



Building Healthy Communities: Long Beach

920 Atlantic Ave., Suite 102 Long Beach CA 90813

February 12, 2018

Mayor Garcia and Long Beach City Council

Comments on the Revised Draft Land Use and Urban Design Elements of the City's General Plan

Building Healthy Communities: Long Beach (BHCLB) Environmental Health Work Group (EHWG) has been actively involved in the development and refinement of the Land Use Element (LUE) and Urban Design Element (UDE). Collectively, our coalition has pursued stronger language in support of sustainable and equitable communities, in particular the inclusion of "Green Zones" (Implementation Measure [IM] LU-M-64) and affordable housing for low-income working families in the LUE.

We have met with City staff on several occasions, reviewed and discussed the contents of earlier versions of the draft documents, and made suggestions for specific changes, many of which are reflected in the current draft.

When the Planning Commission reviewed and recommended the LUE and UDE to the City Council on December 11, they made a series of changes to lower density and convert some areas from mixed use land use designation to commercial designation. In general, we are not supportive of these changes as they will limit the ability to produce new housing in the future, and may not be as responsive to market forces that prevail in future decades. For example, the area near the Traffic Circle was altered to favor commercial over mixed use, and the height in many areas was arbitrarily reduced, and this may unnecessarily limit future development opportunities, especially for housing. While a number of comments received in anticipation of the Planning Commission discussion were opposed to increased density, a substantial portion suggested allowing more residential to address the housing affordability and availability crisis that has been building in Long Beach for years.

As we understand it, the General Plan through the LUE provides an outside limit on growth and development in the future, and the subsequent zoning code update can further restrict density (dwelling units per acre) as well as height limits. However, the zoning cannot exceed the limits established by the General Plan. Since Long Beach has consistently built well less than the housing (more than 700 units per year) needed just to keep up with natural population growth, much less provide units to address chronic overcrowding, or growth from people moving here for new jobs and to be part of the community. The vacancy rate has hovered near 2 percent, which is a strong indication of an overheated real estate market that will only become increasingly unaffordable. The most flexible and accommodating development scenario should be provided in the LUE, and the mixed use and increased height limits proposed by staff should be reinstated.

A critical overarching issue is how many Long Beach residents (66% of working adults, according to the I-710 EIR), work outside of Long Beach. This situation causes unnecessary air pollution, extended time away from families, and reduces our economic vitality. Our vision of an equitable and just society includes growth that supports more good jobs for Long Beach residents.

On January 19, 2018, EHWG received a detailed response letter to our comment letter to the Planning Commission. We were pleased that staff recommends a good portion of our suggestions. However, since that is only a recommendation at present, we have included, and will continue to advocate for these issues with the City Council as part of the adopted version of the LUE and UDE, as well as focus on robust implementation after adoption.

While we are pleased with the recommended policy changes that have been made to date, we have attached suggested revisions for specific pages, including the addition or strengthening of implementation measures.

These additional comments and suggestions are provided in the attachment to this letter. With the inclusion of these suggestions, we would be supportive of adopting the LUE and UDE.

The LUE and UDE are critical planning documents, providing a long-range vision for development and investment in the City. The extended process for successive iterations to produce the current draft documents has included extensive public outreach, from the Community Clusters and Community Festivals, to regular and special meetings with a wide range of community and neighborhood associations, the Planning Commission and City Council.

We have the following general comments:

The City Needs a Long Range Land Use Plan

The City began the process for updating the General Plan in 2004. There was a great need for a comprehensive long range land use plan then, and that need has only grown over the intervening 13 years. During that time, the City has updated the Downtown Plan, Midtown Plan and the Southeast Area Specific Plan without benefit of a citywide long-range land use plan. During that extended period, the City spent billions of dollars on capital improvement projects, built new public safety facilities, and made hundreds of other important decisions without a long-range land use plan. The City experienced the Great Recession, periods of substantial growth and change in some neighborhoods. We've experienced ever increasing rents, displacement of long-term residents who are primarily low income residents of color, and sky rocketing sale prices of homes. This is coupled with the entirely new paradigm of online retailing and the creation of on-demand ride-hailing services that are rapidly altering land use and lifestyle patterns without an update to the long-range land use plan. The time to update the Land Use Element has come, and we urge its adoption with our suggested revisions.

Implementation is the Key

The vision provided by the LUE and UDE about the future of the City strongly reflects the collective values of the community. But shared vision is not enough. Implementation of the LUE and UDE will require updating the Chapter 21 of the City's Municipal Code (the Zoning Code) as well as adoption of a number of focused land use plans, policies and ordinances on a wide variety of subjects ranging from tenant protection policies, anti-displacement policies and policies that preserve and create affordable housing. Currently, Long Beach has no tenant protection policies in place, no anti-displacement measures in place, no policies to preserve and create affordable housing and no local, dedicated revenue source for affordable housing. We cannot continue to grow as a City, in a healthy and equitable manner, if we do not adopt policies and plans that protect our existing residents who make up the diverse fabric of our great City.

The City recently initiated updates to other components of the General Plan, including the Climate Action and Adaptation Plan, the Noise Element, and supporting policies and studies. The City has also noticed an RFP for a consultant to study an inclusionary housing policy for the City. However, the parameters of this potential policy have not been shared with the community and the details of this policy (i.e., who benefits and by how much) are critical. The City has been informed by the Southern California Association of Governments (SCAG) that it needs to produce 5,440 affordable units between 2014 - 2021 to meet the existing housing needs of Long Beach residents. (This is referred to as the City's affordable RHNA number.) Unfortunately, the City is nowhere near meeting this goal. Since 2014, the City has produced approximately 500 affordable units, which is nowhere near its RHNA number of 5,440 affordable units. Therefore, the City needs to adopt a robust inclusionary housing policy that sets aside a significant amount (20%) of new apartments and condominiums for Very Low income households. Every part of the City should be subject to these requirements. It is also critical that this policy be adopted at the same time as increased density is approved, as recommended by the LUE. If increased density is approved first, land values are increased for developers with the stroke of a pen without extracting any community benefits, such as inclusionary housing for Very Low Income families. The City should not repeat the mistakes of the Downtown Plan, which increased density without obtaining any community benefits for impacted residents. The Downtown Plan has resulted in massive gentrification and displacement of long term low income residents of color. Furthermore, and to be abundantly clear, density is not a proxy for affordable housing. Affordable units are

only built when developers are required to do so, through policies such as inclusionary housing. Density alone does not bring affordability.

In addition to including the specifics of an inclusionary housing policy in the LUE, the LUE should also include anti-displacement protections such as a “No Net Loss” policy. A No Net Loss policy would require developers to replace all affordable units that are demolished or converted to make way for a new development. Importantly, “affordable units” should be defined to include not just covenanted units or units with affordable rents, but also any unit that is “occupied by a low or moderate income household”. This definition of affordable unit is utilized in state density bonus law as well as housing policies in the City and County of Los Angeles. Defining affordable units to include units occupied by low or moderate income households is the current best practice for housing policy.

With a No Net Loss policy, after a developer determines the number of existing affordable units in a development, the City must then require that any new development on that site include this number of replacement units. Importantly, this requirement would be in addition to any inclusionary housing requirement. Finally, with a No Net Loss policy, the policy must define demolition to include substantial rehabilitation work so that developers don’t have a loophole for avoiding replacement housing obligations by engaging in major rehabilitation work.

Adoption of the LUE and UDE with our suggested revisions will provide a foundation for all of these other plans and policies to move forward. It is difficult to see how these other important efforts can proceed without the guidance from LUE in any meaningful way.

Complete Neighborhoods

One of the primary founding principles of the 10-year Building Healthy Communities initiative, initiated in Long Beach in 2010, was to rectify the significant health and life expectancy discrepancies from West, North and Central, where life expectancy can be up to 7 years shorter than residents from the Eastside. The EHWG is in strong support of the policy discussion in the LUE, most especially the Sustainability and the Natural Environment (LUE Pages 47-50) and Health Communities sections (LUE Pages 51-54). The Sustainability section includes references to the Sustainable City Action Plan and climate change and sea level rise. The Healthy Communities section references the Healthy Communities Policy adopted by City Council in 2014, the development of which was supported by BHCLB. The narrative promotes active living, access to healthy foods, and improving environmental justice, all primary focus areas of the EHWG collectively and its collaborative members. The comments EHWG has at this point in the process have to do with expanding and strengthening Implementation Measures to provide more direction and assurance that the sustainability and healthy community policies will become meaningful and effective during the planning horizon of the LUE.

The ultimate goal of this effort to improve the quality of life for all residents, workers and visitors in Long Beach. The focus of this effort will be to ensure that all neighborhoods are complete (IM LU-M-45), providing a full range of daily needs activities, including access to a wide range of goods and services, healthy foods, recreational and suitable employment opportunities. Only when all neighborhoods provide a healthy and comprehensive range of services will the historic health disparities.

Targeted Economic Development

The EHWG collaborative supports sustainable targeted economic development, particularly affordable housing and the reduction of exposure to environmental hazards of all types. This means that new residential development should not be built in areas where pollution and other environmental conditions adversely impact healthy living, including the Port (IM LU-M-50), and industrial areas and near freeways and heavily traveled roadways (IM LU-M-51). At present, too high a percentage of Long Beach residents are renters paying too much of their income for basic housing and so many residents are on the verge of homelessness. More housing at all socioeconomic levels, especially at the most affordable levels and for homeless and transitional housing, is needed.

Growth in significant growth, transit-rich and infill areas (IM LU-M-21 through LUM-31), and economic development (IM LU-M-13 through LU-M-20) would help provide a wide range of affordable housing options (IM LU-M-41 through LU-M-44).

The LUE should include more specific policies and implementation measures that will work to create truly affordable housing to our lowest income residents, and a better match between jobs and the employability of Long Beach residents as part of the economic development efforts.

Sustainable Growth and Equitable Development that Encourages Complete Neighborhoods, Healthy Lifestyles and Affordable Housing

EHWG supports sustainable and equitable development, a City that thrives for all its residents, workers and visitors. However, for far too long, development has been planned and built in only some areas of the city, burdening people in those areas with congestion, pollution and lower standards of living. Some of this was legislatively prescribed through covenants, conditions and restrictions that were racially motivated decades ago. These provisions were morally wrong when they were written, but their influence has endured. The LUE should seek to correct these historic disparities and result in improved quality of life for all of Long Beach. In order to rectify these discrepancies, more investment in historically disadvantaged communities and communities of color will be required in the coming decades.

Development efforts should be focused on provided complete neighborhoods, making it easier for residents to live healthier lifestyles. Affordable housing production should keep up with demands. The City's policies and spending priorities should be in line with creating equity and accommodating growth where it is envisioned to occur in the LUE.

Urban Design Guidance is Critical

The UDE provides important urban design guidance for the placetypes and street types. This discussion should be augmented with more guidance for how taller or denser projects can best be integrated into the existing urban fabric, particularly for mid- and high-rise development outside of the Downtown Placetype.

Active Transportation

The UDE provides important design guidance for pedestrian, bicycle and transit infrastructure (UDE Page 84-85). The EHWG and several of its collaborator members focus their efforts on improving the pedestrian and bicycling environment in Long Beach, and strongly support an efficient and effective transit network. This design guidance is helpful, but no corresponding implementation measures are provided in Chapter 6 to support these strategies. Strategy No. 60 (UDE Page 93) calls for the creation of standards for street wall design. To be most effective, this effort should be coupled with street design standards called for in the adopted Mobility Element (Page 122, MOP IM-1).

Create, Restore and Preserve Open Space

The LUE states that the City recognizes the need for a wide variety of parks and open spaces within certain neighborhoods, particularly in the north, central and western portions of Long Beach. This Land Use Plan focuses on creating and restoring open spaces, with priority in undeserved areas. This includes areas where many of our partners have been working in, including the Terminal Island Freeway, Shoreline Drive/Shoemaker Bridge, SCE right-of-way, railroad right-of-ways and adjoining industrial properties. The SCE corridor in East Long Beach is currently considered "open space" while similar corridors are confined "light industrial" or "right of way" in North and West Long Beach. The LUE consolidates flood control facilities, electricity transmission corridors and other infrastructure as "open space" which could have substantial benefits

for West, North and Central Long Beach. While the policy does not immediately convert these spaces into parks or urban farming opportunities, it could preclude new tenants from setting up new industrial uses, freight operations or truck parking that could preclude on limit park open space use in the future. The revised LUE maps remove Caltrans facilities [freeways] from that “open space” designation which should be returned to the original designation.

Convert Industrial Edges to Neo-Industrial Uses

The LUE states that Industrial uses remain relatively important in Long Beach, but economic trends indicate that the local economy is shifting toward knowledge-based and service-based industries. Professional services employment is rapidly growing, along with a slow emergence of high technology and creative companies known for introducing innovative approaches and products. Traditional manufacturing industries are being transformed as large-scale plants are diminishing or being phased out and smaller local-serving manufacturers fill the void. The City has established the Neo-Industrial PlaceType to help transition outdated and underutilized manufacturing and industrial sites to higher-value, better employment opportunities. For added flexibility, the Neo-Industrial PlaceType allows some live/work opportunities for artists, craftspeople and other creative entrepreneurs. This PlaceType also functions as a buffer between heavier industrial enterprises and residential neighborhoods.

We support this direction as it reduces land-use conflicts between existing adjacent industrial and residential uses by de-intensifying the industrial uses. There is also the opportunity to introduce housing (including affordable) development sites and park opportunities where appropriate. This section should be revised to include consideration for other uses including residential as it could in some cases lead to more rapid land-use change too.

Promote Appropriate Infill Development

The LUE promotes appropriate infill development, particularly along corridors and centers that have established transit facilities. Long Beach will encourage development of vacant or underutilized land located in built-up areas. New infill development should be carefully planned to minimize impacts and to complement surrounding development. Appropriate infrastructure and supporting services must be adequate or in place to serve new infill development without sacrificing services to the existing population. The Multi-Family, Neighborhood-Serving Center and Transit-Oriented Development PlaceTypes provide opportunities for infill development in strategic areas, with policies aimed at protecting established low-density neighborhoods. The adopted Mobility Element promotes improved transit services where it will complement infill development.

The new areas for multi-family/mixed-use development as well as increased height/density has been among the most contentious items in the plan. While the revisions to the LUE will include reduced densities consideration should remain for transit rich, walkable and amenity-dense portions of Long Beach outside of Downtown and Midtown, including around the medical centers and college campuses.

Conclusion

The EHWG is encouraged by the evolution of the LUE and UDE, and provide these comments and urge their inclusion into the final version adopted by City Council. With these changes, the EHWG would be supportive of adoption of these policy document. Without them, we will remain neutral to their adoption.

We look forward to continuing to work with the City on implementation of the policies, strategies, and the subsequent programs and planning efforts that will move us closer to the shared vision provided by these documents.

Thank you for the opportunity to comment on these important vision and policy documents. Feel free to contact us if you have any questions or would like to meet to discuss how to better incorporate healthy community policies into these long range development plans for the City, and implementation of the subsequent policies and programs the documents call for.

Sincerely,

AMY CABRERA RASMUSSEN

*Chair, Environmental Health Working Group
Building Healthy Communities: Long Beach*

On behalf of:



Attachment

Specific Suggestions/Comments to Amend the Land Use Element

Page	Comment
130	IM LU-M-42 calls for an inventory of vacant lots. Just knowing where vacant lots are does not provide the direction and vision to make good use of those lots. Temporary or interim uses such as urban farms, parks, fitness equipment, pop-up retail or restaurant spaces and other uses that support healthy lifestyles should be encouraged on vacant lots.
130	<p>IM LU-M-43 should be expanded upon in two critical ways: First, the City should add a commitment to adopting a city-wide inclusionary housing ordinance that will set aside 20% of all new apartment and condominium units, on-site, as Very Low Income units with 55 year covenants.</p> <p>Second, the City should add a commitment to adopting a No Net Loss policy, as explained earlier in this comment letter. Moreover, both of these must be adopted before density is increased in the City, pursuant to the LUE, through the updating of the City's zoning code.</p>
131	IM LU-M-53 encourages joint use of recreational spaces at school properties, outside of school hours. Progress on this effort has been very slow in recent years. More specific goals and deadlines are needed to implement this initiative.
131	IM LU-M-56 calls for more incentives for green energy and technologies. Since the City is currently considering options to pursue community choice energy for electricity and a higher share of clean energy production for the City's electrical needs, the policy should be updated.
134	IM LU-M-78 calls for demonstration streetlet projects along Long Beach Boulevard. There has been a demonstration project along Long Beach Boulevard, and others could be attempted as part of the nearly completed North Long Beach Open Space Plan, for instance. The IM should be updated to reflect broader implementation of possible streetlets.
134	IM LU-M-83 encourages more trees be planted in the City. Development of a more aggressive urban forestry plan would promote a range of benefits, including slowing traffic along tree-lined streets, providing more shade to improve walkability and counter the heat island effect, and sequestering carbon from the atmosphere as part of climate change adaptation efforts. The language should be clarified and strengthened. The UDE, however, does provide implementation for a street tree master plan (UDE Page 93, Strategy No. 61), and should be cross-referenced.
134-135	IM LU-M-85 calls for creative provision of temporary open space and IM LU-M-86 calls for creative use of vacant properties. This effort is vital to providing open space in West, Central and North Long Beach, which is highly underserved by park space per capita when compared with the Eastside. This effort should be prioritized.
135	IM LU-M-87 is overly specific for an implementation measure of the General Plan, applying to only one situation, and should be broadened through language in the UDE about how new or expanded parks should be designed adjacent to existing residential areas.
135	IM LU-M-93 calls for sustainable drainage design features in the development of streets and parking lots. Creation of street design standards, as called for the adopted Mobility Element (Page 122, MOP IM-1), should include innovative drainage features that slow time of concentration and reduce pollution load from runoff as well as provide groundwater infiltration where appropriate.

Specific Suggestions/Comments to Amend the Urban Design Element

Page	Comment
27	Policy UD4-4 suggests providing walking loops denoted by distance. Experience has shown that noting average walking time is a greater encouragement for walking than distance.
27	Policy UD5-2 provides a clear language about the need for housing opportunities for all income levels. This policy is strongly supported, and should be complemented by a statement about creating complete neighborhoods, where a full range of daily needs, goods and services, including healthy options, are available in all neighborhoods.
68-75	Considering how much consternation about height and density has been expressed during recent public input, some guidance for the introduction of infill mid-rise and high-rise development should be provided, including addressing issues such as shadowing of adjacent properties and privacy intrusion. The Placetypes chapter includes substantial discussion about design transitions within and between various land uses within the placetypes and where more than one placetype abuts another. This is very helpful, but should be augmented with additional design guidance for the introduction of larger structures and complexes into the existing urban fabric to minimize adverse impacts.



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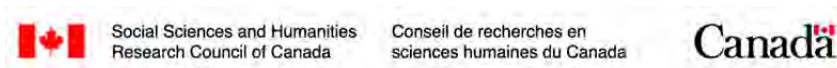
**The Financing & Economics
of Affordable Housing
Development:
Incentives and Disincentives to
Private-Sector Participation**
Jill Black

Research Paper 224

Cities Centre, University of Toronto
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Executive Summary

The development of multi-unit residential housing is a complex, costly, capital-intensive, and risky business, particularly for the major players: real estate developers, owners of rental buildings, and financiers of development projects and long-term mortgages. All expect their financial returns to be commensurate with the risks they assume, and all need to cover their investment of time, money, and expertise.

The purpose of this paper is to help a broader audience unfamiliar with real estate finance to understand the economics of the major for-profit players, or “how they make money.” Better understanding of the for-profit real estate business and the issues faced by for-profit players in rental development should help generate ideas for incentives (or ways to overcome disincentives) to stimulate greater private-sector involvement in creating affordable multi-unit rental housing.

The paper uses simplified financial models to explain and compare the economics of for-profit condo development, for-profit apartment development, and affordable rental development. The models show that a for-profit developer would need to charge luxury rents of more than double an affordable rent level to reach a minimum acceptable profit margin. Charging lower rents means insufficient income to cover interest costs – that is, bankruptcy. This is why it is not economically attractive for the private sector to participate in the creation of multi-unit rental housing, particularly in large urban centres like Toronto.

Toronto’s high land prices and construction costs, difficulty obtaining financing on favourable terms, and lack of incentives to create rental apartments make rental development riskier and less profitable than condominium development. This is true even for luxury apartments demanding high rents, and even more so for affordable rental development, which is not economically feasible without significant government subsidies.

Even when subsidies are available, private-sector involvement in creating affordable rental is hampered by uncertainty about government commitments to programs that support the creation of affordable rental housing (such programs have sometimes been cancelled with little notice); government requirements that result in higher construction and operating costs for affordable rental buildings; and other irritants that make it difficult and time-consuming to obtain building permits, zoning approval, and construction and mortgage loan insurance.

What would it take to increase private-sector participation in creating or helping to preserve affordable rental housing? The people interviewed for this paper had many ideas that would improve the economics by reducing costs and risks and streamlining approval processes. Reducing land costs, potentially by freeing up surplus government land, was considered most important in combination with government grants or tax incentives. There were also ideas for reducing construction costs by lowering soft costs (such as those for environmental assessments or development charges) and by changing building codes to allow less expensive wood frame construction for low-rise rental buildings. Every development is different and many would like to see a “menu” of incentives that could be applied as appropriate for the situation.

Improved access to financing at favourable terms was also considered essential. Loan guarantees by government would help remove lenders' risk in the event of default. Ideas for bringing in new investors included reinstating an updated and more targeted version of the Multi-Unit Rental Building (MURB) tax incentive programs of the 1970s and 1980s and developing new financial vehicles, potentially similar to those in the U.S. or U.K., to attract private investment.

Measures to ensure that owners of aging affordable rental stock maintain their buildings appropriately are also needed. Interviewees felt that rehabilitating aging, poorly maintained apartment buildings would not only benefit the tenants, but would also attract a broader mix of incomes to rental housing, reducing the concentration and isolation of low-income tenants. They favoured a combination of "carrots and sticks" for owners who fail to maintain their rental buildings. "Carrots" included tax incentives to free up funds for rehabilitation and "sticks" included stronger enforcement and larger financial penalties for non-compliance.

Finally, the paper includes proposals to encourage the sale of rental buildings to non-profit groups to ensure that the units remain affordable – the suggestions included tax incentives, such as deferring tax on capital gains, and new financing vehicles that would enable non-profits to compete with for-profit Real Estate Investment Trusts for properties in good condition.

Author

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1. Introduction

“A stable, affordable place to live is the basic ingredient, the primary building block from which all Canadians have a chance to realize their potential and make a positive contribution to their community and country.”¹

This paper was written for the Neighbourhood Change Community University Research Alliance (CURA), a joint research initiative between the Cities Centre (formerly the Centre for Urban and Community Studies) at the University of Toronto and St. Christopher House. The Neighbourhood Change CURA studied West-Central Toronto’s older inner-city neighbourhoods, which are experiencing increasing pressure from redevelopment and gentrification, both of which make good-quality housing increasingly unaffordable and can lead to the displacement of lower-income residents. Preserving affordable, well-maintained housing is essential to help combat these pressures.

The Neighbourhood Change CURA has carried out research focused on the many social and economic benefits of providing good-quality, affordable housing in mixed-income neighbourhoods. It has developed a set of policy recommendations to help preserve mixed-income neighbourhoods downtown by encouraging the development of new affordable housing, keeping existing rental buildings affordable, and reducing the potential for displacement of existing residents.²

This paper is intended to complement the Neighbourhood Change CURA’s efforts by providing a different perspective on affordable housing – that of the private sector.³ The private sector has not been very active in multi-unit rental development for some time because the economic potential is poor.⁴ Even at “luxury” rents, rental development is far less profitable than condo

1 Mitchell Cohen (2005), “A Home for All Canadians,” *Condo Life*.

2 See <http://www.urbancenter.utoronto.ca/cura/index.html> for the Neighbourhood Change CURA’s research and recommendations.

3 The term “private sector” in this context refers to the real estate industry, which is composed of many distinct businesses, including development, construction, construction management, financing and brokerage, and property management – as well as the specialists and advisors who support real estate businesses.

4 In discussing the “economics” of for-profit participants in real estate development, the term “economics” is used in the business sense – that is, how these businesses make (or lose) money.

development while “affordable” rental development is not economically feasible without significant government subsidies. Key contributing factors include:

- Limited revenue potential, as renters earn approximately half as much as owners, while the costs for land and construction are similar for rental and condo development – and have been driven up in major markets by the boom in condo development over the past decade
- The fact that governments first reduced and then eliminated subsidies and other incentives to the development of purpose-built, affordable multi-unit rental.

Table 1 shows the effects of these factors in the amalgamated City of Toronto (formerly Metro Toronto), as rental stock grew through the 1960s, 1970s, and 1980s, and then shrank over the 1996-2006 period, while homeownership experienced strong growth.

Table 1: Housing stock and change in housing stock in the City of Toronto (formerly Metro Toronto), 1966-2006, for owned and rental housing, showing trends in the proportion of stock in social housing

Total Housing Stock	1966	1971	1976	1981	1986	1991	1996	2001	2006
Metro/Amalgamated Toronto									
Owned	307,500	320,800	364,400	395,500	414,000	415,700	428,200	478,500	532,600
Rental	209,200	308,500	348,600	380,800	402,900	448,800	470,300	464,500	446,700
Total	516,700	629,300	713,000	776,400	816,500	864,500	898,500	943,100	979,300
Social housing	10,300	24,600	40,500	53,700	68,400	76,400	89,700	91,400	93,100
Social housing % of Rental	4.9%	8.0%	11.6%	14.1%	17.0%	17.0%	19.1%	19.7%	20.8%
Social housing % of All	2.0%	3.9%	5.7%	6.9%	8.4%	8.8%	10.0%	9.7%	9.5%

Net Change in Housing Stock	1966-71	1971-76	1976-81	1981-86	1986-91	1991-96	1996-2001	2001-06
Metro/Amalgamated Toronto								
Owned	13,300	43,600	31,200	18,500	1,700	12,500	50,300	54,000
Rental	99,300	40,100	32,200	22,100	46,000	21,500	-5,800	-17,800
Total	112,600	83,700	63,400	40,100	48,100	34,000	44,500	36,300
Social housing	14,300	15,900	13,200	14,700	8,000	13,300	1,700	1,700
Social housing % of Rental	14.4%	39.7%	41.0%	66.5%	17.4%	61.9%	--	--
Social housing % of All	12.7%	19.0%	20.8%	36.7%	16.6%	39.1%	3.8%	4.7%

Sources: CMHC completions data, census, social housing administrative data. Compiled by Greg Suttor, AHO, City of Toronto; except 2006 social housing data, estimated by author.

In addition to the work of the Neighbourhood Change CURA, numerous research papers have explored the factors contributing to the lack of affordable rental housing, and the lack of private-sector involvement in rental development.⁵ The audiences for this work are typically economists or policy analysts who understand the complex issues involved. The purpose of this paper is to help a broader audience understand the issues by using simplified financial models to explain the economics of for-profit real estate development and financing and to demonstrate the magnitude of the gap between financial returns that for-profit players are prepared to accept and the potential financial returns from multi-unit rental development.⁶ The purpose of explaining the economics of for-profit real estate development and financing is to:

- identify incentives and disincentives for private-sector involvement in financing and developing new affordable rental housing;
- identify incentives and disincentives to ensure that for-profit owners keep their rental buildings affordable and maintain them well
- stimulate discussion and debate of potential policy recommendations to encourage more private-sector participation in the creation of affordable rental housing.

The issues and ideas in this paper have been informed by more than 25 interviews with participants in real estate and affordable housing development from the private, non-profit, academic and government sectors,⁷ a review of the literature on the topic, and the author's extensive business experience.

The report begins with an overview of the key players in the real estate development industry and explains how they make money. It then focuses on affordable multi-unit rental housing, because that is the area of greatest need and the area with the most problematic economics for for-profit development.

5 The Reading List at the end of this paper contains several comprehensive reports, including the work of consultants such as Ernst & Young and Steve Pomeroy, academic experts such as Marion Steele, private-sector economists such as those at TD Economics, and experts from various associations.

6 The examples used in the paper were derived from a model for an affordable rental development that was in the process of securing financing. The term "affordable" has many interpretations and definitions. The affordable rental model in this paper is based on rents at 80% of the market average, which would make it eligible for the Canada-Ontario Affordable Housing Program.

7 Interviewees and expert contacts are listed in Appendix I, labelled by sector and profession rather than by name, for reasons of confidentiality, using reference codes that are also explained in the Appendix. Several interviewees are actively involved in development of affordable ownership housing, which could be the subject of similar analysis and discussion in the future.

2. Research Approach

The research approach for this paper involved financial modelling, interviewing, and a literature search. Because this is a technical paper intended to explain the economics of for-profit real estate development and how it differs from the economics of affordable rental development, the emphasis is very much on financial modelling. The interviews and literature search focused on gathering information to help build and test the models. The work involved the following tasks.

- The author modelled the economics of for-profit and affordable multi-unit rental housing, using a model of a 190-unit affordable rental housing development being built in Toronto. The affordable development project is being done using a “turnkey” approach, in which a for-profit developer takes a project to the end of construction and then turns it over to a non-profit organization that owns and operates the building.⁸ The data for the affordable base model was provided by an underwriter from Infrastructure Ontario, with the permission of the developer.

The affordable base model was modified to create financial models that reflect the economics of for-profit development for ownership (condo) and for (luxury) rental, by adjusting the financial structure and adding in costs that affordable rental developments typically do not incur (e.g., municipal development charges). The for-profit ownership and rental models were then designed to generate the financial returns or profitability levels that interviewees considered “acceptable” by adjusting the selling price or rent level to achieve the required returns.

- The author also interviewed more than 25 participants involved in for-profit and affordable rental housing from the private, non-profit, academic, and government sectors as well as consulting with a number of experts in telephone calls and e-mail exchanges. Names of interviewees have been disguised to maintain confidentiality. The reference codes used for disguising the names are explained in the Interviewees and Expert Contacts List in Appendix I. Opinions expressed by interviewees are included in the paper where relevant; they are not necessarily shared by the author.

8 The turnkey development approach is one of several approaches possible under the Canada-Ontario Affordable Housing Program. It is used here because the financial models developed for the paper are based on a model of a real affordable turnkey rental development. This approach was also favoured by many of the interviewees.

- The author searched the extensive literature on affordable housing, focusing on research conducted by governments, academics, associations, and advocacy groups. The Reading List contains some of the more useful reports and articles.

The paper also includes interviewees' suggestions for stimulating private-sector participation in financing and developing affordable housing, as well as their thoughts on proposed policies and programs from the work of the Neighbourhood Change CURA.⁹ The former are in the final section of the paper and the latter are in Appendix II.

It is beyond the scope of this technical paper to assess the effectiveness of the ideas, but they have been included for the sake of completeness and to help stimulate discussion, as well as to indicate opportunities for further research and development.

9 The Neighbourhood Change CURA's "Policy options for maintaining good-quality, socially mixed, inclusive neighbourhoods" can be found at http://www.urbancentre.utoronto.ca/redirects/tnrn_policyoptionsdiscussion.html

3. How key players in real estate development make money

“It’s been years since I last saw a pro forma for a rental development that generated higher revenue than costs. Toronto land and construction are expensive. Even high priced rental can’t support the cost.” (PSF)¹⁰

Real estate development is a complex, costly, capital intensive, and risky business, particularly for the key players: the real estate developers who orchestrate the process and participants, the owners and operators of multi-residential properties, and the financiers (brokers, lenders, and investors) who fund development, construction, and mortgages.

Table 2 on the following page sets out the key activities and risks at each of the three main stages of the development process: predevelopment planning, development and construction, and occupancy and management. These risks are real and can be expensive, particularly if they result in unexpected delays, as construction costs alone have increased by roughly 10% a year since the late 1990s.

The following sections discuss the economics of each of the key players: developers, owners and financiers, including what they need to be good at to be successful, what financial returns they expect, how they measure them, and how they manage risk.

10 This code refers to an interviewee, in this case a private-sector financier. The full list of reference codes appears in Appendix I.

Table 2: Real estate development risks by phase

Phase of Development	Primary Activities	Timeframe	Risks for Multi-Unit Rental Development ¹
Pre-development and Entitlement Approval	<ul style="list-style-type: none"> • Locate /control site² • Planning • Pre-development loan • Env'l assessment • Preliminary design • Financial feasibility • Municipal planning approval • Construction financing 	0.5 to 5+ years • Depends on size and complexity	<ul style="list-style-type: none"> • Anything that adds time, e.g.: environmental issues; 'NIMBYism'; need for variances, re-zoning, or official plan amendments • Interest rate increases • Public policy changes • Inability to secure financing • Construction cost increases
Development and Construction	<ul style="list-style-type: none"> • Acquire site • Detailed drawings • Building permits • Select contractor • Construction • Marketing • Mortgage financing 	0.5 to 5 years • Or 0.5 to 2 years after pre-sales if ownership property (e.g. condo) • Depends on size and complexity	<ul style="list-style-type: none"> • Market or economy changes • Public policy changes • Cost over-runs, e.g. due to strikes, bad weather, etc. • Interest rate increases before mortgage financing is locked in • Can't secure long-term financing • Financers risk loan default
Occupancy and Management	<ul style="list-style-type: none"> • Marketing • Property management • Paying expenses • Maintenance and repair • Paying off debt 	Maximum would be the life of the building	<ul style="list-style-type: none"> • Marketing risk • Tenant credit risk • High vacancy • Excessive damage • Interest rate increases

¹ Developers' risks unless otherwise specified

² A site could be purchased on spec and held for a longer period, e.g. if in a potential growth area. Costs would include holding the land, salaries and taxes. Risks include public policy changes or market assessment not being as favourable as expected

Developers' Economics

Developers orchestrate the development process from beginning to end. Their activities include buying land; securing financing for real estate deals; designing and planning projects; securing public approvals; retaining builders; overseeing construction; marketing properties; and leasing, renting, or selling property developments. They work with many different specialists or service providers throughout the development process, including brokers and lenders, underwriters, insurers, lawyers, surveyors, designers, architects, engineers, building contractors, and city planners. They take the greatest risks of all of the participants, for which they expect to realize the greatest rewards.

To be successful, developers must be very good at selecting and acquiring superior sites, project management, cost control, and negotiating favourable financial deals. Fostering good relationships with financiers and developing and maintaining a network of known and reliable service providers are critical. They also need liquidity (or a cash cushion) in case projects turn out differently from their original projections.

Residential real estate developers make money in one of two ways:

- **Develop and sell:** this means developing, building, and selling a building, or units in a building, and realizing a profit after covering the costs of pre-development, development and construction.

- **Develop and rent:** this means building and retaining ownership, earning a return on their investment from rental income generated over a number of years and ideally from capital gains realized upon sale.

This section will focus on the economics of developing and selling. The economics of developing and renting are discussed in the section on owner economics.

Developing for sale is the primary way that developers make money. Even if they build to rent, and few do so, developers reportedly try to get their own money or equity out as soon as possible after construction is complete. The pro forma financial statement in Table 3 illustrates the economics of developing and selling a 190-unit condo development.

Table 3: Pro forma for a 190-unit condo development

Pro forma	Total \$000s	\$ Per Unit
Sales Revenue	\$ 54,150	\$ 285,000
Costs		
Land Cost	\$ 8,000	\$ 42,105
Hard (Construction) Costs	\$ 28,930	\$ 152,262
Soft (Development) Costs	\$ 9,043	\$ 47,595
Total Project Cost	\$ 45,973	\$ 241,962
Profit and Financial Return		
Developer's Profit, Pre-Tax	\$ 8,177	\$ 43,038
Profit Margin (Profit/Revenue)	15%	15%

Source: Affordable housing financial model provided by PD2 and author's analysis

In this example, the developer has completed a two-year project costing almost \$46 million, sold the units for \$285,000 each on average, and made a profit of \$8.2 million after covering “hard costs” (the costs of construction) and “soft costs” (development and related charges, interest, administration, specialists/services, marketing and other costs).¹¹ The developer’s financial return, or profit margin before interest and taxes, is 15% of revenue, the target margin that interviewees said for-profit developers aim for.¹² If a pro forma for this type of development failed to generate a profit margin in the 10% to 15% range, the project would likely not proceed

The “develop and sell” approach is not risk-free. The primary risk for condo developers is the failure of a project, which could result in the loss of 100% of their equity and expose them to lawsuits by lenders seeking to recover their losses. “Develop and sell” is nonetheless more attractive than rental development for the following reasons:

- Risks are lower than rental development because much of the financing for construction is withheld and construction cannot begin until the majority of units are pre-sold to qualified buyers.

¹¹ See the Glossary at the end of the report for detailed definitions.

¹² Profit margin is calculated before interest and taxes to level the playing field because different developers have different financing capabilities and would therefore pay different interest rates on loans for similar projects.

- Costs are lower because pre-sales bring in cash earlier reducing the amount of debt financing and associated interest charges.¹³
- It is easier to obtain financing because of the lower risks and costs, which means that projects tie up less of a developer's equity for shorter periods.

Once a project is built, a developer with a property management division might operate the building for a fee, but the condo association becomes responsible for the building and bears the occupancy and management risks – and headaches.

Owners' Economics

Owners of multi-unit rental properties include companies that “develop to rent” as well as companies such as Real Estate Investment Trusts (REITs), which buy and manage existing rental buildings. This section focuses primarily on the former and concludes with a brief discussion of differences in the economics of new rental development projects versus buying and managing existing rental buildings.

Owners' Economics for New Development

Few companies develop for rent, because it is extremely difficult to make an adequate return, particularly in large cities where land costs are high.¹⁴ The rents required to make a profit are very expensive, limiting the potential market for the units. The financial model in this section illustrates this problem.

To assess the feasibility of a rental project, a developer would first create a single-year pro forma to determine if the project has the potential to generate an acceptable return on the equity investment. Again using the example of a 190-unit building, Table 4 shows the annual pro forma for a new rental development that has achieved operating stability¹⁵ and has similar construction costs to the condo example.¹⁶ The pro forma is more complex than the financial model for “development for sale,” because it goes beyond construction costs to include revenue generating potential as well as the costs of operation and ongoing mortgage financing (debt servicing).¹⁷

13 Prospective buyers typically make cash deposits of 10% or more of the sales price to hold their units.

14 An exception would be Concert Properties, which both develops and acquires rental buildings. Concert undertakes rental development when it can get land cheaply enough to make the economics work. It reportedly has lower-than-typical required return targets because it is owned by Canadian union and management pension funds which invest for the long term.

15 Stabilized operation means that rent and operating income have reached projected levels which can take time, as buildings do not always fill up quickly.

16 Rental construction costs are higher than those for a condo development because there are no pre-sales.

17 After construction, the short-term construction loan is typically converted to a long-term mortgage.

Table 4: Preliminary pro forma for a 190-unit for-profit rental development (\$000s)

Operating Pro forma	
Gross Revenue (based on average rent of \$2,250/month)	\$ 5,132
Vacancy and Bad Debt Allowances	-\$ 205
Net Revenue	\$ 4,927
Operating Costs	-\$ 1,649
Net Operating Income (NOI)	\$ 3,279
Financing	
Debt (80%)	\$ 38,159
Developer's Equity (20%)	\$ 9,210
Total Financing	\$ 47,369
Debt Service Costs (35 Years; 5% Interest)	
Interest	-\$ 1,908
Principal	-\$ 422
Total Debt Service	-\$ 2,330
Profitability	
Cash Flow Pre-Tax (NOI - Debt Service)	\$ 948
Cash-on-Cash Return (Cash Flow/Equity)	10%
Note: The sample project contains a mix of suite sizes. The average rent calculation was weighted by suite size.	
Source: Affordable housing financial model provided by PD2 and author's analysis	

Cash-on-cash return is the measure commonly used to test a project's economic feasibility because it provides a quick and easy way to compare the profitability of income-producing properties.¹⁸ Required cash-on-cash returns for a viable project are reportedly in the range of 10% to 15%.¹⁹ The returns from the example fall within the required range because the financial models were designed to produce acceptable returns by ensuring they generate sufficient income; which required a minimum average rent of \$2,250 per unit in this example.

Before a project goes ahead, a long-term projection would be developed to confirm economic feasibility and to help secure financing. Table 5 shows the first and last years of the long-term financial projection for the 190-unit rental development, assuming it is sold at market value after 20 years. It illustrates how an owner might manage the building to maximize profitability and increase market value over time. Here are the highlights (shaded in Table 5):

- Net operating income (NOI) grows from \$3.3 million to \$4.8 million. NOI growth is critical, as it drives both profitability and market value. An owner would attempt to grow revenue, ideally at a higher rate than operating costs, to maximize operating income

18 Cash-on-cash return is calculated by dividing pre-tax cash flow (net operating income after debt service and pre-tax) by the developer's equity.

19 Long-term "patient" investors, such as pension funds, might accept a lower return, but developers reportedly aim for the higher end of the range. Developers and investors may also accept lower returns when markets are strong and they have high expectations of capital appreciation.

growth. This can be difficult in highly competitive and rent-controlled environments.²⁰ In the latter, some owners may attempt to justify higher increases than rent controls allow by making modest capital improvements; less scrupulous owners might scrimp on maintenance to reduce operating costs and inflate operating income.

- Market value grows from \$49 million to \$71 million based on a capitalization rate (cap rate) of 6.7%. The cap rate is the percentage used to determine the market value of a property based on its estimated future net operating income; the current property value is equal to NOI divided by the cap rate. Cap rates are based on appraisals of recent sales of similar properties. Real estate service companies, such as Colliers International, regularly publish cap rates for major markets. The cap rate for Toronto was in the 6% to 7% range when this paper was written.
- The market value of the owner's equity in the property grows from \$11 million to \$46 million as the market value increases and the mortgage loan is paid off. The former is implicitly captured in the cap rate, because expectations of high capital gains lead to lower cap rates and therefore higher market values.
- Tax laws allow the owners of rental buildings to claim capital cost allowance (CCA) for a new building of 2% in the first year and 4% in subsequent years, and subtract it from pre-tax income before calculating their taxes.²¹ CCA is calculated on a declining balance which means that the base for the calculation is net of the CCA from the prior year (see Glossary for explanation). As a result the un-depreciated capital cost (UCC) of the building declines from \$37 million to \$17 million over 20 years. This decline has implications when a building is sold, a situation addressed in the next section.²²
- Owners measure profitability by calculating return on equity (ROE) at points in time and internal rate of return (IRR) over time.²³ In this example, ROE falls from 9% in Year 1 to 8% in Year 20, as book value increases. In the real world, an owner would improve ROE by refinancing (borrowing against growth in value), or by selling the building to pursue higher returns elsewhere. The latter action would generate an IRR of 17%.²⁴

20 Rent control in Ontario applies only to existing tenancies, not to new buildings or to apartments that have been vacated. The competitive environment is the primary influence on rents when rent controls are not applied.

21 Because the capital cost allowance is calculated before tax, it reduces taxable income, and therefore reduces the income taxes payable, which improves returns. This is why increasing the CCA rate is often recommended as a means of stimulating more rental production.

22 Some past affordable housing programs provided an incentive for for-profit developers to build affordable housing by allowing higher CCA deductions and the application of resulting tax losses against other income (not just other rental income). There is some dispute as to what the true CCA should be. TD Economics concluded in a 1993 paper that 4% is higher than the real rate of obsolescence, a finding consistent with the work of tax experts such as Fallis and Smith (cited by Steele and Des Rosiers, 2009) who believe that the depreciation rate is between 1% and 2%. In contrast, a 2009 paper by the Canadian Federation of Apartment Associations quoted the 2005 work of Fisher, Smith, Stern, and Webb ("Analysis of Economic Depreciation for Multi-Family Property," *Journal of Real Estate Research*, vol. 27, no. 4), which demonstrated that the actual depreciation rate is 3.25% plus inflation, which equated to a nominal rate of 5.05% when this paper was written.

23 ROE is calculated by dividing cash income by equity invested.

24 IRR is a robust measure of percentage return from the initial equity investment that takes into account the initial investment, timing and scale of future cash flows, and the future value of the property (see Glossary for more detail).

Table 5: 20-year financial projection for a 190-unit for-profit rental development (\$000s)

Key Variables	Year 1	Year 20
Operating Income & Expenses		
Gross Revenue	\$ 5,132	\$ 7,477
Vacancy and Bad Debt Allowance	-\$ 205	-\$ 299
Net Revenue	\$ 4,927	\$ 7,178
Operating Costs	-\$ 1,649	-\$ 2,402
Net Operating Income (NOI)	\$ 3,279	\$ 4,776
Market Value (NOI/7% Cap Rate)	\$ 48,934	\$ 71,288
Mortgage Balance	\$ 38,159	\$ 25,256
Equity	\$ 10,776	\$ 46,032
Debt Service Costs (35 Years; 5% Interest)		
Interest	-\$ 1,908	-\$ 1,263
Principal	-\$ 422	-\$ 1,068
Total Debt Service	-\$ 2,330	-\$ 2,330
Cash Flow Pre-Tax (NOI - Debt Service)	\$ 948	\$ 2,446
Non-Cash Expense		
Capital Cost (Building Cost ex Land)	\$ 38,051	
Capital Cost Allowance (2% Year 1; 4% ongoing)	-\$ 761	-\$ 715
Un-depreciated Capital Cost (UCC)	\$ 37,290	\$ 17,169
Income Taxes		
Taxable Income (NOI - Debt Service - CCA)	\$ 187	\$ 1,731
Income Tax (33%)	-\$ 62	-\$ 571
After Tax Income	\$ 125	\$ 1,159
Profitability		
Cash Income (Income After Tax and Pre-CCA)	\$ 886	\$ 1,875
Annual Return on Equity At Book Value (Cash Income/Book Value)	9%	8%
Internal Rate of Return on Sale at Market Value after 20 Years		17%
Source: Affordable housing financial model provided by PD2 and author's analysis		

While the rental example generates an “acceptable return,” it is likely unrealistic, because the average rent per unit has to be set very high (\$2,250 per unit on average) to generate that return – more than double what might be considered affordable to a low-to-moderate income earner.²⁵ Even at these high rents, developing multi-unit rental is riskier than developing for sale because it is difficult to assess and demonstrate financial feasibility. This makes multi-unit rental less attractive to financiers, who pass the higher risk back onto developers in various ways. These include requiring developers to purchase mortgage insurance from Canada Mortgage and Housing Corporation (CMHC) to protect lenders against loan default and delaying

²⁵ This is true for the example. In reality, there is no “typical” acceptable return for developing rental buildings, as developers try to get most of their money out of projects after construction is complete and they may be willing to take a lower long-run return if they succeed in doing so. They may also be willing to accept lower annual income and returns in very strong markets in which they have high expectations for strong growth in market value. As a result, interviewees have seen long-run IRRs ranging from 0% to 30%.

mortgage financing until rents have stabilized,²⁶ actions that increase costs, making the economics worse.

In addition to trying to get their own equity out at the end of the construction phase, developers mitigate risks and minimize financial burdens in a number of ways, such as doing their homework to ensure that they have a good understanding of the rent levels their markets will support, making investments in the construction phase that reduce on-going operating costs, building in contingencies such as vacancy allowances, and refinancing on more favourable terms when rents and operating costs are known and stable.

The Economics of Disposition of Rental Buildings

Before looking at the economics of owning acquired buildings, it is helpful to understand the economics of disposition (sale), as these can influence developers' decisions about new developments, as well as owners' willingness to sell older buildings. Table 6 shows the calculation of proceeds from the sale of the 190-unit building, assuming it was held for 20 years.

The owner realized \$30 million on the sale of the building, well below the market value of \$71 million, because certain costs need to be deducted from the gross proceeds – some of which can be substantial for buildings owned for a long period of time. The deductions in the example include:

- paying off the mortgage, which had an outstanding balance of \$25 million;
- selling costs, which amounted to \$3.5 million;
- capital gains tax, which reduced the sales proceeds by \$5.5 million;²⁷
- taxes on Capital Cost Allowance (CCA) recapture, which reduced the sales proceeds by almost \$7 million.²⁸

If the owner had refinanced the building during the 20-year period, and pulled the equity out, the owner would have had a larger outstanding mortgage and higher taxes, and therefore lower and potentially negative proceeds – which would be a disincentive to selling a building if it is in good condition and generating strong cash flow.

26 For CMHC, stabilized operation means that operating income has been sustained at the projected rent levels through at least one full operating year.

27 The owner's capital gain is calculated by subtracting the original equity investment from the gross sales proceeds; 50% of the capital gain is treated as income and taxed accordingly, at the business tax rate of 33% in this case. (Note that the tax rate could be much higher for individual owners/investors or partnerships; potentially as high as 46% in Ontario).

28 The CCA recapture is equal to the amount of CCA expensed over the 20 years (the original cost of the building minus the un-depreciated capital cost); 100% of it is taxed as income.

Table 6: Proceeds from the sale of a 190-unit for-profit rental development held for 20 years (\$000s)

Key Variables	
Market Value in Year 20	\$ 71,288
Mortgage Outstanding	-\$ 25,256
Sales Costs (5%)	-\$ 3,564
Gross Proceeds from Sale	\$ 42,467
Original Equity	\$ 9,210
Capital Gain	\$ 33,257
Taxable Capital Gain (50%)	\$ 16,629
Capital Gains Tax (33%)	-\$ 5,487
Original Cost of Building (ex. Land)	\$ 38,051
Un-depreciated Capital Cost in Year 20	\$ 17,169
CCA Recapture	\$ 20,882
Tax on CCA Recapture (33%)	-\$ 6,891
Total Proceeds from Sale After Tax	\$ 30,089
Source: Affordable housing financial model provided by PD2 and author's analysis	

Owners' Economics for Acquired Buildings

Existing rental buildings are bought and sold all the time. In a 2009 paper commissioned by the Ontario Non-Profit Housing Association (ONPHA), Steve Pomeroy of Focus Consulting indicated that the majority of sales are of larger buildings favoured by REITs and large institutional investors (such as pension funds and insurance companies) that invest for the long term. He also reported significant sales volumes of small-to-mid-sized buildings totalling more than 3,000 units each year in 2005 and 2006 – “substantially larger volumes of sales than the total number of new rental units constructed annually, and far more than the number of affordable new units constructed annually.”²⁹

The economics for owners of acquired buildings are similar to those for a new development for rental, with one major difference: acquired buildings cost roughly half as much as new construction. According to Pomeroy, in 2005-2006 existing buildings were selling for \$80,000 to \$90,000 per unit versus \$200,000 or more per unit for new build.³⁰ Lower capital and financing costs enable owners to make acceptable returns, even though older buildings tend to have lower rents and higher operating costs than new developments, and their owners pay higher

29 Steve Pomeroy (2009), “Understanding the Affordable Housing Issue: Background Diagnostic in Support of ONPHA’s Response to Long-Term Affordable Housing Strategy.” Appended to “Rebuilding the Foundations: ONPHA’s Vision for a More Effective Affordable Housing System in Ontario.”

30 Construction cost inflation since 2005-2006 would have increased the cost for new build to over \$250,000 per unit, making higher subsidies necessary to achieve affordable rent levels.

property taxes.³¹ Purchasers such as REITs, private equity funds, and individual investors look for undervalued assets that are in reasonably good shape. They increase their cash flows over time as rents increase with inflation, while debt service remains constant over mortgage terms (as interest rates permit). They may also make capital improvements to justify higher rents.

Steve Pomeroy highlighted two important facts in his analysis:

1. New construction involves much higher cost and subsidy than acquiring existing properties that already provide rental housing at similar average market rent levels without subsidy (and don't face the same issues with NIMBY and various delays associated with new development), and
2. The existing relatively affordable properties are being eroded at a faster rate than this high cost new product can be constructed.

As a result, there has been no net gain in the availability of relatively affordable housing in Ontario. Pomeroy concluded that “while new build is needed to prevent housing need worsening, there may be a better way to invest limited funding by allocating grant funding to enable non-profit purchase of existing assets (with appropriate due diligence to select properties in reasonable condition), and thus emulate the behaviour of private investors. While this does not add to supply, it does expand the size and reach of the non-profit sector and helps to preserve affordability.”³² This opportunity will be revisited later in the paper in the discussion of potential policy proposals.

Financers' Economics

“It is more difficult to obtain stand-alone construction financing for rental housing than for just about any other asset class due to the absence of pre-leasing...office, retail, industrial and condo all have pre-leasing or pre-sales. Most bankers aren't keen on ‘build it and they will come’...” (PSF)

Obtaining financing on favourable terms was consistently cited by interviewees as the biggest barrier to new rental development. As already indicated, rental projects are complex and risky and all financers have something in common – they will not finance a project unless they are sure that the loan will be repaid with interest.

There are many types of financers and financial intermediaries in real estate development and they differ in areas of specialty, tolerance for risk, and financial returns expected.³³ Fixed-term mortgages on finished buildings are financed by large institutions like big banks and insurers,

31 Prior to 2001, condo developments were taxed at the residential rate while multi-unit rental developments were taxed at the commercial rate which was 3.3 times higher. In 2001, the City of Toronto equalized the property tax on condos and new rental development at the residential rate. The City has a policy that calls for equalizing property tax rates for older multi-unit rental buildings and has been gradually reducing the multi-unit residential tax rate - which declined from 3.29% (of assessed value) in 2001 to 2.20% in 2010, reducing the differential in tax rates between condos and older multi-unit rental buildings from 3.3 times to 2.4 times.

32 See footnote 27.

33 The term “financers” refers to those who raise money to finance projects (e.g., brokers), as well as to the lenders and investors of money.

and large pension funds like OMERS. Fewer large institutions get involved in speculative projects or the risky construction stage, particularly when the economy is weak. Brokers are key intermediaries in construction financing, as they know which investors have money and what it will cost to borrow.

Different financiers make money in different ways. Intermediaries like brokers typically earn fees based on the value of the financing packages or deals that they put together. Financial institutions earn interest on the money they lend. They may also “package” portfolios of mortgages or real estate assets to create financial instruments that they then sell to other investors. These financial instruments can take different forms, some of them very complex, as the credit crisis in 2008 demonstrated.

Successful real estate financiers must be proficient in credit assessment, cost estimation, deal structuring, and creative packaging of assets. They minimize risk by:

- assessing the credit-worthiness of borrowers and the quality of their projects in-depth;
- imposing terms that reduce their risk in the event of default, including ensuring that developers invest significant equity in projects and requiring that loans be insured ;
- passing risk on to investors once the assets are secured.³⁴

Financiers assess credit-worthiness and the quality of projects through the process of underwriting. Residential developments are financed in stages, beginning with the land purchase, and each stage acts as a steppingstone, until the “take-out” mortgage on the finished project. Each lender has its own underwriting criteria to assess financial feasibility and establish loan terms or conditions.

Lenders have common criteria that apply to every stage of development, including their relationship with the developer, the developer’s track record, knowledge of the market, experience with similar projects, the developer’s financial condition, and strong evidence of the sources of repayment. In addition, they use the following assessment criteria and terms or conditions specific to different stages of development:³⁵

- **Land financing** is based on the nature and quality of the proposed development and whether it is appropriate for the location. Lenders require an independent assessment of property value. They also use criteria, such as the loan-to-value ratio (LTV), to determine the level of equity the developer must provide.³⁶ The LTV may be as low as 50% (i.e., loan and equity each at 50% of land value) for a speculative purchase, or as high as 75% (i.e., loan of 75% and equity of 25% of land value) for land that has gone

34 This happens after construction and stabilization, at which point there is a building that can act as security for a loan.

35 This covers the three primary loans (for land, construction, and mortgage), but additional financing is often required to bridge funding timing gaps, or to secure supplementary financing. The additional financing may involve complex, often high-interest, investment structures such as mezzanine lending, which requires extensive financing experience and creativity.

36 The loan-to-value ratio (LTV) expresses the amount of a loan as a percentage of the total appraised value of a property. See the Glossary for more detail.

through pre-development and entitlement and is ready-to-build. Land loans are typically term loans for less than 12 months at a floating rate.

- **Construction financing** is driven primarily by the projected costs of construction. Lenders require detailed schedules of sources and uses of funds that include: the cost of the land loan to be paid off, the hard costs of construction, the soft costs or other project costs, funds to pay interest on loans, and a contingency to cover cost overruns. Financiers may also require a covenant in the loan agreement to protect them against cost overruns by making the developer take the risk. Finally, they usually require CMHC loan insurance, particularly in difficult economic times; CMHC insures construction and longer-term financing as one transaction for new rental developments.

Lenders use criteria such as the loan-to-cost ratio (LTC),³⁷ as well as the LTV ratio, to determine how much equity the developer must contribute at the construction stage. CMHC's *Reference Guide* for insuring loans for new multi-unit construction indicates that a loan may be advanced for up to 85% of costs or the lending value, whichever is lower, which means that a developer's minimum required equity contribution is 15% of the project cost. Higher leverage comes at a price as CMHC's fees increase significantly above 75% LTC.³⁸ CMHC also holds back 25% of the loan amount and requires borrower guarantees, which are 100% of the loan amount for new rental buildings, until stabilized rents are achieved. At that time, the guarantee requirement is reduced but is not removed until loan repayments have reduced the LTC to 60%.³⁹ Construction loans are typically term loans at a floating rate for 12 to 36 months.

- **Permanent or mortgage financing** is obtained to pay off the construction loan (unlike condos, where unit sales pay off the construction loan). It typically takes the form of a CMHC-insured mortgage for a five-year term with 25 to 35 years' amortization. As indicated earlier, part of the loan may be held back until the project has achieved stabilized rents, although CMHC might waive the stabilization period for a surcharge of 0.25% of the loan amount. A key consideration in mortgage lending is debt service coverage, which is the amount of operating income available to make mortgage payments. Lenders assess this coverage using a measure called the debt service coverage ratio (DSCR). In rental development, they like to see net operating income exceed debt service by 20% to 30%, which translates to a DSCR of 1.2 to 1.3.

Obtaining mortgage insurance is an added obstacle, as CMHC is the only source for rental housing development and it has its own stringent underwriting criteria and terms. It requires considerable sophistication in underwriting to develop an acceptable application for CMHC insurance. Some interviewees view CMHC's insurance as very costly and its underwriting criteria and practices as opaque, inflexible, and excessively time-consuming – but CMHC insurance not only protects lenders from default, it also provides advantages to borrowers over conven-

37 The loan-to-cost ratio (LTC) expresses the amount of a loan as a percentage of the costs associated with construction through to completion of a building.

38 CMHC's base premium increases from 2.25% of the loan amount for a loan covering 75% of construction costs (75% LTC) to 4.5% of the loan amount for a loan covering 85% of construction costs (85% LTC).

39 After rents are stabilized, the borrower's guarantee is reduced by 2% of the loan for each percentage point by which the LTC ratio exceeds 60%. For example, at 85% LTC the borrower guarantees 50% of the loan amount (the 50% guarantee = [85%-60%] x 2), and at 75% LTC the borrower guarantees 30% of the loan amount.

tional mortgages: reduced equity (15% for insured vs. 25% for conventional mortgages), lower interest rates, longer terms, and therefore the potential for higher returns.⁴⁰

Table 7 uses the for-profit 190-unit rental development example to illustrate a few of the key ratios or measures that financiers consider. This project is conservative, as the operating income is more than typically required to service the debt, as the 1.4 DSCR shows. While the loan-to-cost ratio at 80% would be considered to be high leverage, it is below the 85% maximum. The concept of financial leverage and its benefits and risks is discussed in the next section.

Table 7: Financial ratios for the 190-unit rental development, Year 1 (\$000s)

Debt Service Coverage	
Net Operating Income (NOI)	\$ 3,279
Debt Service Costs	-\$ 2,330
DSCR (NOI/Debt Service)	1.4
Loan-to-Cost	
Debt	\$ 38,159
Developer's Equity	\$ 9,633
Total Project Cost	\$ 47,791
Loan-to-Cost Ratio (Debt/Total Cost)	80%
Source: Affordable housing financial model provided by PD2 and author's analysis	

Benefits and Risks of Financial Leverage

The term “leverage” refers to developers’ practice of minimizing their own equity and using other people’s money as much as possible (within reason) to fund projects. They do this because maximizing their financial leverage, or the percentage of the cost that is funded by debt, increases their returns. Leverage can also free up developers’ money to invest in other projects.

Unfortunately, the benefits of leverage are not guaranteed and too much leverage can be risky because banks and other lenders expect to be repaid, even if a project fails to meet expectations, and lenders have first claim to any profits before a developer’s claim. While lenders have the first claim, it is still in their interests to minimize the possibility of a developer’s defaulting on a loan, hence the use of the measures described earlier, as well as the requirement that developers buy insurance for loans at or above 75% of project cost or value.

Table 8 illustrates the effects of increased leverage on financial returns for the 190-unit for-profit rental development. It compares ROE and IRR for 80% versus 85% debt financing. The developer’s Year 1 ROE increases from 9% to 11% with higher leverage, because the developer has less equity in the project. The internal rate of return if the building is sold after 20 years also increases from 17% to 20% IRR for the more highly leveraged model.

More highly leveraged development is riskier because of the higher cost of debt service. CMHC charges higher premiums for higher-risk loans, increasing its premium in the example from

40 See http://www.cmhc-schl.gc.ca/en/hoficlincl/moloin/molointo/molointo_001.cfm for a sample comparison showing higher return on investment for a CMHC-insured financing versus a conventional (uninsured) financing.

3.5% of the loan amount for 80% leverage to 4.5% of the loan amount for 85% leverage. This additional fee contributes to the higher project cost for the 85% leverage example. The DCSR of 1.3 in the 85% leverage example is still within the acceptable range. That would change if interest rates increased by just one percentage point; both the cash-on-cash return and DCSR would fall below acceptable levels.

Table 8: Financial ratios for the 190-unit rental development comparing 80% versus 85% leverage, Year 1 (\$000s)

Key Variables	80% Leverage	85% Leverage
Debt Service Coverage		
Net Operating Income (NOI)	\$ 3,279	\$ 3,279
Debt Service Costs	-\$ 2,330	-\$ 2,500
DSCR (NOI/Debt Service)	1.4	1.3
Loan-to-Cost		
Debt	\$ 38,159	\$ 40,933
Developer's Equity	\$ 9,633	\$ 8,001
Total Project Cost	\$ 47,791	\$ 48,934
Loan-to-Cost Ratio (Debt/Total Cost)	80%	85%
Return on Equity After Tax; Year 1	9%	11%
Internal Rate of Return if Sell After 20 Years	17%	20%
Source: Affordable housing financial model provided by PD2 and author's analysis		

4. Private-Sector Participation in Affordable Development: Benefits and Barriers

“It is important to ensure sustainable affordable housing stock, but you can’t keep taxing and regulating rental as if it is a business and treat it as a right – not if you want [private-sector] businesses to be involved.” (PSD)

The private sector has long been involved in developing, financing, or operating affordable housing, including non-profit housing. It has been estimated that more than 95% of the capital cost of non-profit housing is paid to the private sector, because the majority of people involved in the work (developers, architects, lawyers, builders, trades, etc.) come from the private sector.⁴¹ Private-sector players get involved only when they can make an acceptable return on their investment of time, money, and expertise, at a manageable level of risk.

Interviewees and reports by industry associations and experts cite a number of benefits and barriers to private-sector participation in affordable rental development.

Benefits of Private-Sector Participation in Affordable Rental Development

The private sector brings the expertise, experience, and scale needed to take on complex and risky projects. The nature of current programs demands considerable expertise in navigating three levels of government, structuring financing from multiple sources, and meeting CMHC’s complicated underwriting criteria which require all assumptions to be verified and sources documented thoroughly. Lack of experience is a big issue in Canada where lack of activity for many years means that there is little experience or expertise in purpose-built rental development or financing – in both the for-profit and non-profit sectors.

The private sector brings valuable discipline. One interviewee, a large U.S. non-profit developer, cited this as the key reason for preferring to partner with commercial banks when undertaking new development as part of the U.S. Low income Housing Tax Credit program. This interviewee has found that commercial lenders and private investors bring an underwriting-like

41 Estimate by Steve Pomeroy, cited in Nick Falvo (2007), “Addressing Canada’s Lack of Affordable Housing,” presentation for the panel on Interdisciplinary Approaches to Economic Issues, Canadian Economics Association Annual Meeting.

discipline to the development of capital and operating budgets and they push his organization to achieve high standards.

The private sector is reportedly more cost-effective, despite the need to earn sufficient profit to compensate for taking on the project development risks. Although it is not surprising that private-sector players would say this, there is evidence from the United Kingdom that risk transference results in lower project costs.⁴² Studies conducted by the U.K. Treasury that assessed outcomes of projects after completion, found cost savings of 17% to 20% versus conventional public procurement approaches.^{43, 44}

Private-sector involvement is seen to be politically favourable. Several interviewees believe that recent government housing programs are focussed, like the private sector, on minimizing risk – which is why they believe governments prefer upfront capital grants to fund projects and to make them viable at lower rents. Others believe that governments feel burned by the long-term commitments they entered into in the 1970s and 1980s and that they do not want to commit to the long-term, ongoing operating subsidies offered in past programs.

Barriers to Private-Sector Participation in Affordable Rental Development

Uncertainty due to lack of long-term commitments by governments to ensuring that every Canadian has an affordable, decent home. One interviewees' company lost a significant amount of money when a major government program was cancelled in the 1980s and they had to shut down projects already under development. They fear it could happen again.

The difficulty of obtaining financing on favourable terms, particularly for construction, where lenders require significant equity investment. Partnerships with non-profits on affordable projects are hampered by non-profits' lack of equity, as Canadian governments expect an equity contribution, similar to U.S. programs. This expectation is viewed as unfair, because Canada lacks the well-developed foundation sector that provides many U.S. non-profits with equity funding for affordable housing.

Government requirements can result in higher construction and operating costs for affordable rental developments making poor economics worse relative to for-profit development.

The irritants that make the pre-development process difficult and time consuming – and inflate costs. The most frequently cited sources of irritation were: CMHC's onerous underwriting criteria and process and the high cost of CMHC insurance; frequent changes in government programs; the lack of consistency between different levels of government (e.g., the previous round of the Canada-Ontario Affordable Housing Program offered a 40-year grant from the fed-

42 A recent TD Economics report, (2006) "Creating the Winning Conditions for Public-Private Partnerships (PPPs) in Canada," asserts that Canadian experience with PPPs is too limited to assess relative cost effectiveness.

43 From TD Economics' report on PPPs cited in footnote 41.

44 Alexandra Moskalyk (2008), "The Role of Public-Private Partnerships in Funding Social Housing in Canada," for CPRN, provides a comprehensive review of opportunities and issues with PPPs including financial benefits. The evidence is mixed and the author suggests there is a "need for caution, vigilance and scepticism," but her case studies "show that social housing can be effectively delivered through partnerships," and "partnerships may have been able to deliver projects that otherwise would not have come to fruition or may have been delivered on a more limited scale."

eral level and a 20-year mortgage from the Province); and the length of time it takes to work with the City to get zoning approvals, building permits, and other permits. Zoning approval alone can take more than a year and cost in excess of \$100,000.

The perception that for-profit players will game the system to maximize their profits. This fear is primarily due to the abuse of past government programs, which some interviewees had experienced first-hand – although these abuses were not limited to the private sector.

In spite of these drawbacks, a number of interviewees expressed positive views of their experiences with the current Canada-Ontario Affordable Housing Program, and in particular with the turnkey approach used in the example of an affordable rental development in the next section.

5. Example Project: Private-Sector and Non-Profit Partnership in Affordable Rental Development

“The ‘hard infrastructure’ and ‘social infrastructure’ need to partner and work hand-in-hand to create healthy and sustainable communities.” (PSD1)

For-profit developers can participate in affordable rental housing projects that receive government subsidies from the Canada-Ontario Affordable Housing Program (AHP) and, when they do so, typically partner or work for a non-profit. A developer who was interviewed for this paper provided a detailed example of the financing and economics for an affordable rental project that is in the process of securing a government grants and other financing.

The example project is a turnkey development in which the developer is partnering with a non-profit and taking the project through predevelopment and construction before turning it over to a non-profit organization, which will then own and operate the building. The project has been designed and built to meet the non-profit’s specifications with input from the developer.⁴⁵ This turnkey approach is considered a “win-win” situation by interviewees because:

- The private-sector developer takes on the development risks (as the specifications and budget are established in advance) and earns an acceptable profit on construction. This is in contrast to alternative arrangements, such as construction management for a fee, which place the risk of cost escalation on the non-profit organization if there is any deviation from project specifications.
- The non-profit organization benefits from the developer’s expertise and experience in working with governments, structuring and negotiating financing, underwriting to meet CMHC’s loan criteria, building design, and managing the construction project cost-effectively.
- The public-sector partner benefits from additional affordable housing stock that will remain affordable longer because of its non-profit ownership.

45 There are many other types of private and public partnerships (PPPs). Alexandra Moskalyk (2008) provides a comprehensive framework, successful case studies, and makes policy recommendations to foster and expand formation of PPPs for social housing development.

Below, the economics of the affordable turnkey example are compared to those of the 190-unit for-profit rental development.

Project Cost Comparison: Affordable Turnkey vs. For-Profit Rental Developments

Table 9 compares the costs of similar-sized affordable turnkey and for-profit rental apartment developments.⁴⁶ The total costs are lower for the turnkey development because, in addition to the AHP grant, it benefits from a number of government incentives that reduce costs: below-market land costs, lower debt service costs (government grants significantly reduce the size of the construction loan), and the waiving of municipal development charges and other fees. Hard costs are also somewhat lower for the turnkey project because it uses less expensive finishes than the for-profit project. The combination of the government grants and cost reductions enable the affordable turnkey development to charge significantly lower rents.

Table 9: Project cost comparison: Affordable turnkey vs. for-profit rental development

Costs (\$ 000s)	Affordable Turnkey	% Costs	For-Profit Development	% Costs	\$ Difference FP - TK
Land Costs	\$ 4,000	10%	\$ 8,000	17%	\$ 4,000
Hard Costs	\$ 23,822	57%	\$ 28,930	63%	\$ 5,108
Soft Costs	\$ 3,764	9%	\$ 9,121	20%	\$ 5,357
Total Costs	\$ 31,586	76%	\$ 46,051	100%	\$ 14,465
Source: Affordable housing financial model provided by PD2 and author's analysis					

Financing Program Comparison

Table 10 compares the financing programs for the for-profit and affordable projects. The latter is more complex, because financing had to be secured from a number of sources in addition to government grant programs.⁴⁷ The construction financing for the affordable rental development reflects how much debt the rental income can support which, while considerably lower than the for-profit project, is still significant.

46 The affordable turnkey project excludes developer's profit to allow for direct comparison of project costs.

47 Interviewees have seen even more complex financing structures with a dozen or more funding sources.

Table 10: Comparison of construction financing programs for 190-unit affordable turnkey and for-profit rental developments

	Affordable Turnkey	For-Profit Development
Financing (\$000s):	\$ 41,796	\$ 46,051
Financing Sources	% of Project Costs	% of Project Costs
Equity	1%	20%
Other Government	6%	
Federal Grant	12%	
Provincial Grant	20%	
Construction Financing	61%	80%
Total	100%	100%

Source: Affordable Housing Financing Proposal provided by PD2 and author's analysis

Notes: Affordable project cost includes developer's profit; construction financing includes financing costs and CMHC insurance and fees

Comparison of pro formas

Table 11 compares the pro formas for the affordable and for-profit rental developments.

Table 11: Comparison of pro formas for affordable turnkey and for-profit rental developments (\$000s)

Key Variables	Affordable Turnkey	For-Profit
Operating Pro forma		
Gross Revenue	\$ 2,381	\$ 5,132
Vacancy and Bad Debt Allowances	-\$ 91	-\$ 205
Net Revenue	\$ 2,290	\$ 4,927
Operating Costs	-\$ 785	-\$ 1,649
Net Operating Income (NOI)	\$ 1,505	\$ 3,279
Financing		
Debt	\$ 24,832	\$ 38,159
Equity	\$ 1,000	\$ 9,633
Total Financing	\$ 25,832	\$ 47,369
Debt Service Costs	-\$ 1,505	-\$ 2,330
Debt Service Coverage	1.0	1.4
Profitability		
Cash Flow Pre-Tax (NOI - Debt Service)	\$ 0	\$ 948
Cash-on-Cash Return (Cash Flow/Equity)	0%	10%

Source: Affordable housing financial model provided by PD2 and author's analysis

Note the following differences:

- Revenues are significantly lower, as rent levels for the affordable turnkey development average 80% of market (\$1,000 per unit on average) while rent levels in the for-profit development are 2.25 times the affordable average rents (\$2,250 per unit on average).

- Operating costs are much higher in the for-profit development, because it pays more than \$400,000 in municipal property taxes, from which the non-profit development is exempted. It also has higher operating costs because of higher service expectations (e.g., luxury rental developments generally offer around-the-clock security and have more property management and maintenance support) and higher value (which means higher insurance costs).
- Debt service costs are significantly lower in the affordable development because government grants and CMHC requirements reduce the debt burden; CMHC permits non-profit affordable developments to have a DSCR of 1.0 and still qualify for CMHC mortgage insurance while for-profit developments must have a DSCR of 1.2 to 1.3. A government-qualified lender to a non-profit project will not be concerned about the lack of a cash cushion; they bear no risk because the loan must be insured – and therefore must pass CMHC's very stringent underwriting criteria in the process.

Rent Level Comparisons and Implications

Table 12 demonstrates why the rent level for the for-profit development needs to be 2.25 times the average affordable rent to generate an adequate return. Returns quickly fall below acceptable levels when for-profit rents fall below 2.25 times the average affordable rent. At about 1.5 times affordable rent, the income from the property is too low to pay for debt service. A for-profit in this situation would be at risk of defaulting on its loans and going bankrupt.

Table 12: Effect of potential for-profit rent levels on value, cash-on-cash return, and ability to secure adequate financing for the 190-unit rental development (\$000s)

Multiple of Affordable Rent	Net Oper. Income by Rent Multiple	Building Value Based on Income	Cash-on-Cash Return	Financing Gap
3.0x	\$ 4,661	\$ 69,572	25%	\$ -
2.5x	\$ 3,740	\$ 55,814	15%	\$ -
2.25x	\$ 3,279	\$ 48,934	10%	\$ -
2.0x	\$ 2,818	\$ 42,055	5%	\$ -
1.5x	\$ 1,896	\$ 28,297	-5%	-\$ 5,242
Affordable	\$ 974	\$ 14,539	-15%	-\$ 20,606

Notes: Affordable is defined as 80% of Median Rent; Building Value is based on a 6.7% Cap Rate on

Net Operating Income Pre-tax; Financing Gap is based on a Debt Service Coverage Ratio of 1.2

Source: Affordable housing financial model provided by PD2 and author's analysis

Rent multiples also highlight the magnitude of the gap between what is economic for the private sector and what is affordable to people living in low-to-moderate income. Table 13 shows the gaps between multiples of affordable rent versus the average rent in the 190-unit affordable rental project and the average Ontario Works (OW) shelter rate. At 2.25 times affordable rent, the level required for a for-profit to achieve acceptable returns, the gaps are very large: for-profit rent exceeds the average affordable rent by \$1,251 per month and the average OW shelter rate by \$1,654 per month.⁴⁸

⁴⁸ The gaps between for-profit and affordable rent would obviously grow as a project's affordability increases and rents decline to levels that low-income earners can afford. The model used for the examples could be used to identify the levels of subsidy required to achieve greater affordability. That exercise could be useful to inform dis-

Table 13: Comparison of potential for-profit rent levels, expressed as multiples of affordable rent, vs. affordable rent and Ontario Works (OW) shelter rates

Multiple of Affordable Rent	Potential For-Profit Rents Per Month	Affordable Rent	Gap: F-P Rent Vs. Aff. Rent	OW Shelter Rate	Gap: F-P Rent Vs. OW Rate
3.0x	\$ 3,001	\$ 1,000	\$ 2,001	\$ 597	\$ 2,405
2.5x	\$ 2,501	\$ 1,000	\$ 1,501	\$ 597	\$ 1,904
2.25x	\$ 2,251	\$ 1,000	\$ 1,251	\$ 597	\$ 1,654
2.0x	\$ 2,001	\$ 1,000	\$ 1,000	\$ 597	\$ 1,404
1.5x	\$ 1,501	\$ 1,000	\$ 500	\$ 597	\$ 904
Affordable	\$ 1,000	\$ 1,000	-\$ 0	\$ 597	\$ 404

Notes: Affordable Rent is 80% of Market; For-Profit Rents, Affordable Rent, and OW Shelter Rate are weighted averages by suite size
Source: Affordable housing financial model provided by PD2 and author's analysis

Some experts argue that stimulating *any* rental construction is good because units will “filter down” to low-to-moderate income households and therefore gaps do not need to be eliminated, merely reduced. Offering incentives for the production of units at higher-than-affordable rents would also be less expensive for governments. Unfortunately, filtering takes a long time and can result in poorly maintained housing stock for low-income tenants – if it happens at all.

In gentrifying neighbourhoods, such as those in West-Central Toronto, researchers have observed positive correlations between the age of buildings and household income, or “negative filtering.” Housing economist Andrejs Skaburskis attributes this process to “city growth increasing the attractiveness of central locations which, along with changes in household composition, income and tastes, can reverse the direction of filtering.” The loss of rental stock being experienced in Metro Toronto (see Table 1) will make this trend worse, as the number of units available for filtering continues to decline. Skaburskis’s work not only demonstrates that filtering is not a reliable way to produce affordable housing; it also shows that subsidizing rental development in anticipation of filtering does not constitute a less expensive way for governments to produce affordable housing.⁴⁹

cussion of the relative merits of subsidizing development vs. subsidizing tenants to achieve different levels of affordability.

49 References to Skaburskis’s work from Nick Falvo (2007), “Addressing Canada’s Lack of Affordable Housing.” Presentation to the Canadian Economics Association Annual Meeting.

6. Stimulating More Private-Sector Participation in Affordable Rental

“In real estate everyone always acts in their own best interest. You must create ‘win-win’ situations.” (PS&GU)

The interviewees for this paper made a number of suggestions to stimulate more private-sector participation in developing or helping preserve affordable rental housing. Their proposals are primarily government interventions that improve the economics of affordable development by reducing costs and risk. The proposals share a number of characteristics: a preference for positive versus punitive measures, a preference for policy measures that do not create disincentives to private-sector participation, and a desire for less complex processes and programs.

It is beyond the scope of this technical paper to assess the effectiveness of the ideas, but it seemed wasteful not to capture them. The ideas are grouped according to the following four objectives:

- stimulating more private-sector participation in developing new affordable rental;
- stimulating private-sector financing or investment in affordable housing development;
- ensuring that owners maintain existing, aging affordable rental stock well;
- encouraging private sector owners to sell existing rental buildings to non-profits.

If all of the ideas were assessed, the cost-benefit analysis would probably show that private-sector participation works best for projects affordable to those whose incomes are not far below the average, and that a “menu” of incentives would be required to make it attractive for the private sector to stay involved in developing affordable rental housing.

Stimulating Private-Sector Participation in New Affordable Rental Development

“Government needs to act as a true partner, putting money in sooner to help non-profits get expert support from the start with planning and design, and to deal with ongoing cash flow challenges. And government needs to provide rent supplements for the most needy, because subsidies will never be high enough to achieve rents they can afford.” (NPH)

Interviewees want assurances that the Canada-Ontario Affordable Housing Program's grants for new affordable development will continue – as in the U.S. and U.K., where affordable housing policies and programs have been in place for many years. They made a number of suggestions to improve developers' potential rates of return on affordable rental by helping reduce development costs and speed up the development process.

Provide land at low or no cost. High land costs are the key reason why rental development is not economically feasible in large cities. Land costs could be reduced by:

- Freeing up surplus government-owned land for affordable development, similar to recommendations made in numerous reports, including reports from government organizations and committees.⁵⁰ (Note that this could be difficult to implement in Toronto where surplus land is expected to be sold to generate money for the City.)⁵¹
- Tearing down more of Toronto Community Housing's aging stock and redeveloping the land at higher density, as is being done in Regent Park.⁵²
- Encouraging municipal governments to buy up real estate in gentrifying areas to preserve affordable units.
- Adjusting provincial and federal grant subsidy levels to reflect higher land costs in major urban centres.
- Building affordable housing on leased land, as Toronto's Centre for Addiction & Mental Health (CAMH) is doing. This approach reduces up-front costs, although it does not ensure ownership or operating control in perpetuity. Also, it may not be sufficient on its own to make affordable housing development feasible.⁵³

Reduce developers' cost of capital by having the government provide loan guarantees to developers of affordable rental buildings. The savings will come from lower interest rates, commensurate with the lower risk to financiers, because the guarantee removes the risk of a loan not being repaid. This suggestion is cost-effective for governments, because it requires no cash outlay, as long as clear rules and regulations are in place, including financial criteria, to protect to protect the government from developers' defaulting on loan repayments.

50 Recent reports by the Calgary Committee to End Homelessness (2008), the Federation of Canadian Municipalities (2008), and the Senate's Standing Committee on Social Affairs, Science and Technology - Subcommittee on Cities (2009) all called for use of surplus government lands for affordable housing development.

51 A reviewer of this paper raised a "worrisome" Toronto-specific issue: "Many of Toronto's surplus sites, that would have been subject to 'Housing First' policy in the past, are now being turned over to Build Toronto with a mandate to make money for the City, and an indeterminate promise to negotiate some kind of affordable housing on some of the sites with the Deputy City Manager."

52 The reviewer quoted in the previous footnote also questioned this proposal, as the chance of stimulating net new affordable housing development depends upon how the proposal is implemented. In Regent Park, the additional density is actually being used to build for-profit condos to generate some profit to help subsidize the cost of replacing existing social housing. Regent Park has also received funding from the Canada-Ontario AHP as well as other public investment in community facilities. When the revitalization is complete, there will be less social housing inside Regent Park than before it began, as some of the social housing will be built on nearby land that the City gave to TCHC, outside Regent Park.

53 In the case of CAMH, the lease deal was set up to preserve hospital control of the land, not to facilitate affordable housing development. The affordable residential portion of the CAMH development also required Canada-Ontario Affordable Housing Grants to make building the units economically feasible.

Reduce soft costs by:

- **streamlining environmental assessments and planning and pre-development processes for affordable rental development**, particularly with the municipal governments and CMHC; reducing the pre-construction period not only reduces costs, but also reduces the risk of higher capital costs due to interest rate increases before construction financing is secure;
- **reducing the capital required for construction financing by giving for-profit developers a holiday on development charges**, or the same exemptions that non-profit projects receive, in return for keeping all or some units affordable for a significant time period; some interviewees suggested 20 years, others less as they want to avoid issues with “over-regulating the free market.”

Reduce hard costs of construction by using wood frame construction more often for affordable development. Wood frame construction costs can be as much as 40% less than the costs of high-rise concrete construction.⁵⁴ New methods and materials are making it possible to increase height from the previous four-storey maximum to five or even six storeys, and some jurisdictions have changed or are considering changing building codes to reflect this fact.⁵⁵ The use of wood framing will reduce the density of a development, but could be an appropriate choice for particular sites or projects.

Reinstate past tax incentives that helped make moderately priced rental development financially feasible for private-sector players. Recommendations for tax incentives are pervasive in the literature on affordable housing, likely because they worked in the past. Typical recommendations include: increasing the first year and on-going CCA deductions to 5%, allowing more soft costs to be capitalized, and refunding taxes on new rental construction. There is some question as to whether or not these changes would make enough of a difference today to make rental development economic as land and construction costs have increased considerably over the past decade. This would need to be assessed.

There are two camps with very different views on the relative merits of tax incentives versus the current grant-based approach (see Table 14). Some interviewees believe that both types of incentives should be made available, and that private-sector developers or owners should have the flexibility to choose between them, depending on their circumstances.

54 Potential fire safety issues with wood construction need to be evaluated and addressed.

55 In April 2009 the B.C. government changed its building codes to permit six-storey wood frame construction for residential buildings only.

Table 14: Pros of using grants vs. tax measures to stimulate affordable housing development

Grants	Tax Measures
<p>Department of Finance knows the total expenditure</p> <p>Spending is allocated to the responsible government department</p> <p>Can clearly specify the total amount to be awarded under the program</p> <p>Can be narrowly prescribed or targeted</p> <ul style="list-style-type: none"> • Unlike Tax Measures that the Tax Court often overrides 	<p>Home owners receive huge subsidies through the tax system (e.g. capital gains exemption on sale of primary residences); it is only fair to do the same for renters¹</p> <p>Can limit and target tax incentives</p> <ul style="list-style-type: none"> • E.g. the US Low Income Housing Tax Credit allocates a set amount to each state, which in turn award credits via competitive bid to proposed projects <p>Taxpayers and voters more readily accept tax expenditures than grant programs</p> <p>Tax measures worked before; lack of new build indicates governments went too far in cutting tax incentives</p> <p>Tax Departments are reportedly better at enforcement than Housing Ministries</p>

1. In 2008 the federal government reportedly spent \$76 million on the Affordable Housing Initiative versus approx. \$6 billion annually in tax revenue that is not collected from owners who sell their homes.
Sources: Primarily Don Drummond, of TD Economics, for pros for grants; Marion Steele, Associate Professor Emeritus at the University of Guelph, for pros for tax measures; David Hutchanski's "Canada's Dual Housing Policy: Assisting Owners, Neglecting Renters" for the data in the footnote

Create new tax incentives to stimulate affordable rental development by:

- **waiving capital gains tax on rental developments held for more than 20 years** to improve the developer's rate of return (IRR); while this would reduce government tax revenue, the impact would not occur until after communities benefit from having additional rental accommodation for some time;
- **using the tax system to reduce development costs by creating a refundable tax credit**, possibly one that is analogous to the Ontario Film & Tax Credit Program (OFTTC). The OFTTC is a refundable tax credit based upon eligible Ontario labour expenditures incurred by qualified production companies. It helps attract new business and business investment to Ontario, as well as creating highly skilled jobs. Stimulating affordable rental development would also create jobs, but it is not known if a similar tax incentive program could be designed and implemented at a reasonable cost to government in terms of forgone tax revenue.

Reduce ongoing operating costs by, for example, exempting affordable units from property taxes or giving them breaks on hydro charges. Some interviewees suggested that affordable rental projects should be designed to ensure that the target affordable rent per unit covers the operating costs. This requires consideration of cost/benefit trade-offs and should lead to more cost-effective design specifications.⁵⁶

⁵⁶ "Green" or energy-efficient development is not considered here, because benefits from reducing operating costs reportedly do not offset the increased costs of construction, so it would not improve a developer's return.

Stimulating Private-Sector Financing or Investment in Affordable Housing

“It’s a myth that all social housing providers are big credit risks. Affordable rental housing will always be in high demand.” (PSF)

Historically, private-sector financiers and investors were involved in affordable rental development. For the most part, however, they were not involved from the mid-1990s to the mid-2000s when the federal government stopped supporting affordable rental housing development. Interviewees made the following suggestions to help bring new investors to the sector:

- **Reinstate the Multi-Unit Rental Building tax incentive program (“but fix the issues with it”).** The MURB tax incentives were used in the mid-to-late 1970s and again in the early 1980s to promote privately owned rental construction by encouraging smaller investors to participate in the market. Owners were allowed to claim a 5% CCA deduction, even if that deduction generated a rental loss, effectively allowing them to write off rental losses against other income. Current regulations allow only Principal Business Corporations (PBCs), whose principal business relates to real estate development, to use CCA losses to reduce income taxes. Smaller investors are no longer in the market. The true effect of the MURB program in increasing rental supply has been questioned and there were reportedly, many abuses. Limiting the tax benefit to new rental development could help address these issues and attract new investors.
- **Create investment vehicles for long-term “patient” investors and socially responsible investors to help finance affordable housing development.** Examples of these kinds of investment vehicles in Canada tend to be community-specific and ad hoc.⁵⁷ In contrast, financial intermediaries in the U. S. and U. K. are actively involved and specialize in affordable housing, the former encouraged by tax measures such as the Low Income Housing Tax Credit (LIHTC) and tax-exempt bonds, and the latter by government subsidies that help make it economically feasible for rental income to service mortgage debt.

It is beyond the scope of this paper to develop or assess potential investment vehicles but much work has already been done in this area. For example:

- Marion Steele and Francois Des Rosiers recently proposed a “made-in-Canada LIHTC that could leverage private-sector expertise in site selection, construction, ownership, and management, to build more and better low-income rental housing.”⁵⁸
- The large U.S. non-profit developer interviewed for this paper has had extensive experience with LIHTCs. Aside from being “more complicated than they need to be,” he finds that they work well in attracting private investors (ideally as true partners) for volume production of below-market rental housing. LIHTC-funded projects are mostly carried out by large, experienced for-profit and non-profit developers, as they are too complex

57 An example of a Canadian investment vehicle is the Alterna Community Alliance Housing Fund, created by a partnership of the Public Service Alliance of Canada’s pension fund, the Alterna Savings Credit Union and the Ottawa Community Loan Fund. It provides low-cost mortgage financing while allowing the pension fund to earn a “patient” five-year GIC rate of return.

58 Marion Steele and Francois Des Rosiers (2009), “Building Affordable Rental Housing in Unaffordable Cities: a Canadian Low-income Housing Tax Credit,” C.D. Howe Institute Commentary No. 289.

for small-scale neighbourhood agencies. He also indicated that the program no longer suffers from the high costs for services of intermediaries (such as syndicators) that were an issue at inception.

- Steve Pomeroy has written extensively on attracting private investment for affordable housing. He believes it should be encouraged because it can build strong private sector backing, as experienced in the U.S. and U.K. – “with private-sector involvement comes increased knowledge and awareness of affordable housing. Because this is good business, members of the financial services community have also become strong advocates for the policy and tax vehicles that facilitate affordable housing development.”⁵⁹

Ensuring that Owners Keep Existing, Aging Affordable Rental Stock Well Maintained

“The role of municipal government should be to bring meaningful financial penalties to bear on investors that own older rental buildings and don’t maintain them. The city has building codes, but likely does haphazard enforcement because it doesn’t have enough inspectors. Maybe if they started enforcing the building codes more effectively and implemented fines, the additional revenue would justify the extra expense.” (PSF)

Owners of aging affordable rental stock include for-profit and non-profit owners – and either one may have poorly maintained stock. For the former, interviewees generally felt that most buildings in private-sector hands are maintained in reasonable condition, but there will always be owners who will not follow the regulations unless forced to do so. They felt that rehabilitating aging, poorly maintained stock would benefit the tenants and attract a broader mix of incomes to rental housing, reducing the concentration and isolation of low-income tenants.

Interviewees favoured a combination of “carrots and sticks” for landlords who fail to maintain their rental buildings. The suggested “sticks” were much stronger enforcement and larger financial penalties. Suggested “carrots,” or positive incentives, included:

- giving owners a tax holiday for two years to help fund rehabilitation to meet regulatory standards and requiring the tax savings to be paid back if the standards are not achieved;
- expediting equalization of taxes for residential condos and older multi-unit rental buildings to improve the economics of owning affordable rental properties and help fund ongoing maintenance; this measure would also correct an inequity in the property tax system which favours owner-occupied housing over rental;
- using the tax savings generated in these ways to create a reserve fund for major repairs in common areas, analogous to the reserve funds that condo corporations are required to maintain under the *Ontario Condominium Act*. This concept needs to be developed further, ideally in a way that avoids the added complexity and costs experienced by many condo corporations in adhering to reserve fund regulations.

59 Steve Pomeroy (2004), “Attracting Private Sector Financing in Affordable Housing,” Tri-Country Conference presentation.

Both non-profit and for-profit owners would benefit from expanding the Federal Rental Residential Rehabilitation Assistance Program (Rental RRAP), which is considered a good program that is under-funded. This program is particularly important for non-profits, as existing funding programs focus primarily on new construction.

Ontario municipalities could target funds generated from financial tools that, under the Development Charges Act, may be used for the rehabilitation of affordable rental housing. At a recent affordable housing symposium, Councillor Adam Vaughan suggested that more of Toronto's Section 37 funding be directed to rehabilitation of Toronto Community Housing's rental stock. He asserted that "if 10% of Section 37 money had gone to rehabilitation over the past ten years, there would be no backlog in TCHC's portfolio."⁶⁰

Finally, non-profits need easier ways to refinance their properties to help generate funds for major repairs or rehabilitation of aging stock. Private-sector owners routinely refinance properties to take advantage of growth in income and market value. The *Social Housing Reform Act* of 2000 allowed non-profits to refinance, subject to some restrictions, such as needing permission from the Service Manager, the Ministry of Municipal Affairs & Housing, and the lender. The restrictions and application process reportedly make it difficult for any but the largest social housing providers to take advantage of the benefits of refinancing.

Encouraging Private-Sector Owners to Sell Existing Rental Buildings to Non-profits

"I think it's a great idea for not-for-profits to acquire existing rental buildings and I'm surprised it doesn't happen more often. There is no disincentive for vendors to sell to not-for-profits – if the price offered is right, it wouldn't make any difference to them who the purchaser is." (PSF)

Non-profits should take advantage of the fact that existing buildings are considerably less expensive than new development. Government funds could be productively employed to purchase existing assets, as long as they are in reasonably good condition, emulating private sector investors such as REITs. There are a number of benefits and barriers to non-profit ownership of affordable rental buildings.

- The benefits of non-profit ownership include maintaining affordability over the long-term and providing supports to tenants who need them.
- The barriers to non-profit ownership include difficulty obtaining financing, the unwillingness of for-profit owners to sell due to tax penalties, and the inability to compete with REITs for properties in good condition.

Interviewees suggested two main ways to encourage sales of rental buildings to non-profits:

First, owners of rental buildings should be allowed to defer taxes on capital gains and CCA recapture if they sell to a non-profit and buy another building within a year.⁶¹ Interviewees viewed tax incentives as the best way to encourage for-profit owners to sell to non-

60 Notes are from Kehilla Residential Programme's "Bagels to Bricks Symposium" on February 4, 2010. They refer to Section 37 of the *Planning Act*, which gives the City of Toronto the authority to allow increases in permitted height and/or density in return for community benefits, provided that the benefits fit with Official Plan policies.

61 The suggested incentives are similar to those in Bill C-371, which as of the time of writing was in second reading.

profits as opposed to selling to a REIT or another investor. Allowing tax deferral is consistent with U.S. practice and tax treatment of other capital investments in Canada. For the government, it does not reduce tax revenue; it simply delays the collection of revenue not yet in hand.

Marion Steele has suggested targeting this recommendation by confining it to eligible projects: rental residential multi-unit buildings not registered as condominiums. She also suggested targeting the deferral of CCA recapture by “requiring that the sold building be affordable or the purchased building be affordable (that is, the building must have affordable rents and be occupied for five years by low-to-moderate income tenants).”⁶²

Second, new financing vehicles are needed to facilitate transfer of ownership to non-profits and preserve affordable rental stock. In a recent paper published by the Brookings Institute, author Shekar Narasimhan⁶³ presented a model for a new type of equity financing vehicle that would take the form of a REIT and combine private capital with local, state, and federal resources.⁶⁴ The funds could be used to preserve small-to-mid size multi-unit buildings by facilitating the transfer of ownership from individuals to institutions.

Narasimhan proposed targeting a few cities and testing his idea to determine whether there is local political support for providing tax abatements in return for reinvestment, and whether property owners would be willing to transfer ownership in return for shares in the new type REIT. It would be interesting to determine if a made-in-Ontario version of this model could increase the incentive for ownership transfer while bringing in new investors and investment to help fund rehabilitation and ensure on-going affordability.

62 Marion Steele (2009), “Supply-side Measures to Reduce Renters’ Affordability Problems: Identifying Pros and Cons of Alternative Measures.” Draft for the Calgary Homeless Foundation and the University of Calgary.

63 Shekar Narasimhan (2010), “Why Do Small Multi-Family Properties Bedevil Us?” Brookings Institute.

64 Resources provided by governments could include housing vouchers for tenants who remain in their units for a certain period, which would help ensure affordable rents and stable cash flows.

7. Status and Next Steps

This paper explains the economics and financing of private-sector development of multi-unit rental apartment buildings and shows why it is not economically feasible for the private sector to participate in the creation of affordable rental housing.

Discussion of the paper started several months ago, when a draft was distributed to the interviewees for comment. A revised draft was then distributed to various constituencies including the Neighbourhood Change CURA members; other academic experts; for-profit, non-profit and public-sector participants in affordable housing development and financing; housing policy experts; and affordable housing advocates. Three consultations were held to review and discuss the paper. A number of those who read the paper provided feedback at the consultation meetings, while others sent their comments directly to the author. The feedback has been incorporated in the paper.

The immediate next step is for Neighbourhood Change CURA to distribute the paper more broadly. The text may also be tailored for different audiences with different levels of understanding of real estate finance and different areas of interest with respect to the provision of affordable housing. Additional meetings or consultations are being considered to discuss and debate the findings. Appendix III contains questions to help guide discussion and debate.

More work could also be done to assess the effectiveness of the various suggestions for stimulating private-sector participation in affordable rental housing. Most of the ideas are not new. Any assessment must therefore build on the significant body of work already done by academics, governments, associations, and other experts while bringing a private-sector perspective to bear on the analysis and findings.

Glossary

Assets are anything of value, such as real or personal property. Assets may be appropriated for the non-payment of debt.

Basis point is a measure of the percentage point change in value or rate of a financial instrument, such as changes in bond yields or interest rates. One basis point equals 0.01% (1/100th of a percent).

Bridge loans are used to bridge funding gaps, such as carrying a project while a permit is being sought, or to take advantage of a short-term opportunity such as quickly closing on a site before securing longer-term financing. They are often considered to be speculative or risky and are therefore more expensive than regular loans. They are typically made by individuals or businesses that make a practice of offering higher-interest loans. Bridge loans on a property are typically paid back when the property has been sold or refinanced with a traditional lender, or when the borrower's credit-worthiness improves, or when the property is improved or completed.

Capital cost allowance (CCA), according to Revenue Canada, is “a tax deduction that Canadian tax laws allow a business to claim for the loss in value of capital assets due to wear and tear or obsolescence.” The percentage deduction varies depending on the asset class. The CCA for new rental buildings is 2% in the first year and 4% in subsequent years. It is calculated on a declining basis, which means that the base for the calculation is net of the CCA from the prior year, and deductions continue until the building is fully depreciated (that is, the cost on the books has been reduced to zero). For example, if a building's original value was \$50 million, the CCA would be:

Year 1 – 2% x \$50 million = \$1 million

Year 2 – 4% x \$49 million (\$50 million – \$1 million) = \$1.96 million

Year 3 – 4% x \$47.04 million (\$49 million – \$1.96 million) = \$1.88 million

...and so on...

The CCA deduction is expensed before income tax is calculated, which means that it helps reduce taxable income and therefore improves financial returns. This is why increasing the CCA rate is often recommended as a means of stimulating more rental production.

Capitalization rate (cap rate) is the percentage used to determine or assess the market value of a property based on its estimated future net operating income (see the definition of this term below). Cap rates are determined based on an appraisal of recent sales of similar properties. Real estate service companies, like Colliers International, publish cap rates for major markets on a regular basis. The cap rate is a simple and useful tool for valuing real estate. Two examples of uses of cap rates follow:

- For valuing property, where property value = net operating income/cap rate. If a rental property produces net operating income of \$100,000 per year, and the market cap rate is 7%, the value of the property (what one would expect to pay to buy it) is:
 $\$100,000 / .07 = \$1,428,571$.
- For determining whether a property investment will generate the desired returns, where property value x cap rate (or investors' required return) = net operating income required. If a rental property is being sold for \$100,000 and the market cap rate is 7%, an investor would expect the property to generate net operating income of at least \$7,000 ($\$100,000 \times .07$).

Cash-on-Cash return (CoC) measures the ratio between anticipated first year pre-tax cash flow to the amount of initial cash investment (equity) made by the developer, financier, or real estate investor for building or purchasing a rental property. CoC is expressed as a percentage. Its shortcoming is that it does not take into account the time value of money as it measures a residential income property's first year cash flow only and not its future year's cash flows. CoC is most useful as a quick and easy way to compare the profitability of income-producing properties or to gauge a real estate investment against another investment opportunity.

Covenant strength for the purposes of getting a loan refers to the financial worth or financial strength of the potential borrower as opposed to the value of the asset being financed.

Debt is the amount owed for money borrowed. Generally, debt is secured by a note, bond, mortgage, or other instrument that sets out interest payments and repayment terms. The note, in turn, may be secured by a lien against property or other assets.

Debt service is the amount of payment (to cover interest and principal or loan amount) due regularly to meet a debt obligation; usually a monthly, quarterly or annual payment.

Debt service coverage ratio (DCSR) is the primary measure used to determine if a property will generate enough cash flow to pay its debts on an ongoing basis. The DCSR is calculated by taking the net operating income (see definition below) and dividing it by the property's annual debt service, which is the total amount of interest and principal paid on the loans against the property throughout the year.

If a property has a DCSR of less than one, the income it generates is not enough to cover mortgage payments and operating expenses. For example, a property with a DCSR of 0.8 only generates enough operating income to cover 80 percent of annual debt payments. A property that has a DCSR of more than 1.0 generates enough operating income to cover annual debt payments. For example, a property with a DCSR of 1.5 generates 50% more operating income than is required to cover its debt payments. Most commercial banks require a DCSR of 1.2 to

1.3 for multi-unit residential development to ensure cash flow is sufficient to cover loan payments on an ongoing basis.

Default is the failure to discharge a duty such as failing to pay off a mortgage or other loan, or failing to comply with the terms of a loan.

Equity is the value of property in an organization or a real estate development over and above the total debt it holds. Equity investments typically take the form of a share in a business, and often, a share in the return or profits. Equity investments carry greater risk than debt and the potential for greater return should compensate for the added risk.

Financial leverage is a measure of a company's ability to meet its financial obligations. Companies that are highly levered may be considered to be at higher risk of bankruptcy if they have trouble meeting their re-payment obligations. The appropriate amount of leverage varies for different businesses and, if not excessive, can provide better returns as well as tax advantages. Real estate development tends to be a high leverage business. In Canada, if a borrower contributes less than 25% of its own equity and borrows 75% or more of the value of the property, the loan must be insured by CMHC to protect the lender against default.

Hard costs for construction include the contractor, construction labour, raw materials, environmental clean-up, landscaping, and other construction-related costs.

Internal rate of return (IRR) is a measure of percentage return from the initial investment that takes into account the timing and scale of projected future cash flows. For rental real estate it measures what the future income stream from a rental property is worth today. Timing is important as a dollar in hand today is more valuable than one five, ten, or twenty years from now.

IRR is considered acceptable if it exceeds the owner's or investor's cost of capital, or some minimum generally acceptable rate of return. The actual calculation is complex and typically done using special software or a financial calculator. Key variables include the initial investment (present value), cash flows by period, and the future value of the investment. There is added complexity in determining IRR for rental real estate as the future value must be adjusted to account for selling costs, taxes on capital gains and taxes on recapture of CCA deductions. The example in the section on Owners' Economics illustrates how these adjustments are made.

Loan-to-cost ratio (LTC) is another measure of financial leverage. It expresses the amount of a loan as a percentage of the total costs associated with construction through to completion. For instance, if a developer wants \$9 million for constructing a project that will cost \$12 million in total the LTC ratio is \$9 million/\$12 million or 75%. The LTC is used to assess risk in the construction phase in conjunction with the loan-to-value ratio (see below) because it is difficult to value an apartment building that is not yet built.

Loan-to-value ratio (LTV) is another measure of financial leverage. It expresses the amount of a loan as a percentage of the total appraised value of a property. For instance, if a developer wants \$20 million to develop a property worth \$25 million, the LTV ratio is \$20 million /\$25 million or 80%. The LTV is one of the key risk factors that lenders assess when qualifying borrowers as a high LTV ratio means there is a higher the risk of a borrower defaulting. Lenders typically require borrowers of high LTV loans to buy mortgage insurance for protection in the event

of buyer default which increases the cost of the mortgage. An LTV ratio over 75% is generally considered high and requires CMHC mortgage insurance.

Mezzanine loans are often used by developers to secure supplementary financing for development projects (typically in cases where the primary mortgage or construction loan equity requirements are larger than they want to fund with their own equity). Mezzanine loans are often unsecured (that is, not backed by assets) and lenders demand very high interest rates (e.g. 18% to 20%) in return for the risk involved.

Net operating income (NOI) is the total rental income from a building minus any income lost due to vacancies, and minus all operating expenses. Financial projections for new developments typically assume a vacancy rate of 2% to 3% on average meaning that the rental income will likely be reduced by that amount.

Pre-sales threshold is the percent of units sold that is necessary to obtain construction financing and is typically 60% to 70% of the number of units in a condominium. It can also be the threshold at which condo developers can close unit sales.

Pro formas present data, typically financial statements, which have assumptions or hypothetical conditions built into them, such as a projection of rental income, operating expenses and expected profits used to demonstrate the viability of a project to potential lenders.

Recourse refers to the right, in an agreement, to demand payment from the person who is taking on an obligation. A “full recourse” loan means the lender has the right to take any of the borrower’s assets if the loan isn’t repaid. A “limited recourse” loan only allows the lender to take assets named in the loan agreement. A “non-recourse” loan limits the lender’s rights to the particular asset being financed – an approach common in home mortgages and other real estate loans.

REIT stands for Real Estate Investment Trust. A REIT is a security that sells on stock exchanges. REITs were first offered in Canada in 1993. They are required to be configured as trusts and do not pay income taxes if they distribute their net taxable income directly to shareholders, who then pay taxes on that income. There are different types of REITs:

- Equity REITs invest in and own and operate properties, earning money primarily from rental income.
- Mortgage REITs invest in and own mortgages on property. They may loan money to property owners for mortgages or purchase mortgages or mortgage-backed securities, earning money primarily from the interest on mortgage loans.

Return on equity (ROE) is another measure of financial performance. It compares profit with the amount of capital (equity) employed to generate it by dividing profit by equity. It combines elements of both risk and return (profit or income less expenses) and increases as profits increase. It also increases as equity decreases because the equity investor has taken on less risk. Real estate developers will try to increase return and decrease their equity contribution to maximize their ROE. ROE differs from cash-on-cash return in being calculated on after-tax income (as opposed to pre-tax).

Soft (development) costs include all other costs for development and construction that are not considered hard costs, such as design, sales and marketing, financing, and administration.

Standby fee is a fee paid to the lender for committing to make a sum of money available at specified terms for a specified period. It is generally intended to be replaced by another commitment; for example, construction financing is replaced by long-term mortgage financing when a building is ready for occupation.

Underwriting is the process of determining the financial feasibility and the terms of a project. The objective of underwriting is to determine whether the ongoing revenue from a property will be sufficient to cover construction and operating costs. There is no one “right” way to do underwriting. However, across all approaches, underwriters must consider some common elements for multi-residential developments:

- project costs for construction, to determine reasonableness and eligibility;
- sources of financing for the project;
- projected profitability and financial health of the project using measures like the loan-to-cost and debt service coverage ratios described above;
- financing and operating terms.

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Appendix I: Interviewees and Expert Contacts

The following list indicates the Sectors and Reference Codes of interviewees:⁶⁵

Two Private Sector Real Estate Developers: PSD

Six Private Sector Real Estate Financers: PSF

One Private Sector Real Estate Manager: PSM

Four Private Sector Specialists (e.g. cost estimator, legal expert, etc.): PSS

Two Private Sector and Government Underwriters: PS&G

Two Municipal Government Affordable Housing Staff: MG

Two Provincial Government Policy Analysts: PG

Two Non-profit Real Estate Developers: NPD

Three Non-profit Housing Advocates: NPA

Three Academic Experts: AE

⁶⁵ Interviewees and contacts are characterized and labelled by sector and profession, borrowing from the approach used by Julie Mah in her recent paper for CPRN: "Can Inclusionary Zoning Help Address the Shortage of Affordable Housing in Toronto?"

Appendix II: Private-Sector Perspectives on the Neighbourhood Change CURA's Proposals

The Neighbourhood Change CURA (Community University Research Alliance) developed a set of policy options with the following objectives:

- maintain affordable housing and prevent displacement of existing residents;
- maintain affordability of existing rental housing;
- add new rental housing;
- maintain a mix of local businesses and services.

Ten actions to achieve these objectives are listed in Table 15. More detail on the proposals can be found on CURA's website, <http://www.urbancentre.utoronto.ca/cura/>.

Table 15: Neighbourhood Change CURA's policy objectives and potential actions to achieve them

Maintain Affordability and Decrease Displacement	Add New Rental Housing	Maintain Local Business and Service Mix
Expand RRAP	Made-in-Toronto Approach to Inclusionary Zoning	Support Small Neighbourhood Businesses
Reinstate Energy Efficiency Program for Low-income Households	Remove Zoning and Regulatory Barriers to Affordable Housing	Build Community Capacity
End Vacancy Decontrol	Use Taxation Powers to Fund Affordable Housing Directly	
Prevent Conversions of Rental Buildings With Less Than Six Units		
Protect and Promote Good Quality Rooming Houses		

Interviewees commented on some of the Neighbourhood Change CURA's proposals. These perspectives are set out briefly below for proposals designed to maintain affordability and to stimulate the addition of new rental housing. Some views are mixed or not favourable, but the

Neighbourhood Change CURA's policy objectives and actions were not aimed at providing incentives to increase private-sector participation in affordable development or financing.

Views on Neighbourhood Change CURA's actions to maintain affordable housing and prevent displacement of existing residents:

- **Expanding the Rental RRAP program to fund more projects was viewed favourably.** It is seen as a program primarily for the smaller landlords prevalent in the West-Central Toronto study area. It could also be very useful for non-profits in rehabilitating rental stock if some government funding is redirected to acquiring older buildings to maintain affordability.
- **Reinstating the Energy Efficiency Program for Low income Households has no direct impact on the private sector.** Some interviewees suggested that a better approach would be to simplify the more than 50 current programs and integrate them better across different levels of government, rather than adding or reintroducing another program. The coherent simplified program could have a component that targets low-income households.
- **Ending vacancy decontrol was seen to be a disincentive for the private sector.** Interviewees felt that ending vacancy decontrol would worsen the economics of rental. Some questioned the need, as they believe that rent levels have stabilized – according one interviewee, “it would be a yawn if Ontario ended rent control today.” While generally the case, this unfortunately may not apply to gentrifying areas where more targeted measures are believed to be needed. Regardless, interviewees do not believe there is much political will to end vacancy decontrol and felt that advocacy efforts would be better directed to proposals that are more likely to be acted upon.
- **Preventing conversions of rental buildings under six units was viewed as unnecessary.** No one believed that anyone would invest in converting a building smaller than 20 units, given the high cost, because it would not be economically feasible. This action would also create untenable obligations for small property owners. Expediting equalization of property taxes on older multi-unit buildings with residential property taxes would be an easier way to eliminate the benefits of conversion and is consistent with the City of Toronto's policy. Before accepting this logic, there is a need to ensure it applies to gentrifying areas.

Views on Neighbourhood Change CURA's actions to add new affordable rental housing:

- **Implementing inclusionary zoning was not viewed favourably, but interviewees suggested that such a measure should be designed to reduce negative consequences.** Their primary concerns were that inclusionary zoning could result in restrictions on resale and title that would depress the value of properties, and that it makes new developments more difficult to manage and market. Some believe that setting the inclusion level too high will “sterilize” a lot of land when the economy changes – and the recommended 20% level was considered too high. If developers have no choice and inclusionary zoning is made mandatory they would want the following:

- the combination of affordability level, inclusion requirement, and incentive (e.g., density bonus) must produce their normal profit margin or return on equity;⁶⁶
 - the playing field must be level, with the same base requirements and incentives for all, so they know the cost and can build it into their financial assessments and, if possible, offset the added cost by paying less for land;
 - the inclusion requirement should be reduced to 5%, or to not more than 10%;
 - the definition of “affordability” must take into account the specific neighbourhood or area of the city;
 - there must be flexibility to adjust the size and quality of affordable units; e.g., as in San Diego, where affordable housing is mixed with market rate housing in new developments;⁶⁷
 - price appreciation must be allowed for affordable ownership so that homeowners can build equity.
- **Removing zoning and regulatory barriers to affordable development was viewed favourably**, particularly if these actions reduce costs and expedite approval processes. There was some concern about actions being too specific. For instance, recommending a set parking minimum was seen as simplistic. Parking should be site-specific based on a needs assessment (including proximity to transit and employment). Instead of a parking minimum, consideration could be given to requiring that affordable housing be near transit, which would reduce the need for parking and fulfil other policy objectives. Reduced parking, however, is not the only way to reduce costs. The City could offer breaks on hydro bills or help find other means to get operating costs down, as appropriate for the site and project. There was agreement that affordable housing should fit the neighbourhood to avoid stigmatizing tenants.
 - **Using taxation powers to fund housing directly met with mixed reactions.** The idea of dedicating 1% of City property taxes to affordable housing initiatives sounds reasonable. But in Ontario municipalities are responsible for partially funding and delivering social housing and other social services. The property tax base is paying for that service already. A property tax levy would also be onerous for older multi-unit rental buildings, which already pay 2.4 times the residential property tax rate.

66 John Gladki and Steve Pomeroy (2007), “Implementing Inclusionary Policy to Facilitate Affordable Housing Development in Ontario,” demonstrated that developers could earn reasonable returns (15% margin on ownership or 8% to 12% return on equity for rental) by including 15% affordable housing units in return for a 25% density increase, targeting households in the 40th income percentile. They cautioned against deeper targeting for rental properties as “this can act as a deterrent to rental supply when the economic feasibility is already quite tenuous, especially when competing for land against condominium ownership products.”

67 Steve Wright (2007), in “Pros vs. Cons: Smart Growth experts debate inclusionary zoning strategies in an effort to win diverse affordable neighbourhoods” indicated that in typical San Diego developments, single-family homes are market rate and developers team up to build garden-style rental apartments or condominiums to fulfil the affordable requirement.

Appendix III: Potential Questions to Guide Discussion and Debate

Potential questions for discussion relate to the suggested proposals for policies and programs to stimulate private-sector participation in developing or maintaining affordable rental housing. This technical paper and next steps (if any) for the work could also be topics for further discussion.

With respect to policy and program discussion and debate:

- Should stimulating more private-sector participation in affordable housing development and financing be a policy objective? If so, what actions or combinations of actions should take priority?
- Should the funding envelope be modified to provide for purchasing existing buildings and rehabilitating them for affordable rental? If so, what actions should take priority?
- How should policy recommendations and actions be shaped to increase effectiveness at addressing needs in gentrifying areas?

With respect to this technical paper and next steps:

- Is this paper useful and for what purposes?
- Is the presentation of the economics of key players clear and understandable, even to those with little exposure to real estate finance?
- Should it be simplified and tailored for different audiences? If so, what audiences?
- What are the next steps, if any, in developing this work further?

Draft 2040 PlaceType and Height Map

Council District 6

December 2017

Planning Commission Recommendation

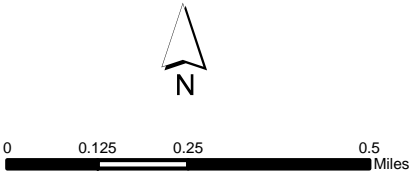
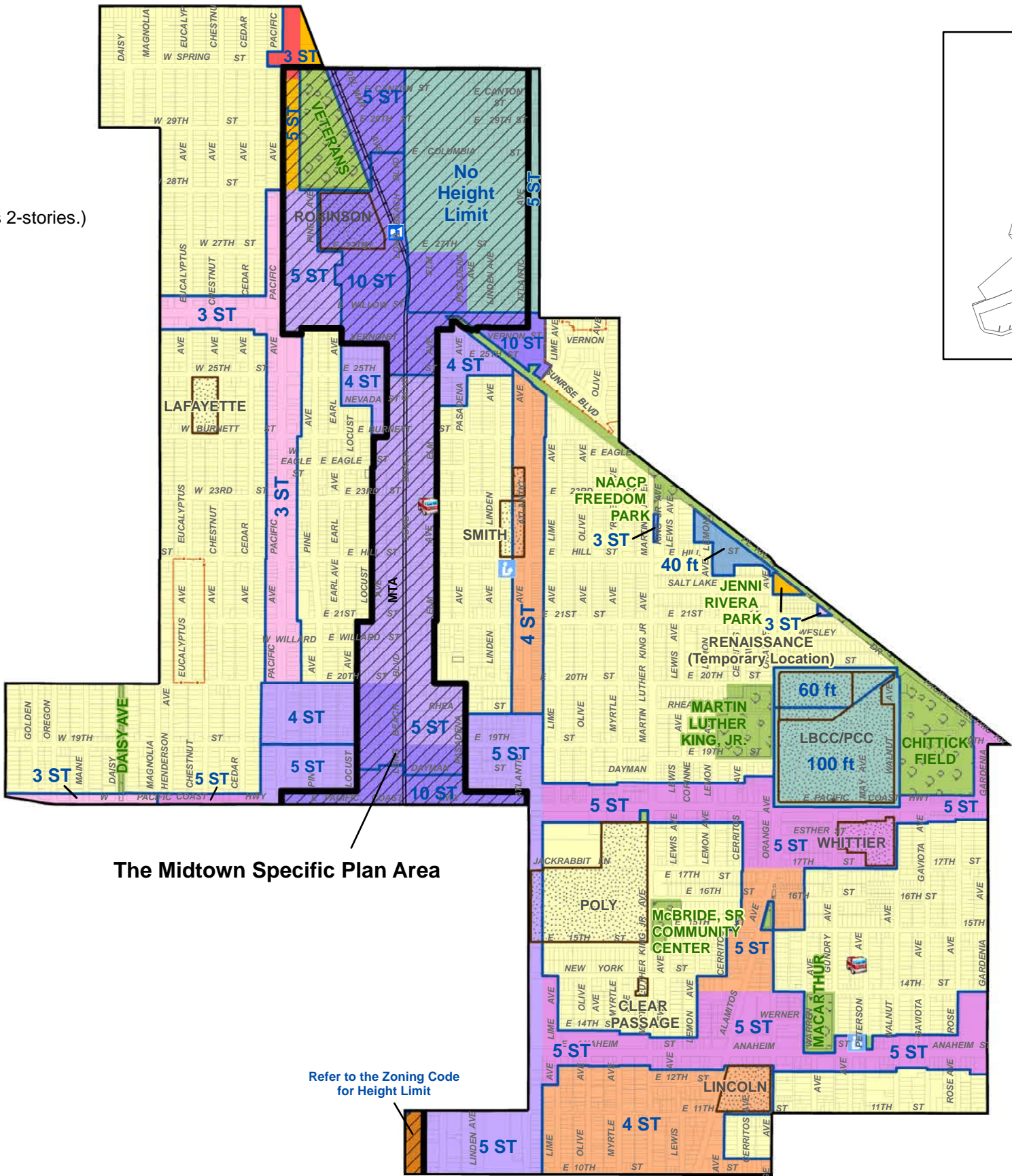
LEGEND

Height (ft - feet and/or ST - stories. If not indicated on the map, the height limit is 2-stories.)

Specific Plan and/or Downtown Plan Boundaries (already approved plans)

PlaceType

- Community Commercial - CC
- Downtown - DT
- Founding and Contemporary Neighborhood (Single-family and low-density) - N
- Industrial - I
- Multiple Family Residential Low Density - MFR-L
- Multiple Family Residential Moderate Density - MFR-M
- Neighborhood Serving Center or Corridor Low Density - NSC-L
- Neighborhood Serving Center or Corridor Moderate Density - NSC-M
- Neo Industrial - NI
- Open Space - OS
- Regional Serving Facility - RSF
- Transit-Oriented Development Low Density - TOD-L
- Transit-Oriented Development Moderate Density - TOD-M
- Waterfront - WF
- Historical Districts
- Fire Station
- Library
- Parks
- Police Station
- Schools
- Train Stations




Draft 2040 PlaceType and Height Map

Council District 7

December 2017

Planning Commission Recommendation

LEGEND

 Height (ft - feet and/or ST - stories. If not indicated on the map, the height limit is 2-stories.)


 Specific Plan and/or Downtown Plan Boundaries (already approved plans)


PlaceType


 Community Commercial - CC

 Downtown - DT


 Founding and Contemporary Neighborhood (Single-family and low-density) - N


 Industrial - I


 Multiple Family Residential Low Density - MFR-L

 Multiple Family Residential Moderate Density - MFR-M

 Neighborhood Serving Center or Corridor Low Density - NSC-L

 Neighborhood Serving Center or Corridor Moderate Density - NSC-M

 Neo Industrial - NI

 Open Space - OS

 Regional Serving Facility - RSF

 Transit-Oriented Development Low Density - TOD-L

 Transit-Oriented Development Moderate Density - TOD-M


 Waterfront - WF


 Historical Districts


 Fire Station

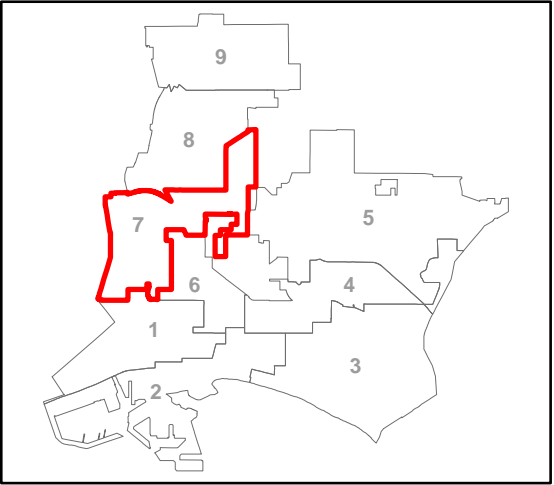
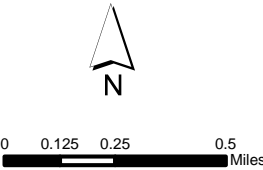
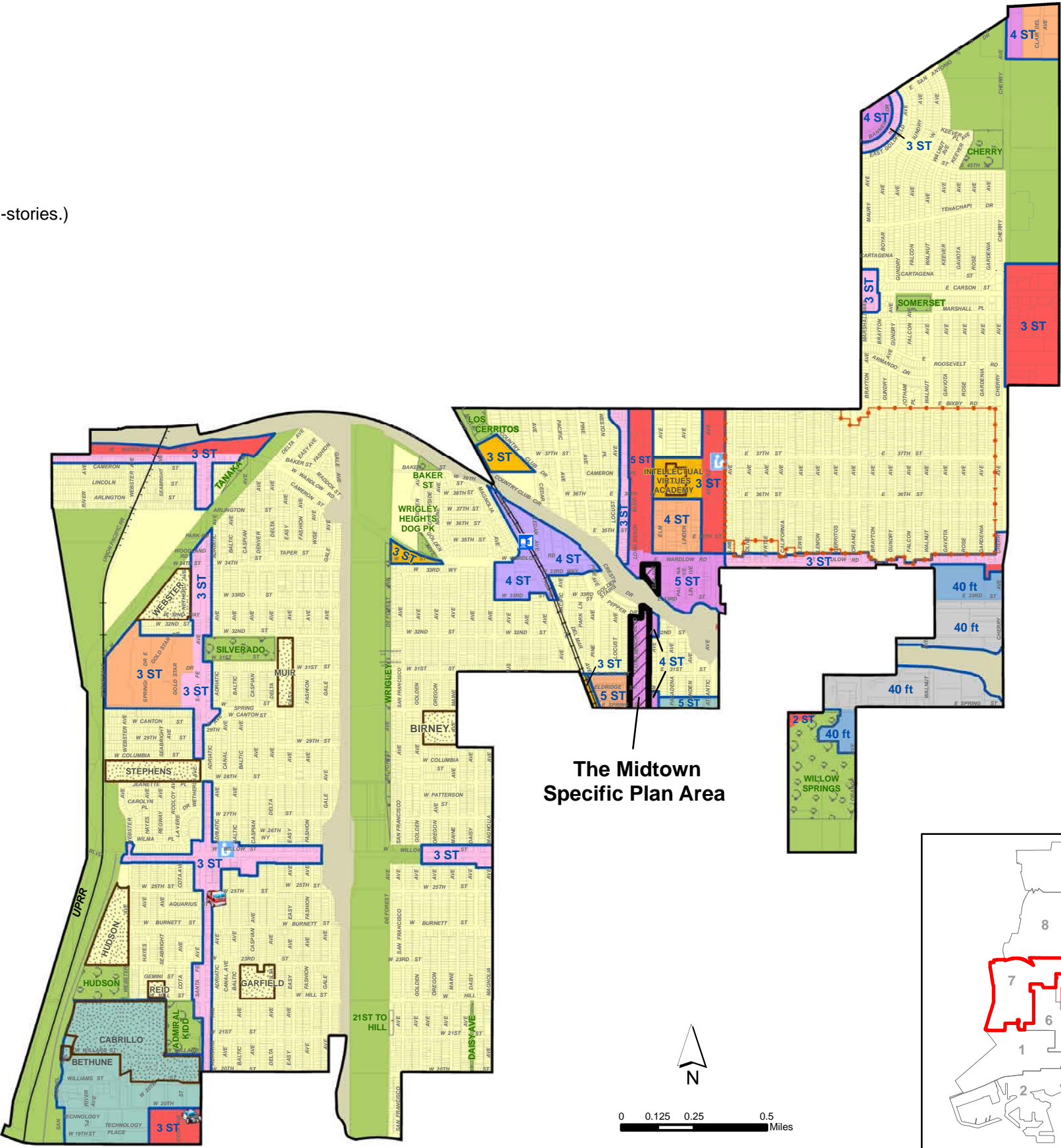
 Library

 Parks

 Police Station

 Schools

 Train Stations





WANA • Wrigley Area Neighborhood Alliance, Inc.

Date: March 5, 2018

To: Mayor Robert Garcia and Members of the Long Beach City Council

From: Joan Greenwood, President
Wrigley Area Neighborhood Alliance (WANA)
P.O. Box 6370
Long Beach, California 90806

RE: Public Hearing
File #18-0186 Land Use Element ("LUE")
Opposition to Transit-Orientated Development ("TOD") in CD6 and CD7
Opposition to Height Maps for Long Beach Boulevard between Wardlow and Bixby Roads from
Locust to Lime Avenues in Bixby Knolls CD7
Opposition to Proposed Elimination of the Equestrian Overlays in CD7

This memorandum and attachments are intended to be a part of the official record for the hearing and your deliberations. I do not mean to belittle the effort that City staff has put into developing the LUE. I am appreciative of those efforts, but I also know that while large scale infrastructure and development projects can grab attention of politicians and the media, **density without design will fail to generate anticipated return on investment -- both in terms of creating new riders and in transforming neighborhoods.** The issue before you today is whether the proposed place types and height maps in CD6 and CD7 fit the neighborhood scale and aesthetics. Trust me, the evidence is overwhelming that staff really doesn't understand the history of our community and our commitment to preserving our heritage and diversity.

WANA asks that the current zoning in the Wrigley District be preserved until a Specific Plan is developed for Wrigley and a Master Plan for Transit- Orientated Development along the Metro Blue Line is certified. At this point in time, it is absolute folly to believe that an updated Program Environmental Impact Report ("Program EIR") can sufficiently analyze feasible mitigation measures for the significant environmental impacts (air quality, traffic and aesthetics) identified in the previously circulated draft. If accepted as presented, the damage from the proposed Place Types and Height Maps in Wrigley that were surreptitiously extended to encompass the area around the Metro Willow Street and Wardlow Road Stations will make the Cracker Box Fiasco of the 1980s and 90s pale in comparison. Wrigley is not midtown.

Please direct staff to heed the words of your experienced CD 6 and CD 7 neighborhood leaders or someday soon, one of you, like our former Councilman Ray Grabinski, will ask our City Attorney, why the only litigation he seemed to loosing were the CEQA lawsuits initiated by residents of Long Beach – the very people who elected him.

I have attached several white papers that support WANA's position that the LUE does not adequately address the needs of the Wrigley Community. We have demonstrated our willingness to take on our fair

share of affordable housing for a growing population, but enough is enough. The attached white papers clearly support our position that the proposed LUE and Program EIR in essence will result in irreparable damage to our Wrigley Community and lower the property values of residents in neighboring Bixby Knolls.

Attachments:

1. Except from February WANA News and Views
2. Map CD6
3. Map CD7
4. *Paradigm Shift Back to Urbanism: Complete Neighborhood for Cincinnati*
5. *Seven American TODs: Good Practices for Urban Design in Transit-Orientated Development*
6. *The Financing & Economics of Affordable Housing Development: Incentives and Disincentives to Private-Sector Participation*

UPTOWN COMMUNITY

8th Council District – Bixby Knolls to North Long Beach

LAND USE SOLUTIONS to STRENGTHEN AND SUSTAIN OUR COMMUNITY

Comments and concerns regarding the Long Beach proposed Land Use Elements

WAIT to see how recent proposed and enacted state legislation will effect our LUE
REVALUATE and REWORK the LUE in light of legislative changes.

STOP and give the community a better method to provide feedback on a REVISED LUE
ELIMINATE Place Types and other efforts to increase density outside of the maps.

PRESERVE what works

- KEEP COMMERCIAL CORRIDORS that are performing at the heart of our neighborhoods.
- DO NOT ENCROACH OUR HOMES This is NOT downtown.
 - KEEP height limits as specified in handout
 - LIMIT MAX height limits as specified in handout
- LIMIT GROWTH to RESPONSIBLE DEVELOPMENT based on the limited availability of:
 - water, energy, and sewer capacity,
 - police and other city services
 - schools and open space
 - limited street and parking capacity
- HISTORICAL neighborhoods, and buildings
 - Killingsworth, mid century modern
 - Virginia Village
 - North Village Center – Atlantic and South
- COMMUNITY look and feel in our neighborhoods and business corridors
 - Complement and preserve that which makes our community great
 - Improve quality of life
 - Adhere to community / neighborhood design guidelines

ENHANCE and IMPROVE the community

- Plan for more open space
- Adhere to strict design guidelines

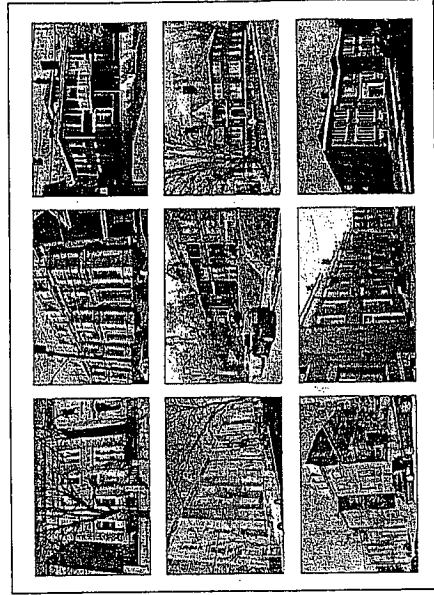
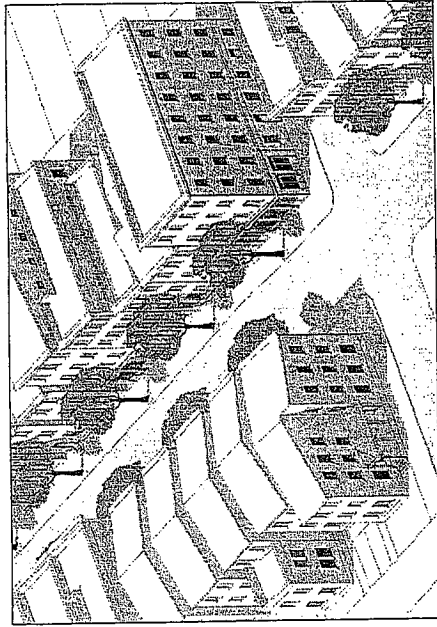
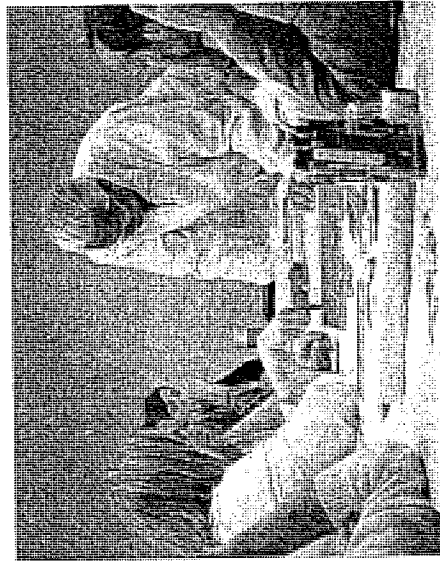
RECEIVE AND FILE THE LUE – Land Use Element

- EVALUATE HOW STATE LEGISLATION WILL EFFECT THE LUE and
- REVISE / RETHINK / RECONSIDER the LUE in light of this legislation



Cincinnati, Ohio Citywide Form-Based Code

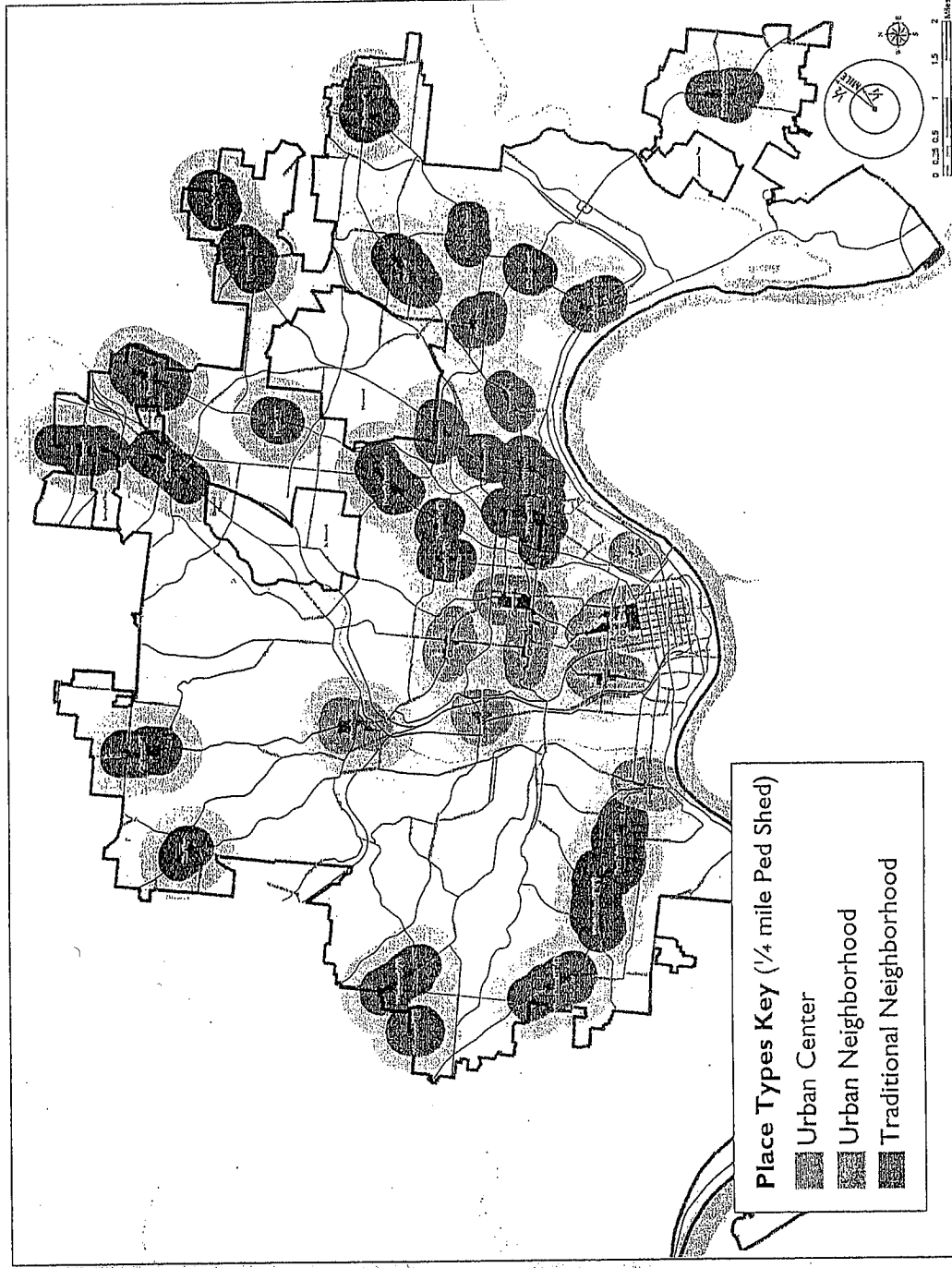
Paradigm Shift Back to Urbanism:
Complete Neighborhoods
for Cincinnati



1 Locate & Prioritize Walkable Urban Neighborhoods

OPTICOS

LOCATE
WALKABLE
URBAN PLACES
↓
MAKE THEM A
PRIORITY
↓
DEFINE
THEIR UNIQUE
ASPECTS AND
FORM
↓
UTILIZE THEM
AS A
FRAMEWORK



Cincinnati's Neighborhood Framework

2

Understand the Neighborhood Patterns



Madisonville

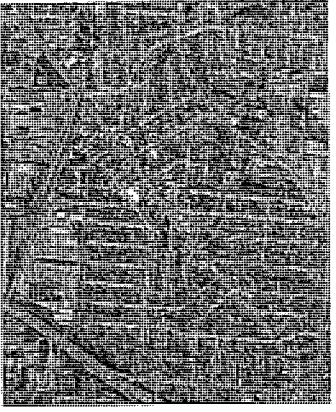


Aerial Photograph

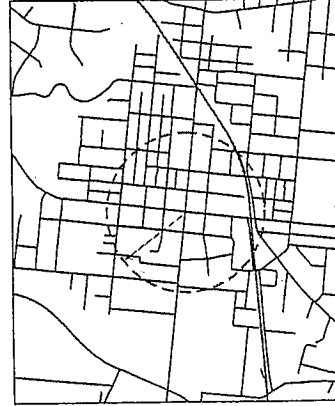
Northside



Oakley Square



O'Bryonville



Transportation Network

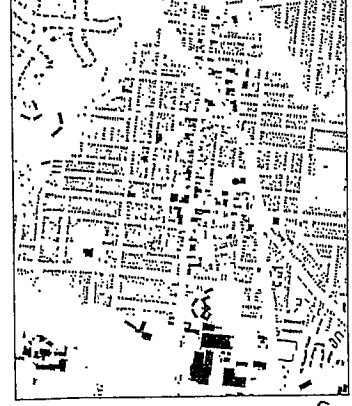
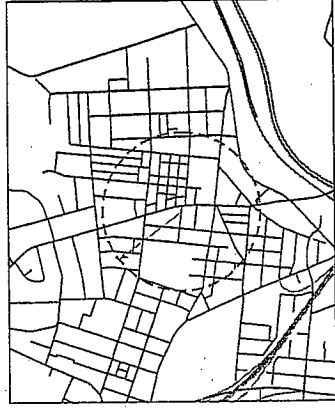
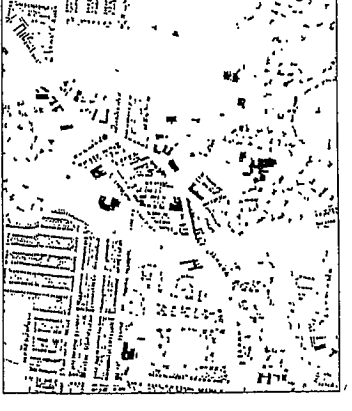
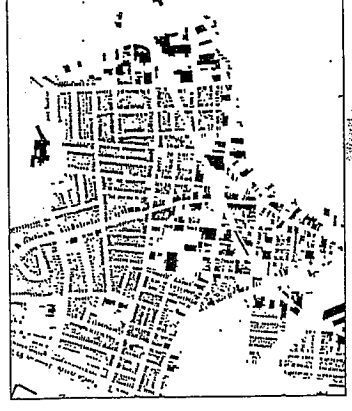


Figure Ground



3

Establish a Hierarchy of Walkable Community Types

OPTICOS

Less Urban

More Urban

Illustration	Traditional Neighborhood	First Suburb Neighborhood	Village	Streetcar Neighborhood	Urban Neighborhood	Urban Center/Downtown
Description	This community type is primarily composed of T3 neighborhoods, which are mostly single-family homes on small to medium-sized lots. This community type also has a small percentage (approximately 10-20%) of T4 with small footprint, medium-density housing types — such as duplexes, fourplexes, rowhouses, and small apartment buildings — that are either typically along a major corridor or in areas transitioning from the single-family homes into a neighborhood main street. The neighborhood typically includes one or more main streets (T5) or corner stores within a short walking distance from a large percentage of homes that are an important part of their walkability. There is typically an interconnected network of streets and small to medium block sizes, unless interrupted with topography constraints or other infrastructure breaks.	This community type is primarily composed of T3 neighborhoods, which are mostly single-family homes. The lots are likely larger or wider than those in a Traditional Neighborhood and some homes may have garage doors on the front. This community type also has a small percentage (approximately 10-20%) of T4 with small footprint, medium-density housing types — such as duplexes, fourplexes, rowhouses, and small apartment buildings — that are either typically along a major corridor or in areas transitioning from the single-family homes into a neighborhood main street. This community type is typically adjacent to a more auto-dependent development and the walkable portion is usually quite small. In many instances the walkable areas have been compromised by a newer auto-dependent development. The neighborhood typically includes a small main street (T5) within a short walking distance of a smaller percentage of homes.	This community type is similar to a traditional neighborhood except that it has historically developed as an independent town before being annexed into the City. This means that it has more public infrastructure in place, such as a town hall or courthouse, post offices, etc. The street layout is prominent and typically located within, or near, the T5 main street areas and at major intersections/crossroads.	This community type is similar to a Traditional Neighborhood, except that it has historically developed around a streetcar network and, therefore, was able to support larger/longer neighborhood main streets and a higher percentage of T4 neighborhoods along the corridor.	This community type is primarily T4 neighborhoods, which are most commonly composed of attached building types, and a high percentage of T5 main street areas. There is often a small percentage (less than 10%) of these areas that have a larger footprint and taller buildings within them (T6), frequently along major corridors. There is typically an interconnected network of streets and small to medium block sizes, unless interrupted with topography constraints or other natural or infrastructure breaks.	This community type is primarily composed of T6 containing mid- to high-rise vertical mixed use buildings with ground floor retail and upper floor commercial or residential uses. This area serves as one of the primary employment and civic centers for the City and includes residential and institutional uses and entertainment venues, such as stadiums. The edges of this area may transition to T5 as it transitions into Urban Neighborhoods.
	Staff to fill in local examples	Staff to fill in local examples	Staff to fill in local examples	Staff to fill in local examples	Staff to fill in local examples	Staff to fill in local examples
Local Example	T1 T2 T3 T4 T5 T6	T1 T2 T3 T4 T5 T6	T1 T2 T3 T4 T5 T6	T1 T2 T3 T4 T5 T6	T1 T2 T3 T4 T5 T6	T1 T2 T3 T4 T5 T6
Corresponding Transect Zones	Residential, Retail, Service, Community/Civic Use	Residential, Retail, Service, Community/Civic Use	Residential, Retail, Service, Community/Civic Use	Residential, Retail, Service, Community/Civic Use	Residential, Retail, Service, Community/Civic Use	Residential, Retail, Service, Community/Civic Use, entertainment

Key ☒ = Not part of community type ☒ = Primary part of community type ☐ = Minor part of community type

4

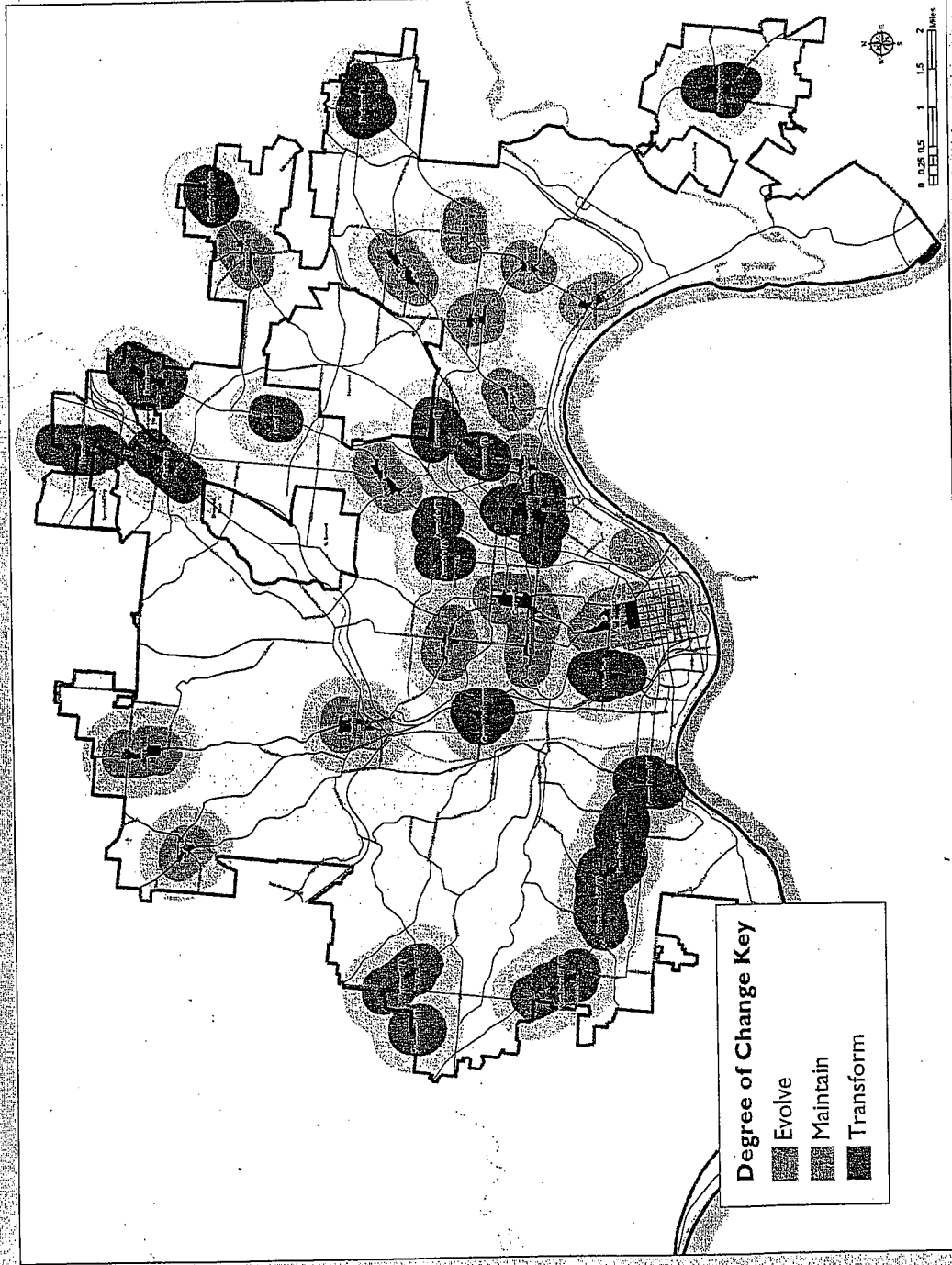
Designate a Desired Degree of Change

OPTICOS

MAINTAIN:
Protect &
Enhance. Little
Change Needed.

EVOLVE:
Opportunities
for Small,
Incremental
Public and
Private
Investment and
Change

TRANSFORM:
Desire and
Opportunities
for Major
Improvements



Desired Degree of Change

Tying the Large and Small Scale Together

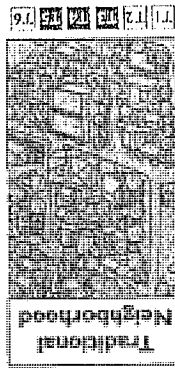
5 Establish Form-Based Policy

Community Type

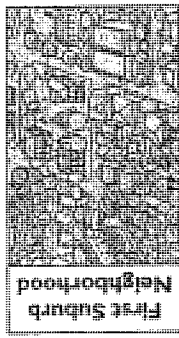
Elements

Intent

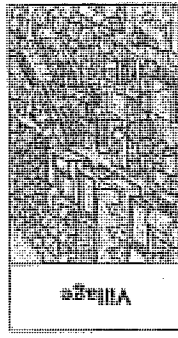
Policy



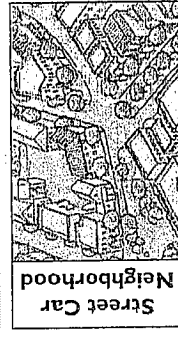
T1 T2 T3 T4 T5 T6



T1 T2 T3 T4 T5 T6



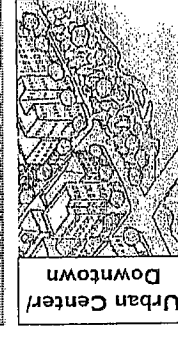
T1 T2 T3 T4 T5 T6



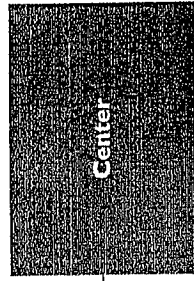
T1 T2 T3 T4 T5 T6



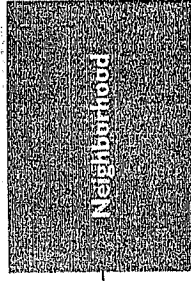
T1 T2 T3 T4 T5 T6



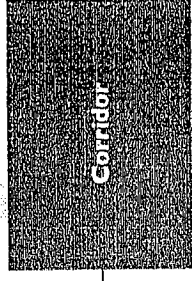
T1 T2 T3 T4 T5 T6



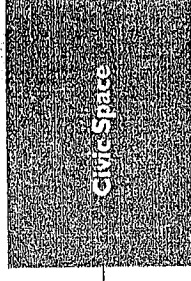
Center



Neighborhood



Corridor



Civic Space

Preserve/Maintain

Evolve

Transform/Create

Preserve/Maintain

Evolve

Transform/Create

Preserve/Maintain

Evolve

Transform/Create

Preserve/Maintain

Evolve

Transform/Create

Urban Neighborhood_Center_Preserve

Urban Neighborhood_Center_Evolve

Urban Neighborhood_Center_Transform

Urban Neighborhood_Neighborhood_Preserve

Urban Neighborhood_Neighborhood_Evolve

Urban Neighborhood_Neighborhood_Transform/Create

Urban Neighborhood_Corridor_Preserve/Maintain

Urban Neighborhood_Corridor_Evolve

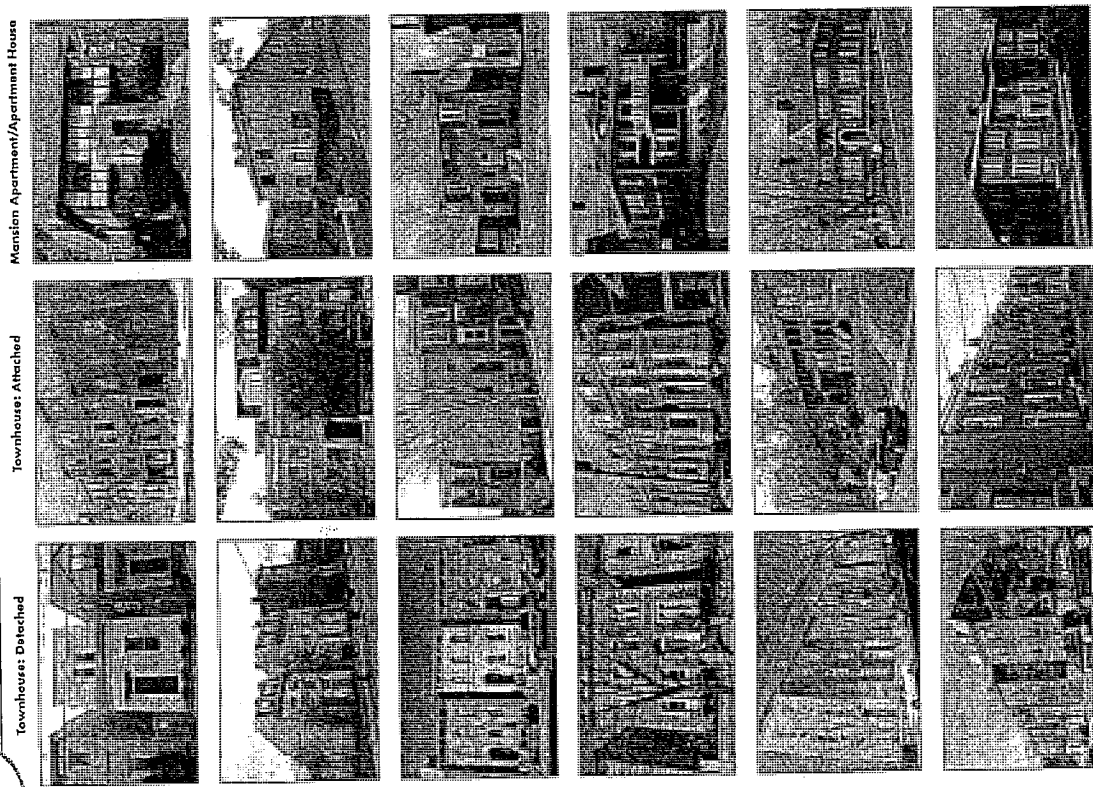
Urban Neighborhood_Corridor_Transform/Create

Urban Neighborhood_Civic Space_Preserve/Maintain

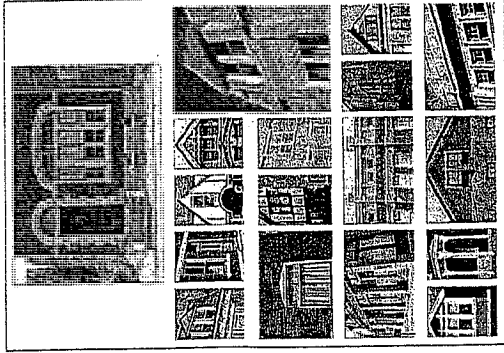
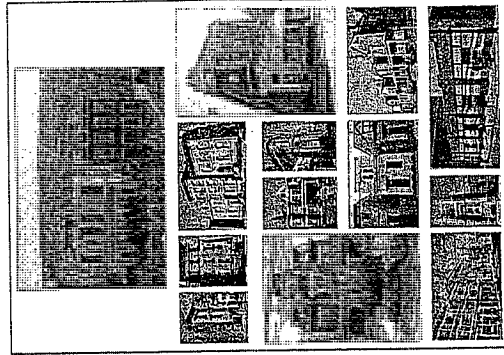
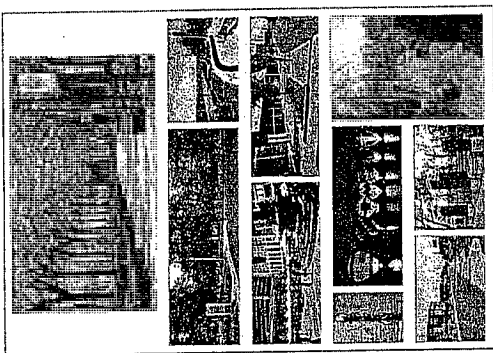
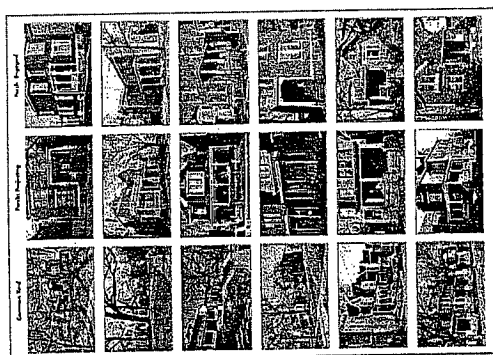
Urban Neighborhood_Civic Space_Evolve

Urban Neighborhood_Civic Space_Transform/Create

Extract the Urban DNA of Cincinnati

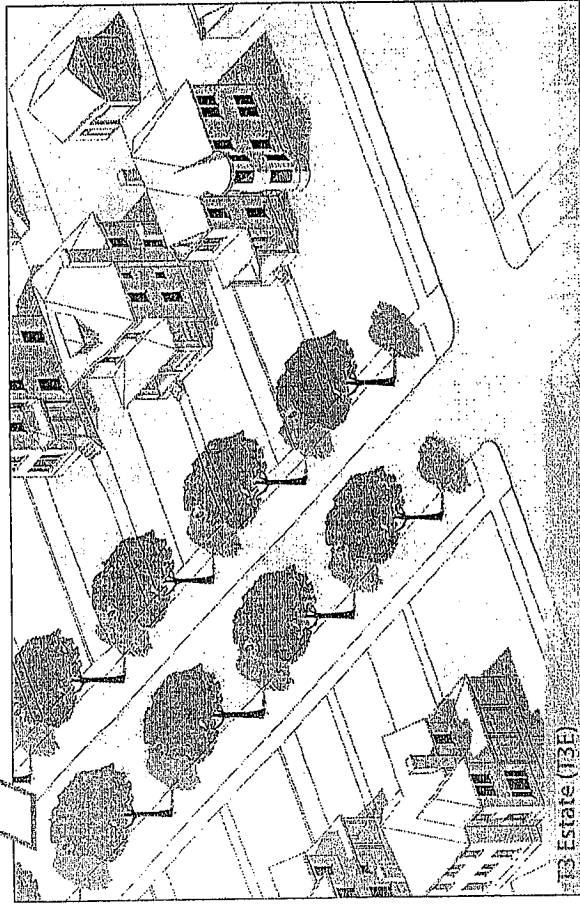


Typesetting

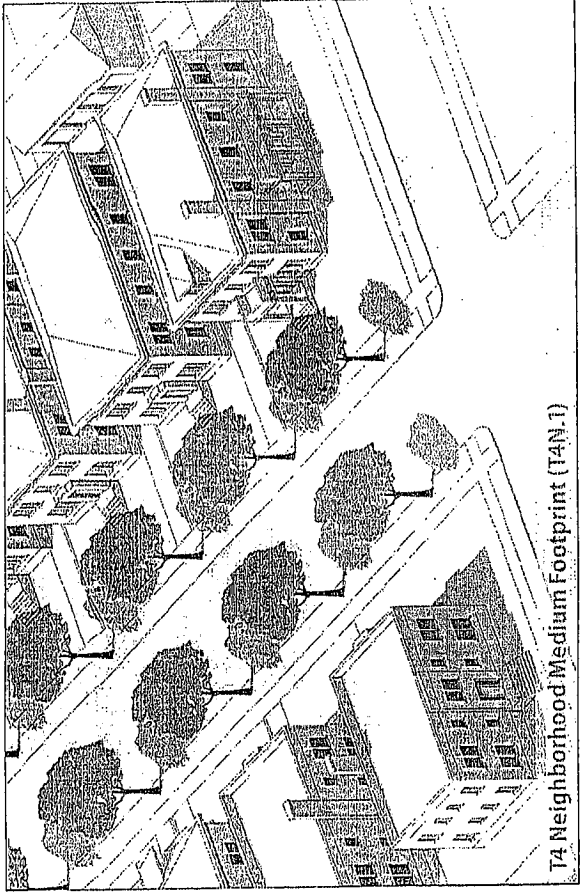


Determine the Form Characteristics of Neighborhoods

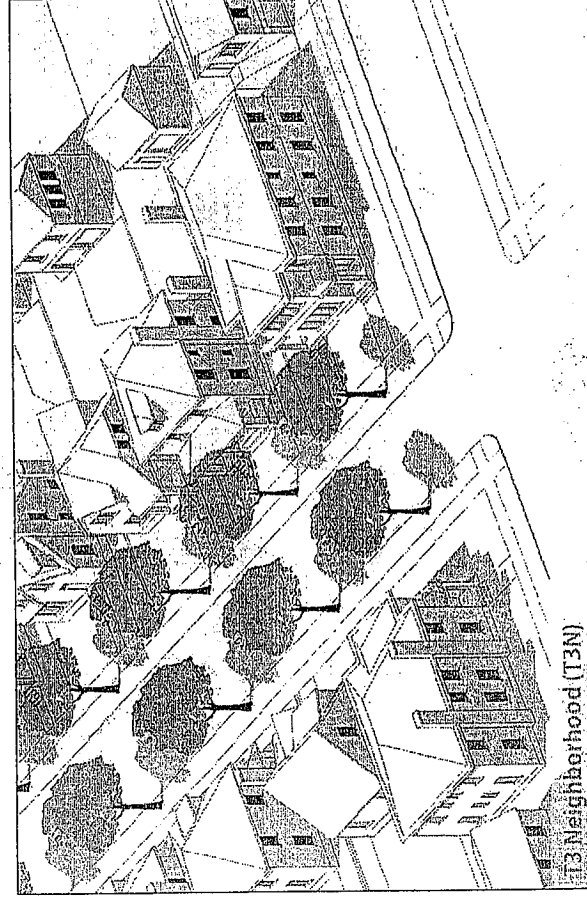
OPTICOS



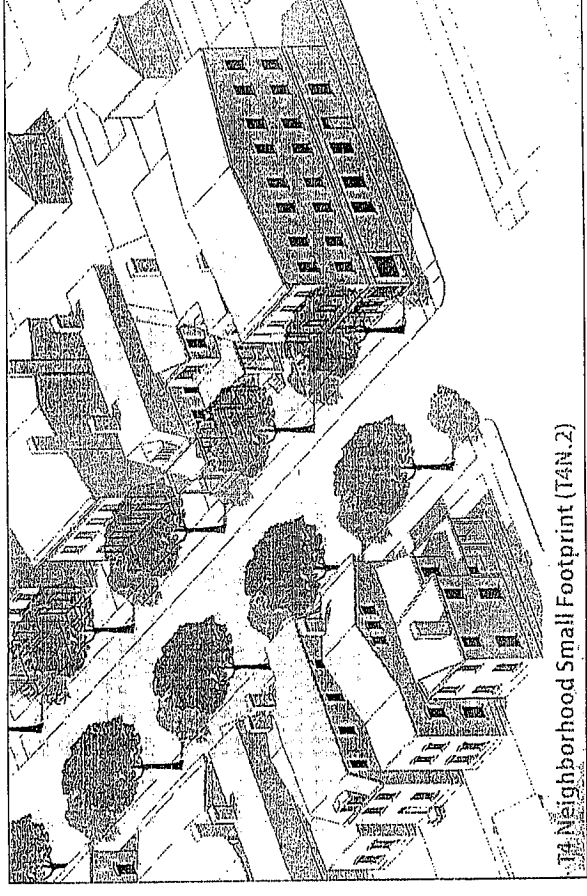
T3 Estate (T3E)



T4 Neighborhood Medium Footprint (T4N.1)



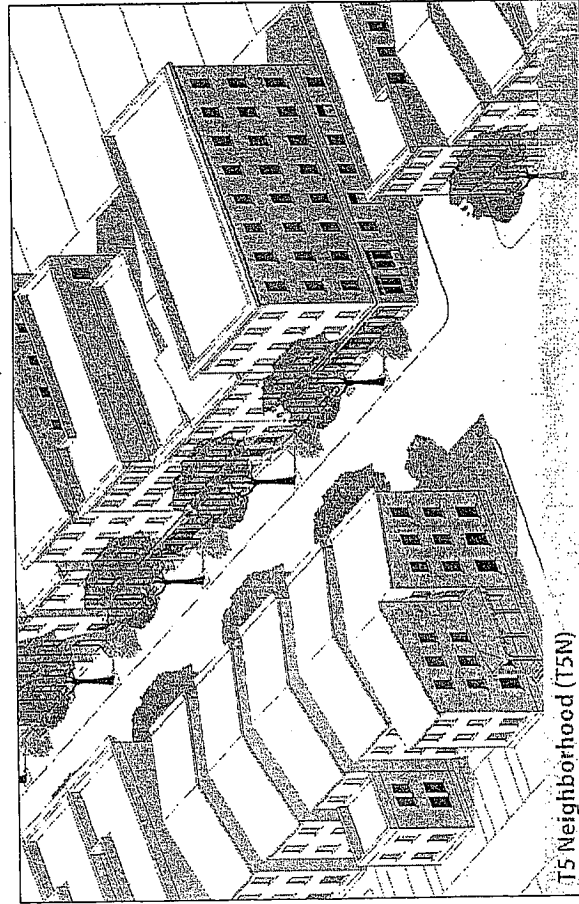
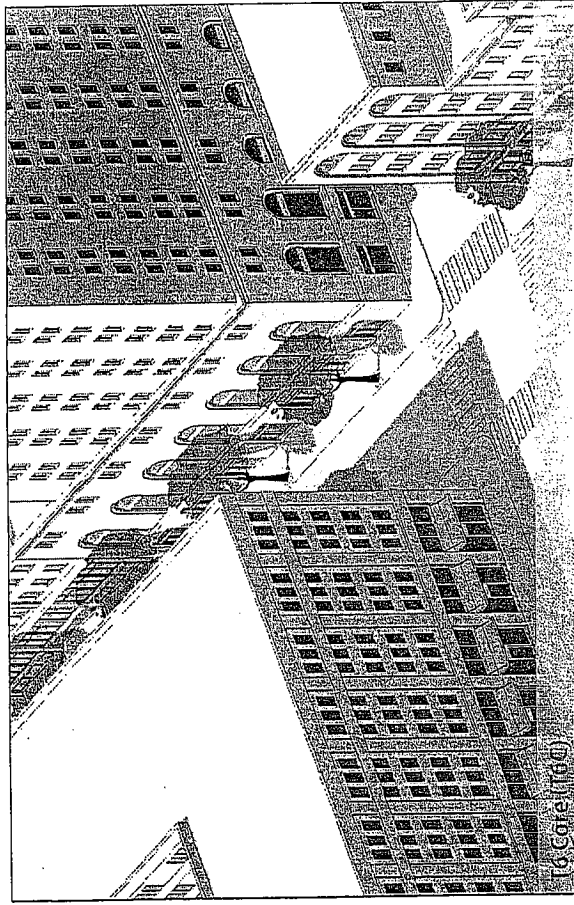
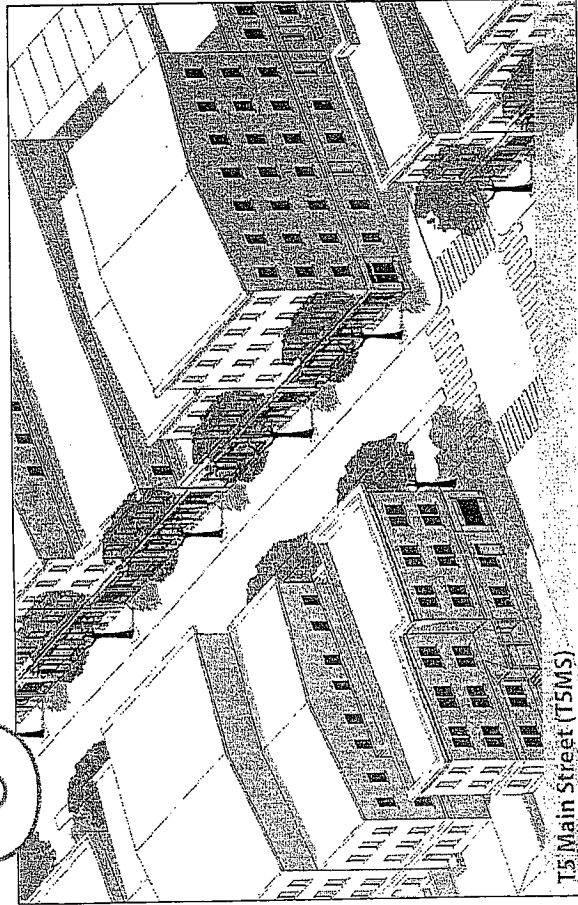
T3 Neighborhood (T3N)



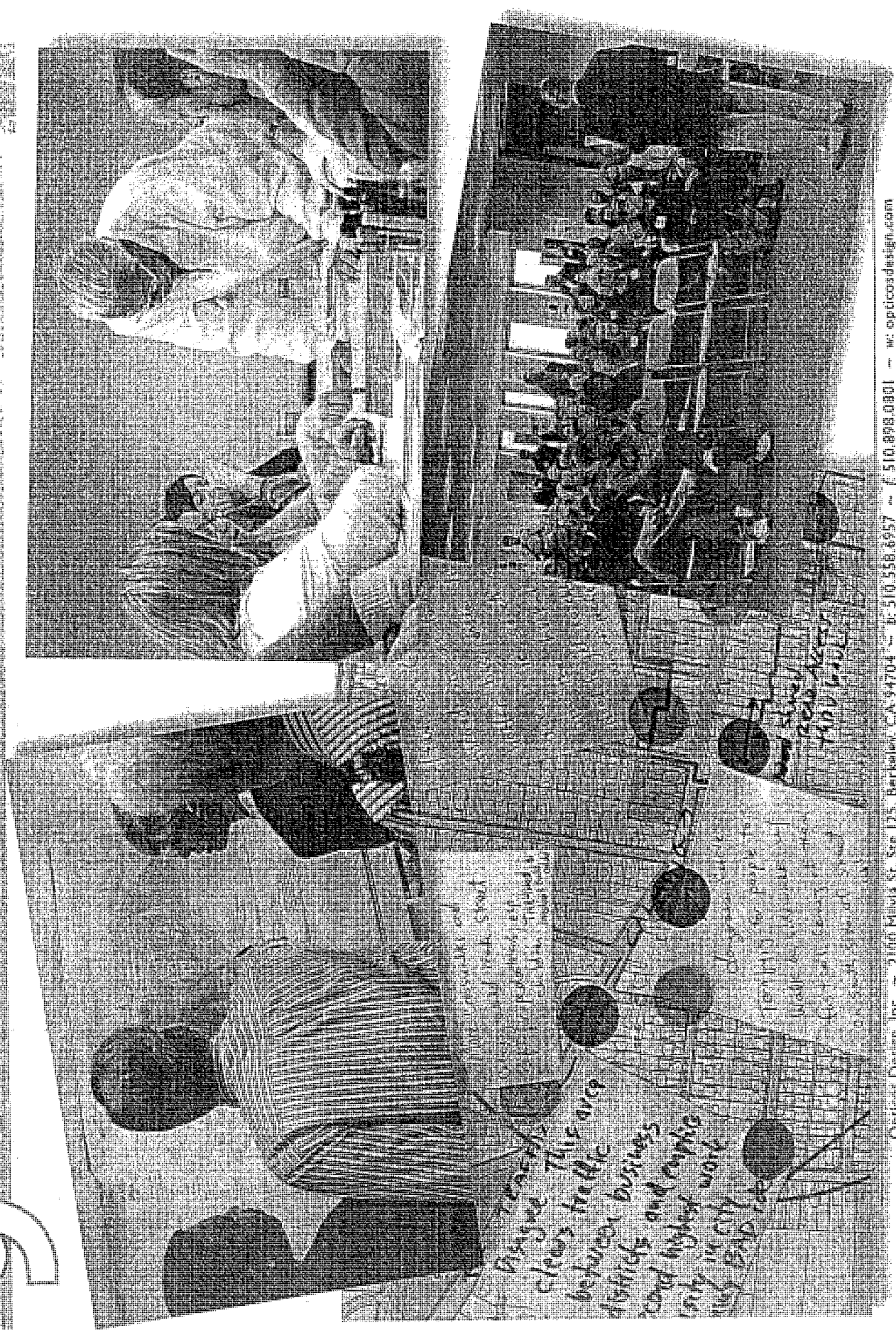
T4 Neighborhood Small Footprint (T4N.2)

Determine the Form Characteristics of Neighborhoods

OPTICOS



Engage a Diverse Community of 297,000 People

[illegible]

Translate the Vision Into a Code

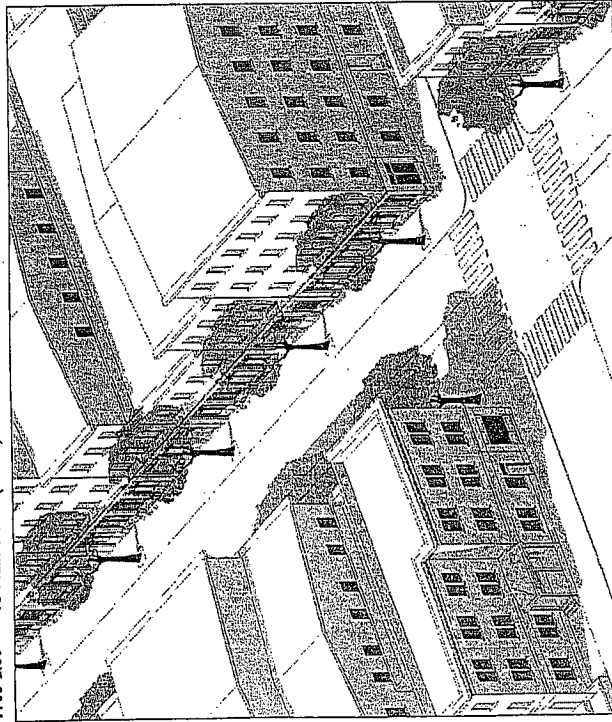


Specific to Transect Zones

1703-2.80

T5 Main Street (T5MS)

1703-2.80 T5 Main Street (T5MS)



As Intended: To provide a focal point for neighborhoods that accommodates neighborhood serving retail, service, and residential uses in compact, walkable urban form. The following are generally appropriate form elements in this Zone:

Attached	TSMS-Open Zone (T5MS-O)
Small-to-Medium Footprint	The open sub-zone provides the same building form but allows for a more diverse mix of uses on the ground floor, including residential, thus enabling the retail and service area to mature over time.
Simple Wall Plane along Street	
Buildings at the ROW	
Small to No Side Setbacks	
Up to 4 Stories	
Diverse Mix of Frontages	

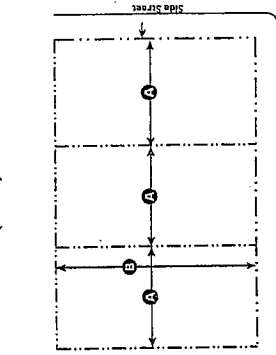
General note: The drawing above is intended to provide a brief overview of this Transect Zone and is illustrative only.

2-29

City of Cincinnati Form-Based Code

1703-2.80

T5 Main Street (T5MS)



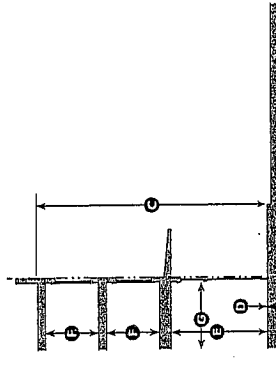
Key
--- ROW / Lot Line

Building Type	Width (A)	Depth (B)	Standards
Main Street	25' min.	100' min.	1703-3.140
Mixed-Use	150' max.		
Mid-Rise	100' min.	180' min.	1703-3.160, 1703-3.180

Building Form	Height
Main Building	2 stories min.; 5 stories max.
Accessory Structure(s)	1 story max.
Ground Floor Finish Level	6' max.
above Sidewalk	

Building Form	Height
Upper Floor(s) Ceiling	14' min.
Upper Floor(s) Ceiling	8' min.
Ground floor lobbies and common areas in multi-unit buildings may have a 0" to 6" ground floor finish level. Within 20' of the rear Lot Line, buildings may not be more than a half-story taller than the allowed height of adjacent buildings.	

Specific to Transect Zones



Key
--- ROW Line

Building Form (continued)	Footprint
Depth, Ground-Floor Space	40' min.
Accessory Structure(s)	
Width	24' max.
Depth	32' max.

Miscellaneous	Distance Between Entries, to
Ground Floor (Uses)	50' max.
Loading docks, overhead doors, and other service entries shall be screened and not be located on primary street facades.	
Any buildings wider than 150' must be designed to read as a series of buildings no wider than 75' each.	

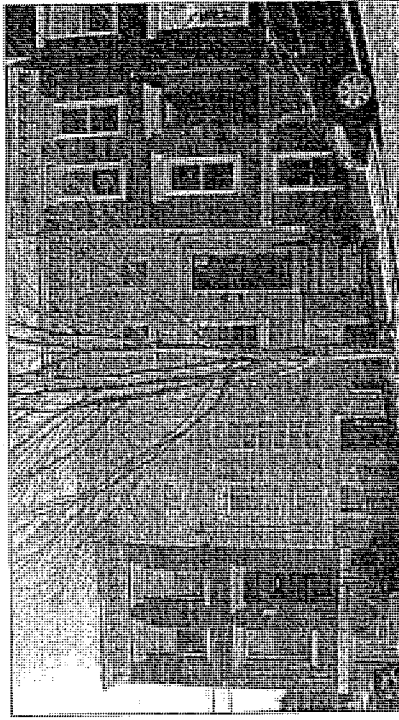
2-30

City of Cincinnati Form-Based Code

1703-3.90

Specific to Building Types

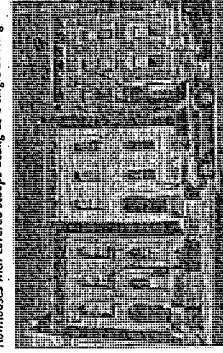
1703-3.90 Rowhouse



Commonly attached brick rowhouses are designed down to street level.



Rowhouses with covered stoops acting as a single building



A row of minimally-detached three-story rowhouses

3-16

City of Cincinnati Form-Based Code

General Note: Photos on this page are illustrative, not regulatory.

1703-3.90 Rowhouse

Description:
The Rowhouse Building Type is a small- to medium-sized typically attached structure that consists of 2-8 Rowhouses placed side-by-side. In a feature unique to Cincinnati this Type may also occasionally be detached with minimal separations between the buildings. This Type is typically located within medium-density neighborhoods or in a location that transitions from a primarily single-family neighborhood into a neighborhood main street. This Type enables appropriately-scaled, well-designed higher densities and is important for providing a broad choice of housing types and promoting walkability.

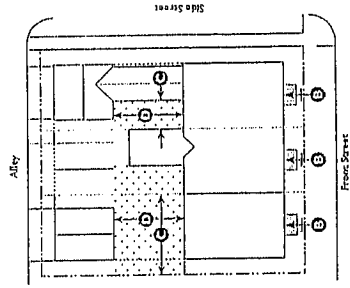
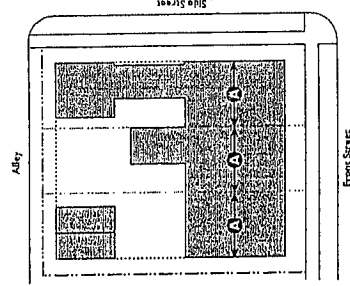
Syn. Townhouse

T3E	T3M
T3MF	T3MS
T3LS	T3SS
T3S	T3SS

Key	Allowed	Not Allowed
	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Specific to Building Types

1703-3.90 Rowhouse



Key
--- ROW / Lot Line
--- Shared Lot Line
--- Building
--- Rowhouses may have a shared Lot Line.

Key
--- ROW / Lot Line
--- Frontage
--- Private Open Space

1703-3.90 Rowhouse

Units per Rowhouse
1 per floor max.
1 max.
Rowhouses per Lot
2 min.; 8 max.
Limiting Size and Massing
Height
Per transect zone standards in Section 1703.2 (Specific to Transect Zones).
Main Body
Width per Rowhouse
18' min.; 36' max.
The footprint area of an accessory structure may not exceed the footprint area of the main body of the building.

1703-3.90 Rowhouse

Allowed Building Types
Porch Engaged
1703-4.60
Porch Projecting
1703-4.50
Stoop
1703-4.70
Main Entrance Location
Front street
Each unit shall have an individual entry facing a street.
Width
8' per unit min.
Depth
8' per unit min.
Area
100 sq. ft. min.
Required street setbacks and driveways shall not be included in the private open space area calculation.
Required private open space shall be located behind the main body of the building.

3-17

City of Cincinnati Form-Based Code

OPTICOS



A Description

In the Shopfront Frontage Type, the main facade of the building is at or near the frontage line with an at-grade entrance along the public way. This Type is intended for retail use. It has substantial glazing at the sidewalk level and may include an awning that may overlap the sidewalk. It may be used in conjunction with other frontage types.

A	Distance between Glazing	2' max.
B	Ground Floor Transparency	75% min.
C	Depth of Recessed Entries	5' max.
D	Setback from Curb	2' min.
E	Height, Clear	8' min.
F	Height, Max.	15' max.

Residential windows shall not be used.

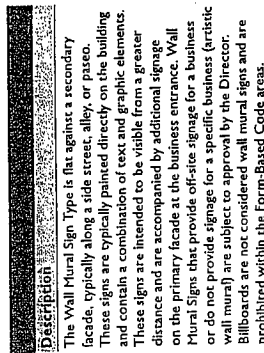
Doors may be recessed as long as main facade is at BTL.

Operable awnings are encouraged.

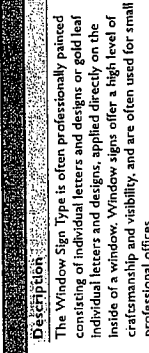
Open-ended awnings are encouraged.

Rounded and hooped awnings are discouraged.

Shopfronts with accordion-style doors/windows or other operable windows that allow the space to open to the street are encouraged.



Size	Location
Signable Area	
Area	1000 sf max.
Width	60' max.
Height	50' max.
Height Above Ground	3' min.
Protection	8' max.

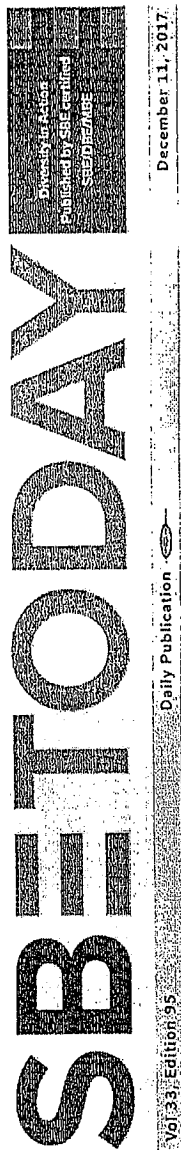


Size	Location	Height	Width	Area per Shopfront	Signable Area
20' max.	Window	5' max.	36" max.	20' max.	20' max.
5' max.	Height	36" max.	20' max.	5' max.	5' max.
36" max.	Location	5' min.	36" max.	36" max.	36" max.
5' min.	Height Above Ground	5' min.	5' min.	5' min.	5' min.

Miscellaneous
Applied plastic or vinyl cut letters are strongly discouraged.
Window Signs shall have a clear background.

As reported in

Attachment 2



Most of the cities where households rely least on vehicles are older Northern cities, particularly those in the New York metropolitan area. The following jurisdictions with populations exceeding 100,000 recorded the highest percentages of households without access to any vehicles last year. [See page 3 for chart]

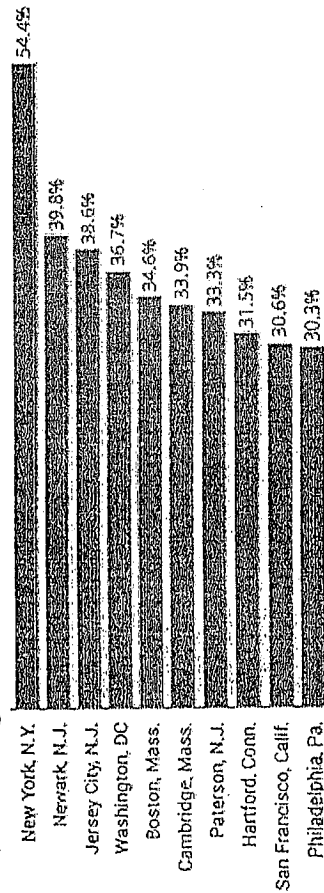
In other cities, only 1 or 2 percent of the population might forego car ownership. That largely has to do with whether or not it's feasible to get around without an automobile. More suburban settings typically offer few transit options or aren't conducive to walking.

It's also a matter of demographics. In some neighborhoods, residents simply can't afford all the costs that come with vehicle ownership. Poverty rates have a strong negative correlation with numbers of vehicles per household. Younger couples and one-person households are less car-dependent as well.

SOURCE: <http://www.governing.com>

America Still Loves Cars

Cities With Highest Shares of Households Without Access to Vehicles



Source: Calculated two-year averages from 2015 and 2016 Census American Community Surveys

**Attachment 3: Health Risk Impacts in Wrigley
(Previously Presented at August 16, 2017 Planning Commission Meeting)**

Geographic Area of Wrigley based on Census Tract	Overall Score	Health Risk Drivers			Health Impacts		
		PM 2.5 & Diesel	Toxic Releases	Traffic	Asthma	Low Birth Rate	Cardiovascular Rate
Wrigley Heights	86-90	66, 64	89	98	91	98	80
Spring to Wardlow	81-85	66, 81	90	89	79	68	57
Willow to Spring	71-75	66, 84	92	58	91	25	81
Hill to Willow	86-90	66, 84	95	57	93	71	85
PCH to Hill from Long Beach Blvd. to Pacific	86-90	66, 84	95	55	89	96	74
PCH to Hill from Pacific to Daisy	86-90	66, 84	96	64	87	80	68
PCH to Hill from Daisy to LA River	91-95	66, 84	97	70	88	84	73

TO: Mayor Robert Garcia
Long Beach City Council
Charles Parkin City Attorney
Pat West City Manager
Tom Modica Dir. of Dev. Services
Monique DeLaGarza City Clerk
Cc: Long Beach Planning Commission, Fern Nueno, Heidi Eidson

March 1, 2018

FROM: Corliss Lee
3072 Knoxville Ave Long Beach Ca 90808

RE: Land Use Element (LUE) and Placetypes when combined with tenets of Senate Bill 35

References: letter sent by Corliss Lee and Neighborhood Associations dated Nov20, 2017 on this topic and Memorandum from Assistant City Attorney Michael Mais dated February 22, 2018 entitled March 6 2018 Agenda Item related to the Land Use Element of the City's General Plan

Mayor Robert Garcia, City Attorney's office, City Manager's office and City Council Members,

The dangers of SB35 when combined with the current proposed version of the Land Use Element (LUE) have been the topic of previous letters and several sessions of testimony at the Planning Commission. The concern is that the heights and density shown on the placetype maps will be eclipsed by the heights and density shown in other sections of the LUE under the SB35 streamlined process. Specifically, in question is the clause below.

SB35 65913.4 (a) 5(A) *A development shall be deemed consistent with the objective zoning standards related to housing density, as applicable, if the density proposed is compliant with the maximum density allowed within that land use designation, notwithstanding any specified maximum unit allocation that may result in fewer units of housing being permitted.*

The recently published communication from Development Services referenced above contains the following paragraph

"It is important to note that to qualify for SB 35 streamlining, a proposed project would be required (subject to the discussion of Density Bonus below) to meet all objective zoning standards and objective design review standards that would be applicable in the particular zone where the project is to be located. For example, if the zoning regulations limit the height of a building to no more than four (4) stories as per the LUE maps, a project would not be eligible for streamlining if an applicant proposed to build six (6) stories instead. This would be true even if another area of the City allowed for a six (6) story height limit."

The interpretation above needs to be reviewed against other guidance given by the State on this topic that conflicts with this interpretation.

Additionally, while Development Services maintains that the **placetype maps** overrule all other documentation, there are 2 other charts in the Land Use Element that carry conflicting data and could also be used to determine "maximum density allowed within that land use designation."

Table LU-3 Placetype Uses, and Density and Intensity Levels has 2 columns that could be used to interpret “maximum density allowed within that land use designation.” These columns are:

Residential Density expressed in terms of dwelling units per acre
Maximum Height that is expressed in stories and/or feet

There is an additional **Map LU-8 Placetype Height Limits** that adds to the confusion. This map has placetypes and heights noted that do not necessarily agree with the placetype maps. Since SB35 states that when zoning ordinances and the General Plan conflict, the General Plan rules, it is especially important that the General Plan have only one reference that can be used to define “maximum density allowed within that land use designation.”

SB35 65913.4 (a) 5(B)

In the event that objective zoning, general plan, or design review standards are mutually inconsistent, a development shall be deemed consistent with the objective zoning standards pursuant to this subdivision **if the development is consistent with the standards set forth in the general plan.**

In reviewing the frequently asked questions (FAQs) on SB35 located on the State of California's Housing and Community Development Agency website, there is information that defines the clause in question on the topic of maximum density.

<http://www.hcd.ca.gov/policy-research/housing-package/cahp-faq.shtml>

Q: Must a development propose the maximum density permitted in the land use designation, or simply not exceed the maximum density? (pursuant to Section 65913.4(a)(5)(A))

A: A project must be compliant with the maximum density allowed, which would include any density allowed under the land use designation, up to the maximum density.

Q: If the total number of housing units on a parcel or specific plan area is limited to a specific number or allocation, could the total number of housing units in a development exceed that allocation if it is consistent with maximum density standards? (pursuant to Section 65913.4(a)(5)(A))

A: Yes. The statute specifies that a project that meets the maximum density allowed pursuant to that land use designation must be deemed consistent with objective zoning standards related to density regardless of any additional unit caps that are placed upon the parcel.

Q: Could a developer request a density bonus in addition to using the maximum allowable density?

A: Yes. SB 35 allows a development to request a density bonus that would exceed maximum allowable density in the zone and still qualify for streamlining provisions under SB 35 (pursuant to Section 65913.4(a)(5)(A)).

Q: Are both non-residential and residential portions of a mixed-use development subject to the streamlined and ministerial approval process, provided that residential uses make up at least two-thirds of the square footage of the total development?

A: Yes. If the entire development meets the requirements under SB 35, it can be subject to the streamlining process.

Given the answers provided above, and the hierarchy of clauses making the General Plan (in this case, the LUE) the definitive document, it would be prudent to revise the LUE and remove all the various ways of determining maximum height and density providing a single location in the document for that purpose that does not conflict with the heights on the placetype maps. It is essential that the potential conflicts in the proposed LUE be resolved before the March 6th City Council meeting where the LUE may be voted on, and if approved could result in future problems.

Respectfully,

Corliss Lee

Distribution: City Clerk Monique DeLaGarza cityclerk@longbeach.gov

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	Suzie Price district3@longbeach.gov
cc: PLANNING COMMISSION	Daryl Supernaw district4@longbeach.gov
Erick Verduzco-Vega Chair	Stacy Mungo district5@longbeach.gov
Mark Christoffels Commissioner	Dee Andrews district6@longbeach.gov
Ron Cruz Commissioner	Robert Uranga district7@longbeach.gov
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Andy Perez Commissioner	Rex Richardson district9@longbeach.gov
Jane Templin Commissioner	
Joshua LaFarga Commissioner	
cc: fern.nueno@longbeach.gov	
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Seven American TODs: Good practices for urban design in Transit-Oriented Development projects

Justin Jacobson

University of Minnesota ^a

Ann Forsyth

Cornell University ^b

Abstract: In the past few decades, Transit-Oriented Development (TOD) has emerged as a popular and influential planning concept in the United States. Physical design is an important aspect of making TOD projects work as it is a crucial means of coordinating relatively intensive land uses and multiple transportation modes. This paper analyzes seven American TOD projects in terms of urban design and concludes with a discussion of “good practices” for future TOD projects focusing on development processes, place-making, and facilities. This research supplements prior scholarship on TOD that has tended to focus on policy issues such as regulation and financing.

Keywords: Transit-Oriented Development; Urban Design.

1 Introduction

Transit-Oriented Development (TOD) projects depend on good urban design to coordinate transportation types, mix land uses, and create an appealing public space, all in a limited area. Scholarly attention, however, has been largely focused on the public policy aspects of TOD development such as planning strategies and financing options. Less attention has been paid to finding ways to overcome some of the inherent difficulties of TOD project planning, such as balancing different types of transportation modes. If TOD projects are to be successful and meet the goals of policy makers, transportation engineers, planners, and the general public, greater understanding of the successes and failures of TODs in terms of their urban design practices is needed. This paper analyzes urban design outcomes in seven American TOD projects to draw out “good practices” in urban design, focusing on development processes, place-making, and facilities. The seven projects offer valuable lessons for future TOD project implementation.

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This paper contributes to discussions about TOD by drawing on a systematic comparative analysis of the urban design features of specific TOD projects that many (though not all) commentators consider to be good examples of urban design (Adams 1994; AIA 2002; Bernick and Cervero 1996; Leach 2004; Cervero 1998; Zucker 2003). Data were collected using audit tools, inventories, workshops (modified focus groups) with design experts and community- or government-based stakeholders, mapping, and traditional visual assessments. The study placed the sites in context through case histories. It then used the urban design assessment and cases to filter and revise the “best practices” advice given in important experience-based professional literature. In light of the context-dependent and unique nature of individual TOD projects, we offer a series of “good practices” with wide applicability. These guidelines can provide a next generation of advice for TOD design, emphasizing visual quality as well as a number of livability characteristics such as vitality and human scale.

2 Transit-Oriented Development and Urban Design

Development facilitated by transit is as old as transit technologies themselves. However, in the past few decades, TOD has emerged as a popular and influential planning concept in the United States. In the most basic terms, TOD is a strategy to integrate public transportation investments and land-use practices in order to create walkable, diverse neighborhoods in both center city and suburban settings. TOD principles have become influential among policy makers, urban planners, and transit officials. Projects have been implemented in a wide array of cities across the United States. This section introduces TOD, its history and implementation, and its relation to urban design.

2.1 Definitions

Proponents of TOD provide a variety of definitions of the concept and use a variety of terms including “transit villages” and “transit-friendly design” (Calthorpe 1993; TCRP 1997; Cervero 1998; Cervero, Ferrell and Murphy 2002; Parker and Meyer 2000; Tumlin et al. 2003; Dittmar and Ohland 2004). The definition advanced by architect and planner Peter Calthorpe is typical and conveys the basic themes of TOD: “A Transit-Oriented Development is a mixed-use community within an average 2,000-foot walking distance of a transit stop and core commercial area. TODs mix residential, retail, office, open space, and public uses in a walkable environment, making it convenient for residents and employees to travel by transit, bicycle, foot, or car” (Calthorpe 1993: 56). In a review of the various definitions for TOD, Robert Cervero, Christopher Ferrell, and Stephen Murphy write that while details vary, the core principle is to provide mixed-use development that is close to and well-served by transit, and furthermore, is conducive to transit riding (2002: 6).

TODs can function in both center city and suburban settings, the main difference being the density in each place (Calthorpe 1993: 57). TODs are usually based on rail service (either light rail or commuter rail), but bus-based TODs also exist, as in the Uptown District of San Diego (Parker and Meyer 2000). TOD should also be distinguished from other types of land-use planning which, while involving transit to some degree, do not fully integrate transit and land-use planning. Such forms are generally referred to as Transit-Adjacent Development (Tumlin et al. 2003).

2.2 History and Implementation

Although Calthorpe, transportation scholar Cervero, and others deserve credit for formally introducing TOD and increasing its profile in the 1990s, the origins of TOD actually go back much further, as even Calthorpe and Cervero admit. In the nineteenth century, expanding rail and streetcar systems provided the infrastructure for transit-oriented metropolitan development. In particular, the typical streetcar-oriented development patterns that defined many American cities, including Boston, Cleveland, and Philadelphia, serve as precursors for contemporary TOD (see Warner 1962). To a certain extent, the forms of these cities even today exhibit the legacy of land development based on mass transportation. The modern TOD concept also shares much in common with the idea of the “Garden City,” from the dawn of the twentieth century, in which more or less self-sufficient suburbs are centered on commuter train stations (Howard [1903] 1985). The similarity between the contemporary idea of TOD and more traditional urban forms is strong, and in many ways, TOD is really a repackaging of what was for many years the typical form of center city and suburban development in the United States.

The revival of TOD has been spurred by dissatisfaction with some features of presently dominant land-use forms. Smart Growth advocates have argued that automobile-based suburbanization following the Second World War, while having a number of benefits, has caused some interrelated land use problems: economically declining cities; residential areas without retail or service opportunities nearby; and a lack of decent housing alternatives to the standard suburban house (Duany et al. 2000; Hayden 2003; Kay 1997). While being promoted as an improved land use pattern, TOD has been also touted as a better approach to transportation, with the argument that increased transit service can ease traffic congestion on highways, improve air quality and accommodate the needs of people for whom driving is either impossible or economically prohibitive. TOD has been seen as providing an opportunity to address land-use and transportation issues simultaneously (see Dittmar and Ohland 2004: 5-15).

3 The Role of Urban Design in TOD

TOD seeks to accomplish a number of interrelated goals for different types of users. Ideally, TODs provide places for people to live, work, shop, and relax. Affordable housing often has a prominent place in TODs—households with low or moderate incomes are attracted to transit access and are likely to own fewer cars and occupy more space efficient dwellings, meaning that they can take full advantage of the transit orientation. While transit is essential to TODs, access for pedestrians, bicyclists and automobiles is also important (Dittmar and Ohland 2004; Calthorpe and Fulton 2001; Seigman 2003; Transit Cooperative Research Program 1997; Tumlin and Millar-Ball 2003). Aesthetically, the ideal TOD is inviting and attractive to many types of users, acknowledging that people have different standards and different reasons for using the same space. TOD designers need to address these varied concerns in ways that do not sacrifice economic efficiency or conflict with larger community goals.

Urban design—the design of the built environment beyond the scale of the building, typically focusing on blocks, neighborhoods, or districts—can be a key mechanism for achieving this balance. As with any urban design project, a well-executed design can bring together diverse functions and users, whereas good intentions with poor design execution can wind up being no improvement, or possibly even a detriment, to the central city or suburban surroundings (Cooper Marcus and Sarkissian 1986; Cooper Marcus and Francis 1998; Jacobs and Appleyard 1987; Lynch 1981; Whyte 1980).

Many features of TOD (and, indeed, much of the discussion of TOD in the academic literature) are at a planning or policy scale; relevant features at this scale include frequency of transit service, pricing, equity, development mechanisms, and regulation (e.g. Cervero 1994; Dumbaugh 2004). Others deal with regional planning (e.g. Calthorpe and Fulton 2001). However, the urban design stage of a project is where the goals and ideas of TOD are fitted to real-world constraints of space, time, and money. Yet scholarly attention to detailed, site level urban design issues inherent in TOD has been minimal, with only a few key works (Calthorpe 1993; Seigman, 2003; Dittmar and Poticha 2004; Dunphy et al. 2004). Prior to analyzing the study sites in this research, we reviewed existing literature and grouped the urban design issues into twelve dimensions clustered in three categories: processes, places, and facilities. Table 1 outlines these dimensions of urban design and place-making as well as examples of how they are handled in the TOD literature.

From a design perspective, this matrix provides two lessons. First, some issues are mentioned but still pose many unanswered questions. This is particularly true of processes such as managing the development of a TOD over time and facilitating public engagement. In terms of development over time, these authors and others in the broader urban design field recognize that TODs will grow as the numbers of riders, residents, and shoppers increase, but do not address the question of how future growth

can be factored into the TOD design stage. In addition, while a number of authors indicate the importance of mixed income housing to increase the use of transit (Dittmar and Poticha 2003; Dunphy et al. 2004), there has not been as much attention to the role of such housing in participatory processes in a TOD context.

Table 1: Examples of Urban Design Dimensions of TOD in Existing Literature.

Dimension	Example guideline or approach	Comment
<i>Processes:</i>		
<i>Time</i>	Design with short-term and long-term time-frames in mind, because places, the people who visit them, and the activities visitors perform change over time. The possibility of future growth should also be considered. Dittmar and Poticha call this “Design for change” (2004: 32); Seigman notes that good design means “allowing uses to change easily over time” (2003: 17).	Little discussion about managing design character over development periods that can last decades
<i>Engagement with public</i>	Include various stakeholders in the design stage and use visioning and communication processes to elicit design ideas and create the design plan (Dunphy et al. 2004: 171).	While broad public participation is celebrated in the academic literature, there is little research on very diverse publics, however.
<i>Programming</i>	Programming means planning events and activities in public spaces. For example, concerts, flea markets, farmer’s markets, art shows, outdoor theater and the like help “bring people and vitality to the area” (Dunphy et al. 2004: 176).	There is much discussion about mixed use and street life, much less on programming.
<i>Maintenance</i>	Understanding and budgeting for maintenance requirements, especially in terms of landscaping and greenery, should be part of the design process. “Manage the investment” in order to ensure long-term success (Dittmar and Poticha 2004:31).	

Dimension	Example guideline or approach	Comment
<i>Places:</i>		
<i>Scale</i>	Emphasize design at a human scale, meaning one based on comfortable walking distances between points. Specifically for TOD, this means development within a quarter mile or a five minute walk radius (doubled for major stops) with placement of homes near transit at sufficient density; provide transit-supportive regional design (Seigman 2003; Dittmar and Poticha 2004).	This is a key dimension; the focus is environments where uses are close together rather than the finer-grained issue of design of buildings and spaces to be human-scale.
<i>Public spaces for human use</i>	Individual parts of the overall design should be designed with human activity in mind with “public spaces the focus of building orientation and pedestrian activity” (Calthorpe 1993: 43; Seigman 2003; Dittmar and Poticha 2004).	Focus is on urban form rather than design details.
<i>Safety</i>	Safety is a foundation of creating inviting public spaces and can be addressed through a variety of mechanisms. These include physical measures such as good lighting to avoid dark spots and encouraging “a variety of residential uses to ensure round-the-clock activity” (Dunphy et al. 2004: 176).	
<i>Variety and complexity</i>	Attractive public spaces tend to be diverse, colorful and interesting ones that avoid monotony, either in terms of how they look or how they are used. Designers should pay attention to the social, visual, and land use dimensions of complexity in the design process (Dittmar and Poticha 2004: 25, 31). Development and planning approaches should “encourage every price point to live around transit” (Dunphy et al 2004: 181).	Variety and complexity includes social, land use, and visual dimensions though these may need different design supports

Dimension	Example guideline or approach	Comment
<i>Connections</i>	Average block perimeter limits (e.g. Seigman 2003: 17, proposed 1,350 feet) to create “a fine-grained network of streets, dispersing traffic and allowing for the creation of quiet and intimate thoroughfares” (also Calthorpe 1993: 43).	Pedestrian-friendly street networks are a major focus of TOD guidelines.
<i>Facilities:</i>		
<i>Pedestrian/non-motorized orientation</i>	Signal timing, traffic calming, etc. support non-motorized transportation. Attended bike stations at major stops; secure parking at more minor stops (Seigman 2003: 17).	Transit development needs to support access from non-motorized modes.
<i>Transit in the urban pattern</i>	Transit stops should be “attractive, comfortable, and sheltering” as well as well-located (Dunphy et al. 2004: 180).	Bus and train transit connections can be key (Dunphy et al. 2004)
<i>Car movement and parking</i>	Minimum parking requirements are eliminated; maximum parking requirements are added (Seigman 2003: 17). Other options include shared and structured parking (Dunphy et al 2004: 175).	Authors vary in how motorized modes should be accommodated.

Second, some of the design features described by the dimensions are difficult to reconcile with one another. For example, in TOD areas where transit access is presumed to be frequent, there should be “quiet and intimate” thoroughfares, as well as access for bicyclists and, finally, some allowances made for automobiles (Seigman 2003). Accomplishing all this in a confined space of a quarter-mile, or even a half-mile, obviously entails some complicated choices between the needs of different types of transportation modes, as increased efficiency for one mode may come at the expense of another mode’s users. The high density that characterizes TOD further increases the possibility of less-than-perfect trade-offs. Design can help make some features of higher densities fit into an existing, less-intensively-developed context and bring amenities that provide benefits for existing and new residents.

Transit planners, planning officials, real estate developers, community organizers and many other stakeholders have had to deal with such design issues in the implementation of TOD projects in the United States. Given that the particular circumstances of TOD projects are widely varied, so too are the solutions undertaken at the design scale. Yet, in analyzing the urban design characteristics of a number of TOD projects, it is clear that there are some solutions that work better than others, and that there are lessons to be learned from past experiences.

4 Methods




This study analyzed seven TOD projects in the United States using six different types of urban design assessment tools in order to evaluate existing guidelines for TOD and reformulate a series of “best practices” for urban design (see Tables 1 and 2; Forsyth et al. 2007; forthcoming). The case study locations were: Rosslyn, Clarendon and Ballston in Arlington County, Virginia; the Delmar Loop in Saint Louis, Missouri; Emerson Park in East Saint Louis, Illinois; and Oakland City Center/12th Street and Fruitvale in Oakland, California. The seven sites were chosen to demonstrate a range of different types of TOD, recognizing that they are not a truly representative sample of all TOD projects in the United States. The study team selected the cases through an iterative process: developing a comprehensive list of transit examples; finding those that had some base of evaluation or description; then selecting examples to show a range of circumstances. Differences between the seven cases include (also see Table 2):

- **GEOGRAPHICAL LOCATION:** Three projects are on the East Coast, two in the Midwest and two in the West. In addition, there are central city (Oakland City Center) and suburban locations (Ballston).
- **PERIOD:** Each of the developments is still a work in progress, but some started their main development earlier, such as Rosslyn (1970s), while others are more recent, such as Fruitvale (1990s).
- **DOMINANT LAND-USE TYPE:** For example, commercial in Ballston and Delmar Loop; residential in Emerson Park.
- **LEVELS OF AFFLUENCE:** Typical household incomes are higher in the Northern Virginia cases; lower in the St. Louis area cases. Lower-income housing was prominent in two of the sites (Emerson Park and Fruitvale).
- **SCALE OF DEVELOPMENT:** Large-scale retail and offices dominate Rosslyn; small-scale retail and offices characterize Delmar Loop.
- **ROLES OF PLANNERS AND DEVELOPERS:** Non-profit developers were key in Emerson Park and Fruitvale; professional planners and economic development experts played a strong role in the Arlington, Virginia cases.

In addition to this analysis in terms of urban design, the seven sites could be examined from other perspectives. For example, they demonstrate mixed-use development (except perhaps Emerson Park), have economic impacts, contribute to local housing markets, and have involved public and private sectors in planning and construction. In order to keep the focus on urban design, however, such concerns are not dealt with

here, though future research could well pay attention to such issues, or to other cases. Overall, this focused survey on design highlights a range of themes and issues that are important in themselves and also raise questions for later, further study.

Table 2: Case Studies Compared.

Washington, D.C. Area	
Comments: The Washington, D.C. Metro is an older and well established transit system. Arlington County had conducted extensive planning to support Metro, including regional planning and public participation processes, and encouraged relatively intense development around the stations.	
	<i>Rosslyn:</i> The Rosslyn station is the gateway to Arlington County on Washington Metro's Orange Line, and the easternmost station in the Arlington TOD corridor.
	<i>Clarendon:</i> The first plan to specifically deal with Clarendon was released in 1984 and articulated a vision for Clarendon as an "urban village," meaning greater development around the station while maintaining the residential neighborhood away from the station.
	<i>Ballston:</i> The Ballston station area includes significant office and retail areas, as well as a wide variety of housing options. It is notable for the diverse mix of uses in this area.

Continued on next page

East Saint Louis Area

Comments: The East Saint Louis MetroLink LRT is newer. Compared to the three Virginia cases, the intensity of development is typically moderate and planning has been fragmented. Citizen activism has been important, as have been key institutions such as universities.



Delmar Loop: The introduction of MetroLink to this area preserved and extended the existing commercial activity from University City across the municipal border to the station in the City of Saint Louis.



Emerson Park: In Emerson Park, TOD was brought to the area through community activism and has been used to spark redevelopment, especially of the housing stock, in the economically troubled City of East Saint Louis. Non-profit developers have played an important role.

Oakland Area

Comments: The Bay Area Rapid Transit (BART) system has taken a long time to spur development in some areas. The Oakland cases provide interesting examples of TOD's role in redevelopment at different development intensities.



Fruitvale: The proposal for a transit village at Fruitvale in Oakland grew out of a disagreement between BART and Fruitvale community leaders over the construction of more parking lots in the area. The result is a mixed-use center of small-scale retail and apartments.



Oakland City Center/12th Street: Oakland's downtown has different parts with distinctive characters. This ongoing transformation demonstrates the challenges and benefits of implementing TOD in an intensely developed, already established area.

The six methods for analyzing the seven case studies are discussed in much greater depth in a companion article (Forsyth et al. under revision), but are described here briefly. They represented a typical range of methods including (a) expert field checklists with quantifiable indicators, (b) participatory assessments with more qualitative findings, and (c) analyses developed from existing data such as maps and photographs. They also reflected systematic approaches based on theories of urban design (aesthetics, sense of place, perception) and more direct assessments by users and designers. The six methods were:

An **Urban Design Score Sheet** (Ewing et al. 2005, 2006) assessed walkable, mixed residential and commercial environments such as those advocated by TOD planners. It provided scores on several dimensions including imageability (creating a memorable place), enclosure (providing the sense of an outdoor room), human scale, transparency (providing views to activity), and complexity (providing visual variety).

An **Urban Design Inventory**, adapted from the Irvine Minnesota Inventory (Day et al. 2006; Boarnet et al. 2006) documented the presence or absence of dozens of key components of the urban landscape including the dimensions of ease of movement, pleasurability or overall attractiveness, and perceived safety. For many features it roughly assessed quality, but without the detail of the score sheet. Its approximately 160 questions can be combined to create indicators of different urban design concepts.

Design Workshops, a participatory evaluation technique with local experts in the design fields focused on seven questions about the designs' characters, strengths and weaknesses, memorable aspects, and how well the designs took advantage of the transportation infrastructure. Experts were divided from lay people because the former tend to like more experimental aesthetics than the latter (Stamps 1999; Sanoff 2000).

Community Representative Workshops were a participatory evaluation technique with representatives from city governments, members of community groups, transit users, police officers, transportation workers, and other professionals. There are many excellent participatory design techniques that focus on affecting actual design projects. However, they involve a great deal of effort on the part of participants and raise expectations about change. Instead, we chose a less onerous method that mirrored the design workshop method (described above), allowing us to compare the groups of experts and community representatives (Nick Wates Associates n.d., Sanoff 2000; Sarkissian et al. 2003; Urban Places Project 2000).

GIS-based Analysis of street networks and levels of mixed uses examining figure-ground relationships and intersection densities (Jacobs 1993; Southworth 1997; Forsyth 2005). Intersection densities are a measure of street connections—more intersections mean more options for moving around the area. In addition, we tallied the number of businesses in the case study areas, because they represent key destinations that people could visit.

Photographic Visual Assessment was used to compare and contrast different projects, focusing on six issues: color contrast, form contrast, line contrast, texture contrast, scale contrast, scale dominance, and spatial dominance. This approach was based on work on visual impact assessment of transportation projects that reached a high point in the 1970s and 1980s (Sheppard and Newman 1979; FHWA 1988).

The major results are outlined in the cases that follow and in a subsequent summary. These results were used as a filter for assessing the best practices literature, allowing the team to develop the best practices principles that form the conclusion to this paper.

5 The Case Studies

5.1 Rosslyn

Background

In the 1960s, northern Virginia across the Potomac River from Washington D.C. was an economically depressed area characterized by marginal uses such as warehouses and struggling light industrial sites. Unlike many cities that drew on urban renewal funds to level such structures and build new highways, Rosslyn launched what can be considered the first of the new (postwar) generation of TOD projects. The Rosslyn Sector Plan, completed in 1977, provided greater freedom to private developers at higher (and hence, more profitable) densities as long as future developments conformed to the County's larger planning vision of mixed-use development based on the recently built transit system (WMATA launched Metro service in 1976). Key to this strategy was the use of "incentive zoning," through which developers received density bonuses in return for including particular features, like public plazas or allowances for bus stops, in their plans (Ward 1991; Henry 2006a). Due to this long-term development strategy, Rosslyn is now one of the region's premier locations for commercial and high-density residential uses; it contains almost eight million square feet of office space, almost 5,000 residential units, and over 2,000 hotel rooms (Arlington County Department of CPHD 2005).

Design Issues

Rosslyn's successes have included the economic transformation made possible by the choice to build around transit. The original goal behind the Rosslyn Sector Plan was economic development, and transit became the basis of the plan not because of its potential to improve air quality or mitigate metropolitan sprawl, but for its economic possibilities. Capitalizing on the Metro system allowed for greater densities, and thus higher returns from commercial property taxes, than would have been possible if, for example, a quarter of buildable land been reserved for thoroughfares and parking.

Rosslyn's experience in building a high-density commercial core has not been without flaw or controversy. In some ways, Rosslyn has become almost too successful as a site for high-density development, which has pushed aside some of the other TOD design goals such as development at a human scale. Rosslyn is the most built-up area along Metro's Orange Line, and while it boasts some public art and attractive street furniture, the mass of tall concrete buildings and the early lack of attention to pedestrians have made the area less pleasant for those on foot. In addition, space has become so valuable in Rosslyn that many smaller, less profitable uses have been pushed out, further detracting from the vibrancy of street life. While Rosslyn has the ingredients of a successful mixed use area—such as density, accessibility by high-quality transit, and even some appealing architecture—the streetscape lacks the fine details and variety that appeal to pedestrians.

5.2 Clarendon

Background

Clarendon's land-use pattern prior to transit-oriented planning was dominated by small and medium scale retail along the corridor, with a number of detached single-family homes and small apartment buildings in the surrounding areas. While the area was not as run down as Rosslyn during the 1960s and 1970s, the construction of the capital beltway and a number of suburban shopping malls contributed to commercial decline and residential flight from the area (Henry 2006b). Revitalization strategies for Clarendon followed the template laid out by the Rosslyn plan, but with a twist. Instead of focusing on large-scale projects or on dramatically increased density maximums, Clarendon's revitalization has focused on relatively smaller-scale development. A 1984 plan for the area articulated a vision for Clarendon as an "urban village," meaning greater development around its Metro station while maintaining the strong sense of place inherent to the single-family houses and modest apartment buildings further from the station (Parris 1989). The Clarendon plan funneled development initiatives to one focal point—the block that includes the Olmstead Building and Clarendon Metro Park—but did not significantly raise density maximums elsewhere (Henry 2006b). The result has been ongoing commercial revitalization led by small and mid-sized businesses, and simultaneous strengthening of the area's residential neighborhoods.

Design Issues

A key issue for early planning was revitalizing commercial/retail uses without abandoning the existing lower-height residential character. Conflicts between the parking requirements of local businesses and residents' desire for a quieter neighborhood made parking an early concern, as well; this tension has been partly relieved by transit, but

still remains. Another issue has been the streetscape of Clarendon; replicating the feel of Rosslyn, for example, would not suit an “urban village.” Clarendon planners have learned a great deal from earlier developments, and have stressed that development emphasize a more human scale. Arlington County officials have taken a sophisticated approach to design standards for buildings and pedestrian infrastructure in Clarendon, as demonstrated by façade details, decorative paving, and the design of small public spaces.

Although Clarendon has its share of large office buildings and apartment towers, this area differs greatly from the large-scale development of Rosslyn and Ballston in that it features a significant number of small businesses and single-family houses within walking distance of the station. In addition, while Rosslyn and Ballston are mature zones, Clarendon still has space for expansion and development, making this area a major target for current and future private investment (Henry 2006b). The design challenge for Clarendon is thus still an open one: How to maintain the sense of a small, comfortable place while incorporating further economic development.

5.3 Ballston

Background

Until the 1960s, Ballston was the “downtown” of Arlington County and a major regional hub. But, like so many thriving American centers at the time, its prosperity declined in the face of on-going suburban expansion in the 1970s and 1980s. In response, Ballston began efforts at revitalization in 1980. Planners wanted to take advantage of the construction of Metro’s Orange Line, and, as they had in Rosslyn, emphasized mixed-use development. Planners termed their new vision for Ballston a “new Downtown” for Arlington County (Henry 2006c). Since the plan’s implementation, Ballston has indeed experienced a rebirth and the station area is pedestrian-friendly and lively, with a mixture of residential and commercial uses. Ballston Metro Center is the signature development, combining seven stories of hotel space, eighteen stories of condominiums, a thirteen-story office building, a mall, an atrium, and a parking garage on one city block at a Metro station (Johnakin 1991: 16). Today, the area’s most distinguishing characteristic is the diverse mix of uses in this area. Certainly, there is mixed development at Rosslyn and Clarendon, but office buildings are most prominent at the former, while Clarendon is not nearly as intensively developed. The Ballston area as a whole is an interesting mix of intensive development in the station area and leafy yet compact suburbs nearby.

Design Issues

Like Rosslyn, Ballston has significant office development, which tends to crowd out other, less-profitable land uses. The need to keep small businesses and apartments from being priced out of the area as more office buildings are built creates a constant tension. Also like Rosslyn, integrating automobile traffic flows and facilities with the transit-oriented landscape is a challenge. Ballston merchants would obviously like to encourage as many shoppers to come as possible, whether by train or by car, leading to pressure for more parking lots and better traffic circulation. Furthermore, there are a number of large roads near the station that have yet to be integrated into the overall development concept (see Marshall 2004).

On the street level, a number of planning interventions have helped humanize the streetscape, though problems for pedestrians still remain. On the positive side, Welburn Square, across the street from the Metro entrance, boasts lawns, trees, and outdoor dining and hosts a popular art market (Arlington Arts 2007). Sidewalks are typically wide, and many are sheltered by awnings or street trees. On the negative side, the area is still crossed by several wide, suburban-style boulevards that make crossing some streets a difficult task (Marshall 2004). Finally, open space is a design issue in the area; while Ballston has several well-designed open spaces, including the natural garden of the Nature Conservancy, these are not as visible as they might be.

5.4 The Delmar Loop**Background**

The Delmar Loop gets its name from the streetcar turnaround that gave the area its identity until the 1960s. During the streetcar era, this area was popular for shopping and entertainment, but it went into decline after the streetcar system ceased operations. In the 1970s, the area recovered somewhat and began to gain a reputation for its diverse collection of small businesses. When MetroLink (the region's light rail transit system) entered operation in the mid 1990s, the area was surviving but not thriving—though the potential was there for a renaissance. Located near the popular Saint Louis landmarks of Washington University and Forest Park, the Delmar Loop had an established stock of small and mid-sized commercial properties, plus a steady presence of college students. The opening of the local MetroLink station has served as a catalyst for economic development, and housing values and commercial rents in the area have increased since its opening (The Loop Special Business District 2006a, 2006b; Bi-State Metro 2006).

Design Issues

The Delmar Loop area is an exemplary case study for showing how transit investment and TOD principles can fit into the pre-existing fabric of a city. Unlike the three stations in northern Virginia, or even the following case of Emerson Park (in which transit investment has meant a wholesale change for an area), transit in Delmar Loop was used to enhance and augment pre-existing development (Howland and Dunphy 1996: 44-45). This approach is partly the product of necessity, as the decision to build MetroLink on an old railroad corridor locked in the station locations. The Delmar Loop station is located just off of the main commercial strip, causing some mismatch between the station and the development area, though the distance between the two is not very great.

From a design perspective, the challenge has been how to integrate the transit facilities with the neighborhood as a whole. Streetscape renovations and the use of common signage throughout the area have improved pedestrian access between the station and the popular Delmar Boulevard. The streetscape project widened sidewalks, installed landscaping, and used decorative paving to create a unified theme for the neighborhood, while all-day, on-street parking has been installed to buffer pedestrians from traffic (Bi-State Metro 2006). Gaps remain, however, and much still needs to be done to improve the pedestrian realm. Pedestrians must still traverse some wide cross-streets, and crossing Delmar Boulevard itself near the station is not simple.

As for the station itself, attractive public art (as part of MetroLink's Arts in Transit program) and the widespread use of landscaping have helped soften what would otherwise be an austere experience (Arts in Transit 2006). In addition, land near the station owned by Washington University may well be redeveloped in the future, as may more land to the east of the station (the main Delmar Loop area is to the west).

5.5 Emerson Park

Background

The city of East Saint Louis has long been emblematic of American urban decline (see Kozol 1992). Shifting patterns of industrial production and employment caused an abandonment of the area, while the physical landscape was littered with the remains of industrial production: railroads, dilapidated factories, and industrial pollution. Between 1960 and 1990, the population of East Saint Louis decreased by more than 50 percent, part of a vicious cycle of flight, reduced tax revenues, service decline, more flight, and so on. By the late 1980s, almost half of the residents lived below the federal poverty line and the unemployment rate hovered around 25 percent (Reardon 2003: 3).

The planned construction of MetroLink across the Saint Louis metropolitan area

in the mid-1990s presented an opportunity for economic development along the corridor, though initial plans had few stops on the Illinois side of the Mississippi River and skipped Emerson Park. Political lobbying by local residents succeeded in persuading MetroLink to rethink the alignment, and the Emerson Park station was completed in 2001. Simultaneously, local residents, planners, and governmental officials have promoted commercial and residential development oriented towards the station. Since its opening, MetroLink has provided nearby residents with better access to job opportunities in central Saint Louis and farther east in Illinois, leading to an increase in private and public investment in the area (ESLARP 2007).

Design Issues

Emerson Park is the most residentially oriented of the seven case studies, and some of the area's housing redevelopment predates the arrival of the transit station. In 1991, the first phase of housing was completed in the form of the Parsons Place project, which includes 174 mixed-income, townhome-style housing units. This development was selected by Good Jobs First as one of the 25 best examples of TOD that promotes affordable housing and living-wage jobs (Grady and LeRoy 2006). More housing has gone up since Parsons Place, and Emerson Park has added 342 new housing units since 2001 (EPDC 2007). One of these housing developments, River City Place, opened in 2005 and represents the first private housing development built in East Saint Louis in thirty years (Saint Louis Front Page 2001).

Many of the design concerns center around improving the area for residents only, and Emerson Park is spared some of the design difficulties of coordinating transit with mixed-use development. At the same time, however, the area's economic profile presents challenges not faced by other TOD projects (with the exception of Fruitvale to some degree). The entire area has suffered the effects of severe long-term disinvestment including poor maintenance of public infrastructure such as streets and sidewalks. While the TOD area itself is well-lit, with some pleasant open spaces, this positive development sits in a context of significant poverty illustrated by the almost rural feel of adjacent roads with large numbers of vacant lots, little public lighting, poorly maintained houses, and streets where sidewalks, curbs, and gutters are often missing. Thus, while the housing immediately adjacent to the development is well served by streetlights and sidewalks, connections to other areas are missing.

The station area is to the north of a major highway and is highly visible to commuters who can see the new houses and apartments from their cars. However, that highway also blocks redevelopment to the south, again posing questions of how to connect the pieces. Finally, while the story of Emerson Park's revitalization is one of heroic grassroots action over several decades and against tremendous odds, this story is largely invisible to a casual visitor. Public art might be a medium for interpreting this

inspiring history and making it accessible to all, as well as encouraging local pride and a sense of community.

5.6 Fruitvale

Background

Like Emerson Park in East Saint Louis, Fruitvale exemplifies the important role that transit can play in revitalizing an economically depressed area (Olson n.d.: 1). Fruitvale was once one of Oakland's poorest neighborhoods, following a familiar pattern of urban disinvestment and decline in the 1960s and 1970s (Unity Council n.d.). In the early 1990s, Bay Area Rapid Transit (BART) planners and local residents and business owners clashed over BART proposals to provide more parking for the Fruitvale Station in order to increase the number of park-and-ride commuters. Locals feared that giving over more land for parking would detract from the commercial and residential potential of the area, and would represent a missed opportunity to use transit to benefit the local area instead of merely to serve out-of-area commuters. Faced with strong local opposition, BART withdrew its plans and entered into a dialogue with the community to try to resolve the disputes (Unity Council, n.d.; FHWA, n.d.).

Although some phases are yet to come, the result of this give and take is the Fruitvale Transit Village: a \$100 million, 20-acre development project centered on the Fruitvale BART station with neighborhood retail, affordable housing, and places for community interaction on land that had previously been parking lots. Built and managed by a local Community Development Corporation (CDC), the Fruitvale Transit Village demonstrates the benefits of coordinating local economic growth concerns with regional transit planning. This colorful and vibrant mixed-use project has spurred the revitalization of the surrounding neighborhood, a center for Oakland's Latino community. The project totals 255,000 square feet, and contains a variety of uses: 114,500 square feet of office space, 40,000 square feet of neighborhood retail, 47 housing units, a library, a medical clinic, a senior center and a child development center (City of Oakland CEDA 2003). It has received praise as a fine example of how to integrate transit concerns with community and economic development (Renne and Wells 2005: 2).

Design Issues

The design of the village is attractive, and features ample planter boxes, places to sit, and outdoor tables for coffee and lunch. Ground-level retail forms a corridor leading from the station to International Boulevard, a busy thoroughfare lined with small businesses. Housing is built on the outer edge of the development, as well as above several of the shops in the central part of the development.

Despite the area's attractiveness and the thought given to creating connections and

providing housing, the Fruitvale Transit Village still faces some challenges. For instance, all parts of the project are within easy access to the station, though one particular design flaw has limited accessibility of the Village for BART users: the parking lots and bus bays are on opposite sides of the station from the transit village, forcing many commuters who use the station as a park and ride facility, or who connect to bus routes, to go to and from their cars or buses without passing the retail area; as a result, the retail portion of the project has had growing pains (Strickland 2006). Combined with the major highway a few blocks south of the station, the placement of the bus bay and parking lot has rendered the development a “180 degree” site.

In this regard, the Transit Village has failed to take complete advantage of the benefits of the station, much to the disappointment of many people who had high hopes for the area. Housing has been another disappointing element of the project; initially, planners wanted several hundred housing units, but due to budget constraints at the time, the initial construction included just 47. However, 400 more housing units are now in the planning phase and their completion will likely mean a boost for the retail properties in the project (Unity Council n.d.).

5.7 Oakland City Center/12th Street Station

Background

Oakland City Center got its start as an urban renewal project in the late 1960s. Federal urban renewal funds and an extensive use of eminent domain powers allowed for the removal of the existing, modest downtown in hopes of reversing the area’s economic decline. The result, by the early 1990s, was a transformation without a renaissance—a landscape dominated by large office buildings and massive parking structures with few shopping opportunities, small parks, or housing units, and little street life. However, despite these shortcomings, it was clear that downtown Oakland also had its charms. The BART station in the middle of downtown has long been one of the most popular in the system, because it is a transfer station accessible by three lines and is the best stop for the thousands of commuters who work in the offices above. A political shift at the state level in favor of more transit funding and coordinated land use planning in the mid-1990s led to a transformation of the area into a “transit village.” This meant a new role for the transit station as a transportation hub and as anchor for a new pedestrian-friendly downtown, along with promoting small-scale retail and residential development (Parker and Mayer 2000).

Design Issues

A first key step was the partial redesign of the BART station itself. This included adding landscaping, public art, new street lights, and benches. “City Square,” a corridor-

style plaza leading to the BART station, was renovated and is now home to various small businesses, including cafés, lunch places, and small shops. The area is now more inviting to pedestrians, and provides cozy spaces out of the shadows of the large office towers.

The addition of more housing to the area has been the second key to City Center's transformation (Ohland 2001). The push from transit officials to make housing a larger part of the areas near the station has dovetailed with efforts by City of Oakland officials to increase high-density housing in the downtown district as a whole. Ex-mayor Jerry Brown launched the "10K housing Initiative" in 1997 to encourage the construction of 6,000 new housing units and attract 10,000 new residents to Oakland; as of 2006, almost 11,000 units had been built, many within minutes of a BART station (City of Oakland CEDA 2006). With more residents, the small-sale shopping areas have more potential customers, creating in turn an area that is more appealing to possible tenants. In the end, attention to design has been a crucial factor in creating this positive feedback loop and broadening downtown's appeal.

Oakland's downtown is made up of several different parts, including Chinatown and Old Oakland, with distinctive characters; together, these form a vibrant urban center. However, a number of barriers, both tangible and intangible, divide them. Different racial and ethnic groups tend to inhabit different parts of the downtown, demonstrating social barriers. Other barriers, however—such as busy streets, inadequate sidewalks, blank walls, and large buildings such as the convention center—can be addressed through design. Over time, it will be important to deal with these design issues.

5.8 Assessing the Cases

In addition to case histories, the cases were assessed using six different methods (see Table 3; Forsyth et al. forthcoming). We analyzed all seven cases using the less labor-intensive methods (mapping and the two workshops); in addition, we applied the very labor-intensive methods (urban design score sheet, urban design inventory, and photographic visual assessment) to three of the seven cases. The overall findings are described below.

Urban Design Score Sheet: All three cases (Clarendon, Emerson Park, Fruitvale) were highly imageable (memorable) and had high complexity (variety). Enclosure and transparency (or views to activity) varied according to density, with active Clarendon scoring better than the residential and more spread out Emerson Park. These design differences demonstrate different approaches to TOD.

Urban Design Inventory: Like the score sheet, the inventory demonstrated diversity among TOD areas, though the sites did share some characteristics, notably an absence of "big box" or drive-through uses, impassable roads or freeway ramps, and

Table 3: Cases Assessed by Method.

	UDSS	UDI	DW	CRW	GIS	PVA
Rosslyn			✓	✓	✓	
Clarendon	✓	✓	✓	✓	✓	✓
Ballston			✓	✓	✓	
Delmar Loop			✓	✓	✓	
Emerson Park	✓	✓	✓	✓	✓	✓
Fruitvale	✓	✓	✓	✓	✓	✓
Oakland City Center			✓	✓	✓	

CSB = Case Study Background

UDSS = Urban Design Score Sheet

URI = Urban Design Inventory

DW = Design Workshop

CRW = Community Representative Workshop

GIS = Geographic Information Systems Mapping

PVA = Photographic Visual Assessment

* The empirical foundation of these principles includes the six visual assessment methods plus case studies involving area histories.

heavy industries. Clarendon and Fruitvale had many commercial uses; Emerson Park featured front porches and more vacant buildings. While all areas had street trees, Clarendon's were more mature, shading the sidewalks better.

Design Workshops: Designers had a specific viewpoint focused on areas where further design could solve problems, rather than areas that were already working well. They pointed out that good buildings did not always make good places, and conversely that many great places did not have distinctive architecture. While appreciating design, they pointed out that programming and overall planning was as critical as physical design, and they particularly appreciated bohemian or upper-middle class street life with a controlled level of diversity.

Community Representative Workshops: As informed professionals, politicians, and activists, the members of stakeholder groups emphasized factors beyond design including convenience, affordability, community involvement, personal safety, and time—with great places taking decades to create. They highlighted some very specific design issues such as the importance of human-scale details and continuity in pedestrian infrastructure, as well.

GIS-based Analysis of street networks and levels of mixed uses showed that block sizes were similar across the TOD examples with all but Rosslyn having block sizes between 1.5 and 2.5 hectares. Business counts, however, varied greatly. Using the yellow-pages based InfoUSA as the data source, businesses per hectare within 800 me-

ters of the stations varied from 0.2 in Emerson Park to 39 in Oakland City Center. This, again, shows the variety of TOD types (see Table 4).

Photographic Visual Assessment showed that Fruitvale had the greatest complexity, with Clarendon (more historic) and Emerson Park (more residential) having less complexity. Of course, complexity or visual variety is only one important urban design dimension. However, it provided validation for the findings of the Urban Design Score Sheet that had also measured complexity, finding high complexity in all three areas but identifying Fruitvale as the most complex.

Overall, the various TODs shared some similarities, such as street pattern and imageability, and had some differences, such as levels of commercial uses. These findings mean that while some features are common to many TODs, one size does not fit all.

6 Good Practice in Urban Design of TOD Projects

This project examined the role of urban design in Transit-Oriented Development projects emphasizing issues of visual appearance and urban place-making. In addition to the work on measurement in this study, several exemplary reports have drawn together the experiences of designers working on transit-oriented development (Energy Outreach Center and State of Washington 1995; TCRP 1997; FHWA 1998; Greenberg 2004; ITE 2006). This section draws on these sources to provide a summary of measurement and design recommendations. These key sources include:

- The research and practice literature on TOD, which provides general principles typically based on research and more detailed design guidelines, often based on deep experience. Some of these sources are highlighted in Table 1.
- The case study narratives in this study, which provide rich detail about how these specific TODs have been perceived as successes and failures.
- The six urban design assessments, which gave a variety of empirical views—field based and not, qualitative and quantitative.

These recommendations constitute a supplement to previous work on TOD design as outlined above. Specifically, they demonstrate how design has been used to respond to a varied set of practical problems and constraints, adding to Calthorpe's (1993) important work which discussed TOD design in terms of an abstract, ideal type. In addition, these recommendations extend Dittmar and Ohland's (2004) planning process-based study by employing a mixed-methods assessment approach to address possible urban design solutions that may be generalizable to other TODs.

However, the concept of a “best practice”—some tried-and-true standard method that will invariably deliver good results—is somewhat misleading. It is perhaps better to think of a good design toolkit—or a set of good, not necessarily “best” practices, each with particular effects in particular situations. By selecting different tools from the kit, people responsible for the design of places can mix and match solutions to problems. Good design, then, is not as much a product, some thing that we can all agree on, as it is a process of assessing, selecting, and implementing of a wide variety of individual design interventions.

The rest of this paper focuses on three key topics—Processes, Places, and Facilities—using the seven case studies as illustrations. It provides twelve principles related to good design that draw on both the literature on TOD (see Table 1) and the empirical work in this study (see Table 5).

6.1 Processes

Principle 1: Appreciate that planning and developing great places takes time

Many of the best-loved places in the world are the product of decades if not centuries of development and redevelopment. In this study, groups of designers and community representatives both remarked on the decades-long processes of redevelopment. As design workshop participants stated repeatedly, what looks like fast development is often merely the physical culmination of years of planning, as demonstrated by the three projects in Virginia. Some examples illustrate how the long view shapes one’s understanding of a place:

- Downtowns that are dominated by office buildings and have little street life, like the Oakland City Center/12th Street area, became that way over a few decades and might take a few decades to diversify and gain a thriving streetscape once again.
- Parking lots near transit stations can seem to be a waste of space; alternatively, they may be seen as land banks that preserve building sites until more intensive development is possible. Rarely is intensive development marketable in the first few years of the life of a transit system or stop. Fruitvale has been criticized for its placement of parking lots, which confine development. In time, however, this could be valuable land for further expansion, and parking could either be moved farther away or incorporated into a large-scale development.

Table 4: Case Study Characteristics.





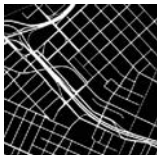

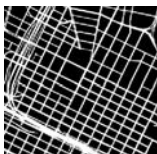
TOD	1 mile square figure-ground	Businesses per ha 400 m from station	Businesses per ha 800 m from station	Average block size (ha) for 800 m buffer
Rosslyn (VA)		6.1	16.9	3.34
Clarendon (VA)		4.1	11.1	1.81
Ballston (VA)		4.5	9.6	2.21
Delmar Loop (MO)		1.1	1.7	1.96
Emerson Park (IL)		0.3	0.2	2.33
Fruitvale (CA)		2.3	4.3	2.25
Oakland City Center/ 12th St. Station (CA)		21.6	38.9	1.52

Table 5: Key Empirical Sources for Twelve Principles of Good Design.

Principle*	Empirical Sources						
	CSB	UDSS	UDI	DW	CRW	GIS	PVA
Processes:							
1. Appreciate that planning and developing great places takes time	✓			✓	✓		
2. Engage the public and experts as collaborators and work with activist energy	✓		✓	✓			
3. Program spaces for use	✓	✓	✓	✓	✓		
4. Invest in maintaining spaces	✓	✓	✓	✓	✓		
Places:							
5. Design at a human scale	✓	✓	✓	✓	✓	✓	✓
6. Provide public spaces that accommodate a variety of uses and users	✓	✓	✓	✓	✓		
7. Use design and programming strategies to increase safety	✓	✓	✓	✓	✓		
8. Allow for variety and complexity	✓	✓	✓	✓	✓		✓
9. Create connections between spaces	✓	✓	✓	✓	✓	✓	
Facilities:							
10. Design sidewalks & crosswalks for appropriate pedestrian use	✓		✓	✓	✓		
11. Integrate transit and transit facilities into the urban pattern	✓	✓	✓	✓	✓	✓	
12. Don't forget (but don't overemphasize) car movement and parking	✓			✓	✓		

CSB = Case Study Background

UDSS = Urban Design Score Sheet

URI = Urban Design Inventory

DW = Design Workshop

CRW = Community Representative Workshop

GIS = Geographic Information Systems Mapping

PVA = Photographic Visual Assessment

* The empirical foundation of these principles includes the six visual assessment methods plus case studies involving area histories.

Principle 2: Engage the public and experts as collaborators and work with activist energy

Community members need to live with the results of development and redevelopment and can be allies or opponents (Nick Wates Associates n.d.; Sanoff 2000; Sarkissian et al. 2003). In Northern Virginia, community groups watched over design issues but bought into the basic planning idea of high density around the train stations. In Emerson Park, activists brought the MetroLink station to their neighborhood. The development of both Emerson Park and Fruitvale involved activism from lower-income groups.

- In long-term redevelopment programs with multiple buildings and projects, it is worth turning local residents and business groups into partners, as has been done in Emerson Park. Their buy-in and local knowledge can be important when weathering inevitable setbacks.
- While community participation processes can slow down design, they can also improve it. Local residents in Fruitvale, for example, were the ones who pushed for a cooperative, design-based solution that benefited both residents and BART. However, it is also important that community members be provided with knowledge about design so that they can be informed partners in these discussions.

Principle 3: Program spaces for use

A design is a physical space. Programming—that is, providing scheduled activities for spaces—is about use. Successful places have appropriate activities occurring at different times of the day, week, and year. Of course, not all places need to have constant activity, but appropriate programming can increase use, safety, and a sense of place.

- Weekly activities, such as Clarendon's farmer's market or weekend concerts, can bring new people to a place.
- Annual events, such as festivals, provide identity for a place. The Delmar Loop, for example, has initiated an annual street fair called "The Loop in Motion" with live music, dance performances, and art exhibits.

Principle 4: Invest in maintaining spaces

A number of studies have found that high levels of maintenance are appreciated by users and can make scenes appear more attractive (Nassauer and Larson 2004: 94; Cooper Marcus and Francis 1998). Too often paths, trails, and other pedestrian and cycling facilities are installed without long-term maintenance plans. In addition, as places become popular, wear and tear increases, adding to the maintenance burden.

- This is especially true in the case of Emerson Park, where declining levels of public maintenance were part of a vicious cycle of neglect and deterioration that afflicted the entire neighborhood. Maintaining the attractive housing and open spaces that have been built since the opening of the transit station is critically important.

6.2 Places

Principle 5: Design at a human scale

Measured explicitly in the urban design audit, referred to by civic representatives, and a key component of the AIA livability principles, human scale is fundamental to creating great places. This does not preclude places with tall buildings and intensive development (AIA 2005; Jacobs and Appleyard 1987; Lynch 1981; Whyte 1980). Rather it has the following characteristics:

- Design so that the areas that people inhabit—such as sidewalks, plazas, and transit stations—are scaled to be usable and interesting to people moving at walking speed. Clarendon, though it is still crisscrossed by roads that detract from the pedestrian environment, is still an improvement over Rosslyn in this regard. Rosslyn could be improved in the future by encouraging more small-scale development to balance out the high-rises.
- Provide human-scale details such as architectural features on buildings, street furniture, and plantings. Fruitvale is one of the most visually intriguing case study sites and features colorful vegetation, public seating, and a mix of building colors that make the whole development area feel inviting.

Principle 6: Provide public spaces that accommodate a variety of uses and users

Successful transportation environments attract people moving through them. However, public spaces—places where people can stop, sit, and gather—are often ignored in transportation projects, where the emphasis is on moving people around. Public spaces, however, provide a wide array of benefits to individuals and communities alike (Dittmar and Poticha 2004; Dunphy 2004; Whyte 1980). Good public spaces are ones where people like to stop and sit to read a newspaper, eat lunch, or meet friends. As the design workshops held for this study illustrated, they also provide places for people from different groups to either interact or to stake out territory without bothering others. Such spaces can be the settings for organized activities, such as farmer's markets, concerts, festivals and the like. Such activities can be promoted by the inclusion of several design elements:

- Street furniture can be used to create a sense of a “public living room” by creating a variety of places for people to sit and talk. Benches and ledges at sitting height can be clustered for maximum effect, but can also be distributed to create a series of “nooks” for small groups or individuals, such as in a popular plaza (Ogawa Plaza) near Oakland City Center. Moveable seating, where feasible, allows people the greatest freedom over how to use the space (TCRP 1997: 148).
- Public art can provide a visual clue that a place is special and a good place for gathering, either for a planned activity or just to pass the time.
- Above all, public spaces should be flexible, and allow for many different types of users and activities at different times. For example, a small plaza can be a great lunchtime spot on weekdays, a place for a flea market on Saturday mornings, and then the main stage for an annual festival (TCRP 1997: 143). Parking lots can also be converted to flea markets on the weekend.

Principle 7: Use design and programming strategies to increase safety

Personal safety is fundamental to the success of public spaces. Programming and use of spaces to ensure safety is vitally important. Many of the case study area had successful formal and informal policing of spaces, which provided “eyes on the street” to increase safety (Jacobs 1961). In addition to programming, there are some design principles that can improve safety and the perception of safety, and thus make the spaces more likely to be used (Wekerle and Whitzman 1995). While urban design for safety is a large topic, issues relevant to this study include:

- Lighting: In order to make places seem cared for and to increase visibility, and thus the potential for positive surveillance, provide adequate lighting in all places where people are meant to be at night. The case of Emerson Park provides a clear positive example, as improved street lighting in the redesigned station area was a major improvement over the adjacent areas.
- Access control: Distinguish between public places where strangers are meant to be and those where they are not through strategies such as fencing, lighting, and landscape. Residential areas adjacent to Emerson Park used fencing and paving to distinguish such areas.
- Visibility: Ensure there are adequate sight lines.
- Movement: Avoid tunnels and narrow paths that potentially funnel pedestrians into the path of an attacker without means of escape; avoid other entrapment spots or isolated areas.

Principle 8: Allow for variety and complexity

Places that exhibit a high level of design consistency, as well as those with much variety and complexity, can provide a positive sense of place. However, in the United States, planning regulation tends to make areas uniform and so particular attention is needed to promote visual variety and a diversity of uses (Greenberg 2004).

- Having a common design vocabulary for buildings and public spaces helps to create a strong sense of place by making one area distinct from others. In Fruitvale, a shared color scheme of adobe and beige, highlighted by bright colors like red and turquoise, introduces much needed color into an area dominated visually by warehouses, train tracks, and a freeway. Similarly, Emerson Park features porches and a mix of brick and horizontal siding.
- In the Delmar Loop, however, much of the same effect has been created without the use of building codes and design guidelines. There, the eclectic collection of small-scale retail businesses gives the area a distinct sense of place and makes the area visually interesting.

Principle 9: Create connections between spaces

While it is important to make great places, it is also important to connect them. All the case study areas had well-connected street patterns as measured in the mapping analysis relevant to their locations, though barriers such as highways or huge parking lots (as in Fruitvale) often limited these good street networks. Moreover, buildings did not always connect well to the outdoors, and sidewalks were not always continuous for pedestrians. Cyclists had even more challenges finding comfortable paths.

- In designing places, make sure that the structure of streets and blocks provides multiple options for pedestrians moving from place to place. Even if vehicular movement is limited, provide pedestrian cut-throughs. In many cases, such as Oakland City Center or Rosslyn, the basic street pattern is already set, but small-scale interventions such as pedestrian-only streets or the introduction of small parks could be a significant improvement.
- Be extremely careful when placing parking lots, which can create de facto barriers for pedestrians (Dunphy et al. 2004: 174–175). Unfortunately, the question of what to do with parking lots has no easy answer; putting parking underground can be very expensive, while doing away with spaces can limit transit usage. Bus bays are another tricky subject. On the one hand, they should be designed for maximum efficiency, but on the other hand, they should not create dangerous areas for pedestrians or detract from the general ambience of the area.

6.3 Facilities

Principle 10: Design sidewalks and crosswalks for appropriate pedestrian use

Many center city and suburban design projects begin with the needs of pedestrians first and foremost in mind. In some design projects, the problem is how to revive a formerly bustling neighborhood shopping street, and bringing back foot traffic is an important step for such areas. In other cases, designers are tasked with balancing the needs of motorists and pedestrians, while making sure not to sacrifice the safety of either party. Another common problem is accessibility, such as when a highway or railroad tracks create an obstacle for anyone not in a car.

A number of design elements can help make walking safer, more pleasant and more convenient. These include:

- Buffers that separate moving traffic from pedestrians. In the Delmar Loop, simply allowing for on-street parking provided separation of sidewalk from traffic.
- Various types of landscaping—such as trees, flower boxes or strips of grass—can also serve this function while simultaneously improving the look of the street (FHWA 1998: 83).
- Sidewalk dining, as in Clarendon, encourages pedestrian activity and can create a sense of safety and vitality in some areas (Greenberg 2004: 71).
- At crosswalks, special features (such as the use of different materials or curb bulb-outs) help to distinguish pedestrian territory from driver territory. This approach has been used effectively in the northern part of the Fruitvale project, where busy International Boulevard leads into the TOD project. This helps slow traffic and cues pedestrians and drivers that they are approaching a special area.

Principle 11: Integrate transit and transit facilities into the urban pattern

The design of bus and rail facilities is complicated, as various needs and constraints must be properly balanced. A transit facility is a transition point between various modes, as people park cars and bikes and walk before heading on to mass transit. People also transfer between routes or types of transit. Compared to traditional transit planning, TOD creates an even more diverse set of demands and expectations on transit facilities. These challenges also bring opportunities, however. Transit naturally brings people together, a key goal of urban designers seeking to promote street life. Transit can also serve as the impetus for economic or community development in a place, as investments in transit offer a chance to pursue other, complementary goals. Good design elements for transit facilities include:

- Linking the transit facility with the surrounding area, especially in cases where the transit facility may be somewhat removed from the geographical center of the TOD. The Oakland City Center/12th Street station is underground, so opening up the staircases and escalator area helped to make travel between the station and the street more pleasant. Building a small pedestrian-only plaza above the station also helped. In the Delmar Loop area, the train station is actually at one end of the development; attractive landscaping and signage have been used to connect it with the main shopping street.
- Providing amenities for transit riders. These include places to sit, public telephones, and shelter from the rain, sun, and wind. Maps showing the station area, the surrounding neighborhood, and where to find connections to other transit routes are also important. Fruitvale has a pleasant area just in front of the station where people can sit, have coffee, or shop before or after their train ride.

Principle 12: Don't forget (but don't overemphasize) car movement and car parking

A number of design elements for streets can be used to create more walkable places, while simultaneously making the environment safe for drivers. Many of these entail slowing traffic, or restricting it to a level that is suitable level for the area. Reduced levels of service should be compensated for in other ways, however, such as by enhancing traffic capacity on parallel or nearby streets. Design solutions include:

- Wide streets and high vehicle speeds create physical and psychological barriers for pedestrians. Slowing vehicle speeds, by narrowing the roadways, enforcing lower speed limits, installing speed tables or speed bumps, is needed to create more pedestrian friendly areas. Medians are another way to narrow a roadway and add many benefits. They can serve as pedestrian islands to provide refuge when crossing wide streets and boulevards. On the western side of the Fruitvale project, a median strip was placed in the middle of a busy street and helped to lower vehicle speeds.

As ubiquitous as cars are on the American landscape, they are not so common as parking places. Figuring out places and ways to store cars when they are not in use, while still making parking spots convenient for shoppers, visitors and employees, is a major challenge of urban design (Dunphy et al. 2004). When not placed well, parking lots and structures can sever neighborhoods and create dead spaces. Good design can avoid these problems, and also contribute to other goals.

- Allowing for on-street parking, as was done in Delmar Loop, helps create more walkable streets by making pedestrians safer from traffic.

- Enclosed parking facilities, such as those in Rosslyn, Ballston, and Oakland City Center, provide spaces for cars without severing the traffic pattern for pedestrians to the same degree that surface-level parking lots do. However, space reserved for parking, whether in parking garages or parking lots, removes space that could be used for housing, shopping or recreation, for example.
- Pooling parking facilities, so that different types of visitors can use them throughout the day, can be a good solution for mixed-use areas. In the case study regions, park-and-ride lots associated with transit were used for nighttime theater parking and for weekend markets.

7 Conclusion

Transit Oriented Development has been increasingly promoted as a solution to the problems of urban growth in the United States. If TOD is to be widely adopted as a real alternative to automobile-oriented urban patterns, it needs to capture a broad market in terms of household types, income levels, and regional locations. Success in this endeavor will be, at least in part, a function of the livability, accessibility, and attractiveness created by careful physical planning and good urban design.

This paper has demonstrated that there are many options for creating a well-designed transportation environment and multiple solutions to solving site-specific problems. The case studies, representing a variety of TODs, show successful elements of urban design that other projects may copy or adapt in part for design and development processes, place-making approaches, and facility design and management.

At the same time, the case studies also highlight pitfalls to avoid, such as “180 degree” stations. They stress some things to consider in general TOD design—for example, that good design takes time. This study also demonstrates a range of methods for assessing urban design features of TODs. While using all six assessment methods on multiple cases is time consuming, they can be relatively easily applied in simpler circumstances.

How future projects solve the multiple and complex design challenges inherent in TOD will depend on the particular circumstances surrounding each project, and on the ability of designers, policymakers, engineers, and local citizens to balance competing objectives. Overall, physical design—both in terms of visual quality and livability—is an important aspect of making TOD projects work and is worthy of further attention.

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AN EPIC TRANSIT ORIENTATED-DEVELOPMENT (TOD) FAIL!

TRANSIT-ORIENTED DEVELOPMENT REQUIRES MORE THAN TRANSIT AND DEVELOPMENT

FROM AN ARTICLE BY KAID BENFIELD

[HTTPS://WWW.CITYLAB.COM/DESIGN/2013/03/EPIC-TRANSIT-ORIENTED-DEVELOPMENT-FAIL/4932](https://www.citylab.com/design/2013/03/epic-transit-oriented-development-fail/4932)

Note to Miami-Dade planners: we know you supposedly like form-based codes and all, but could you please buy some copies of Julie Campoli's book **about the things we need to make urban density work**, like pronto? And, while you're at it, take a look at Stephanos Polyzoides's essay about how to make development around transit people-friendly. Echoing Campoli's central thesis,

*. . . too little attention is paid to the smaller scale strategies that can help to make TOD a success. Included in this category would be things like attention to good design of both the building and the street – does **the project fit with the neighborhood's scale and aesthetics**? Are there sidewalks, trees or other greenery and lighting that signal people are desired and that it's a safe and comfortable place? . . .*

*"I do not mean to undercut the hard work that the city and region are doing. But rather, to remind us that while large scale infrastructure and development projects can grab attention of politicians and the media, **density without design may fail to generate anticipated return on investment** -- both in terms of creating new riders and in transforming neighborhoods." (Emphasis in original.)*

So, Is TOD RIGHT FOR WRIGLEY?

"We believe that TOD is really about creating attractive, walkable, sustainable communities that allow residents to have housing and transportation choices and to live convenient, affordable, pleasant lives -- with places for our kids to play and for our parents to grow old comfortably." ~Center for Transit-Oriented Development (www.ctod.org)

According to the Center for Transit-Orientated Development, there is no "one-size-fits-all" approach to TOD. Over the last five years the Center for Transit-Oriented Development (CTOD) has developed and applied many TOD Station Area Typologies, in different regions, such as Denver, Portland, Chicago, and Baltimore, to help plan for station area revitalization and development. A TOD typology is a way to group together different transit zones that have a common set of characteristics. A typology has several place types, and all of the station areas within one place type have some elements in common. The characteristics that define a typology can differ depending on what outcomes the typology is meant to accomplish, and not every station area in one place type will be exactly the same. Typologies are useful tools because they increase understanding of characteristics that contribute to place, establish measurable performance benchmarks, and provide a framework to set goals for better performance.

The widely varying characteristics that help define places require different strategies and approaches to be employed to foster the growth of vibrant transit-oriented neighborhoods that enhance existing assets and conditions and serve people of all incomes. These differences can often be highlighted through the use of a typology tool that identifies key themes and strategic decisions that apply across a range of places when implementing TOD.

To Find out more about Place Types and TOD Typologies visit Reconnecting America's featured topic on [Station Area Typologies](#)