: retail shops, workshops/studio spaces, offices, community facilities/amenities, small-scale production facilities & public open spaces.
- PM-X2 // Existing Large-Scale Production**
Retain existing structures. Implement streetscape improvements, allow & provide financial incentives for future in-fill developments between or replacing existing buildings/lots.
- PM-2 // Large-Scale Production Mixed-Use**
Up to 85% (max) for large industrial programming (exceeding 3000m²), 15% (min) for permitted non-industrial programming: retail shops, workshops/studio spaces, offices, community facilities/amenities, small-scale production facilities & public open spaces.







+ Fig 6.46 // As shown, large-scale blocks exceeding 30,000 m² are incompatible with fine-grain block proportions and densities. Instead, the most optimal block sizes appear to be between 7,000 to 24,000 m², as seen in Fig 6.46.

Fig 6.46 Englewood South // Comparison of existing & proposed block footprints (Author)

Using the Structural Vision as a starting point, several compact blocks are proposed. These are based on an analysis of existing block footprints, to assess which block proportions are most conducive to TOD regeneration.

[Typical Building & Parcel Footprints]

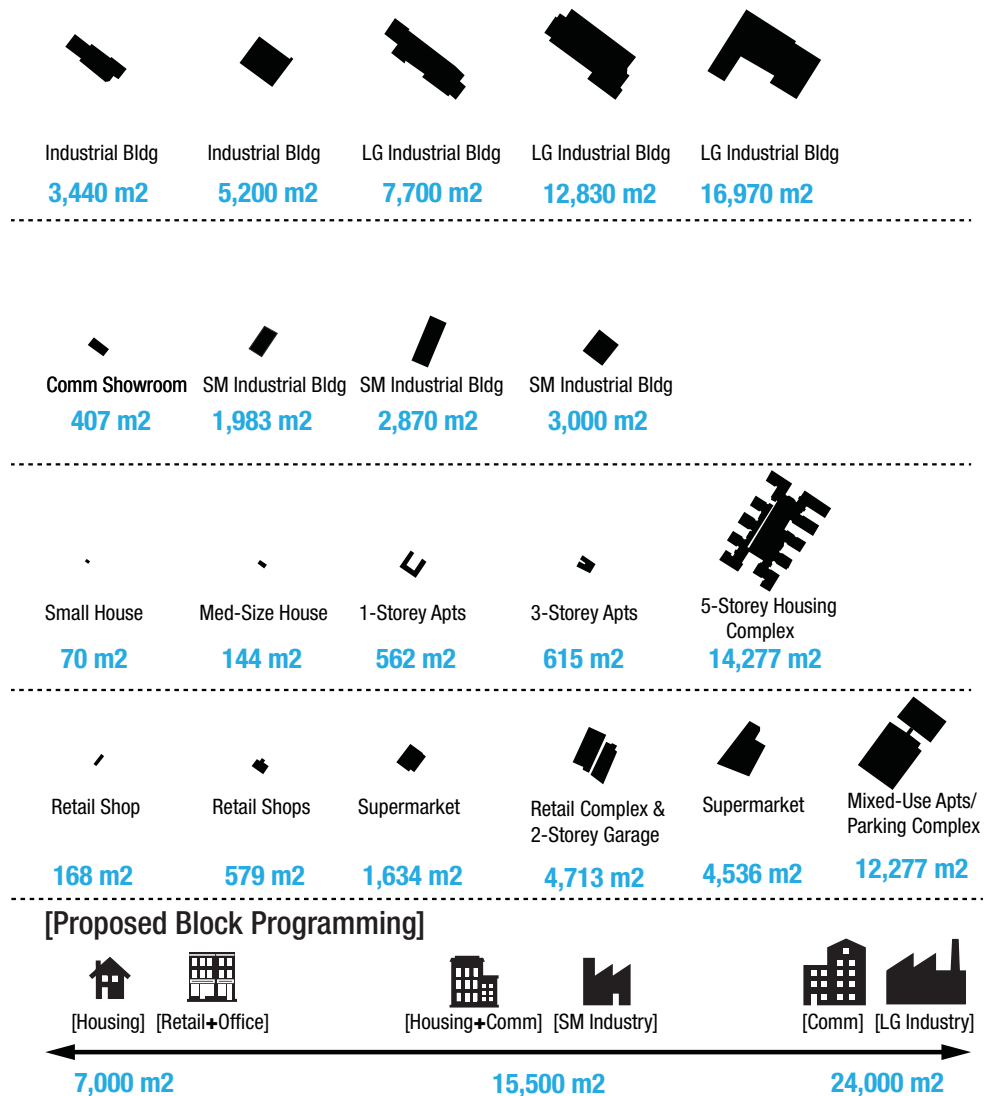


Fig 6.47 Englewood South // Analysis of existing building footprints (Author)

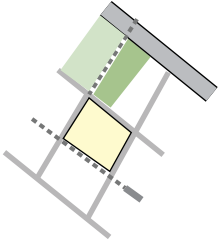
Fig 6.47 shows an overview of existing building footprints based on their programmatic categories. This shows which building typologies/sizes are best matched with specific block sizes and zoning districts.

Building Density & Typology Analysis

Fig 6.48 Englewood South // Existing residential block & building typology analysis (Author)

Based on the Structural Vision's zoning districts and the block footprint analysis, Fig 6.48-Fig 6.50 compare proposed block types with examples of typical, existing block/building typologies. In order to confirm which block/building typologies are most compatible with TOD, the following criteria are assessed: accessibility, ground level permeability, block densities, public space quality and functional mix.

Proposed Residential Block



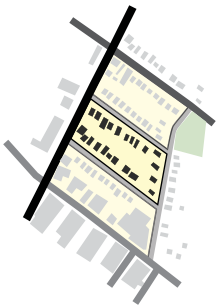
0m 100m 200m

Existing Residential Blocks & Typologies //

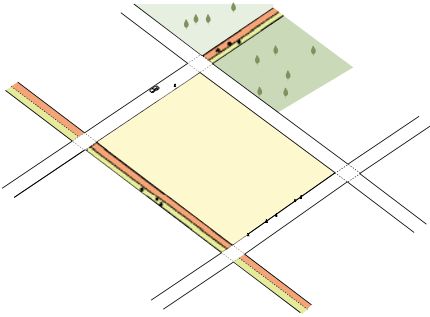


Large-Scale Block // 3-Storey Housing

0m 100m 200m



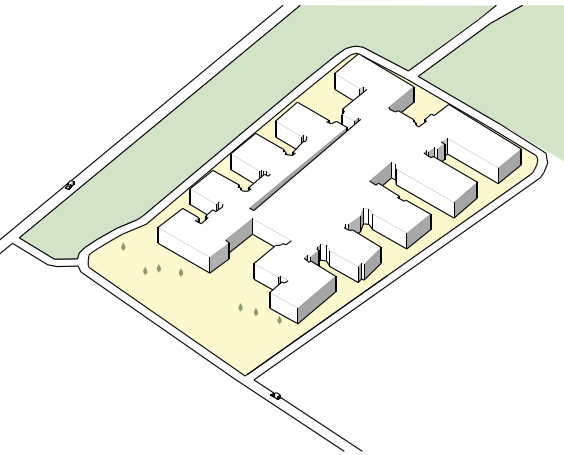
Typical Residential Block



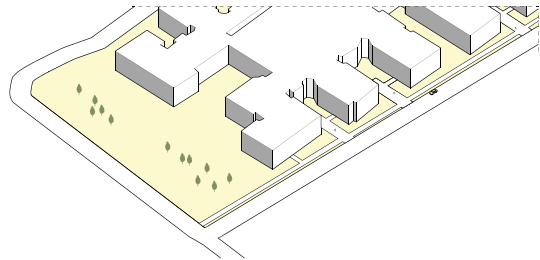
Residential Block Axonometric

**What are the Most Workable
Housing Blocks & Typologies?**

?

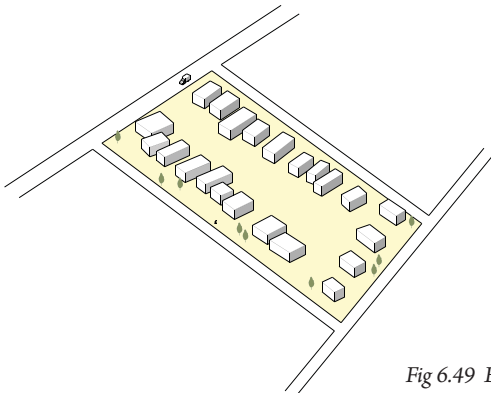


Housing Complex Block Axonometric

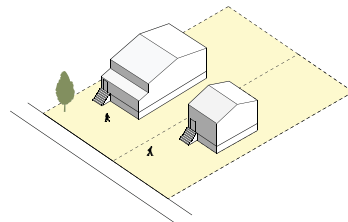


Housing Complex Entry Points

- + Lack of Accessibility & Public Spaces
- + Lack of Public Functions Relative to Scale



Residential Block Axonometric

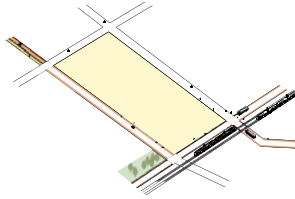
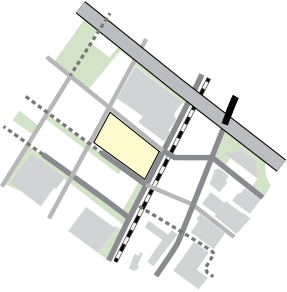


Typical Residential Typologies

- + Accessible w/ Good Streetscape Quality
- + Insufficient Densities for TOD

Fig 6.49 Englewood South // Existing CBD block & building typology analysis (Author)

Proposed Retail/Office Block



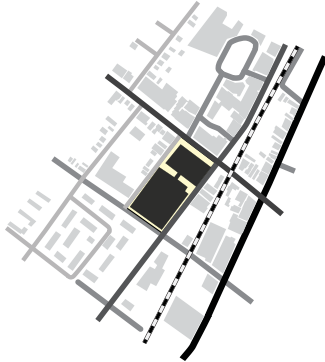
What are the Most Workable
Housing Blocks & Typologies?

?

Proposed
Industrial

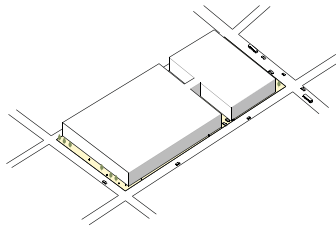
0m 100m

Existing CBD Blocks & Typologies //

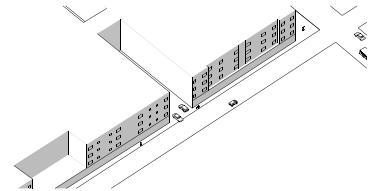


CBD Block // Apt/Retail Complex

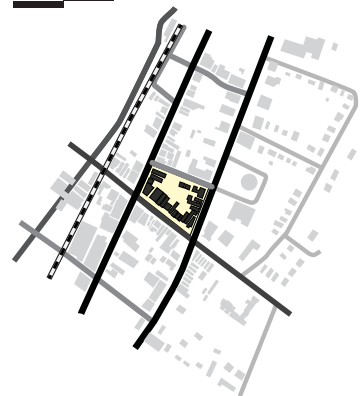
0m 100m 200m



Apt/Retail Complex Axonometric



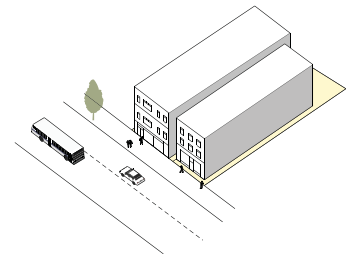
Apt/Retail Complex Main Entry
+ Lack of Entry Points & Public Spaces
+ Impermeable Ground Level
+ Lack of Functions Relative to Scale



Typical CBD Block



CBD Block Axonometric

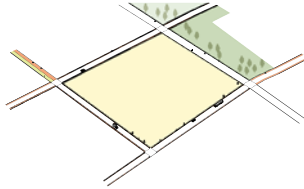
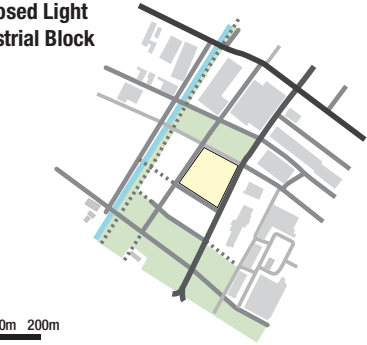


Typical Mixed-Use Typologies
+ Appropriate Densities & Public Space Quality
+ Accessible, w/ Functional Mix

0m 100m

Fig 6.48 Englewood South // Existing CBD block & building typology analysis (Author),
Fig 6.49 Englewood South // Existing industrial block & building typology analysis (Author),

osed Light
strial Block



Light Industrial Block Axonometric

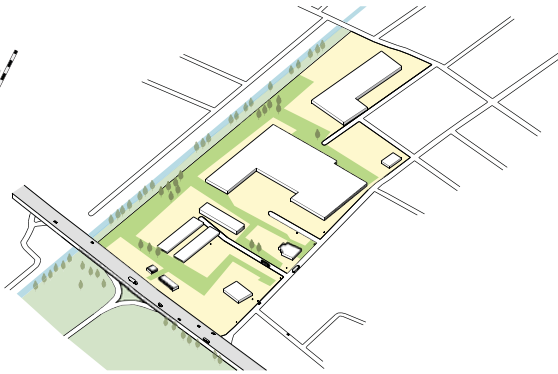
What are the Most Workable
Industrial Blocks & Typologies?

?

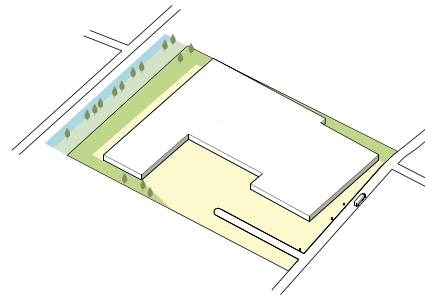
ing Industrial Blocks & Typologies //



Large-Scale Block

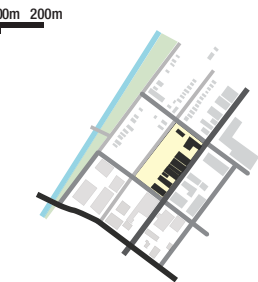


Large-Scale Block Axonometric

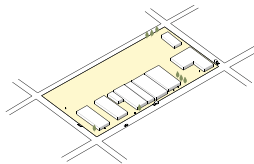


Typical Large-Scale Typology

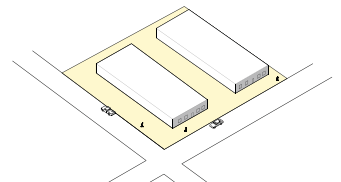
- + Excessive Scale for Proposed Blocks
- + Impermeable Ground Level



Small-Scale Block



Small-Scale Block Axonometric



Typical Small-Scale Typologies

- + Appropriate Scale for Fine-Grain Blocks
- + Potential to Insert In-fill Developments

Building Density & Typology Analysis Conclusion //

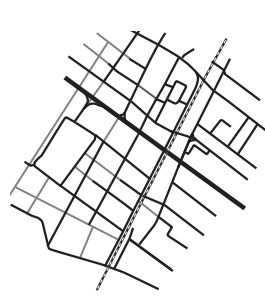
The preceding analyses of existing block typologies indicate that compact, accessible block and buildings are indeed the most suitable matches for integral TOD regeneration. Having a sufficient amount of public spaces, a variety of programmatic functions and active frontages also prove to be important factors as well. In other words, this suggests two things. Firstly, current negative spatial outcomes, such as a lack of accessibility appear to be the result of a failure to integrate spatial design considerations into urban development and land-use planning, especially in terms of enhancing the public domain. Likewise, problematic examples such as the recently built superblock apartment building shown in Fig 6.47 also indicates a lack of leadership or capacity on the part of the municipality regarding improving the local morphological structure as well as ensuring that new developments fit into or enhance existing spatial fabrics.

It is therefore crucial for local actors to fully incorporate multi-scalar urban design thinking at the start of any new planning initiative, considering how each scale impacts the other. A focus on accessible, high quality public spaces and multi-modal mobility networks as the catalytic building blocks for attractive, vibrant neighbourhoods and cities, is also crucial. This offers an opportunity to develop and operationalise a clear local-scale spatial design framework which is directly connected to larger-scale and/or long-term strategic planning goals and initiatives. The findings described here form the starting point for a set of proposed building typologies with urban design and planning guidelines that help ensure spatial outcomes and diverse functional mixes that validate the efficacy of the Integral Design Principles. These typologies and guidelines are shown in the following pages.

Integral Design Principles

As seen previously, a district-scale Diagnosis was used to improve key elements of the existing fabric: mobility, block and public space systems. The next step is to illustrate how Integral Regeneration can be implemented to optimise socio-spatial conditions at the neighbourhood level. This section presents an inventory of proposed typologies complemented by planning guidelines. These are guided by Integral Design Principles (Fig 6.51), stemming from said Diagnosis. The typological inventory offers local actors an adaptable framework to work within, in regards to incorporating TOD-compatible developments into Englewood South. This reinforces Integral Regeneration goals of an inclusionary mixed-use environment embedded within a multi-modal mobility network. Before going on to showing the specific proposed typologies and guidelines however, the Integral Principles and their potential benefits are first illustrated.

Fig 6.51 // The Integral Design Principles are predicated upon introducing, mixed-use development that is inclusionary and ecologically sustainable, which offers a number of tangible socio-spatial benefits as seen in the accompanying figure (Carmona, 2003)



Integral Multi-Modal Network

Social Gains

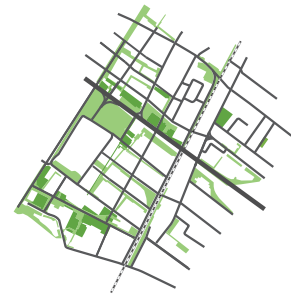
Improved access to jobs & services

Transport Gains

Reduced car traffic

Environmental Gains

Less air pollution / CO2 emissions



Cohesive Public/Green Spaces

Environmental Gains

Flood mitigation, green space preservation

Social Gains

Increased public space access



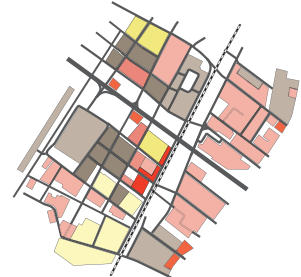
Fine-Grain Block & Lot Patterns

Social Gains

Improved access to community services

Environmental Gains

Reduced sprawl pressures: more efficient use of space and buildings, increased energy efficiency



Mix of Land Uses & Functions

Social Gains

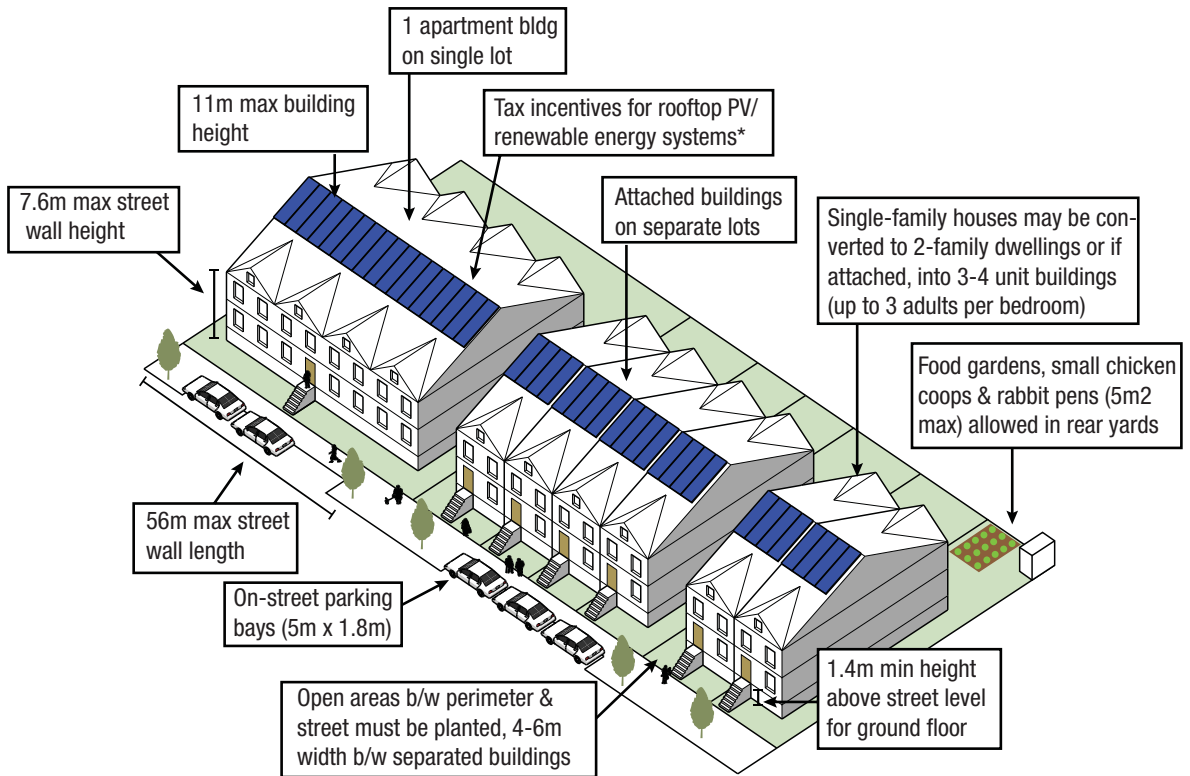
Encourages diversity & active street life

Economic Gains

Enhanced viability of development & support for small business

Fig 6.51 Englewood South // Integral Design Principles (Author; Carmona, 2003)

Proposed Typologies & Design/Planning Guidelines

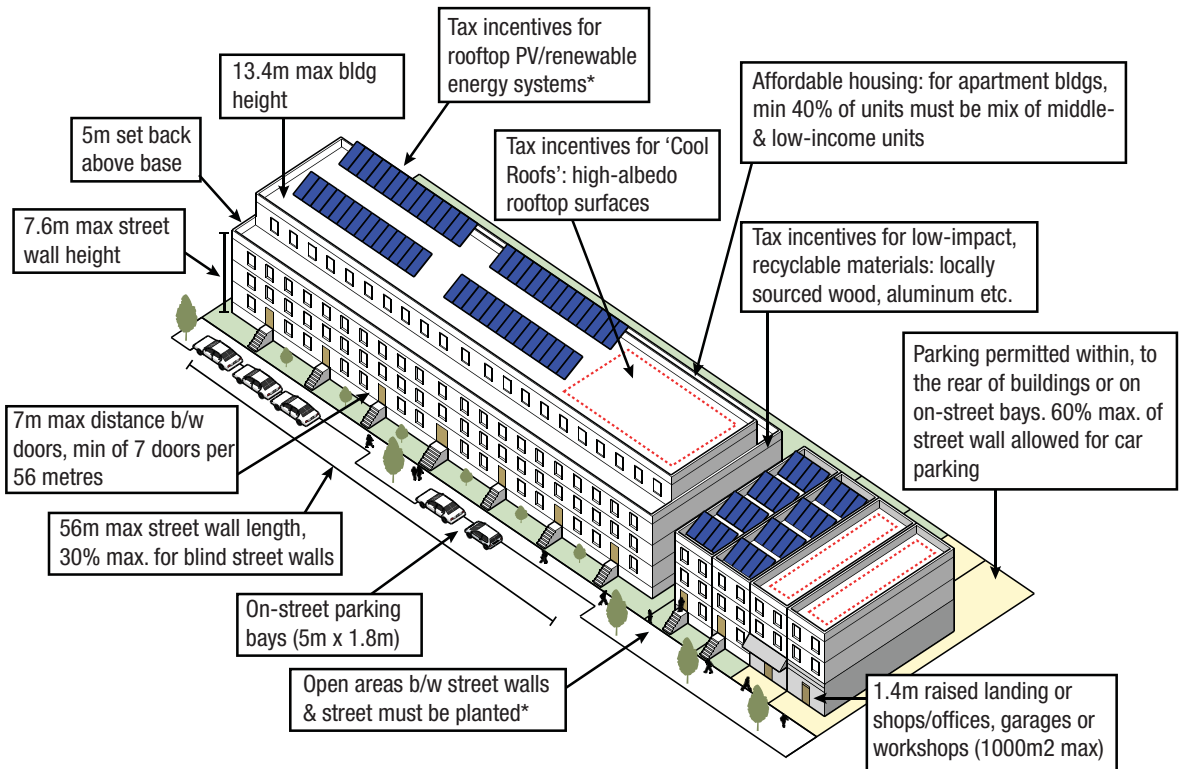


R1 // Low-Density Residential District (Permitted 100m away from Station)

Lot Width (min): 6 m	Front Yard (min): 2.5 m
Lot Area (min): 171 m ²	Rear Yard (min): 9 m
Lot FAR (max): 1.20	Building Height (max): 11 m
Lot Coverage: 50%	Street Wall Height (max): 7.6 m

Fig 6.52 Englewood South // Low-density residential typologies (Author)

Taking the Structural Vision and Integral Design Principles as starting points, the proposed guidelines shown here translate them into a design/planning framework that helps ensure human-scale, transit-oriented regeneration at the neighbourhood level. The main priorities are: high quality public spaces/streetscapes conducive to pedestrians and cyclists, inclusionary mixed-use zoning to accommodate diverse demands of all social strata and ensuring ecological balance in a vulnerable floodplain via sustainable design measures backed with financial incentives. These are illustrated in the following sequence of guidelines and an accompanying set of notes that further explain their underlying concepts/goals.



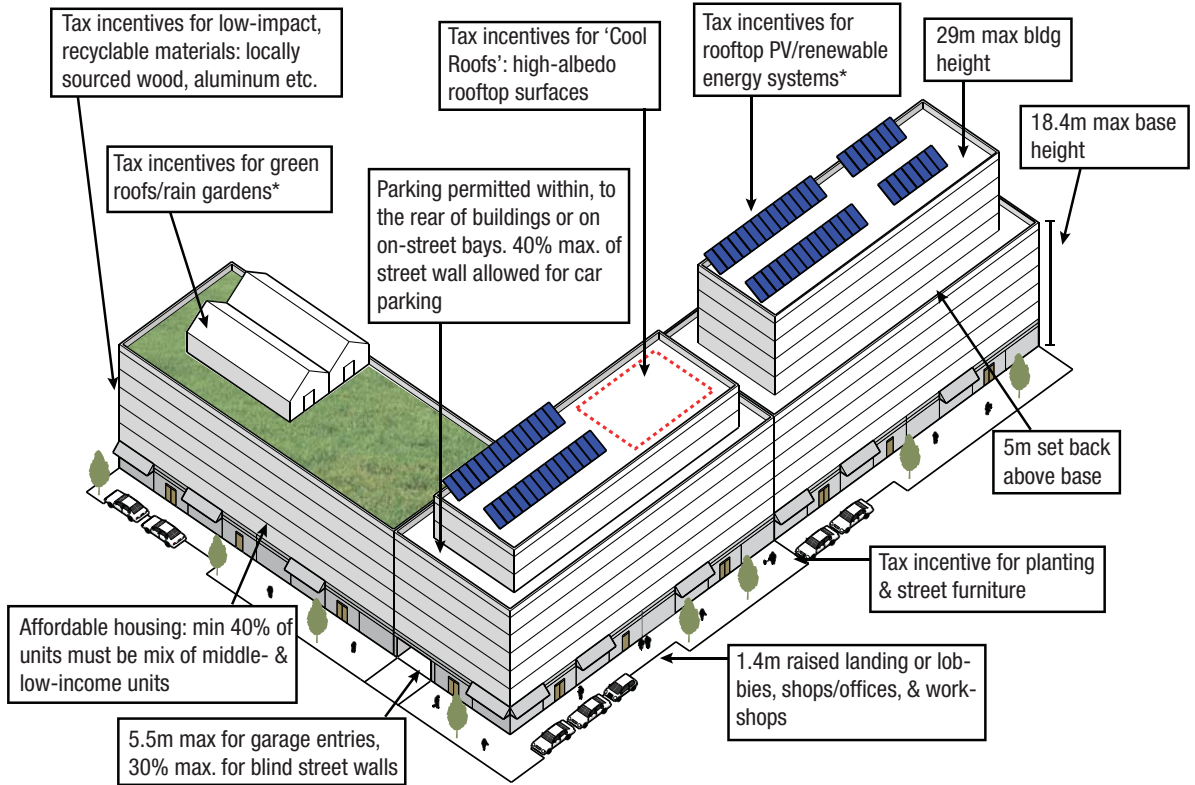
R2 // Medium-Density Residential District

Lot Area (min): 171 m ²	Front Yard (min): 2.5 m
Lot FAR (max): 1.70	Rear Yard (min): 9 m
Lot Coverage: 50%	Building Height (max): 13.4 m
	Street Wall Height (max): 10.4 m

Fig 6.54 Englewood South // Medium-density residential typologies (Author)

+ **Ecological Sustainability** // All new developments must meet a minimum of a LEED Silver rating. Plan approvals & financial incentives will prioritised for projects with a LEED Gold or Platinum rating. Preference also shown for use of low-impact, recyclable materials.. This goal reinforces TOD aims of reducing carbon footprints and fossil fuel consumption.

+ **Flood Adaptive Structures** // As 60-70% of the station area is directly within a floodplain zone, all structures must conform to State Flood Hazard Act regulations. Residential ground floors must be at least 1.4 m above elevation, or contain public functions. Outdoor public spaces must have water catchment capacities. Financial incentives prioritised for permeable green roofs and rainwater harvesting systems..

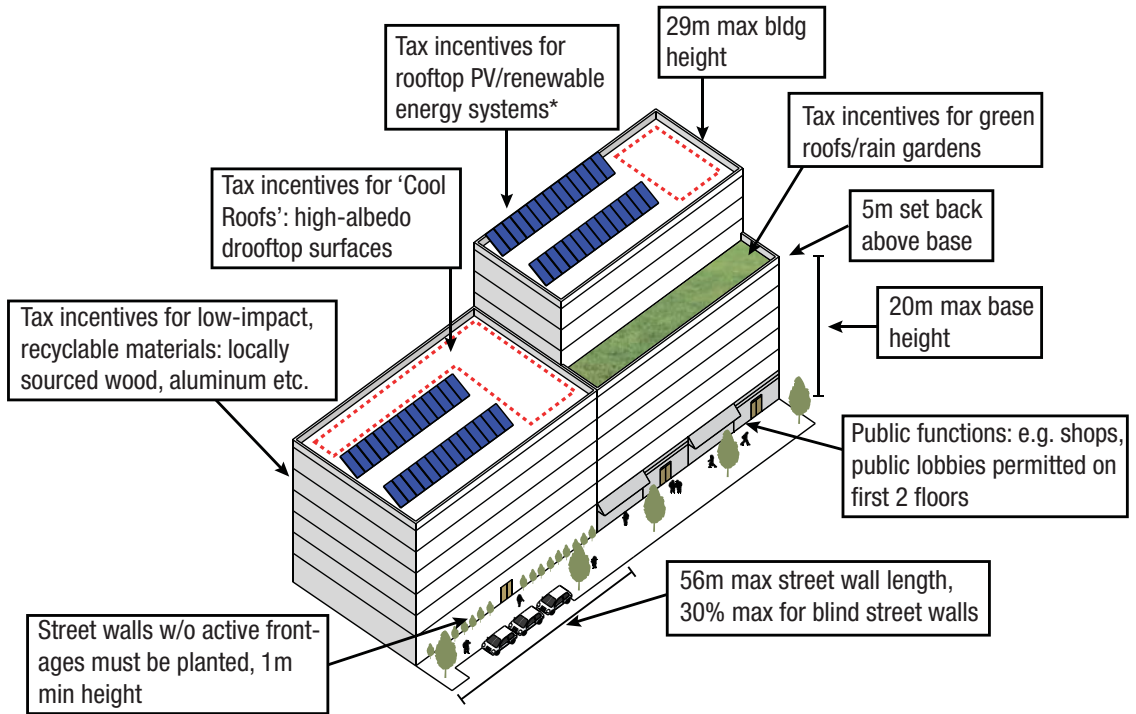


R3 // High-Density Residential District

Lot FAR (max): 5.0 **Building Height (max):** 29 m
Lot Coverage: 80% for corner lot, 60% for interior lot **Base Height:** 12m(min)-18.4 m(max)

Fig 6.55 Englewood South // High density residential mixed-use typologies (Author)

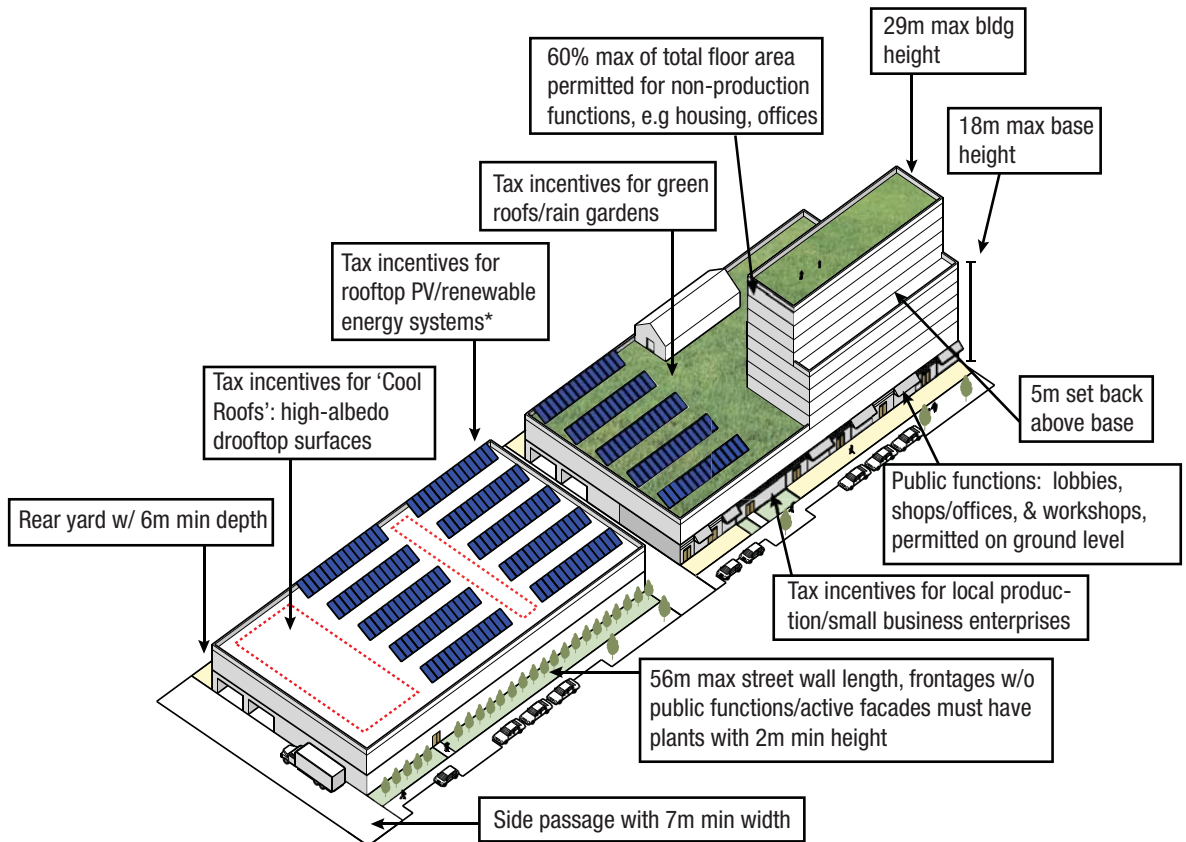
+ **Inclusionary Housing** // In order to guarantee a sufficient supply of workforce/affordable housing, as well as ensuring socio-economic diversity, at least 40% of units in apartment buildings must be a combination of middle to low-income units (20% minimum for low-income units). At the block-scale, a minimum of 50% for middle-/low-income housing applies. A mix of tenureship options must also be available: rentals, home ownership, community land trusts etc.



C3 // High-Density Commercial District

Lot FAR (max): 5.0 **Building Height (max):** 29 m
Lot Coverage: 80% for corner lot, 60% for interior lot
Base Height: 16m(min)-20 m(max)

Fig 6.56 Englewood South // High density commercial mixed-use typologies (Author)



M1 // Light Industrial Mixed-Use District

Lot FAR (max): 4.76 **Building Height (max):** 29 m
Lot Coverage: 80% for corner lot, 60% for interior lot **Base Height:** 12m(min)-18 m(max)

Fig 6.57 Englewood South // Light industrial mixed-use typologies (Author)

+ **Industrial Mixed-Use** // To help transition existing industrial areas from monofunctional zones into mixed-use production centres, light manufacturing enterprises (7000m² max per facility) that produce no serious objectionable pollution and benefit from being located in central locations : e.g. musical instrument manufacturers, custom bicycle builders etc. can be placed in proximity to other functions, as seen in Fig 6.57. This supports a local production sector that offers jobs and entrepreneurship opportunities for the local community and Northern Branch area.

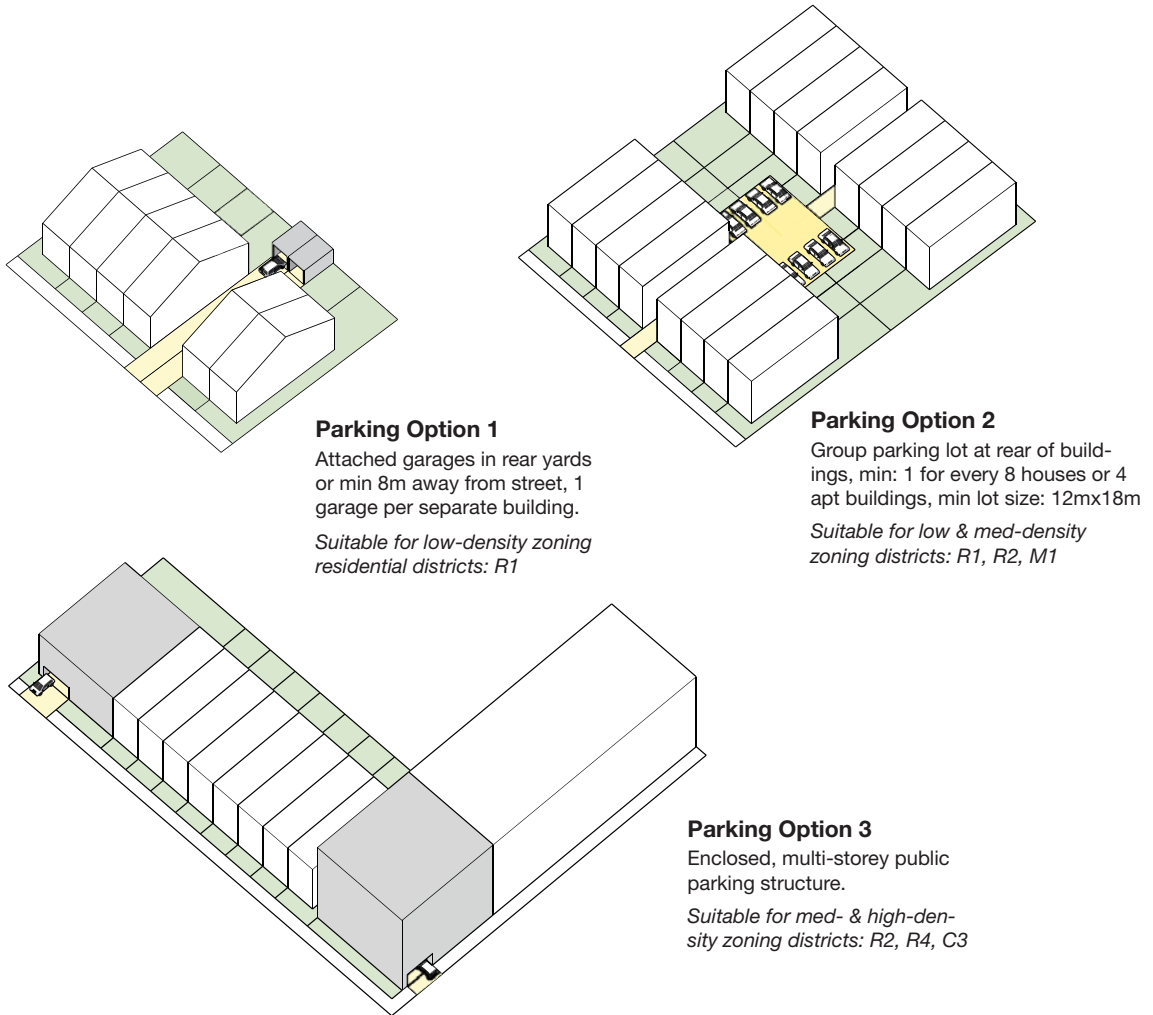


Fig 6.58 Englewood South // Parking solutions (Author)

In order to help create an attractive pedestrian-friendly environment, Fig 6.58 presents a set of three design options for car parking, each one suited to the specific characteristics of the proposed zoning districts. This complements on-street parking bays and minimises the presence of parked cars on public streets, ensuring the emergence of an integral, TOD-compatible mobility and public space network.

Englewood South // STATION AREA SCENARIO

TOD & Light Rail Precedent // Atlanta BeltLine



Fig 6.59 Lawton Street Overpass, Atlanta BeltLine (Atlanta BeltLine, 2014)

The typological and planning/design guidelines provide a base for a clear, workable development framework consistent with Integral Regeneration goals. The next step concerns how to apply said guidelines at the neighbourhood scale and understanding their potential spatial outcomes. Here, we return to the key design concept of the Englewood South Station Corridor. Using the Corridor concept, this proposal presents the case that the future light rail line should be an integral anchor that activates the emergence of a human-scale, inclusionary mixed-use fabric. From presently being a barrier, the light rail becomes a socio-spatial connector.

An analogous design precedent of how light rail/ TOD can be fully integrated as a part of an urban structure is the BeltLine project in Atlanta, Georgia. A former rail corridor located around the core of Atlanta, this area is now under phased development as a multi-use trail and light rail corridor, seeking to link city parks and neighbourhoods, as well as promoting redevelopment (Atlanta BeltLine, 2014). Fig 6.56 shows a rendering of a future BeltLine station location, clearly illustrating how transit can be fully incorporated into a vibrant neighbourhood. The light rail is the centrepiece of an urban boulevard, complemented by a high quality streetscape and TOD-compatible buildings. While the scale of Atlanta and Englewood are quite different, the BeltLine's design/planning approach provides a key example of TOD for the Station Corridor.

Station Corridor Vision // Light Rail as Anchor



Fig 6.60 Englewood South // Station corridor, Phase 1 Scenario (Author)

Fig 6.60 shows the potential initial phase of the Station Corridor. New east-west streets connect the now disconnected sides, with the Corridor as a key connection point. The next step is ascertaining how the light rail line can be integrated into the urban fabric, in terms of their location and potential to foster mixed-use development and attractive public streetscapes. This is tested through two design scenarios.

Station Corridor // Scenario 1

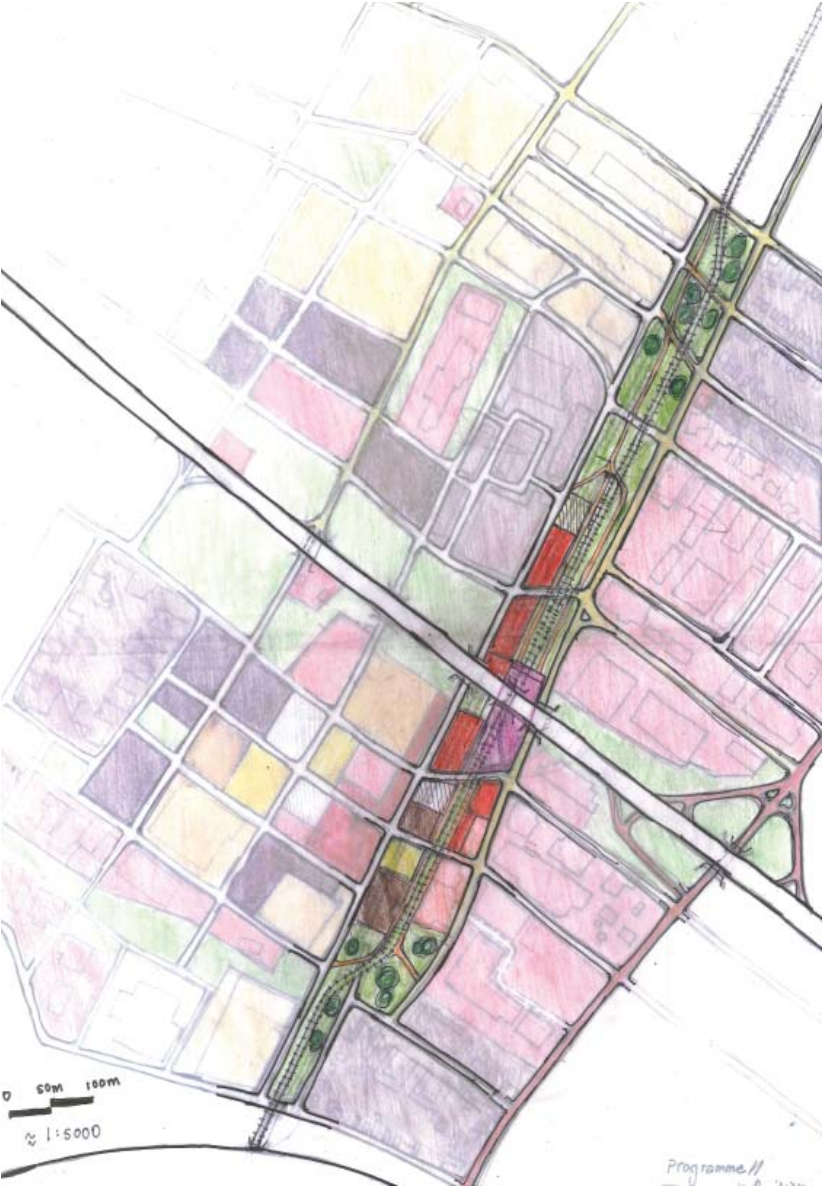


Fig 6.61 Englewood South // Station corridor, Scenario 1 site plan(Author)

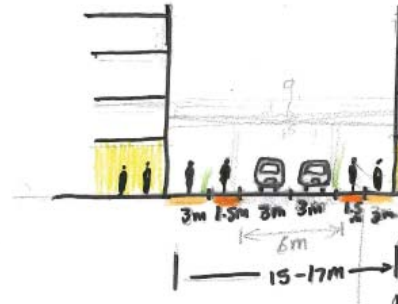


Fig 6.62 Scenario 1 cross-section, facing north (Author)



Fig 6.63 Scenario 1 station area plan (Author)



Fig 6.61 illustrates the first Corridor scenario that was generated. The existing rail line is moved approximately 45m east of its current location, with the intent of seeing how the future line could be part of an vibrant streetscape and act as an anchor for future development. Upon reviewing Scenario 1, the following aspects drawn from the Integral Design Principles are assessed:

- 1) *Integration of Light Rail with walkable, attractive streetscape;*
- 2) *Potential for diverse mixed-use blocks;*
- 3) *Potential for cohesive, accessible public/green spaces.*

In Scenario 1, the light rail successfully fits into an appealing, pedestrian/cyclist boulevard. The other two aspects are more problematic, however. As Fig 6.62 and Fig 6.63 show, placing the light rail in the middle of the corridor leaves only about 30m on the remaining area. The amount of potential development land is too narrow for a programmatically diverse block configuration, e.g perimeter blocks. Likewise, the maximum width for green/public spaces within the blocks is 9m, allowing little to no sunlight penetration when adjacent to multi-storey structures. These findings suggest that in terms of new blocks, the most likely outcomes are linear superblocks, without sufficient capacities for a vibrant functional mix and public spaces.

Station Corridor // Scenario 2

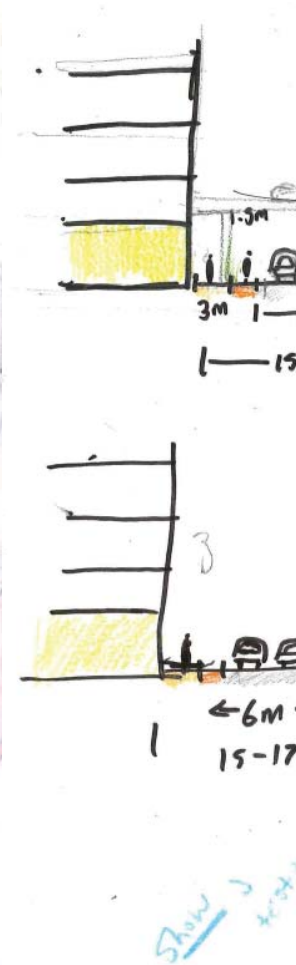
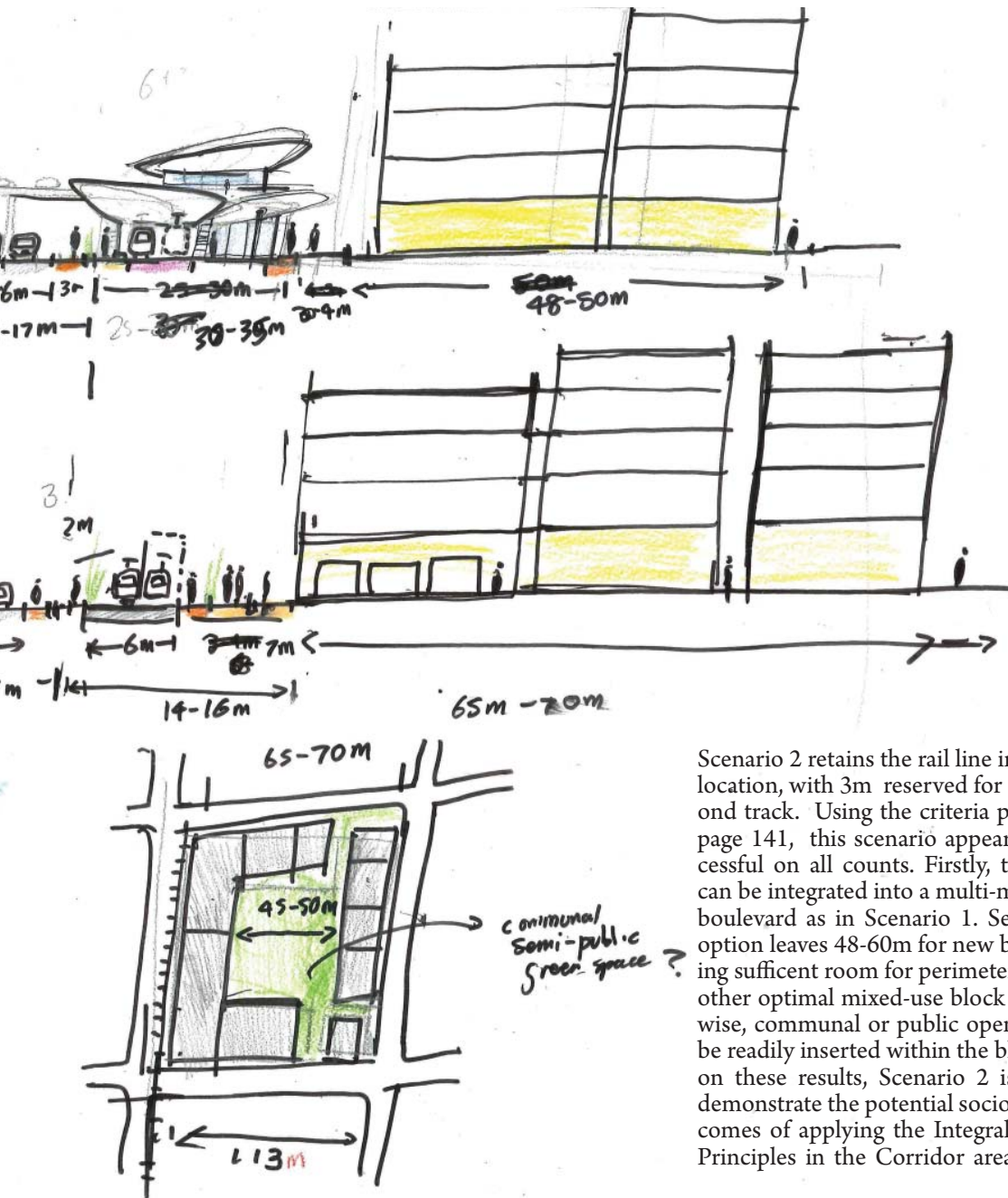
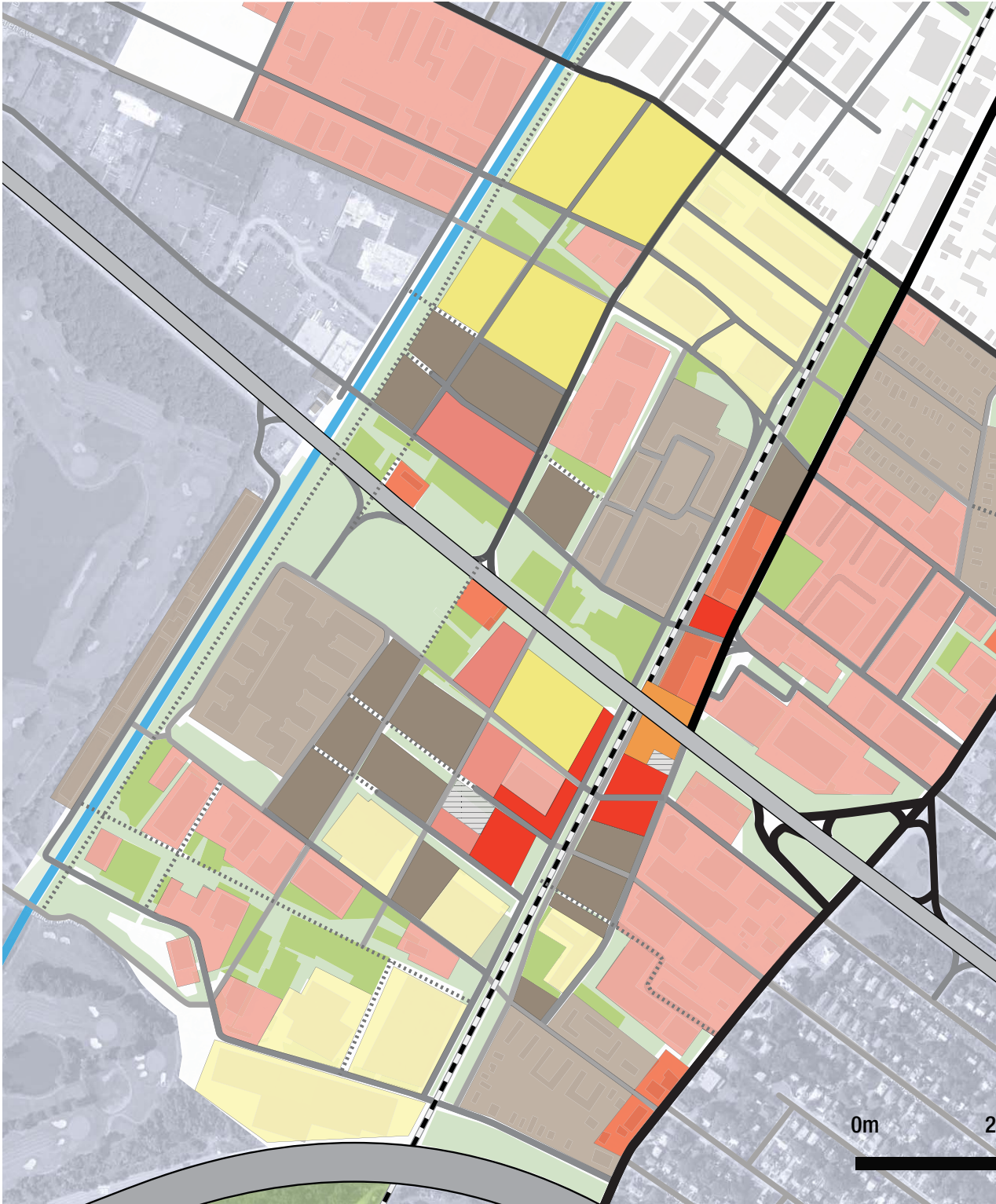


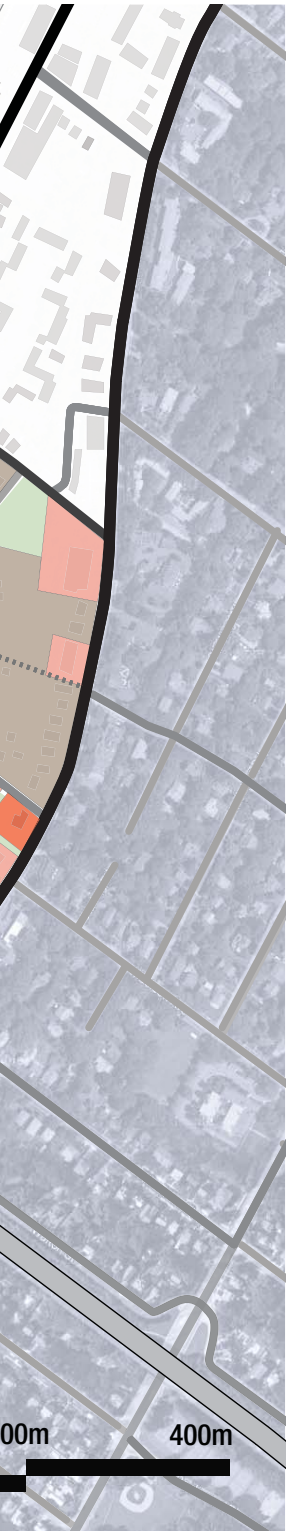
Fig 6.64 Englewood South // Station corridor, Scenario 2 site plan (Author)



Scenario 2 retains the rail line in its existing location, with 3m reserved for a future second track. Using the criteria presented in page 141, this scenario appears to be successful on all counts. Firstly, the light rail can be integrated into a multi-modal, urban boulevard as in Scenario 1. Secondly, this option leaves 48-60m for new blocks, offering sufficient room for perimeter blocks and other optimal mixed-use block types. Likewise, communal or public open spaces can be readily inserted within the blocks. Based on these results, Scenario 2 is chosen to demonstrate the potential socio-spatial outcomes of applying the Integral Vision and Principles in the Corridor area as follows.

Fig 6.65 Scenario 2 cross-sections, facing north (Author); Fig 6.66, Scenario 2 station area block plan (Author)





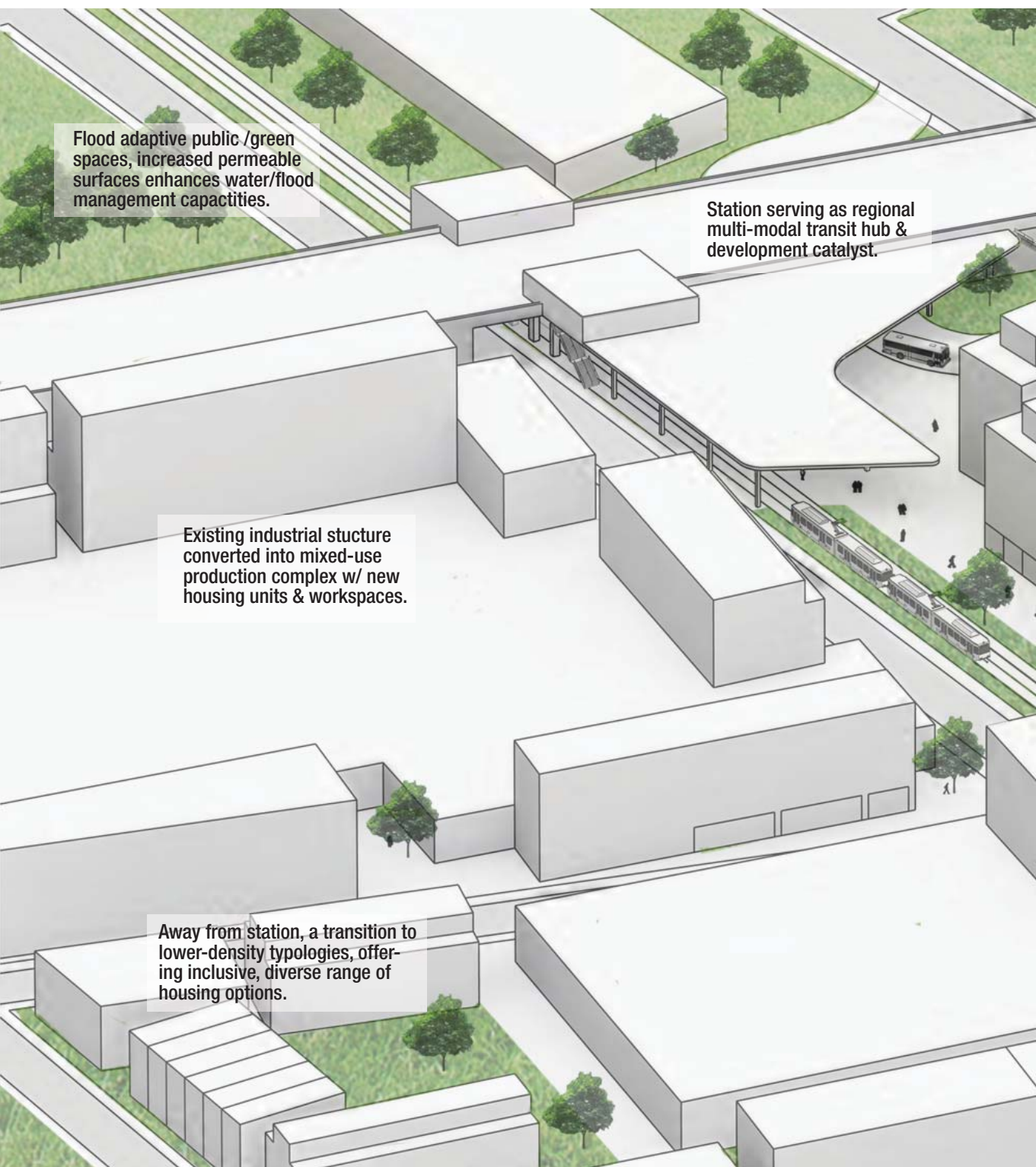
Station Area Structural Vision // Zoning Districts

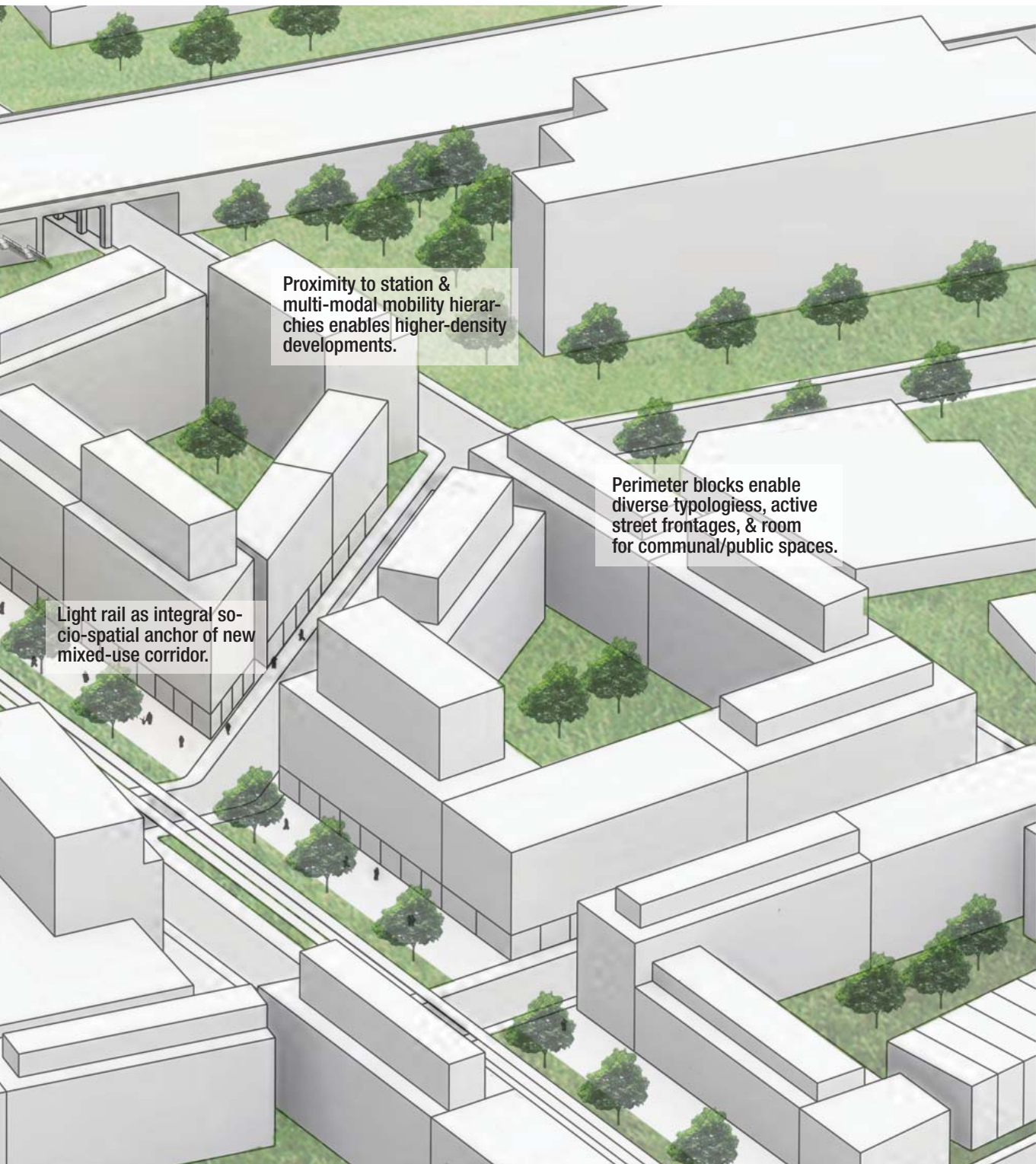
Fig 6.67 Scenario 2 Stuctural Vision (Author)

- R-X // Existing Residential
- RM-1 // Residential Mixed-Use
- C-X // Existing Commercial/Retail
- CM-1 // Commercial Mixed-Use Overlay
- PM-X // Existing Small-Scale Industrial
- PM-1 // Small-Scale Production Mixed-Use
- PM-X2 // Existing Large-Scale Production
- PM-2 // Large-Scale Production Mixed-Use

Public Space & Mobility Systems

- Transit Station
- New Green Spaces
- Public Squares
- Regional Arterial
- Local Arterial
- Collector Road
- Living(Local) Street
- Bike/Ped Path





Proximity to station & multi-modal mobility hierarchies enables higher-density developments.

Perimeter blocks enable diverse typologies, active street frontages, & room for communal/public spaces.

Light rail as integral socio-spatial anchor of new mixed-use corridor.

Fig 6.71 Station Corridor aerial view // Integration of transit with local morphological structure & inclusionary mixed-use zoning catalyses a diverse mix of functions, public spaces and typologies (Author)

Station Corridor // Urban Design Scenario

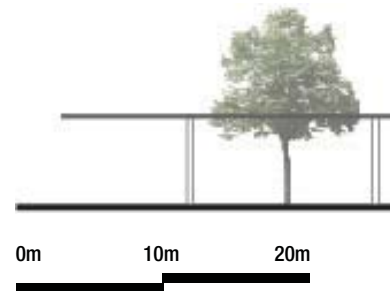
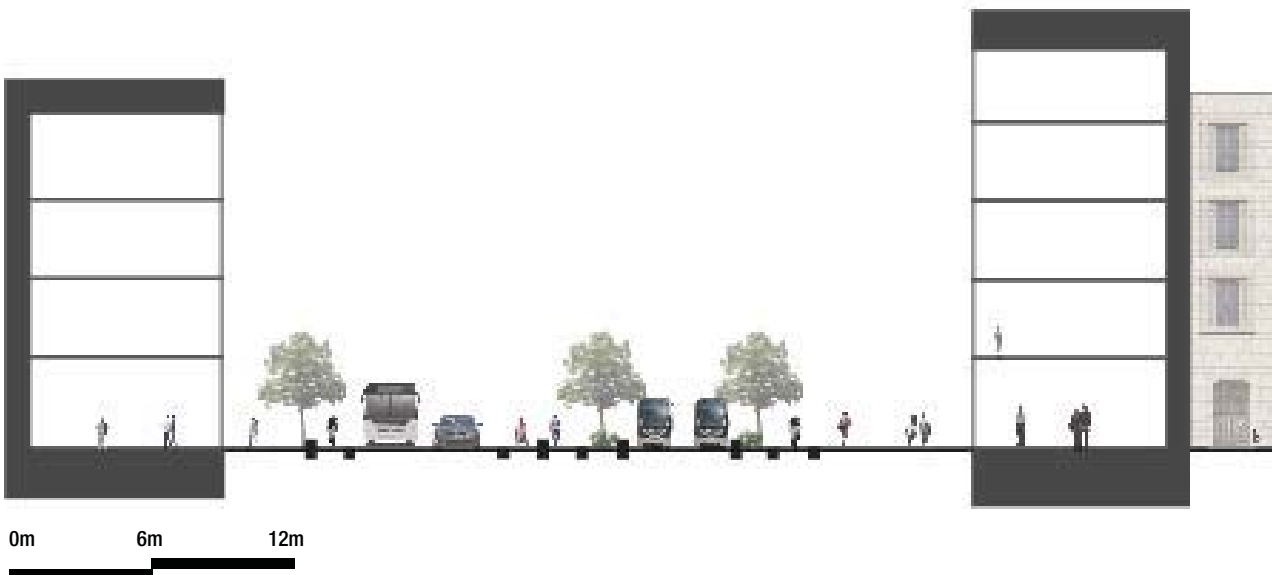


Fig 6.68 Englewood South Station, Spatial & functional quality concept sketch (Author)

The functionality and spatial quality of the future station will be critical in ensuring the access to amenities/jobs and attractive place qualities needed for the successful implementation of TOD regeneration. Fig 6.68 presents a concept sketch of the station that is intended to give urban designers/architects a starting point for envisioning the scale, level of amenities (e.g. seating) and connectivity necessary to establish it as an anchor of a local production/mixed-use centre. Here, Fig 6.68 and Fig 6.69 present the possibility of creating an integral, multi-modal hub connecting to regional and local bus services as well as light rail, ensuring maximum access to the rest of the region and beyond, especially for transit-dependent groups, e.g. low-income immigrants.



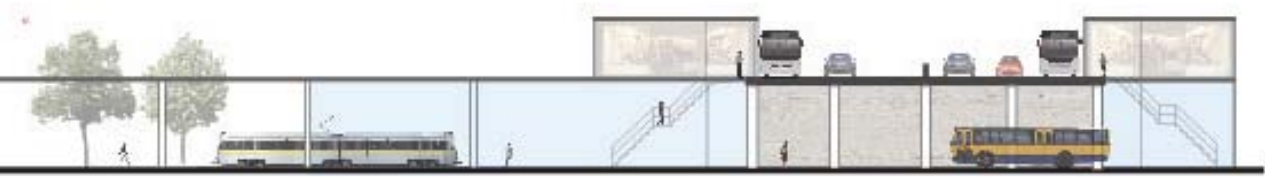


Fig 6.69 Englewood South Station scenario // Longitudinal section, showing accessibility to local/regional bus and light rail lines (Author)

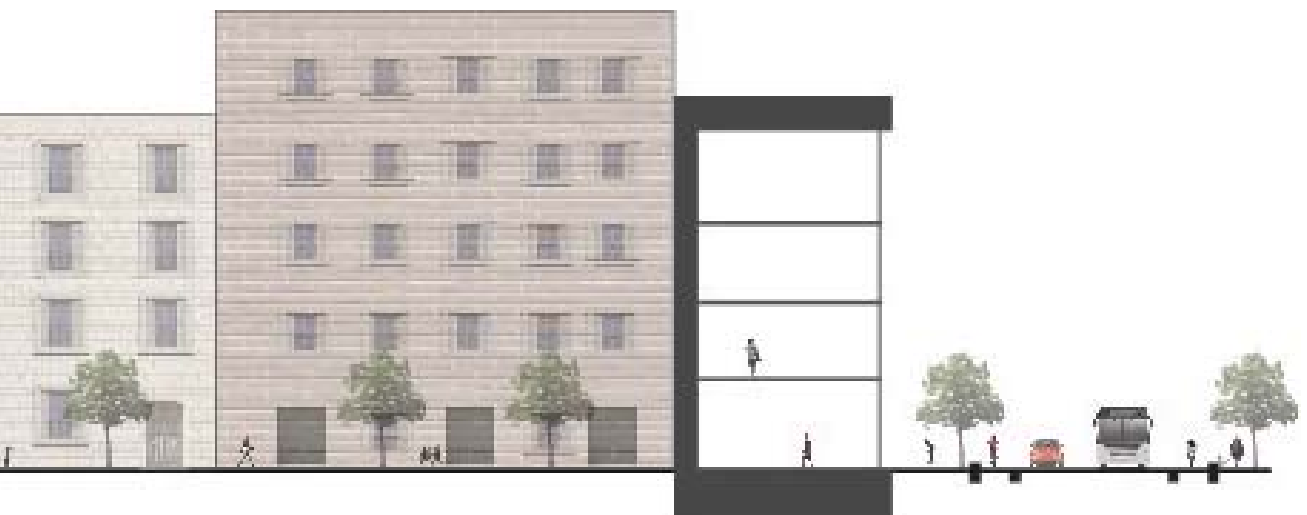


Fig 6.70 Station Corridor site-section, facing north towards station, showing how proposed corridor supports an integral mobility & public space network (Author)





Fig 6.72 Station Corridor street-level perspective, facing north towards station

Englewood South // ENGLEWOOD SOUTH STATION SCENARIO

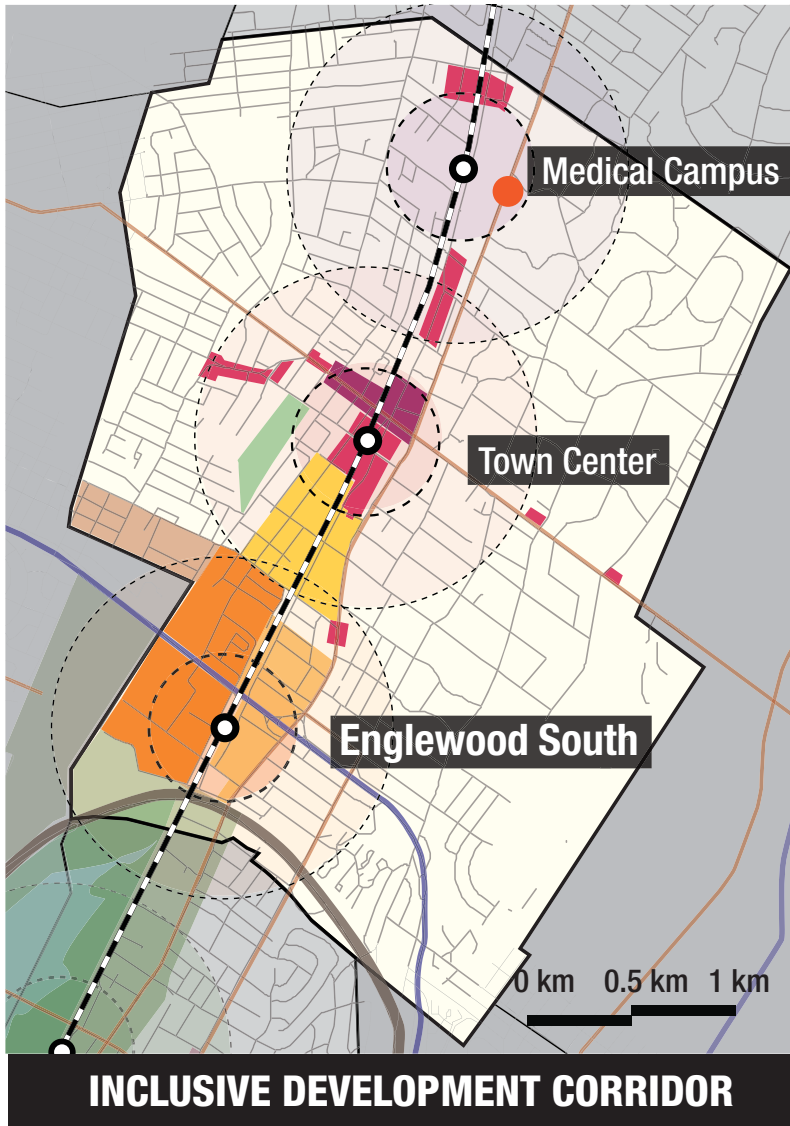


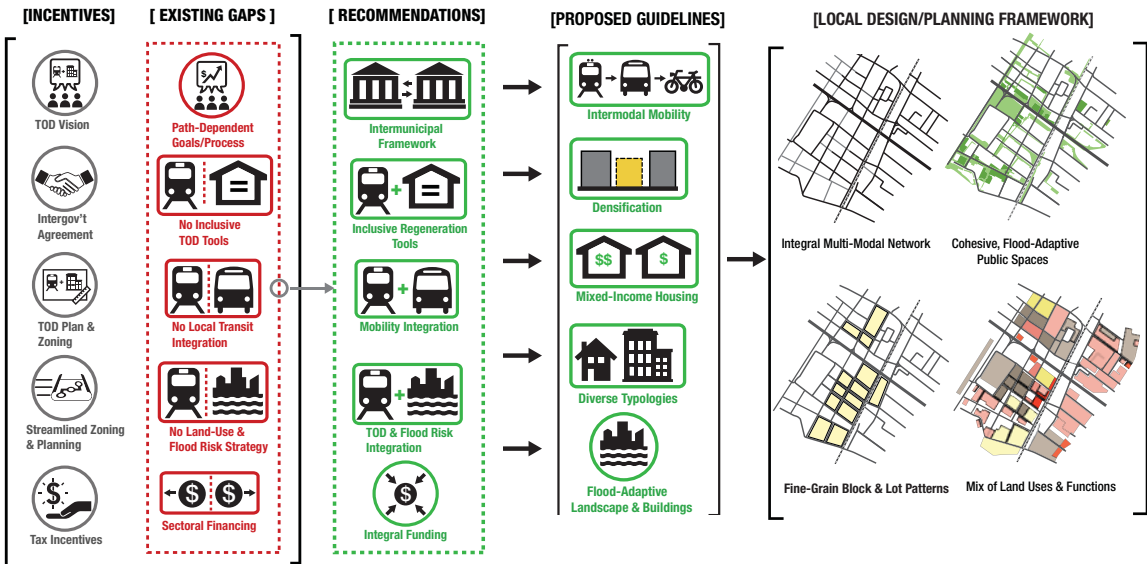
Fig 6.73 Englewood // Main Centralities

The transformation of Englewood South, from an rather invisible mono-functional industrial zone into a diverse live/work neighbourhood and production centre, will further enhance Englewood's position as a regional hub. Successful regeneration in Englewood South complements the city's two other centres, catalysing an inclusive development corridor.

7. Conclusion

7.1 Proposal Conclusion

7.1.1 Conclusion



7.1 Integral Regeneration Framework (Author)

The Integral Regeneration Framework presented in Chapters 5 and 6, validates this proposal's premise that improving existing operational gaps in North Jersey's TOD/regeneration model potentially can lead to improved socio-spatial outcomes. It offers a multi-scalar planning framework that augments existing TOD/regeneration incentives through a set of strategic intermunicipal policy recommendations. These intermunicipal policy proposals are then translated into local-scale initiatives. As shown in Chapters 5-6, a combination of Actor Relational framework and an initial, local Spatial Evaluation enable the proposed Northern Branch Collaborative to bridge the gap between institutional entities and planning actions.

One primary aim is catalysing a self-sustaining spatial development framework, serving as a starting point for future urban design and architectural proposals. Specifically, this framework allows the Integral Regeneration goals to be manifested through tangible improvements of existing urban structures. The thesis' operational model empowers involved actors to directly engage the linkage between planning policies and spatial outcomes, from the intermunicipal down to the neighbourhood-scale. They ultimately shape a more flexible, inclusionary spatial planning/design model that can readily adapt to the complex, evolving needs of the Northern Branch.

7.1.2 Final Reflections

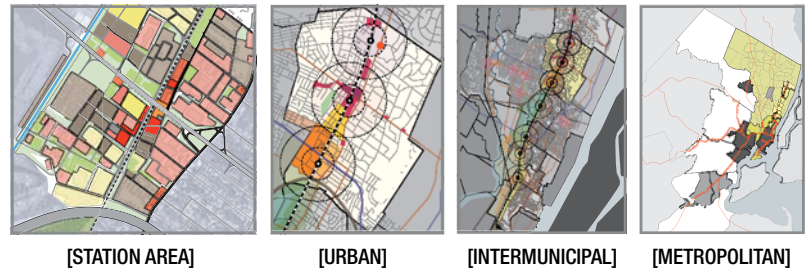


Fig 7.2 Integral Regeneration Impacts (Author)

Based on the research findings of this thesis, the thesis' proposed planning approach has implications for multiple, interconnected scales. As seen in Fig 7.2, starting at the Station Areas, we see how evaluating integral TOD/regeneration policies in spatial terms, illustrates the possibility of more inclusive and diversified urban structures. At the Urban Scale, strengthening key local TOD centralities, enhances municipalities by simultaneously improving their local and intermunicipal-scale place qualities. Moving up to the Intermunicipal Scale, we see how a network of vibrant, complementary centres enables the Northern Branch Corridor to become a dynamic sub-regional structure that strengthens existing communities while capitalising on their access to larger regional networks. Finally, the Northern Branch's unique position within the NY metro area enables it to become a critical example for small city/ suburban regeneration in other parts of the NY's 'urban periphery'.

The long-term success of this proposal's planning framework will ultimately depend on political will and becoming part of a larger policy framework. While spatial planning can contribute towards comprehensive community and regional improvements, it is only a part of a larger discourse. Planning must join up with other important sectors: healthcare, public education, economic development etc., in order to create a comprehensive, long-term Integral Regeneration platform. Planners can play a critical role in showing other key actors, how public policies have tangible spatial implications, e.g. how the location of clinics affect healthcare access. Likewise, just as this thesis' planning framework operates at multiple scales, planning and public policies must also work from the metropolitan down to the neighbourhood scales.

The main 'x' factor will be the specific political dynamics of the Northern Branch and beyond, one major question being whether a sufficient amount of political will can be mustered to enable the implementation of an integral TOD/regeneration approach. Nevertheless, this proposal offers a practical strategic planning methodology that enables actors to directly improve upon the structural weaknesses of

North Jersey's existing regeneration and transit planning paradigm. Importantly, it can open up a broad-based discussion on reconceptualising the place of New York's periphery and how to engage spatial planning and design from a strategic, metropolitan perspective.

Likewise, an Integral approach is congruent with emerging political trends towards intermunicipal cooperation in North Jersey, best exemplified by the Mayor's Commission. In place of trying to impose the proposal ex nihilo, the Integral Regeneration model provides a way to build up existing planning initiatives to generate a sustainable metropolitan planning regime for this urban sub-region. Doing so can enable North Jersey to become a dynamic complement to New York City: generating a more equitable, resilient metropolitan structure that enhances the socio-economic and physical potentialities of the region, in place of offering benefits for only a select few.

7.1.3 Next Steps and Recommendations

Some preliminary plans for subsequent steps as well as recommendations for further research are described as follows. As a key part of a larger, on-going planning research based in the US: *Workable Cities*, this thesis will help serve as a stakeholder engagement tool to reach out to key actors and potential collaborators in North Jersey. Specifically, the proposal will be part of an initial Public Engagement phase, where the aim is gauging local interest in the Integral Regeneration approach, and open up conversations on how to improve upon current planning systems by engaging operational processes. The hope is to test the appropriateness of the proposal's recommendations in relation to the local societal and political contexts, via informal discussions, interviews and engagement initiatives such as public presentations.

Next, another aim is to conduct further research on the linkage between planning processes and spatial outcomes in relation to TOD-based urban regeneration. One area that requires further attention is how to develop Integral public policy, financing and spatial planning programmes to work in tandem. An example would be creating a multi-sectoral approach to transit-accessible, moderate-income housing, which may require dedicated funding mechanisms for housing and transit subsidies as well as integration with public education and social service policies. More research is also needed on how to enable current land-use and zoning regulations to be more flexible and clear enough to meet emerging local socio-spatial needs. Likewise, the inclusion of urban design tools at the start of the planning process will be critical in terms of more precisely ascertaining how Integral Regeneration can reshape existing urban structures in more optimal ways, but will require further study.

Here, the proposal must engage the following constraints. Firstly, spatial planning can serve as only one (albeit critical) component of a larger public policy framework. Therefore, a clear-eyed assessment of planning's capacities and limitations will be necessary in terms of understanding the

role of planning within a Integral framework, as well as seeing how exactly planning can complement other policy sectors. An other underlying constraint is the influence of political/cultural dynamics, especially hegemonic ideologies and major political actors, that will undoubtable shape any future planning discourses. This is largely outside of the scope of this thesis. However this is one of the most critical factors that will determine the success or failure of Integral Regeneration, and an awareness of it must be integrated into any planning initiatives, both of terms of seeing how cultural/political paradigms shape planning discourses and adapting Actor Relational mechanisms to be appropriate to a given societal context.

7.2 Graduation Reflection

7.2.1 Studio Theme and Subject/Case Study

This graduation project belongs to the studio's theme of Regional governance, planning and design. The project's research focus directly relates to the theme's main research question of how regional planning methods can serve as a catalyst for territorial transformation, particularly TOD (Transit Oriented Development). This linkage is further demonstrated by how the project's research goals match the theme's goals of investigating the emergence of new metropolitan regions and the potential for integrative policies in the territorial domain, especially in terms of sustainable accessibility. The latter term relates to a lack of integration between transport networks and the urban fabric, a critical challenge in North Jersey. Likewise, the research area's governance and planning context demonstrates the theme's concern with managing complex, overlapping governance regions with blurred territorial boundaries.

The innovativeness, results and research impact contribute to the Research Theme's work in the following ways: First, by exploring possibilities for integrative governance structures and territorial transformation strategies through a TOD-based framework, the project's innovativeness and research impact complement the theme's ongoing TOD and network integration research project in the Randsstad. Finally, due to its focus on catalysing urban regeneration at the local-scale, the research results can relate to the theme's collaboration with the Neighbourhood Change and Housing group led by Professor Maarten van Ham from OTB.

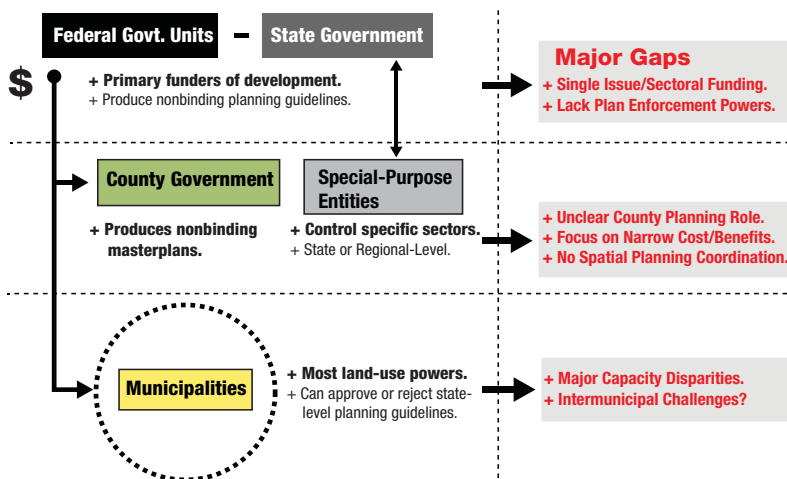


Fig 7.3 Research theme: Governance processes

7.2.2 Studio Methodology and Project Framework

The methodological framework is aligned with the Complex Cities studio's emphasis on multi-scalar socio-spatial and stakeholder analyses of metropolitan regions, in this case, a proposed light rail line extension, the Northern Branch Corridor in Northern New Jersey (North Jersey). Moreover, the project specifically focuses on the operational role of spatial planning in relation to the identified gaps between North Jersey's TOD/urban regeneration planning processes and local-scale socio-spatial demands. The findings from this gaps analyses serve as the basis for a set of strategic policy and operational recommendations aiming to augment existing operational planning gaps and catalyse an integral model of TOD-based regional-local scale regeneration for the Northern Branch Corridor. Such an approach matches the studio's methodological focus on analysing metropolitan regions as complex, multi-scalar socio-spatial networks and identifying the role of spatial planning in relation to the various critical aspects that shape the urban environment, e.g. governance processes.

In other words, this project's approach reflects the Complex Cities' methodological premise that urban spaces at every scale: from city districts to neighbourhood are simultaneously influenced by local, regional, and global-scale dimensions and patterns, e.g. economic exchanges, governance processes etc. This is summarised in further detail in the project's Analytical Framework. Here, the research area of the Northern Branch Corridor serves as a testing ground for proposing an Integral operational model for TOD/Smart Growth in metropolitan peripheries, providing the context and focus for the thesis. The Analytical Framework is used to identify key aspects that are directly connected to TOD frameworks, such as multi-level governance structures, identification of key land-use and transit planning gaps and a demographic analysis of local users. Said framework serves as the basis for a regional diagnosis and integral TOD strategic framework. Concurrently, a Theoretical Framework provides the conceptual and research background for and TOD-based planning and design approaches. This information, which some material derived from the North American and Western European contexts, forms the basis for a set of principles, strategic goals, and evaluative criteria that examines current institutional and operational TOD frameworks.

Finally, these serves as the starting point for a proposed Integral Regeneration operational planning model for the Northern Branch Corridor, which in turn is tested through a local-scale spatial design scenario. The primary goal of the latter is to illustrate beneficial spatial outcomes that can result from the proposed operational/governance framework. Here, this fits with the Complex Cities methodological emphasis on clearly illustrating the linkages between regional planning, urban structures, and socio-spatial development. Specifically, this thesis presents the argument that operational planning models have direct impacts on the development of metropolitan spaces, and thus are one of the most critical aspects to consider, especially when dealing with complex, multi-sectoral planning instruments such as TOD.

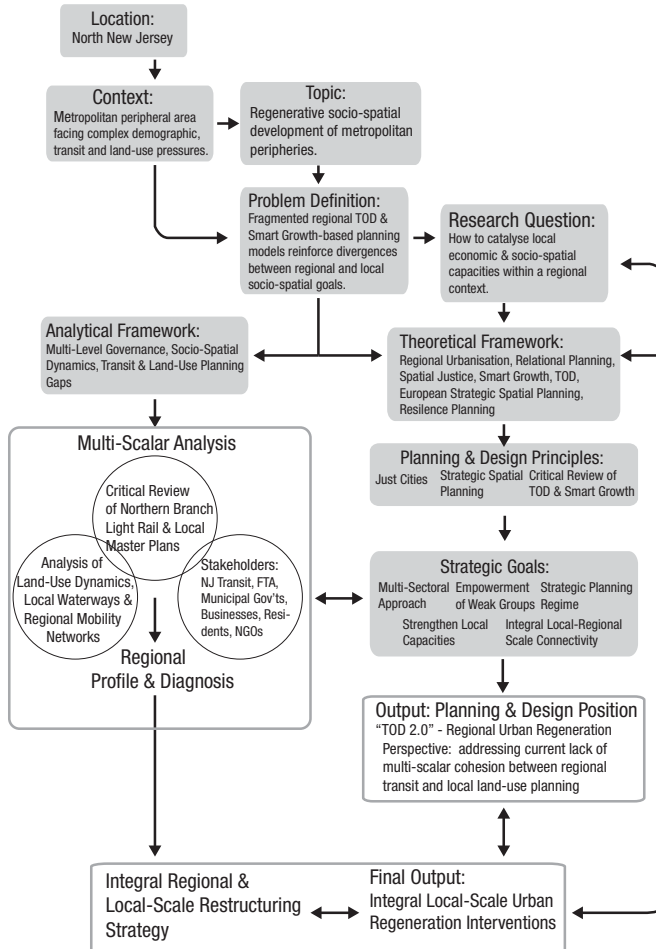


Fig 7.4 Project Methodological Framework

7.2.3 Research and Design

This project illustrates a clear linkage between research and design through a two-fold approach. Firstly in the context of this thesis, the term 'design' refers not just to physical planning or urban design interventions. A broader definition is used instead, encompassing operational planning processes as well. Hence, the improvement of existing operational planning processes via a set of strategic recommendations is one of the primary design proposals of this project. This TOD-based operational model, the Integral Regeneration Strategy, directly emerges from the analytical findings and theoretical concepts reviewed in the earlier stages of the thesis, namely the analysis and literature presented at the P2 presentation. The second point is that just as the proposed Integral Regeneration Strategy was drawn out of the P2 research, the pro-

posed Local-Scale Planning Scenario engages the operational parameters of the latter proposal by testing the validity of the former. Specifically, this is then done by showing possible spatial outcomes, (via mapping and visualisations) of the Integral Regeneration approach. The next step is evaluating their consistency with the goals and parameters set by said model. In this way, every stage of this project illustrates a reciprocal relationship between the research and proposed interventions, in which both aspects inform the other in an iterative process.

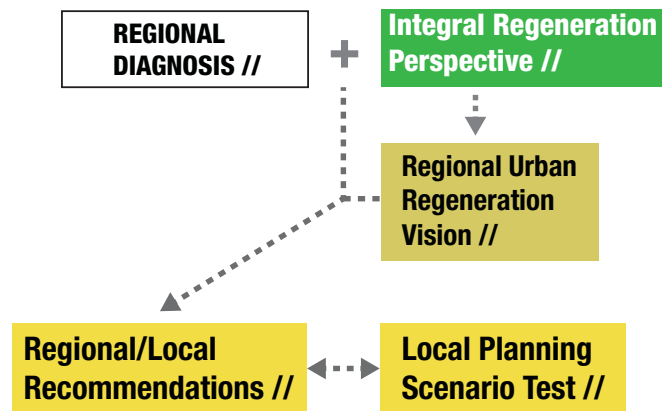


Fig 7.5 Project outputs summary

7.2.4 Societal Relevance of Project

The societal relevance of the thesis lies in how it offers a way for North Jersey and other peripheral areas of the New York region, to generate planning tools and spatial interventions that can help them manage the urbanisation processes that have transformed them into complex urban sub-regions in their own right. It provides the possibility to create sustainable frameworks to address the structural imbalances of power between affluent urban centres and the inner periphery of former industrial cities and inner-ring suburbs. In short, the benefit of this thesis lies in its goal of exploring how restructuring regional governance and socio-spatial systems can help improve the capacity of North Jersey communities to ensure equitable access to housing, employment opportunities, and public space. This is of particular relevance to an area facing an uncertain long-term economic and environmental future.

The scientific relevance of the thesis lies in how it reconsiders the relationship between traditional metropolitan centres and urban peripheries. It offers a way to see the possibilities of creating planning instruments to engage emerging new polycentric metropolitan structures that are blurring clear-cut boundaries between cities and suburban communities. Likewise, how planning can address North Jersey's concurrent socio-spatial trends of immigration, an aging population, and the gentrification of old urban centres

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