

AUTO-CENTRIC DEPENDENCY: How Transportation Affected North American Cities

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ABSTRACT

In today's North American cities, the pattern and layout of the urban fabric is dictated by the needs of the automobile. Why are we designing and living in an environment which is not conducive to pedestrian activities but instead creates a hostile environment causing us to use considerably more energy and time?

What caused North American cities to alter so drastically the way they developed? Given the car's existence and influence over the past century, North Americans have been able to study and see the effect that it has had on our built environment. This thesis responds to the auto-driven design of cities and proposes an alternative way in which we view auto-centric design that will not only benefit the future of our cities but also our social experience.

ACKNOWLEDGMENTS

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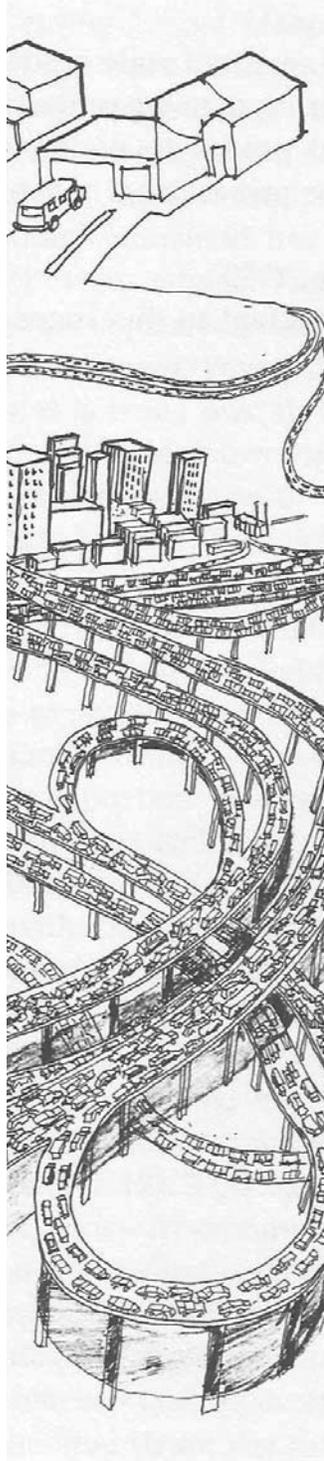
INTRODUCTION

1. 'Dearborn Street Traffic Jam' Mix of horse cart, electric streetcar, and automobile congestion downtown Chicago. 1909.

How did North American cities change from a collection of buildings creating space, to buildings that occupy space? In this thesis I will be looking at how cities have changed from walkable compact spaces to auto-centric cities. I am using auto-centric to define urban/architectural landscapes where the primary means of access is by automobile. These landscapes do not promote alternative means of transportation, for example by foot, bicycle, or public transit. Instead, these landscapes force residents to drive short distances for even the most menial tasks. By using an urban site located in Toronto, I will be able to illustrate the auto-centric conditions that this site embodies, as well as its potential for change. This will illustrate, on a small scale, the conditions of the city as a larger whole.

The reason for focusing on transportation during late 19th and early 20th centuries is because it was during these eras that transportation influenced the built environment the most - affecting the relationship between building, people, and their surroundings. In changing the urban environment, our architectural space, the relationships between people also started to change, reflecting the status of

2. 'The Mess' - New York 1998



the city. Winston Churchill said in May 10th, 1941: “We shape our buildings, and afterwards our buildings shape us.”¹ During this he was talking about rebuilding the parliamentary buildings after the 2nd World War. Nevertheless, the same line could be applied to our built urban environment today. During the early 20th century cities changed from the dense walkable city to that of the auto-centric city, shaping the way society lives and interacts.

Cities favouring the automobile with new urban designs promoted the use of the car to such an extreme that it became nearly the only means of transportation available to residents. The city itself was reflecting the suburban sprawl – but sprawl, which is defined as being vast, homogeneous, and unwalkable,² is a condition out of place in the formerly dense city core. New Urbanism is a response to the growing separation. It looks at bringing people back downtown into new and lively areas of the city, where people no longer feel the need to use their cars for the smallest tasks. In this thesis, I’m looking at the history of transportation looking at how it affected the growing city of the late 20th century and the 21st century. This is including the actions and reactions of transportation such as ‘Smart Growth’ and ‘New Urbanism’ and using those movements influence to my design project.

In order to address such a sweeping subject area, my thesis will be divided into 3 chapters. In Chapter 1, I hope to gain an understanding of the issues arising from the development of urban typologies, focusing on cities.

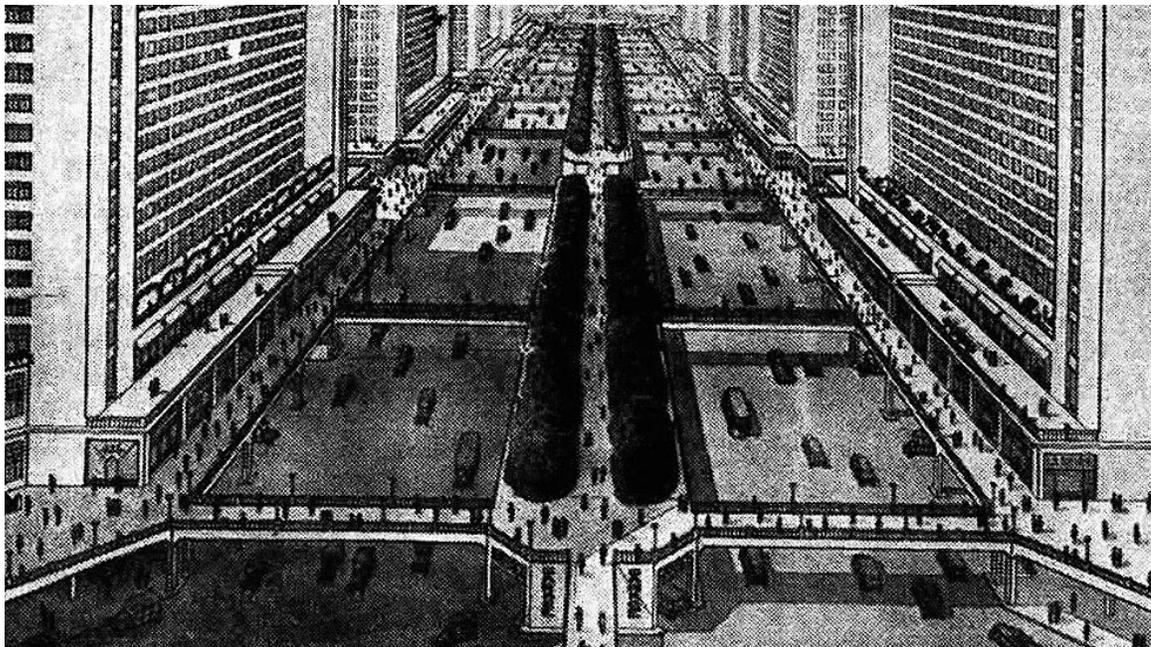
We think of urban spaces as dense, compact spaces. Why, then, are parts of the city suburbanized with big-box stores, unconnected to the adjacent communities and therefore leaving empty space – physically, socially, and psychologically? While cities are composed of many sections and subsections (i.e. central business districts, urban housing, suburban housing, etc.) will be focusing on the urban, not suburban, parts of the city. More specifically, I am looking at the built urban center. I will, however, refer to the ‘suburbs’ when they affect the urban environment, but they themselves are outside the scope of this work. This becomes increasingly relevant as big-box stores commonly associated with the suburbs encroach upon urban centers, thereby decreasing the walkability of the city and increasing its auto-centric nature. Using the Toronto Stockyards as

an example of this problem, this chapter will grapple with social problems of auto-centric urban design.

Next I ponder the question: How did the auto-centric conditions of North American come about? In Chapter 2, I will be reviewing the influences of new transportation technologies starting with the preindustrial city. At that time people were looking for a way to escape certain unsavoury conditions developing in early cities. It would very ignorant to say Racism, social status, and elitism did not have a large part in choosing to move out of the downtown. These topics affect every developing city; however, they are larger than the scope of this paper. Nonetheless, I will make mention to them as and when these issues directly affect my discussion of North American city development.

In Chapter 3, I will look at the reaction to the car. As it stands now, North American culture finds itself separated and enslaved by the use of the car. Cars are the lifeblood of the American city,³ because of the auto-centric design cities had taken up. As a result cars had become the only means of accessing the city. With such a reliance on the automobile, people have become removed and isolated from their environment. We removed drivers from contact with others that surround them. As a result, people slowly became disconnected with their environment and with each other. This change impacted the cities social engagement; the ability for people to interact and

3. 'Le Ville Radieuse' 1924. Paris



engage with one another, to create community, communication, and cohesion, has severely diminished over time.

As people came to terms with what that automobile had done to their cities, critics started gaining listeners. When the Oil Crisis of 1973 occurred, people really started to re-evaluate the city and auto-dependency. Since then we have been torn between an ongoing dependence on cars – thus the continued auto-centric design of cities – and a desire to recapture the perceived romance of a city in which people fully inhabit and interact. Unfortunately, most cities have abandoned the infrastructure that allowed for ‘traditional’ neighbourhoods. To counter this, municipalities have started to try to mediate the changes to their city’s fabric and reintroduce living (as oppose to driving) to the urban environment. To balance these two forces, car and people, architects and urban planners will have to re-imagine the relationship between automobiles and cities. The first step is to understand, the second is to respond, and the third is to build. This thesis will attempt all three via analysis, discussion, and a project proposal.

Note

1 WINSTON CHURCHILL, [FAMOUS QUOTATIONS AND STORIES <WINSTONCHURCHILL.ORG>](http://FAMOUS_QUOTATIONS_AND_STORIES.<WINSTONCHURCHILL.ORG>)

2 JEFF SPECK, [WALKABLE CITY](#) (NEW YORK: FARRAR, STRAUS AND GIROUX, 2012) p. 145

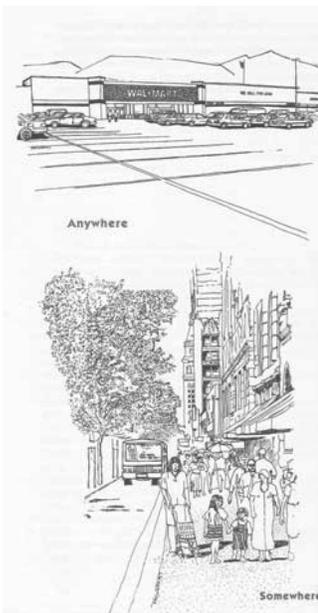
3 SPECK P. 75



CHAPTER 1

1. Willets Point West Mall Parking. New York. Example of a expansive parking lot that offers nothing to social interaction. 2013.

2. 'Anywhere / Somewhere' - New York 1998



This chapter will introduce the site for the proposed projects as well as the condition on that site. This chapter will review and discuss these conditions, establishing why they are an issue worth studying.

1.a - The Car and City

In today's North American cities, the pattern and layout of the urban fabric are dictated by the needs of the automobile. The requirements of the car have created streets-capes and urban conditions in which "pedestrian is but a theoretical possibility."¹ What caused North American cities to so drastically alter the way they developed? As the modern car has been around for over 100 years, North Americans have been able to study and see the effect that it's had on our built environment. What is the response to this auto-centric design, and how will that benefit our future cities.

For the topic of this thesis, the research will be looking at conditions found in The Stockyards, Toronto, ON. The site is a low-density development occupied with *fast pace* corporate retail, normally found in suburban sprawl. Fast pace development refers to low-density building like big-box stores, fast-food chains, and gas-

stations. These building are normally built in a short time frame adjacent to new suburban housing to provide for the residents' needs. The Stockyards, though is located north of The Junction, which is a gentrifying neighbourhood north of the Keele Subway Station along Dundas Street West. Part of the gentrification has also created many new chic restaurants and an active social life to the neighbourhood. Part of the gentrification in The Junction was that in 1997 the prohibition against alcohol was lifted in that area, and the low rent has attracted many young professionals and artists. It is probably best known for the areas many Antique shops. Another strong factor for its revitalization is its adjacency to downtown an approximately 30 minute drive (in moderate traffic) or 30 minute transit ride to Toronto's downtown business district.

Note

1 JEFF SPECK, WALKABLE CITY (NEW YORK: FARRAR, STRAUS AND GIROUX, 2012) p. 15

3. The Junction in relation to Downtown Toronto.



4. The Stockyards Plaza, occupied with big-box stores and parking lots



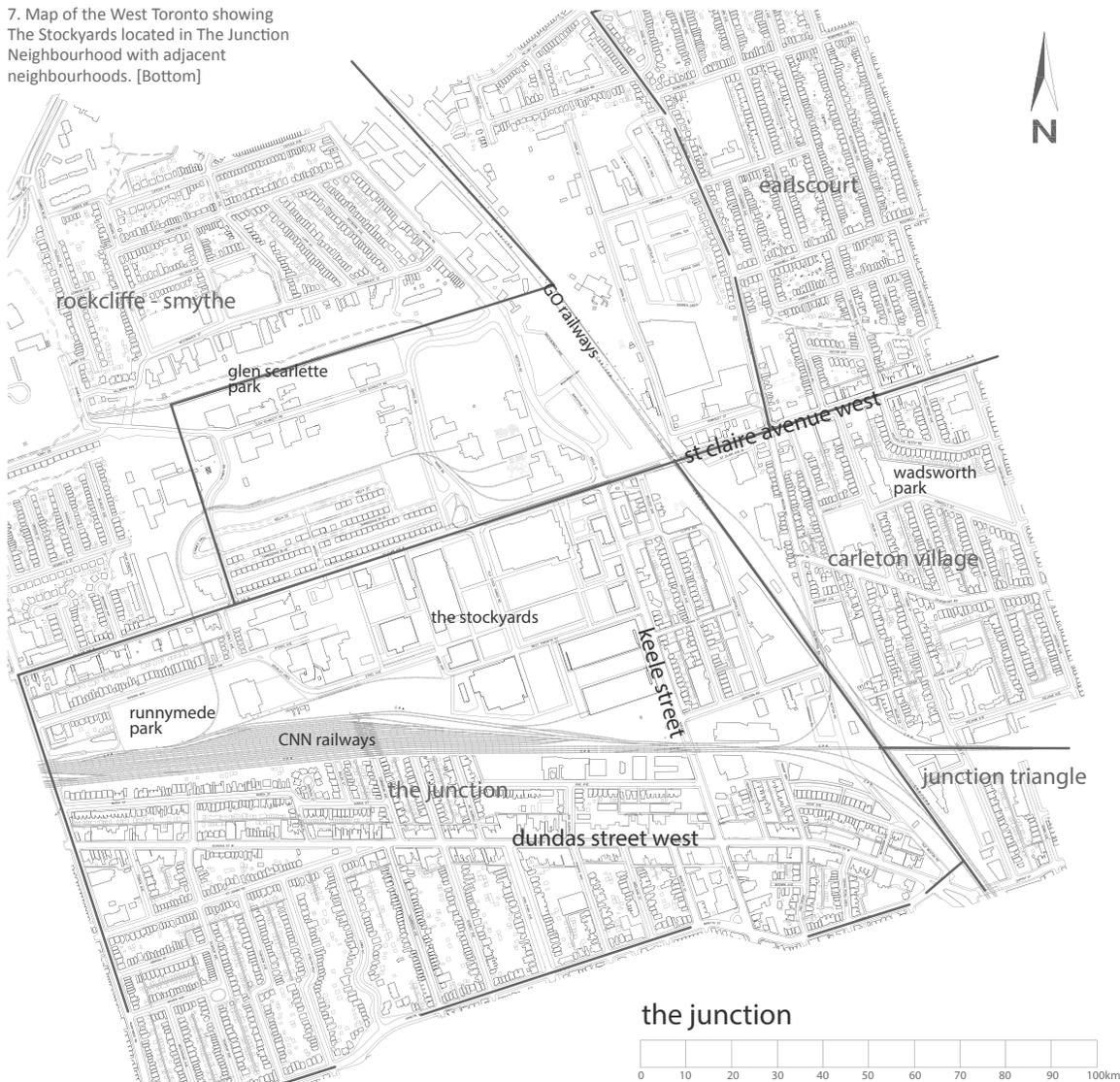


5. Panorama looking North towards Home Depot, The Stockyards. March 2014. [Top]



6. Panorama looking West towards Rona, The Stockyards March 2014. [Middle]

7. Map of the West Toronto showing The Stockyards located in The Junction Neighbourhood with adjacent neighbourhoods. [Bottom]



1.b – Auto-dependency of The Stockyards

As mentioned previously, The Junction is currently a growing neighbourhood. In addition, The Stockyards present a great opportunity for intensification due to the underutilization of the area as large asphalt parking lot. The Stockyard site is currently an island of development that does not connect with its surrounding neighbours. It is full of isolated buildings with strict shopping hours, leaving the site vacant for the majority of the day. As it stands the design of the site does not provide engaging or secure walking areas for pedestrians. Furthermore, the nature of the corporate retail (i.e. programs that promote big purchase trips and therefore need a car)¹ physically and psychologically spaces itself from being part of fabric of the neighbourhood.



8. White Front Store. Garden Grove 1964
[Above]



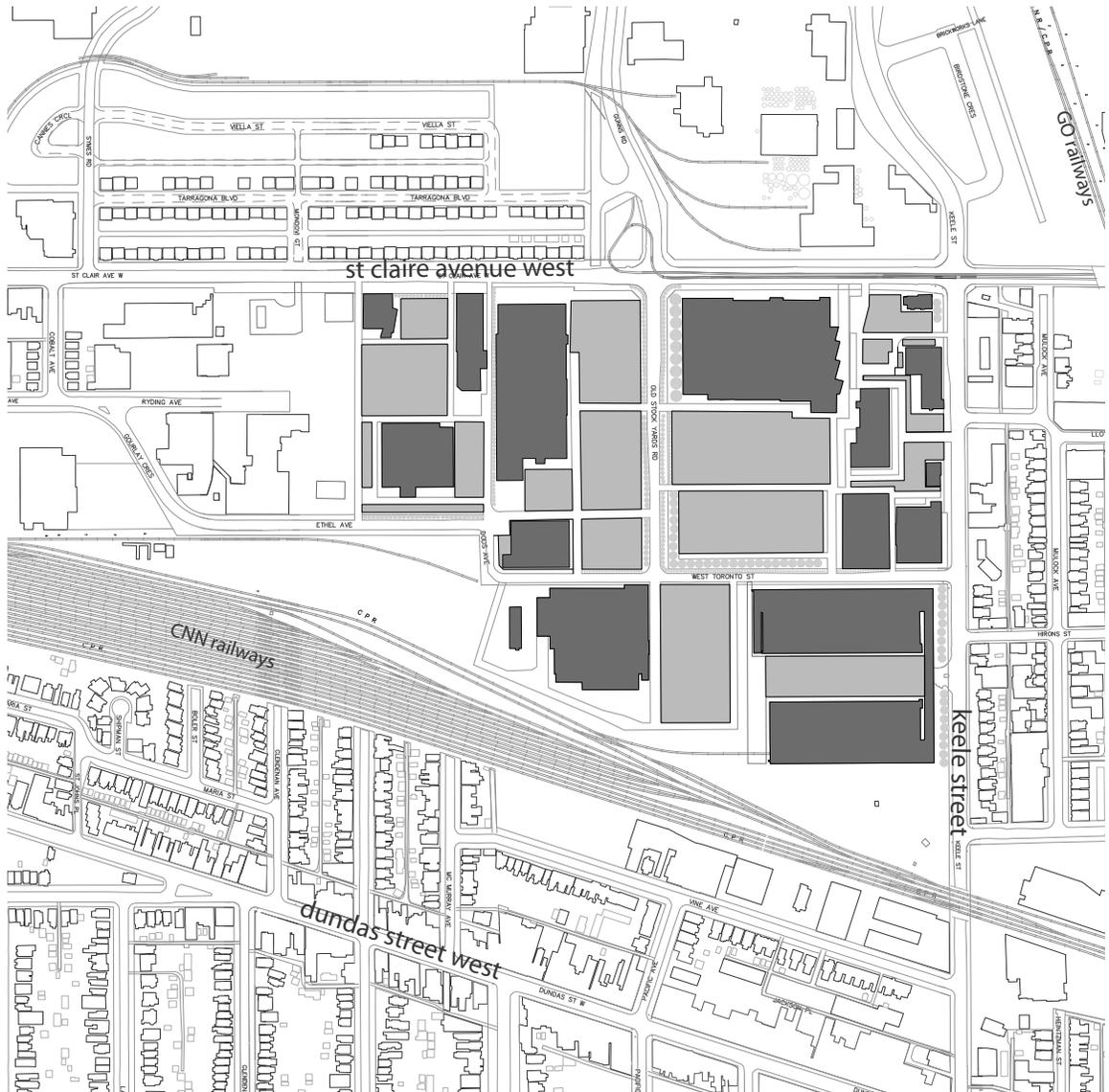
9. Lamar Airways Park Triangle, 2013
[Right]

The lack of pedestrian walkability is one of many auto-centric trademarks, Stacy Mitchell, author of *Big-Box Swindle* writes. According to her,

“[corporate chains] in turn design their stores in every respect for driving, offering luxurious expanses of parking while creating an environment so hostile to pedestrians that people commonly drive between big-box stores located in the same shopping plaza, rather than traverse the asphalt on foot.”²

To restate, as oppose to creating an environment that would attract pedestrian to walk to their store (or even between one store and another) the big-box stores have physically isolated their stores on the site with the psychological effect that large on-grade parking has pedestrians. Therefore, these homogeneous landscapes of

10. The Stockyards with land-use percents.



the stockyards - existing ratios



asphalt offer everything to cars, but are an environment hostile to pedestrians. They offer little for urban social life or to a growing neighbourhood community. As oppose to engaging with the area around the big-box store, the surrounding community is separated from it. According to Jan Gehl,

“This type of urban situation is often perceived as impersonal, formal and cold. In places where built-up areas are large-scale and spread out, there generally isn’t much to experience. And for the senses closely tied to strong, intense feeling, there is absolutely nothing.”³

He is talking here about large buildings surrounded by even larger open space. While the building types are different, it is still referring to a similar situation. However, if someone without a car wanted to walk through the site, what would they face? As per City of Toronto regulations, roadways have sidewalks which are lined with trees to produce a more pleasant environment for people to walk along.⁴ This greenery does provide some comfort, however, not to any extent that would reward the walk in a big-box store environment. It does not become a place to walk as there is still nothing to see.⁵ This is a design in favour of the automobile. Cars driving through the site are not affected by the lack of anything interesting. Higher speed limits, such as 50km/hour or higher, reduces the occupants’ chances of seeing the environment around them. This is why drivers slow down if they want to actually see something. All-and-all the Stockyards fast pace, low-density, and urban sprawl the type of development that enforces auto-dependency where “individuals are

11. 'Harbour Street, 1963'. Orange County, CA. [Left]

12. 'Highway 401' near Pearson airport, 2003. Toronto, ON [Right]



in a metal casing, closed off from others.”⁶ This is not appropriate, or acceptable, in Toronto because it is the exact opposite of what would help build face-to-face social interaction.

The loss of community, especially the lack of social interaction that a community brings, is a current issue with North American culture. Douglas E. Morris, author of *It's a Sprawl World After All* describes this culture as incredibly advanced, successful, and better off economically than the majority of the world, yet the nation is a “sprawled mess”⁷ where the urban environment is filled with lonely people. These same lonely people lock themselves in their homes, afraid of the strangers that surround them.⁸ They move away from the potential of social interaction in the street, thereby closing themselves, and the city, off. People have changed to become auto-centric. That is to say cities, especially streets, are “not for kids or bikes or walkers but for high-speed, high-volume car travel.”⁹ Thus, auto-centric cities make auto-centric people and vice-versa. Dom Nozzi, writer of *Road to Ruin* states:

“Along with our front porches, we gave up walking or bicycling, rather than compete with the raging torrent of cars. Cities ... became places to *get though* on our way to work or shop from homes remote from city centers.”¹⁰

People no longer engage with their city; their city became an obstacle course to drive through. What has caused ‘the average American to spend more than eighteen and one-half hours a week in the car?’¹¹ In order to understand why cities and people are this way, we must first much understand the circumstances that brought us to this state. How did we get here anyways?

Note

1 STACY MITCHELL, *BIG-BOX SWINDLE* (BOSTON: BEACON PRESS) P. 113

2 IBID

3 JAN GEHL, *CITIES FOR PEOPLE* (WASHINGTON, DC: ISLAND PRESS, C2010) P. 53

4 CITY OF TORONTO *STREETScape MANUAL*, TORONTO, 1998-2014 <WWW.TORONTO.CA>

5 JEFF SPECK, *WALKABLE CITY* (NEW YORK: FARRAR, STRAUS AND GIROUX, 2012) P. 237

6 CATHERINE LUTZ *CARJACKED* (NEW YORK” PALGRAVE MACMILLAN, 2010) P. 146

7 DOUGLAS MORRIS *IT'S A SPRAWL WORLD AFTER ALL* (GABRIOLA ISLAND, BC: NEW SOCIETY PUBLISHERS, C2005) P. 12

8 MORRIS, P. 12-13

9 DOM NOZZI, *ROAD TO RUIN* (WESTPORT, LONDON: PRAEGER, 2003) PGXVIII

10 NOZZI, P. XIX

11 CATHERINE LUTZ *CARJACKED* (NEW YORK” PALGRAVE MACMILLAN, 2010) P. 145



CHAPTER 2

1. 'Downtown Houston' - Alex MacLean
Photograph taken looking at the expanse
of parking between high-rises downtown
Houston in the 1970s

This chapter will look at the rise of auto-dependency throughout the history of North American cities as it relates to my argument on the effects of transportation on urban design and communities. It will cover the condition of the preindustrial city, though the rise and decline of mass-transit, and finish with the conditions brought on by auto-centric design.

Introduction to Auto-Dependence

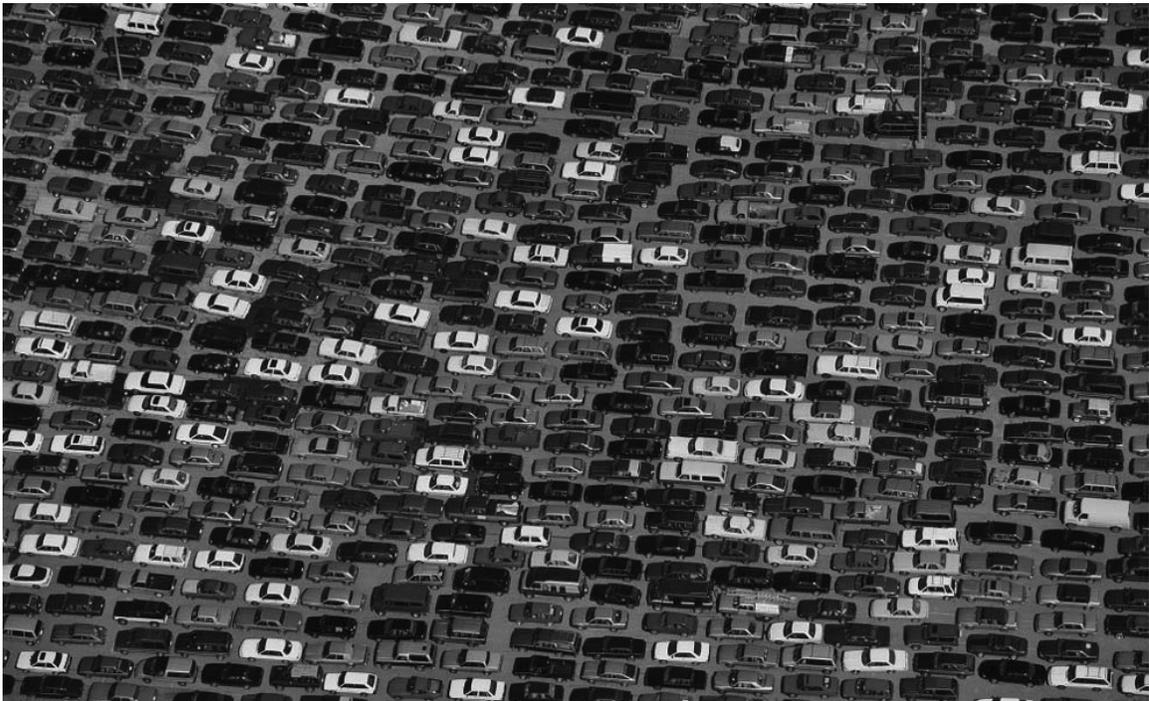
Auto-Dependence is, as the phrase implies, is a situation where people have become reliant to the point where they depend solely on the car. The phrase has been dissected into 3 components by Roger Gorham.¹ Components of Auto-Dependence are: 1. *Physical/Environmental dependence*, where the distribution of the built environment, housing various activities, causes people without cars to feel cut off from social activities, friends, family, businesses, shops, and work. 2. *Psycho-social dependence*, where an emotional or behavioral association with the car causes people to be reluctant to change their use of it. 3. *Circumstantial dependence*, where people, primarily households, depend on cars for continuation of their lifestyle.

This thesis is focusing on the 1st component, physical/environmental dependence, to a larger extent than the other components because it is most relevant to the site. The other component are not completely ignored, and will be mentioned when they impact or change in urban landscape.

Note

¹ WILLIAM R. BLACK, PETER NIJKAMP. SOCIAL CHANGE AND SUSTAINABLE TRANSPORT (BLOMINGTON: INDIANA UNIVERSITY PRESS, C2002) P. 109-113

2. 'No escape parking' - Alex Maclean



2.a – North American cities before the Turn-of-the-century

This chapter looks at the history of city transportation in North America. Understanding the conditions of the majority of North American cities, sheds light on why residents were looking to move away from the city core. Primarily, the industrial Revolution led people to migrate to a busy, social environment, looking for work and a better way of life.

Before the full impact of the industrial revolution, before the autonomous buggy, before the move out into the suburbs, the pre-industrial cities of the early 19th century we considered to be a pedestrian and walking city. In fact,

“[b]usiness and commercial enterprises cluster in central areas, usually near the waterfront. Business owners and employees, shoppers and shopkeepers, all traveled destinations by foot; only the wealthy could afford a horse and carriage. Without mass transit, the physical expansion of the city was limited to walking distances, rarely beyond 2 miles from the city center.”¹

The size of the cities was limited by the distances that could be traveled by foot. This kept the urban space compact. It also forced

3. 'Big Alley' 1877 - 1900. Brooklyn, Rear view of Tenement in Gold St. [Right]



4. Rio De Janeiro [Below]





5. 'Kids playing near dead horse' New York 1800s [Top]



6. 'Horse Overcome by Heat' New York 1910 [Bottom]

*NEW YORK CITY'S MANURE CRISIS - 1894 2.5 million pounds of manure and 60,000 gallons of urine each day, and 15,000 dead horses cleaned each year at public expense.

a very high population density into compact urban areas, mostly slums. Thus crowding was part of the urban lifestyle, and privacy was lacking. For instance, it was not uncommon that “a dozen or more people shared two or three tiny, unventilated rooms in miserable tenements.”² This brought anyone living in the city forcibly closer together, and by extension also shorted the physical distances separating the various social classes. Both the wealthy, living in the city centers, and the poor living in the outskirts of the city were still with-in short proximity of each other and their respective work.³ As this was before zoning regulation,⁴ residents were living and working in the same small space, often next to “an offensive stew of factories, furnaces, and warehouses jumbled across a tangle of streets, alleys canals, and railroads.”⁵ It is important to note that during this time buildings did not have the modern conveniences that cities enjoy today, such as indoor plumbing, or sewage lines.⁶ Instead, buildings shared communal cesspools and outhouses that were used for sewage (if the waste did not end being dumped into the street). With walking still being the primary means of getting around, the narrow streets design to fit both housing and industry were intense spaces with lots of activity.

Although, technologies were improving and cities were changing, roads remained hazardous messes full of animal waste and busy with people. These conditions did improve, especially after events like the *New York City's Manure Crisis.⁷ However the 20th century city was still a noisy, crowded, busy place. As opportunities opened for residents to move away from the crowded city core, anyone who could afford so took that opportunity and did not look back. People desired to live a private, more spacious, lifestyle different from that available in the city, “the automobile was going to transform and enrich American life.”⁸ So, with new technological advances in urban transportation, people were able to do so.

Note

1 RAYMOND A. MOHL, THE NEW CITY: URBAN AMERICAN IN THE INDUSTRIAL AGE, 1860-1920 (ARLINGTON HEIGHTS, ILL.: H. DAVIDSON, c1985) p. 28

2 MARK S. FOSTER, FROM STREETCAR TO SUPERHIGHWAY (PHILADELPHIA: TEMPLE UNIVERSITY PRESS, 1981) p. 10

3 RAYMOND A. MOHL, THE NEW CITY: URBAN AMERICAN IN THE INDUSTRIAL AGE, 1860-1920 (ARLINGTON HEIGHTS, ILL.: H. DAVIDSON, c1985) p. 28-29

4 MARK S. FOSTER, FROM STREETCAR TO SUPERHIGHWAY (PHILADELPHIA: TEMPLE UNIVERSITY PRESS, 1981) p. 10

5 RAYMOND A. MOHL, THE NEW CITY: URBAN AMERICAN IN THE INDUSTRIAL AGE, 1860-1920 (ARLINGTON HEIGHTS, ILL.: H. DAVIDSON, c1985) p. 28-29

6 [HTTP://EYEWITNESSTOHISTORY.COM/SNPIM2.HTM](http://eyewitnesstohistory.com/snpim2.htm)

7 ERIC MORRIS, FROM HORSE POWER TO HORSE POWER (ACCESS NUMBER 30, UC TRANSPORTATION CENTER, 2007)

8 MARGARET CRAWFORD, MARTIN WACHS. THE CAR AND THE CITY (ANN ARBOR, UNIVERSITY OF MICHIGAN PRESS. 1992) p. 16

2.b - Mass-Transit: The physical growth of Modern City



7. 'Lonely Arca Streetcar No.2' 1910-1915 San Diego [Right]

8. Flatbush Avenue Extension teems with Horse-cart and trolleys. 1914, Brooklyn [Above]



Before the 20th century, up until approximately 1840, most urban dwellers traveled by foot.¹ Horses drawn buggies and buses were used at times, yet walking was still the primary means of getting around the city. However, horses did have their limitations, and due to the demands of a growing city, their role was quickly reduced with the dawn of powered transit. It was not until 1884 that transit was actually capable of providing reliable means of moving residents on a larger scale. In 1884, the first electric streetcar put in service in Virginia, a design similar to Toronto streetcars used today. The electric streetcar was a huge improvement in the field of transportation, faster than horses and not limited by their endurance, allowing for even greater distances in shorter times. As a result, it was new technologies in the field of transportation that (in support of, and in addition to, the increasing population) influenced the growth and development of the city.

By the 1920s most North American cities had boomed in population size. Furthermore, the 1920 census revealed that the majority of citizens now resided in urban areas.² This meant that not only was there a large population growth in cities, but that the land around North American cities was developing faster than to the inner city core.³ We can argue that this could be attributed, in part, to the electric streetcar and its efficiency in transporting people long distances. As stated earlier, the overcrowding of the city was a result of people moving to the city for labour jobs during the industry boom. With the invention of the electric streetcar, the wealthier

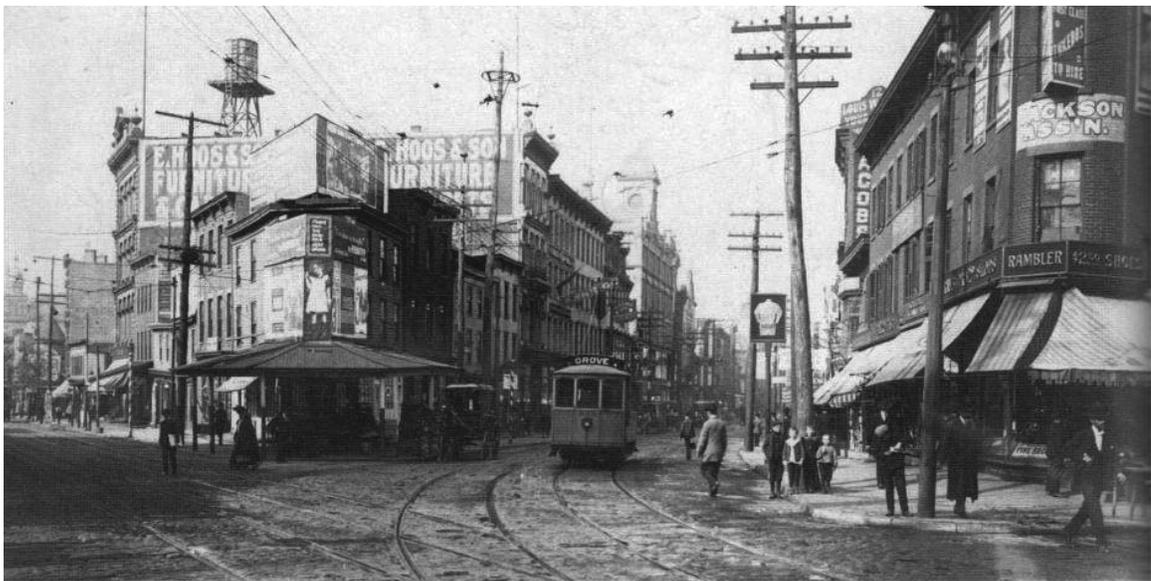
social classes were able to live away from the city's core and just travel into town to work.⁴ Only, of course, if they could afford to and due to the cost of the streetcar fares most of the urban residents, whom where lower-class labours, could not.⁵ This established the downtown, or city core, as primarily residence for the lower-class. The suburbs, on the other hand, were for the upper-class. When financial power shifted from the city core to the new suburban growth via residents resettling themselves according to class, political power shifted too.

Note

- 1 MARK S. FOSTER. FROM STREETCAR TO SUPERHIGHWAY (PHILADELPHIA: TEMPLE UNIVERSITY PRESS, 1981) p. 11
- 2 RAYMOND A. MOHL, THE NEW CITY: URBAN AMERICAN IN THE INDUSTRIAL AGE, 1860-1920 (ARLINGTON HEIGHTS, ILL.: H. DAVIDSON, c1985) p. 9
- 3 MARK S. FOSTER. FROM STREETCAR TO SUPERHIGHWAY (PHILADELPHIA: TEMPLE UNIVERSITY PRESS, 1981) p. 15
- 4 RAYMOND A. MOHL, THE NEW CITY: URBAN AMERICAN IN THE INDUSTRIAL AGE, 1860-1920 (ARLINGTON HEIGHTS, ILL.: H. DAVIDSON, c1985) p. 36
- 5 STEPHEN F. VERDERBER. SPRAWLING CITIES (ABINGDON, OXON; NEW YORK: ROUTLEDGE, 2012) p. 15



9. 'Streetcars on Canal Street, 1907'
New Orleans



10. 'Newark Avenue and
Montgomery Street with trolley and
tracks' Jersey City, 1900.

2.c – Rise of the Automotive Culture



11. 'Ford Assembly Line during Industrial Revolution' 1913. Detroit



12. 'Fifth Ave' 1913. New York



13. 'New York World's Fair Parking' 1939-1940. New York

As the electric streetcar pushed the city boundaries outwards, the *modern automobile* met this change and became an increasingly popular means of transportation. One way that the budding automobile industry promoted the car was by stressing its utility: because the car is not attached to the streetcar rail-lines it could be used to get anywhere in a city, and even travel out of the city as a “vacation agent”.¹ The automobile was really selling itself as a way to achieve freedom of movement outside of established development, especially to places where the value of land was much cheaper. The savings offered in buying a home that is further away from the major transit lines would be enough to allow for the purchase of a car.² This created an extremely attractive transportation solution that began to take off in urban areas: “The first mass production [of the car] soon started to influence urban transportation patterns, by 1920 more than 8 million [cars] were registered in the United States (100 million in population), along with 1 million trucks and buses.”³

The popularity for the automobile also created many new businesses, such as car repair centers and petrol bars, thereby supporting the use of cars in a way that previous mass-transit, (i.e. the electric streetcar) never could. This created political sway designed around the car.⁴ For example, auto-centric businesses were now providing the funds needed for the government to spend on large infrastructure projects. Support for the car also came from the pockets of those who used them: the cost of using automobiles was the responsibility of the individual that owned them.⁵ Taxes on gasoline, tires, and other accessories made so whoever used roads would pay for them. Those who did not own a car did not feel as though they were helping pay to support someone else’s privilege. Very quickly the automobile became the “preferred mode of transportation, not because of an irrational attachment to it, but because it serves people needs better than any other mode of travel.”⁶

The North American culture quickly became attached to the automobile. The working class saw the car as “their great symbol of advancement ... Car ownership stands to them for a large share of



14. 'Ariel View' Bellevue Washington 2011

the 'American dream' they cling to it as they cling to self-respect".⁷ It became more than just a means to get around, it became a status symbol. This was the beginning of psycho-social auto-dependence; cars fed the North American cultural idea that it could solve problems (i.e. access to a better job) and even create solutions (i.e. meet the needs of class-based community developments). The car promised a different, maybe even better, kind of lifestyle: "The newly dawned century was to see a new culture, emancipated, healthy, infinitely mobile, and full of hitherto unknown pleasures and experiences."⁸ The auto industry promised that car could go anywhere and do anything. As a result, they connected the car to the part of the American heart that was brave enough to leave their homes, whether to travel across town to a new job or and travel across oceans to a new world.⁹

Note

- 1 MARK S. FOSTER. FROM STREETCAR TO SUPERHIGHWAY (PHILADELPHIA: TEMPLE UNIVERSITY PRESS, 1981) P. 22
- 2 MARK S. FOSTER. FROM STREETCAR TO SUPERHIGHWAY (PHILADELPHIA: TEMPLE UNIVERSITY PRESS, 1981) P. 23
- 3 RAYMOND A. MOHL, THE NEW CITY: URBAN AMERICAN IN THE INDUSTRIAL AGE, 1860-1920 (ARLINGTON HEIGHTS: ILL.: H. DAVIDSON, C1985) P. 35
- 4 MARK S. FOSTER. THE AUTOMOBILE AND AMERICAN CULTURE (ANN ARBOR: UNIVERSITY OF MICHIGAN PRESS, C1983) P. 33
- 5 MARK S. FOSTER. FROM STREETCAR TO SUPERHIGHWAY (PHILADELPHIA: TEMPLE UNIVERSITY PRESS, 1981) P. 91
- 6 MARGARET CRAWFORD, MARTIN WACHS. THE CAR AND THE CITY (ANN ARBOR: UNIVERSITY OF MICHIGAN PRESS. 1992) P. 252
- 7 MARK S. FOSTER. THE AUTOMOBILE AND AMERICAN CULTURE (ANN ARBOR: UNIVERSITY OF MICHIGAN PRESS, C1983) P. 101
- 8 MARGARET CRAWFORD, MARTIN WACHS. THE CAR AND THE CITY (ANN ARBOR: UNIVERSITY OF MICHIGAN PRESS. 1992) P. 16
- 9 JEFF SPECK, WALKABLE CITY (NEW YORK: FARRAR, STRAUS AND GIROUX, 2012) P. 76

2.d - The Decline of Mass Transit

With the automobile's versatility, the car quickly became the favored means of transportation in North America. This meant the car was being supported over all other types of transportation, often to the detriment to any alternative forms of transportation. In other words, anything that would impede the ability for automobiles to get around the city was losing. To illustrate, the streetcar industry was the automobile industry's main competitor and it was dropping behind as cities outgrew their streetcar lines. It is argued that the decline of mass transit started as early as 1900,¹ however, mass transit had their highest ridership in the mid-1920s. During this time the cost required to build new streetcar rail-lines increased, which slowed the rate that they were built and thereby failed to keep up with the suburban growth.

As more homes were built in the suburbs, the volume of streetcars and drivers commuting to work in city core were competing for space along the main roads.² Since drivers paid for the right to use the road, through taxes, they felt entitled to it. The lifestyle of the growing car culture meant that car owners and the automotive industry had more power than the current streetcar companies. For example, "Detroit manufacturers began to lobby intensely"³ for more roadway construction during the 1920s to meet the growth in auto ownership. With the increase in traffic, streetcar companies started to have issues with service quality. Though streetcars were still used by a large proportion of the city residents into the 1930s, those riders were discontent with streetcar companies and services.⁴

15. 'Streetcar Strike' 1920 Younge St. Toronto [Left]

16. Curvy cars share bridge with streetcar during rush hour. 1930. New York [Right]



During the First World War, wartime prosperity encouraged physical expansion of cities and development of manufacturing districts into suburban neighbourhoods. At the same time, “many urban streetcar lines began to wane in the profitability because the lines suffered from a combination of build-out, overextension, poor management, and aging equipment.”⁵ City officials and patrons initially urged streetcar rail-lines to expand their services into these new areas, but transit companies refused the requests of expanding the rail-line. The cost of expanding the lines was more than they could afford. When streetcar companies reached out for financial aid from the Government, they were passed-over in favour of the immediate benefits of social welfare versus any long term benefits of transit.⁶ Therefore, the car became the primary means for new suburban growth. In the public and government’s opinion, “[the car] met old transportation needs better than existing alternatives and offered new possibilities for movement.”⁷

By the end of 1920s most city residents had stopped using transit since they had already switched to the automobile.⁸ An example of that is found in American city of Los Angeles (L.A.). L.A., for instance, had boasted a very extensive interurban streetcar rail system by the end of 1911 with 975 miles of rail track. Most of the transit lines had been built as part of land speculation and development connecting them to new suburban growth. This rail-line system, however, did not increase the number of people entering the urban core of L.A. The amount of transit riders dropped 24% from the mid-1920s to the early-1930s regardless of the city’s population growth.⁹ Meaning that even with an increase of population and a very extensive transit system, residents in L. A. chose to use a car instead.

The last blow to major transit was the reaction to the ‘General Motors Streetcar conspiracy.’ Taking place in the mid-1930s to 1949, General Motors’ (GM) CEO, Alfred Sloan Jr., facing a loss of ridership sales a decade earlier, sought a way to increase the need for automobiles. GM started a shell company called National City Lines (NCL) with the intention of gutting mass-transit services and promoting the need for gas-powered buses and automobiles.¹⁰ After its start GM then partnered with Standard Oil, Phillips Petroleum, Firestone Tire and Rubber, and Mack Truck. After the conspiracy ended, however, those who were involved in creating NCL were fined

17. Old Pacific Electric red cars sit at Terminal Island junkyard, awaiting dismantling to become scrap metal. 1961. Los Angeles, California



by the American Supreme Court. However, the fine was only a very small amount as it was deemed too late to do anything about the gutted transit systems. This was arguably an inevitable event,¹¹ as the service quality of mass-transit systems were lagging behind the car in meeting the needs of urban residents. The loss of the mass-transit might have seen more resentment if cities, and especially their residents, were not already eagerly moving policy and urban developments away from mass-transit in favour of the automobile.

The city's move away from using mass-transit established the start of physical auto-dependency. Before this, the only other part of the city that could be considered auto-dependent was low-density suburban residence designed solely for the car. Suburban factories were the beginning of major suburban employment opportunities, and were not only away from city cores but away from transit lines also. This meant a major urban typology change. Now not only residents living outside of the city core and away from transit lines needed a car, but also employees working at these factories away from any access to previous transportation.

Note

- 1 MARK S. FOSTER. *FROM STREETCAR TO SUPERHIGHWAY* (PHILADELPHIA: TEMPLE UNIVERSITY PRESS, 1981) p. 19
- 2 FOSTER. p. 18
- 3 STEPHEN F. VERDERBER. *SPRAWLING CITIES* (ABINGDON, OXON; NEW YORK: ROUTLEDGE, 2012) p. 16
- 4 MARK S. FOSTER. *A NATION ON WHEELS* (DENVER: UNIVERSITY OF COLORADO, 2003) p. 18
- 5 STEPHEN F. VERDERBER. *SPRAWLING CITIES* (ABINGDON, OXON; NEW YORK: ROUTLEDGE, 2012) p. 15
- 6 MARK S. FOSTER. *FROM STREETCAR TO SUPERHIGHWAY* (PHILADELPHIA: TEMPLE UNIVERSITY PRESS, 1981) p. 139
- 7 MARK S. FOSTER. *THE AUTOMOBILE AND AMERICAN CULTURE* (ANN ARBOR: UNIVERSITY OF MICHIGAN PRESS, 1983) p. 90
- 8 FOSTER p. 27
- 9 FOSTER p. 95
- 10 TERRY TAMMINEN. *LIVES PER GALLON* (WASHINGTON: ISLAND PRESS/SHEARWATER BOOKS, 2006) p. 110-111
- 11 JEFF SPECK, *WALKABLE CITY* (NEW YORK: FARRAR, STRAUS AND GIROUX, 2012) p. 141

2.e – Urban Decentralization: Distances in Architectural Space

Regardless of mass-transit's struggles with physical growth it was still a valuable system in promoting city cores. Despite the wealthy upper-class leaving the city core, the urban areas still had large populations. Although these residents were still the poor or marginalized, they still were living in the old city cores where the active social life used to be, and thus could still walk to the downtown. It is important to note that because these people were living in the urban areas they were the ones mostly using transit. However, new work opportunities were located away from city cores in reach of the car, preventing those relying on mass-transit from reaching it.

Cities, reacting to the growing popularity of the automobile, shifted infrastructure projects to meet the increasing demands of more automobiles. Urban planners emphasized the need for auto-centric layouts to match the increasing volume of cars (i.e. such as superhighways).¹ The popularity of automobiles and the physical growth of the suburbs demanded faster, cheaper, and easier access to and from that new growth. Long construction times and high construction costs meant that building new infrastructure for mass-transit was met with public criticism.² Therefore, urban planners and governments after the 1920s really started to promote urban decentralization. The American dream of owning a home had started to move the residential wealth from down, leaving uninfluent poor in its place. The new car commuters, along with their support, were all trying to squeeze into the city core for work

18. 'Interchange between the 105 and 110 freeways' Los Angeles, CA [Left]

19. 'Route 5' 2011. Buffalo, NY [Right]



and pleasure. Cities felt that moving the remaining population out of the downtowns district was the best thing for the city.³

Cities were not the only ones to support decentralization. For instance, on January 1st 1946, the Canadian Government created the Central Mortgage and Housing Corporation, later changed to 'Canada' Mortgage and Housing Corporation (CMHC). The purpose of the CMHC was to administer the National Housing Act and the Home Improvement Loans Guarantee Act.⁴ The act was to,

“promote housing affordability and choice, to facilitate access to, and competition and efficiency in the provision of, housing finance, to protect the availability of adequate funding for housing at low cost, and generally to contribute to the well-being of the housing sector in the national economy.”⁵

What this meant was that the government of Canada was backing new construction of housing and repairs to modernize existing housing. The Canadian Government was also providing financial backing to loan and mortgage companies as well making direct loans to home owners.⁶ The CMHC and the NHA provided insurance on these mortgages for many wartime veterans and new immigrants who wanted to purchase new homes during the late 1940s and into the 1950s. During this time the federal government even provided

20. 'Suburbia' 2008 Colorado Springs, Colorado



21. 'Into LA' 1961. Harbor Freeway and how its arteries intertwine with the heart of downtown Los Angeles. [Left]

22. 'Parking Lot' 1974. During a bus strike in May 1974, Washington DC 250,000 people were forced to use their cars to get to downtown. [Right]



grants to tear down older existing buildings in order to construct newer modern housing complexes in their place.⁷ With the help of the Canadian Government, many people were able to buy new homes. These homes however, were not located in the older city core, but instead were part of the expanding suburbs.

As new types of work increased in urban cities, the land value increased and more skyscrapers were built. The business and government buildings relocated the remaining downtown residents to the undesirable locations of the city.⁸ This effectively eliminated the remaining residences from the downtown core. In order to finally demolish the remains of the former old pre-industrial city,



the first president of the American Society of Planning Officials “actively promoted the concept that existing urban areas should be completely eradicated, then rebuilt.”⁹ New modern buildings were to replace older historical structures. These new modern buildings would have then followed the ideals of the time: they would have been built for the sole purpose of working, not living. Then, in the 1950s, in order to meet an ever-growing demand of suburban automobiles, there was a flood of changes to the way automobiles moved through city centers. For example, along with street widening, most cities replaced the 2-way traffic streets with alternating 1-way traffic streets in an effort to accommodate the increasing volume of automobile traffic coming from the suburbs.

In creating an auto-centric urban environment in the urban downtown, roads that were previously mixed with pedestrians, cars, and transit became solely dedicated to automobiles. This

drove away pedestrians with higher speeds, noise, and pollution. City downtowns “became automotive sewers.”¹⁰ Streets were redesigned for the movement of cars into and out of downtown as quickly as possible. City cores, once the center of a city’s active social life, had become unlivable. Not only unlivable, but they became empty zones where the only activity was cars driving though. With reduced residence and increasing daily commuters needing to park their cars, city downtown quickly became a mix of parking lots, and tall buildings, physical component of auto-dependency. People without a viable alternative means to get then workers needed to have a car to even access the downtown. The outward growth of suburban sprawl and decreasing urban city core reduced population densities below the level needed to support alternatives to the automobile. Unfortunately, higher operating costs of running transit required more people in order be priced competitively. More people mean lower fare cost per person but fewer people means that the face prices are raised to meet operating cost demands. The volume of people using transit was directly related to the ability of transit to operate; a vicious circle. In contrast, the car could be used by a single individual.

When the city began to support the growth in automobiles, urban life was generally reorganized both physically and socially, which

23. '261 Spadina' Toronto, Ontario. 1944



Auto-Centric Dependency:
How Transportation Affected North American Cities

continued to change people's needs for transportation.¹¹ For instance, "commercial goods in which families had purchased in former downtown shopping districts now had to be purchased at stores scattered throughout the suburbs."¹² By deliberately reshaping the urban fabric by the late 1920s and 1930s and decreasing the city's population, to facilitate commuting by car,¹³ cities reinforced their dependence on the automobile. This increased the amount of cars needed along with increasing the length and quantity of trips.¹⁴ As it stands now; "[e]very day, we make 10 to 15 trips by car."¹⁵ Automobile use is now the controlling aspect to how cities are built.

Note

- 1 MARK S. FOSTER. FROM STREETCAR TO SUPERHIGHWAY (PHILADELPHIA: TEMPLE UNIVERSITY PRESS, 1981) P. 81
- 2 RAYMOND A. MOHL, THE NEW CITY: URBAN AMERICAN IN THE INDUSTRIAL AGE, 1860-1920 (ARLINGTON HEIGHTS, ILL.: H. DAVIDSON, C1985) P. 33
- 3 MARK S. FOSTER. THE AUTOMOBILE AND AMERICAN CULTURE (ANN ARBOR: UNIVERSITY OF MICHIGAN PRESS, C1983) P. 26
- 4 HISTORY OF CMHC, CANADA MORTGAGE AND HOUSING CORPORATION, 2006. <CMHC-SCHL.GC.CA>
- 5 NATIONAL HOUSING ACT JUSTICE LAWS WEBSITE, 2014. <LAW-LOIS.JUSTICE.GC.CA/ENG/ACTS/N-11/FULLTEXT.HTML>
- 6 THE NATIONAL HOUSING ACT (1938), CANADA MORTGAGE, <CANADAMORTGAGE.COM/ARTICLES/LEARNING.CFM?DOCID=374>
- 7 HISTORY OF CMHC, CANADA MORTGAGE AND HOUSING CORPORATION, 2006. <CMHC-SCHL.GC.CA>
- 8 MARK S. FOSTER. FROM STREETCAR TO SUPERHIGHWAY (PHILADELPHIA: TEMPLE UNIVERSITY PRESS, 1981) P. 76
- 9 DOUGLAS MORRIS IT'S A SPRAWL WORLD AFTER ALL (GABRIOLA ISLAND, BC: NEW SOCIETY PUBLISHERS, C2005) P. 15-16
- 10 JEFF SPECK, WALKABLE CITY (NEW YORK: FARRAR, STRAUS AND GIROUX, 2012) P.178
- 11 MARK S. FOSTER. THE AUTOMOBILE AND AMERICAN CULTURE (ANN ARBOR: UNIVERSITY OF MICHIGAN PRESS, C1983) P. 91
- 12 SPECK PG95
- 13 SPECK PG94
- 14 NATIONAL RESEARCH COUNCIL (U.S.) DRIVING AND THE BUILT ENVIRONMENT (WASHINGTON, D.C.: TRANSPORTATION RESEARCH BOARD, 2009) P. 47
- 15 DOM NOZZI, ROAD TO RUIN (WESTPORT, LONDON: PRAEGER, 2003) P. 136

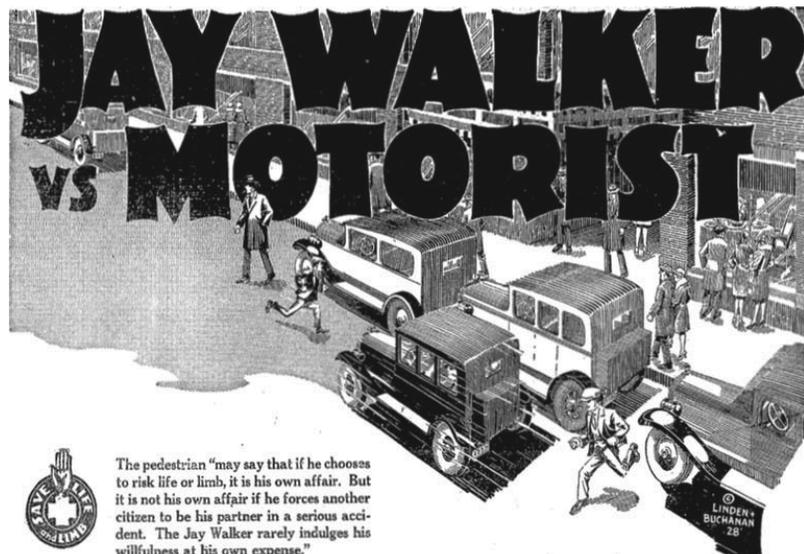
2.f – Auto-Dependency: Crisis of the Sprawl Environment

Before the energy crisis of the 1970s people could not conceive as to why someone would want to live in a downtown. As mentioned above, urban planners and governments widely supported decentralization:¹

“Moreover, the dependence upon automobiles was not the outcome of a corporate manipulation of consumer needs. Rather, it resulted from the reconstitution of transportation needs within the spatial context of a metropolitan society. The automobile became the basic form of travel.”²

Urban planners, believing that they could control automobiles, started designing and building wider streets to help with the flow of traffic.³ Unfortunately, with their focus on such improvements though the urban fabric, they started to counteract the quality of life on those streets, even abolishing it. During the 1920s there was even a very active program designed to move people off the road. Initially, the term ‘jay walking’ was an insult offered by drivers as way to shame pedestrians ‘Jay’ being a disparaging term used for the uneducated. In addition, in January 1925 the L.A. City Council put an ordinance into effect that would legally prohibit pedestrians from crossing the street except at designated crossings. This ordinance was largely lobbied by the Automobile Club of America to the Los Angeles Traffic Commission.⁴ Currently, cities think of life ‘on the street’ as the activity of pedestrians on the sidewalk. Before

24. ‘Jay Walker vs Motorist’. Newspaper PSA warning to jay walker which was run in newspapers across the country 1930



Jay walking became a legal offense, however, there were a large variety of activities happening on the street. These disappeared as conditions on the street deteriorated, in support of cars, and pedestrians were discouraged from being in, on, or around the streets.

When walking became 2nd rate to the automobile in downtowns, the once busy and thriving social life was devastated. Without pedestrian or transit to support housing density in downtowns, the auto-centric suburbs gained control over how the downtowns were designed, forcing them to meet their needs and the needs of the automobile. More specifically, the sheer amount of space needed for the car to drive and park essentially devastated cities:



25. 'Indy Downtown Parking' 2012
Downtown Indianapolis, Indiana map
highlighting parking lots.

“A parking map or aerial photograph of any American City center reveals devastation as obvious as that resulting from a London Blitz Saturation bombing is the only adequate comparison. Hundreds of buildings around the immediate center have been wiped out. In the photo the rubble seems to have been cleared by vast bands of glistening beetles who wait disciplined and ready in the empty block to clear the debris of unbombed sections.”⁵

26. 'Richmond at John' Richmond is a 1-way street which has discouraged any street activity, thus it remains empty. Toronto, ON 2013. [Left]

27. 'Queen at John' Queen has 2-way traffic along with streetcar traffic and has an active street life with many shops and stores. Toronto, ON 2013. [Right]

Gone was the walking city, to be replaced by auto-centric high-rises surrounded by parking. Without life street in the city, downtown had become a place to visit and leave never to stay. What that means, in others words, is that between [going to and from] work and home there is no social life and no social connection. Transportation historian Jane Kay states: "public space, the stage of social life, is destroyed by our auto-oriented design that



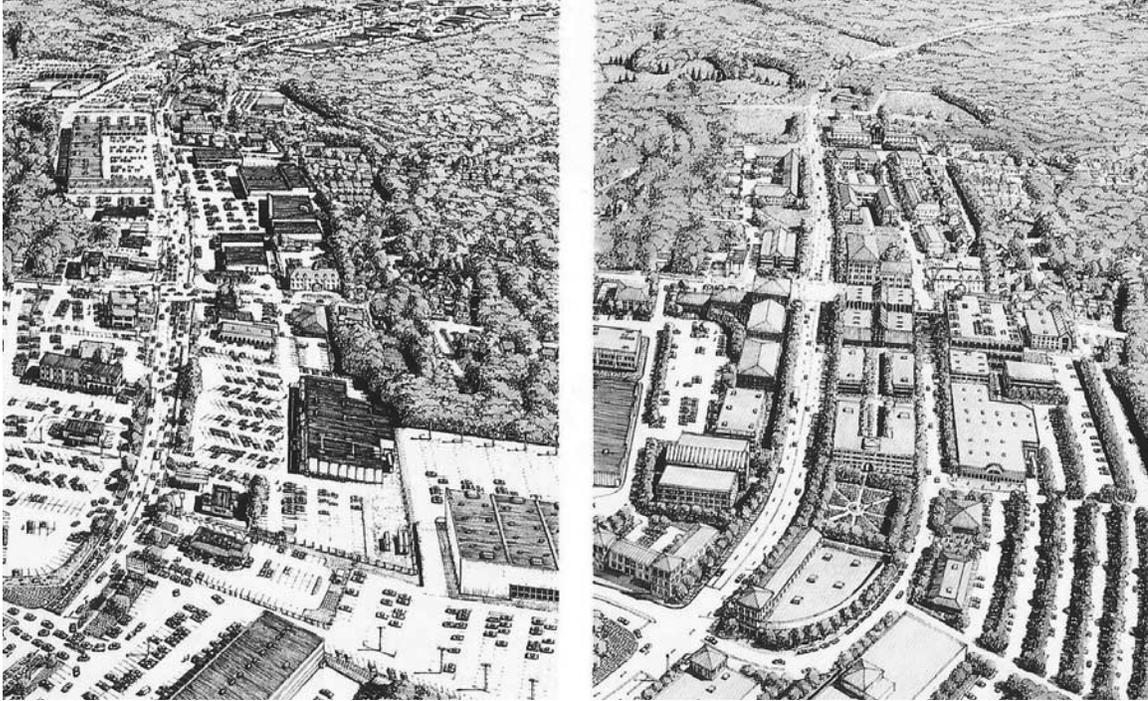
nullifies walking and intermingling."⁶ The cost of that loss of social interaction, according to Travis Price, "is the toll of soullessness."⁷ He goes one to say that "[t]he suburbs' only community centers are the strip malls." It should be noted that, as stated earlier by Stacy Mitchell, strip malls are designed for people to shop then leave, not linger and socialize. Douglas E. Morris builds on this remark, stating, "We have supermarkets and shopping centers ... but the people who wander in these places do not know one another. Our public existence is one anonymous moment after another."⁸ Furthering that he says, "sprawl avoid[s] detection by the general public as the root causes of many of our personal and societal woes. However ... our physical landscape has an irrefutably negative impact on human and societal development."⁹ In spreading out the physical environment, the citizens of North American cities have not only separated themselves from each other, but from society as a whole. What we are left with is physical and psychological separation, in which cars shuttle individuals in a metal casing, closed off from others, "between controlled and enclosed zones,"¹⁰ where everyone is living independent from each other. Succinctly put:

“Human relationships had been based on personal, face-to-face contracts, and the expanding city characterized looser and more impersonal human relationships. By leaving the city core and sub-urbanites were united in that they wished to escape the conditions of the central core, often creating weak, formless community life as oppose to a cohesive community.”¹¹

The final result has been multi-lane roadways and open parking lots, creating an environment unpleasant to pedestrians and thereby forcing them away. These urban design changes to the city fabric have also – ironically - altered the use of the car: driving had now become less about the freedom to drive and more about the need to. By example, “in Los Angeles, for instance, it is rare to find districts where people can shop and work within walking distance, or a short bus ride, from their homes. The resulting over-dependence on the private car and the freeway system is inevitable.”¹² The separation brought on by the American Dream of owning a house and a car has changed the city urban fabric and created auto-Dependency.

Note

- 1 MARK S. FOSTER. FROM STREETCAR TO SUPERHIGHWAY (PHILADELPHIA: TEMPLE UNIVERSITY PRESS, 1981) p. 143
- 2 MARK S. FOSTER. THE AUTOMOBILE AND AMERICAN CULTURE (ANN ARBOR: UNIVERSITY OF MICHIGAN PRESS, C1983) p. 100
- 3 MARK S. FOSTER. FROM STREETCAR TO SUPERHIGHWAY (PHILADELPHIA: TEMPLE UNIVERSITY PRESS, 1981) p. 107
- 4 PETER D. NORTON. STREET RIVALS: JAYWALKING AND THE INVENTION OF THE MOTOR AGE STREET (TECHNOLOGY AND CULTURE, VOL. 48, #2, APRIL 2007)
- 5 KENNETH R. SCHNEIDER. AUTOMOBILE VS MANKIND (NEW YORK: NORTON, 1971) p. 58
- 6 MARK S. FOSTER. A NATION ON WHEELS (DENVER: UNIVERSITY OF COLORADO, 2003) p. 11-12
- 7 THE ARCHAEOLOGY OF TOMORROW Pg19
- 8 DOUGLAS MORRIS. IT’S A SPRAWL WORLD AFTER ALL (GABRIOLA ISLAND, BC: NEW SOCIETY PUBLISHERS, C2005) p. 12
- 9 MORRIS. p. 13
- 10 CATHERINE LUTZ. CARJACKED (NEW YORK” PALGRAVE MACMILLAN, 2010) p. 146-147
- 11 RAYMOND A. MOHL. THE NEW CITY: URBAN AMERICAN IN THE INDUSTRIAL AGE, 1860-1920 (ARLINGTON HEIGHTS, ILL.: H. DAVIDSON, C1985) p. 39
- 12 MARGARET CRAWFORD, MARTIN WACHS. THE CAR AND THE CITY (ANN ARBOR, UNIVERSITY OF MICHIGAN PRESS. 1992) p. 260



CHAPTER 3

1. 'Before and After' Hand drawn and color rendered proposal showing the difference between a commercial strip to that of a compact, clustered development.

This chapter will look at the response to the conditions of auto-dependency in North American cities. Delving into what potentially could help reduce auto-centric design, this chapter will finish with an analyzing some newer urban movements that promote urban development and urban habitation.

3.a – Auto-Dependency: Recognizing and Reacting

At this point an argument must be made that the automobile is here to stay. It is now vital to North American cities and will remain a major part of its industry and culture. We can, however, argue that an alternative approach to designing urban cities could improve the circulation of the car. Doing so means putting more activities and services within walking distance so that people do not have to drive as far and as often.¹

Recognizing the effect of urban decentralization and the spread of the city into the suburbs, a minority of urban/transportation planners in the mid-to-late 1930s argued that abandoning the city centers would only create social and economic problems. Despite recognizing the potential dangers of abandoning downtowns, an

Urban Land Institute study in 1940 showed that nearly 1/3 of all privately owned lots were vacant within the city limits.² However, the impact of urban decentralization was already experienced by 1936. A writer for *Fortune magazine* had commented on “how the automobile had damaged the urban landscape by promoting blighted areas and cheap architecture, it had also ravaged the psyches of urbanites with smash-ups, killings, and increasingly unpleasant traffic jams.”³ Another minority of urban/transportation planners were against elevated roadways and superhighways, expressing that even though these would remove the traffic from the ground, elevated roadways and superhighways still emptied out into the cores of downtowns – as well as, cut through cities, woodlands, and quiet residential areas.⁴ Unfortunately, these important foresights remained minorities till the effects of the 1970s oil crisis, where an oil embargo showed how dependent North America was on fuel for everyday life.

2. 'Amagertorve, 1953' Prior to becoming a pedestrian street in 1962. Copenhagen.



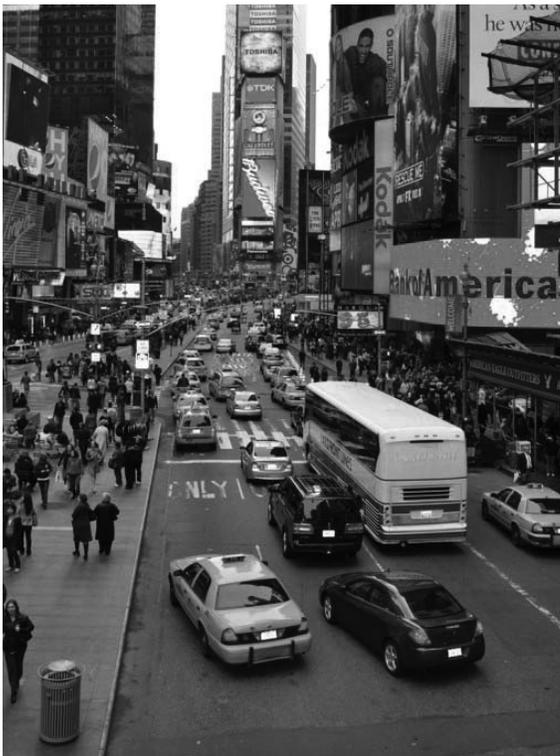
3. 'Amagertorve, 2013' 51 years of being car free. Copenhagen.



During the 1980s in an energy-short world, few transportation planners talked about what caused the decentralized of the city's downtown. Instead, they focused on space-saving and energy-efficiency designs along 'high-density' traffic corridors.⁵ Transportation planners were so adamant about keeping the needs of the automobile fed them prevented any truly effective designs. However, a different approach was needed. One approach was a 'Road Diet.' The Road Diet required taking a standard four-lane street and replacing it with a three-lane street with the center lane for left turn. More importantly, the Road Diet did not limit vehicles capacity, required less space, and allowed continuous traffic flow while maintaining average speed.⁶ Another approach to rethink the need to create parking spaces, to meet the volume of traffic seems illogical as a solution to traffic congestion, because parking downtown encourages more people to drive downtown for parking.⁷ Impact-wise, parking downtown has destroyed its environment: "huge asphalt parking lots and sterile parking garages create dead zones."⁸ In *The Death and Life of Great American Cities*, 1961, Jane Jacobs outlines how car-dependency has brought about isolation and separated community.⁹

4. 'Times Square spring 2009' Before being converted to pedestrian traffic only. [Left]

5. 'Times Square summer 2009' After being converted. [Right]

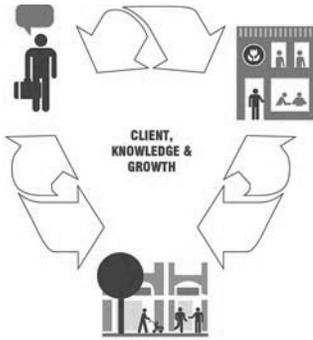


According to the Florida Center for Community Design and Research “the average maximum reasonable walking distance ... ranges from 1/4 mile to one mile.”¹⁰ Therefore, redesigning/revitalizing the downtown cores of a city by decreasing the amount of space residents need to live comfortably, in addition to increasing the quality of mass-transit cities, can reinforce people’s ability to live without car. Therefore, as density increases in an area it opens up opportunity for more work (i.e. shops to feed and clothe people), commerce, and leisure. This applies in dense areas especially if the amount of driving decreases as people stay closer to home and more people downsize their homes moving to smaller apartments.¹¹ Jan Gehl states that: “many social changes ... can explain the increased interest in getting about and staying in the city’s common space. Longevity, plentiful free time and better economy in general have left more time and more resources for recreation and pleasure.”¹² “At the same time this ‘urbanization’ is occurring, the City core is becoming less and less purely ‘central business district.’ In fact, we are encouraging people to live downtown.”¹³

Note

- 1 CARISSA BLUESONTE, ALEX STEFFEN. WORLDCHANGING (NEW YORK: ABRAMS, 2011) p. 207
- 2 MARK S. FOSTER. FROM STREETCAR TO SUPERHIGHWAY (PHILADELPHIA: TEMPLE UNIVERSITY PRESS, 1981) p. 146
- 3 FOSTER, p. 131
- 4 FOSTER, p. 112-113
- 5 MARK S. FOSTER. THE AUTOMOBILE AND AMERICAN CULTURE (ANN ARBOR: UNIVERSITY OF MICHIGAN PRESS, c1983) p. 35
- 6 JEFF SPECK. WALKABLE CITY (NEW YORK: FARRAR, STRAUS AND GIROUX, 2012) p. 166
- 7 DOM NOZZI. ROAD TO RUIN (WESTPORT, LONDON: PRAEGER, 2003) p. 50
- 8 NOZZI, p. 51
- 9 JANE JACOBS. THE DEATH AND LIFE OF GREAT AMERICAN CITIES (NEW YORK: RANDOM HOUSE, 1961) p. 55-73
- 10 DOM NOZZI. ROAD TO RUIN (WESTPORT, LONDON: PRAEGER, 2003) p. 64
- 11 CARISSA BLUESONTE, ALEX STEFFEN. WORLDCHANGING (NEW YORK: ABRAMS, 2011) p. 201
- 12 JAN GEHL. CITIES FOR PEOPLE (WASHINGTON, DC: ISLAND PRESS) p.27
- 13 ATTE WAYNE. TRANSIT, LAND USE & URBAN FORM (AUSTIN: UNIVERSITY OF TEXAS, c1988) p. 54

3.b - New Urbanism: Smart Growth



6. 'The Public Space, The Business and The Employee'

Building upon the published work of Jane Jacobs, urban planners, and architects, cities began to think about the social about their connections. More importantly, cities began to reconsider the role of the pedestrian in urban design and development in lieu of the car. Since this renewed interest in cities' conditions, in cities two movements have gained attention at a national level: *New Urbanism* (NU) and *Smart Growth* (SG). Both movements use different strategies to counter sprawl, increase density, mixed-use buildings, and contiguity to encourage nonautomotive travel.¹

In 1993, New Urbanism was chartered by a group of architects looking to create long-lasting and better-performing neighbourhoods.² The professionals involved were looking at combating the effect of urban sprawl.³ They believed that many of the related issues (i.e. environmental, health, financial, social) could be attributed to auto-dependency. Therefore, NU focused "on the traditional neighbourhood design of the pre-modern town or city."⁴ This meant creating walkable neighbourhoods as well as densifying sections of cities with mixed-use development.⁵ NU proponents believe that to "discourage sprawl is to foster cities that people love;"⁶ a growing support of planners, architects, and city officials are now looking to intensify and build up suburban/urban neighbourhoods in order to create "healthy regions and diverse, complete neighbourhood[s]."⁷

7. 'Historic Streetcar Neighborhood' Quill Architects. Maryland, Washington DC 2012. [Left]

8. 'Proposed Downtown' Quill Architects. Maryland, Washington DC 2012. [Right]

For example, 2012 CNU Charter Award for Mount Rainier, Maryland looked at re-inventing a historic streetcar neighbourhood.⁸ Mount Rainer, a major gateway to northeast Washington, DC, developed from a streetcar station - built in 1897 - for 50 years before



decentralization in the 1960s and 1970s. The population decline occurred shortly after the removal of that streetcar line in 1958. Afterwards, key elements in the downtown were removed and thinned to make space for the car. However, local city and county governments developed a plan for the downtown area that included reintroducing pedestrian sidewalk, cycle lanes to coincide with the DC streetcar extension into the area.

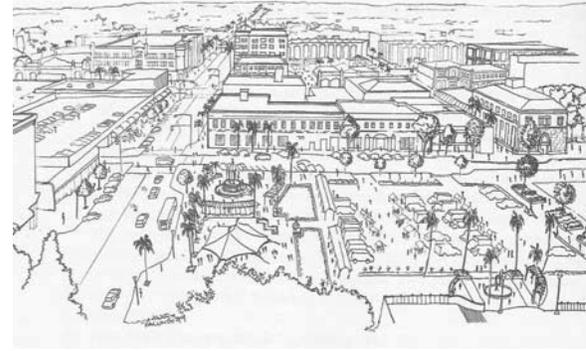
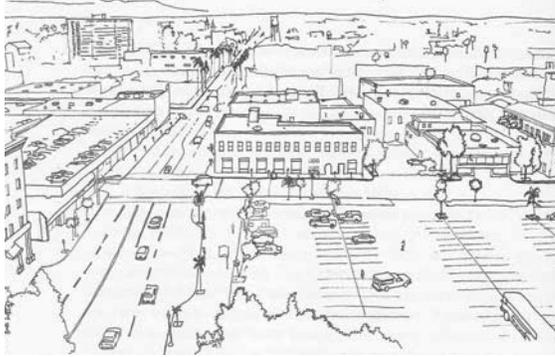


9. 'Pedestrian Sidewalk' Quill Architects. Maryland, Washington DC 2012.

In addition, the establishment of Smart Growth (SG) in the 1990s “changed the development debate from ... growth/no growth to focus on how and where new development could best be accommodated.”⁹ That is to say, SG wanted to move away from new, large commercial and housing developments (i.e. subdivisions, big-box store plazas) and look instead at to look at development projects that would benefit existing neighbourhoods. Therefore, SG focuses on expanding existing communities and neighbourhoods. According to the U.S. Environmental Protection Agency,

“by designing neighbourhoods that have shops, offices, school, churches, parks, and other amenities near homes, communities are giving their residents and visitors the option of walking, bicycling, taking public transportation, or driving as they go about their business.”¹⁰

Smart Growth, tries to “conserve resources by reinvesting in existing infrastructure and reclaiming historic buildings.”¹¹ This movement is aimed at enhancing and adding to existing urban spaces, “creating vibrant places to live, work and play” as a result.¹²



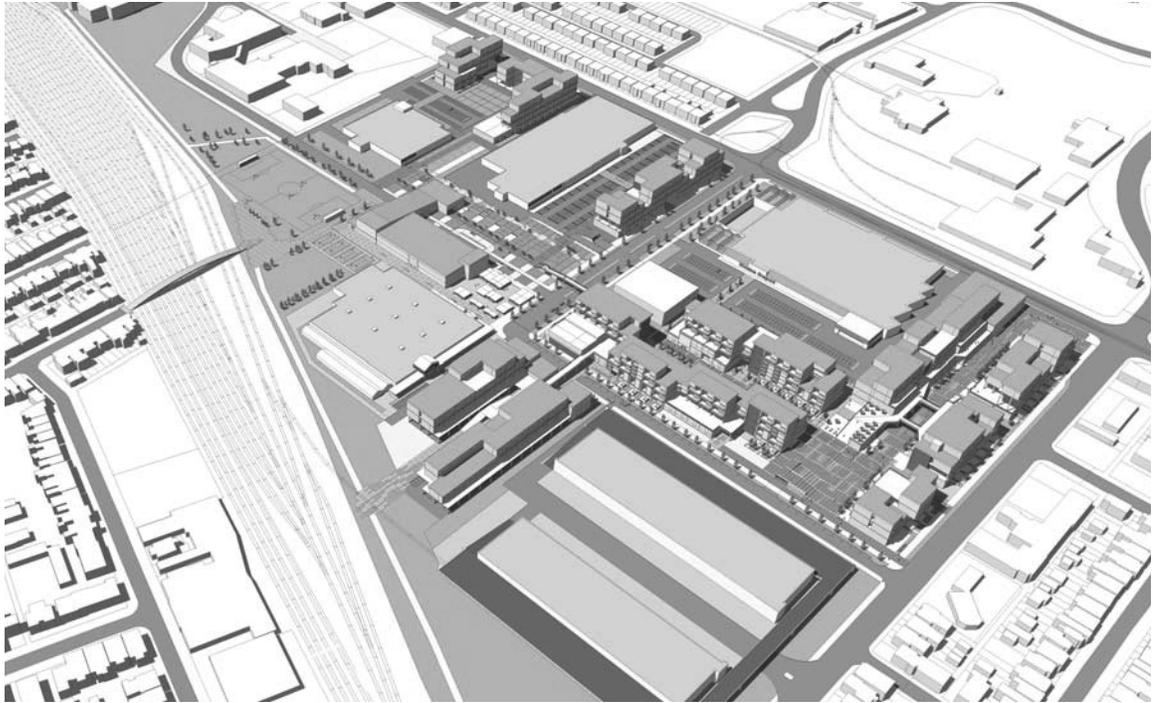
10. 'Before' Existing downtown. San Bernardino, California. [Left]

11. 'After' Proposed public square. San Bernardino, California. 1998 [Right]

Both New Urbanism and Smart Growth are proponents of reducing auto-dependency by creating urban design alternatives to the car and car-focused cities. Densifying urban and suburban areas and increasing the proximity of goods and services reduces the need to drive. Both these ideologies are looking at returning neighbourhoods to the once vibrant social areas they were during the preindustrial city. This would provide residents with the choice of how to travel; no longer would distance, or environment factors, force them to drive.¹³

Note

- 1 NATIONAL RESEARCH COUNCIL (U.S.) DRIVING AND THE BUILD ENVIRONMENT (WASHINGTON, D.C.: TRANSPORTATION RESEARCH BOARD, 2009) p. 24
- 2 CHU HISTORY, CNU, 1997-2011. <CNU.ORG>
- 3 NEW URBANISM | THE CASE FOR LOOKING BEYOND STYLE <METROPOLISMAG.COM>
- 4 JUDITH DE JONG, NEW SUBURBANISMS (MILTON PARK, ABINGDON, OXON; NEW YORK: ROUTLEDGE, 2014) p. 178-179
- 5 LEARN ABOUT NEW URBANISM, CNU, 1997-2011. <CNU.ORG/INTRO_TO_NEW_URBANISM>
- 6 NEW URBANISM | THE CASE FOR LOOKING BEYOND STYLE <METROPOLISMAG.COM>
- 7 STRATEGIC PLAN 2012, CNU, 1997-2011. <CNU.ORG>
- 8 CNU CHARTER AWARDS 2012, CNU, 1997-2011. <CNU.ORG>
- 9 NATIONAL RESEARCH COUNCIL (U.S.) DRIVING AND THE BUILD ENVIRONMENT (WASHINGTON, D.C.: TRANSPORTATION RESEARCH BOARD, 2009) p. 22
- 10 ABOUT SMART GROWTH, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, <EPA.GOV/DCED/ABOUT_SG.THM>
- 11 IBID.
- 12 IBID.
- 13 DOM NOZZI, ROAD TO RUIN (WESTPORT, LONDON: PRAEGER, 2003) p. 68



CHAPTER 4

1. Perspective Sketch Rendering of The Stockyards Redevelopment. Shown is mixed use building surrounded by pedestrian pathways.

This chapter will introduce my proposed architectural project. I will start with a generalized overview of the site in conjunction with a recent urban moment, work towards the more specific details of the projects and its components.

4.a - Project Proposal Brief

The proposed project, The Stockyards Redevelopment, uses principles of Smart Growth (SG) set up by the U.S. Environmental Protection Agency. These are:¹

1. Mix land uses
2. Take advantage of compact building design
3. Create a range of housing opportunities and choices
4. Create walkable neighbourhoods
5. Foster distinctive, attractive communities with a strong sense of place
6. Preserve open space, farmland, natural beauty, and critical environmental areas
7. Strengthen and direct development towards existing communities
8. Provide a variety of transportation choices
9. Make development decisions predictable, fair, and cost effective
10. Encourage community and stakeholder collaboration in development decisions

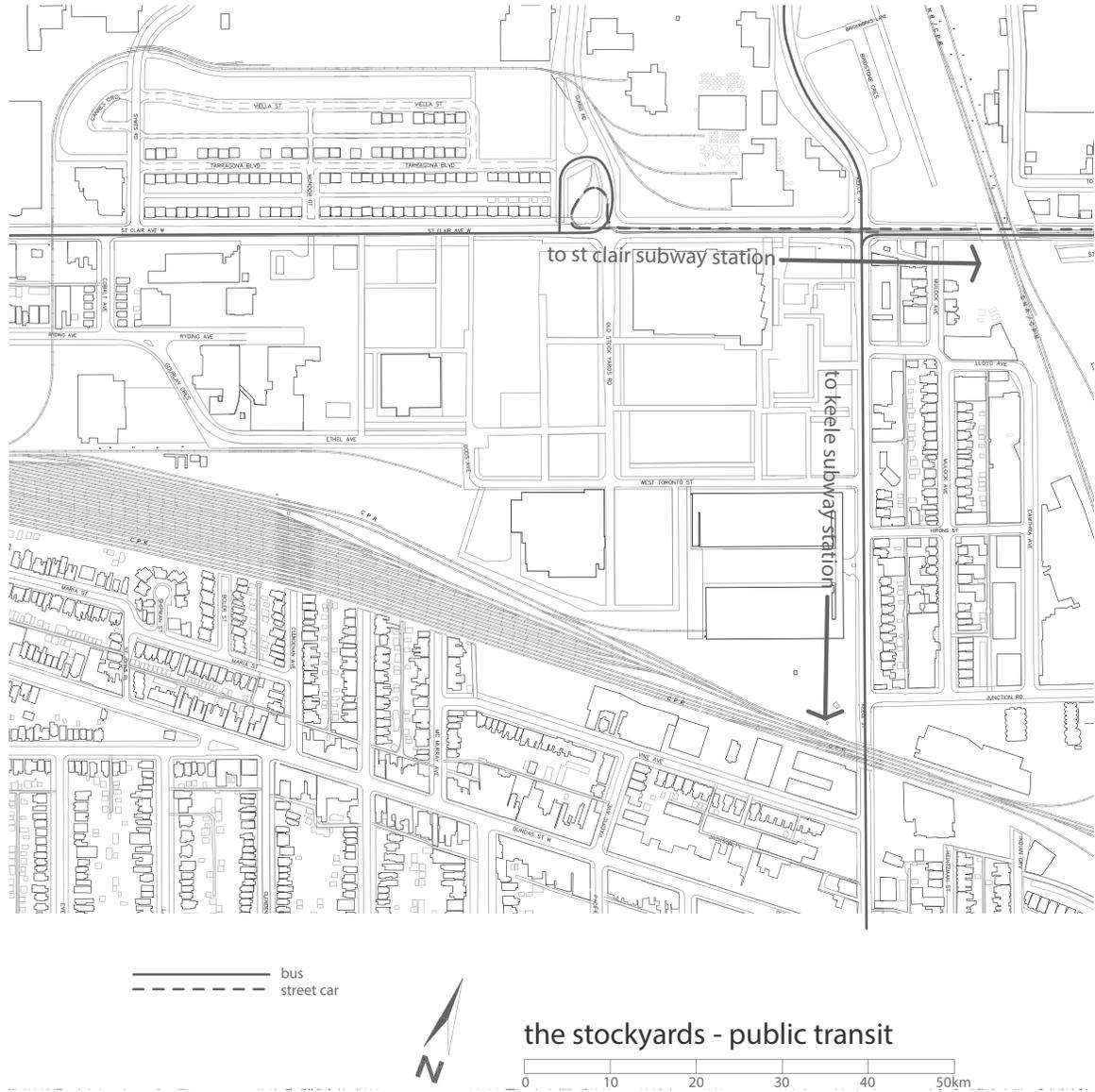
Principles #1,3,4,5,7, and 8 will help guide the design process and to help make decisions on intensify the existing site. The site could have been a suburban site in Toronto, to which I would then propose extending a streetcar and subway lines to reach. However, SG principle #8 suggests providing a variety of transportation choices. So, as oppose to proposing new systems, I have selected to conserve resources by choosing a site that is already adjacent to an existing streetcar line as well as a direct bus route linking the site to a subway system (See figure 2 & 3).

The project proposes, therefore, a site that is near a growing neighbourhood of The Junction. Relating to SG principle #7, this proposal is directed at expanding the community of The Junction, thereby strengthening it. Thus, this proposal will include a mixture of residences, shops, offices, parks and amenities to provide a variety of activities that are accessible by foot, bicycle, public transit, and even by car if they choose. Creating a variety of different programs and ways to access the sites allows for a larger variety of residents (e.g. senior citizens looking to downsize or move into the city, as well young couples trying to buy their first home) into the site, thus creating a diverse vibrant place to live, work and play.

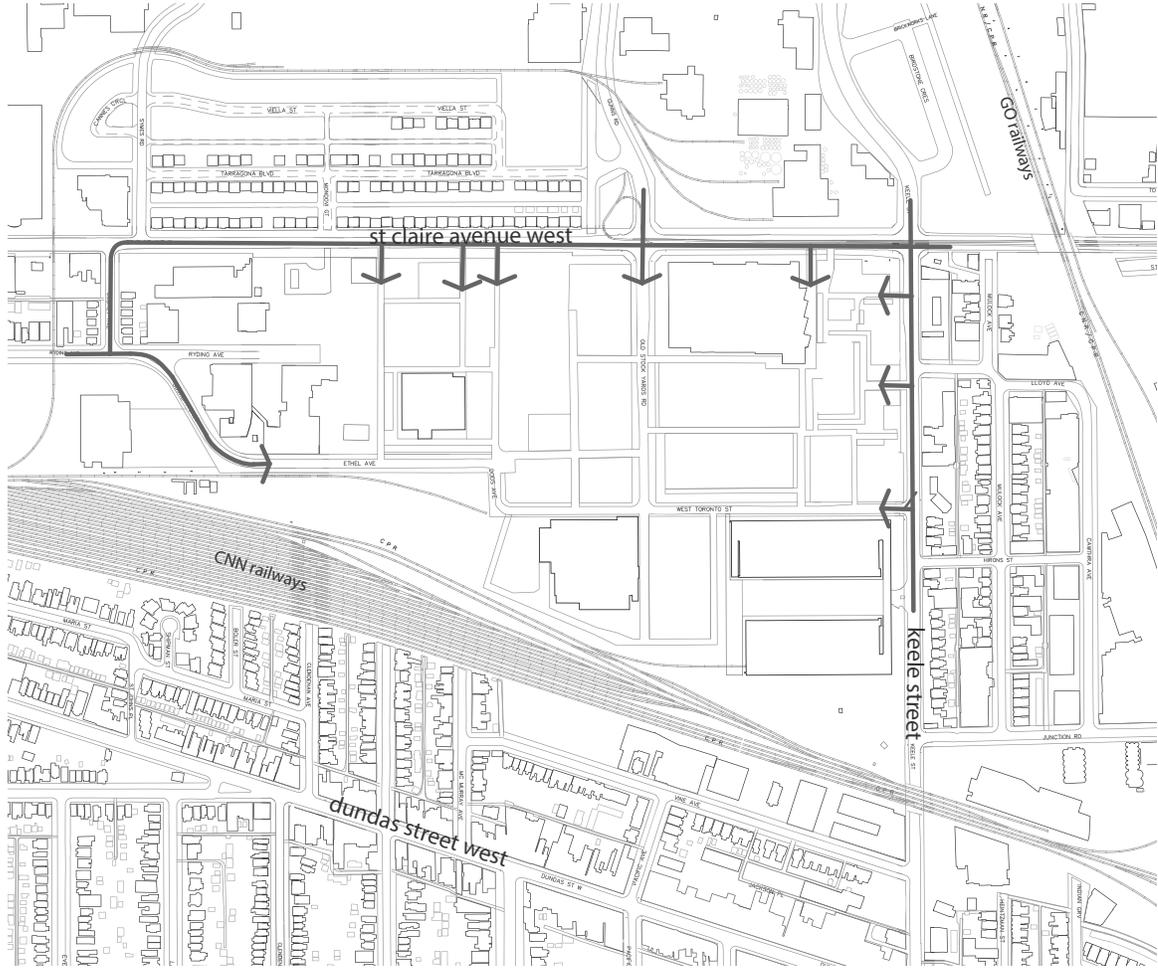
Note

1 [ABOUT SMART GROWTH](http://EPA.GOV/DCED/ABOUT_SG.THM), UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, <EPA.GOV/DCED/ABOUT_SG.THM>

2. Map illustrating access to public transit



3. Map illustrating car access



→ car access routes



the stockyards - car access



4.b The Stockyards Redevelopment

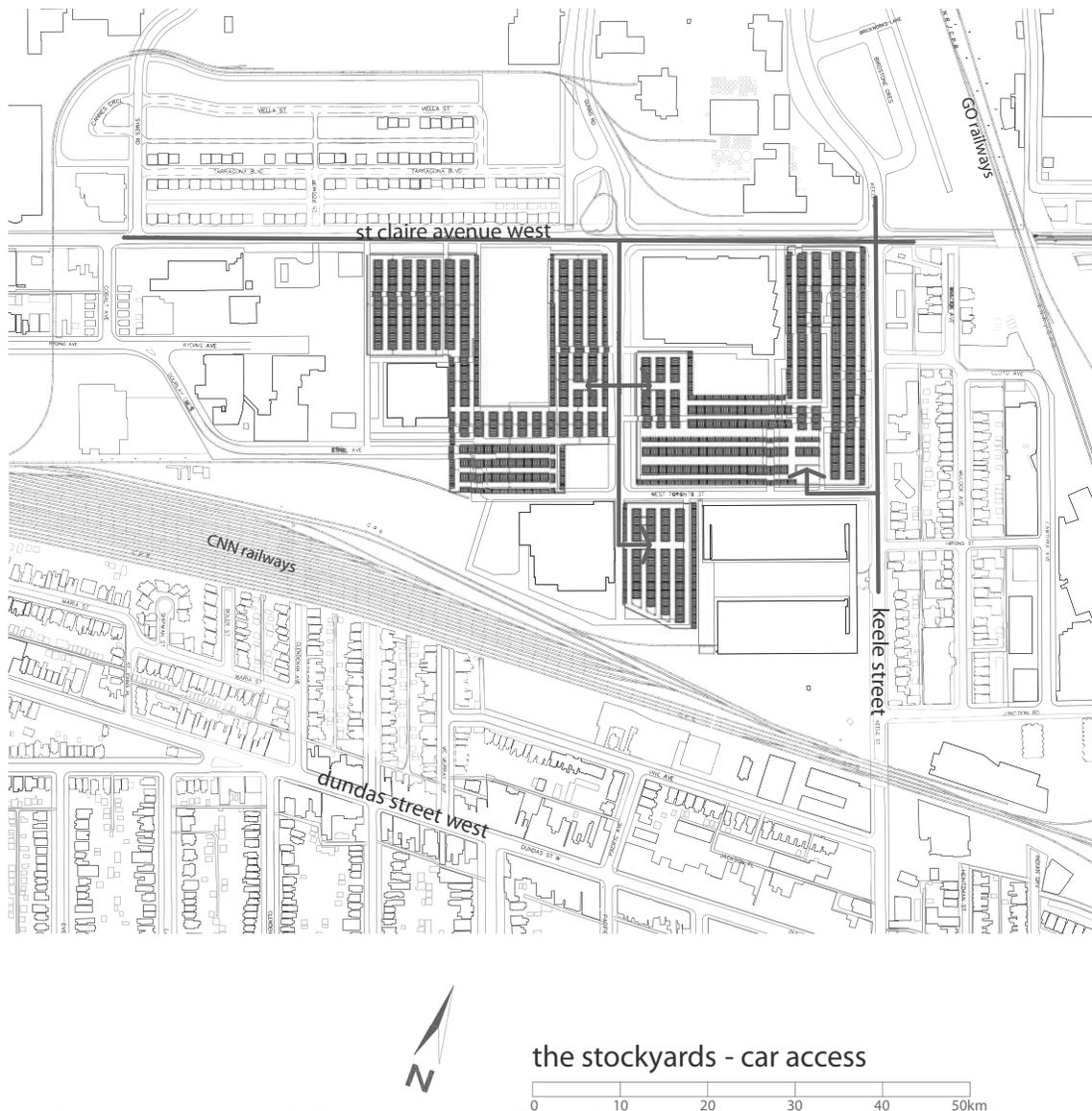
The Stockyards Redevelopment looks at intensifying the low-density auto-centric environment of The Stockyards Plaza development by balancing the walkability and drive-ability of the site. While the current structure does have sidewalks, there is no direct access between the buildings, and as a result discourages any use other than the car to go from one store to another. Not only that, but the existing environment is unwelcoming for the pedestrian. With analyzing the site we can see that the majority of it is designed and set up for the car. To illustrate, most stores are located away from the roadways and if they are adjacent to roads, their entrances are located closer to the parking lots. Both the roadways and the parking lots force people to cross large sections of pavement to reach the stores.

4. Site Photos illustrating auto-centric conditions of The Stockyards Plaza, March 2014 [Above]

5. The Stockyards Plaza, March 2014



In response to this, and as mentioned above, the proposal seeks for the site seeks to intensify the low-density development while keeping the site's auto-centric integrity, in addition to promoting the walkability of the site. Corresponding with SG principle #1, since the big-box stores already exist, the question becomes what we can introduce between the existing big box stores that would encourage people to stay and to actively engage on the site? To answer this question we will go through several of components that will illustrate ways of building a neighbourhood.



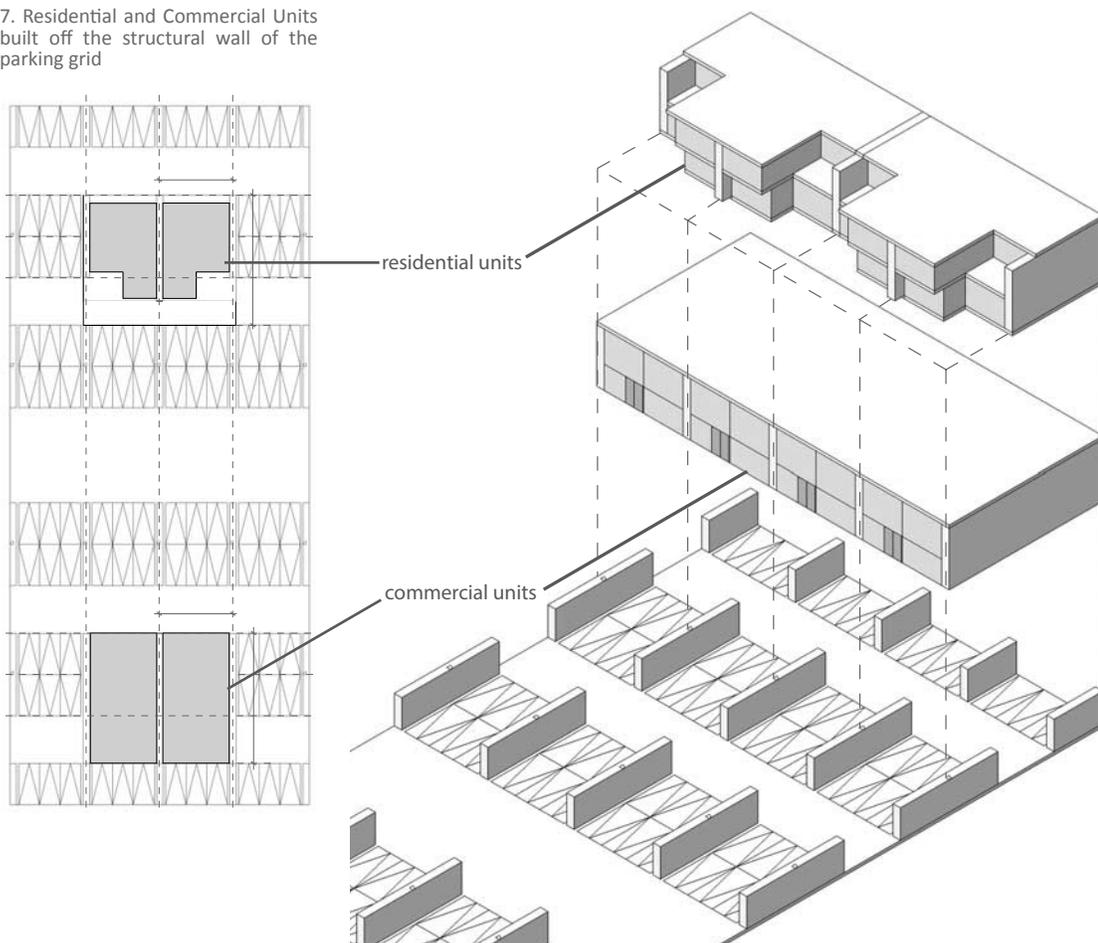
6. Site plan with relocated from on grade parking to underground parking.

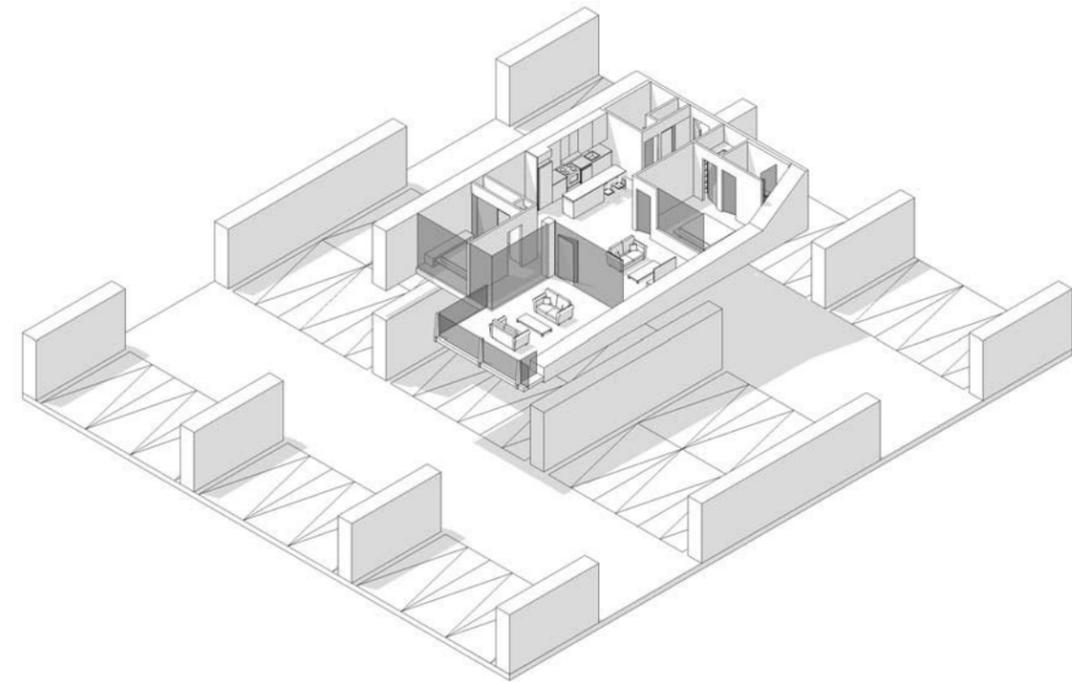
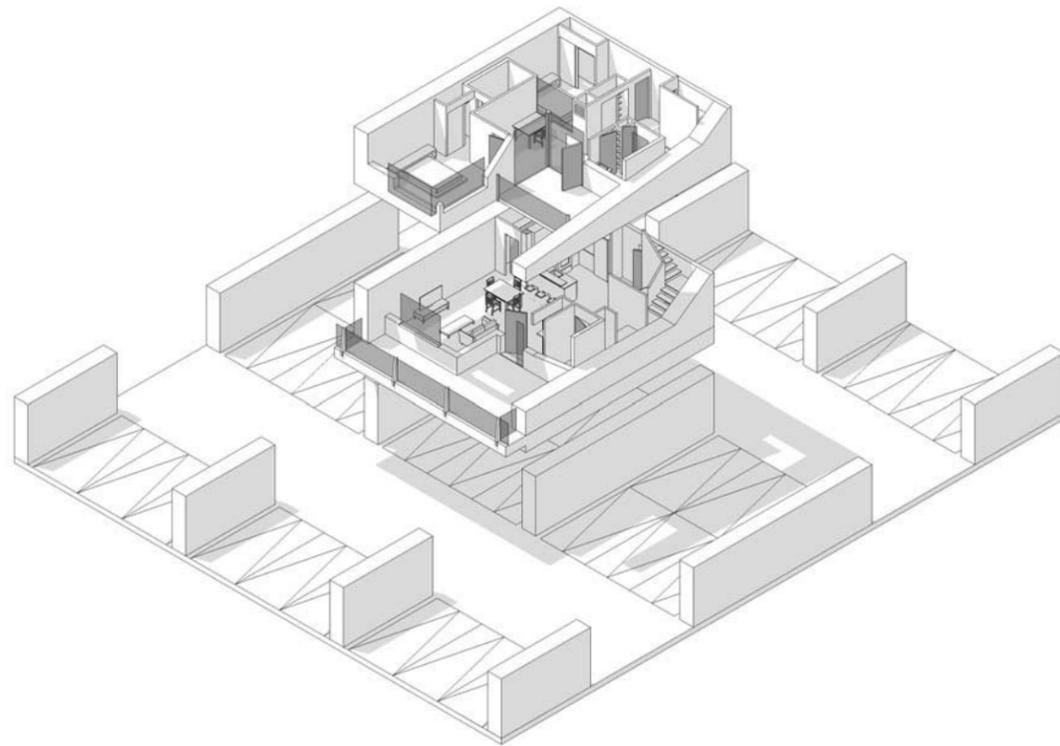
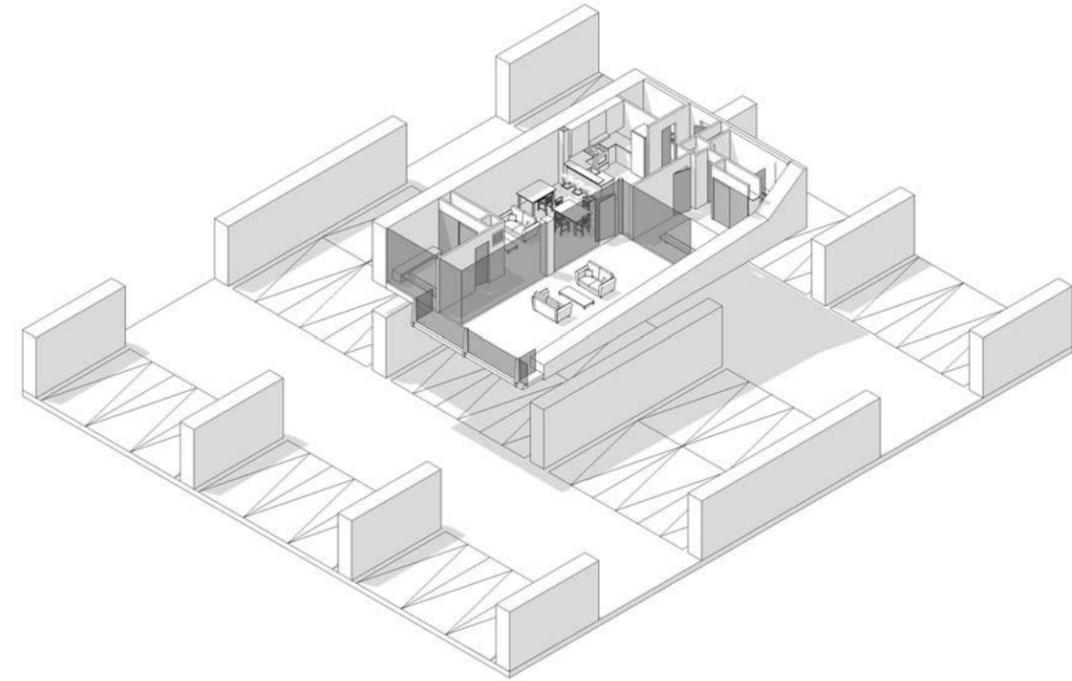
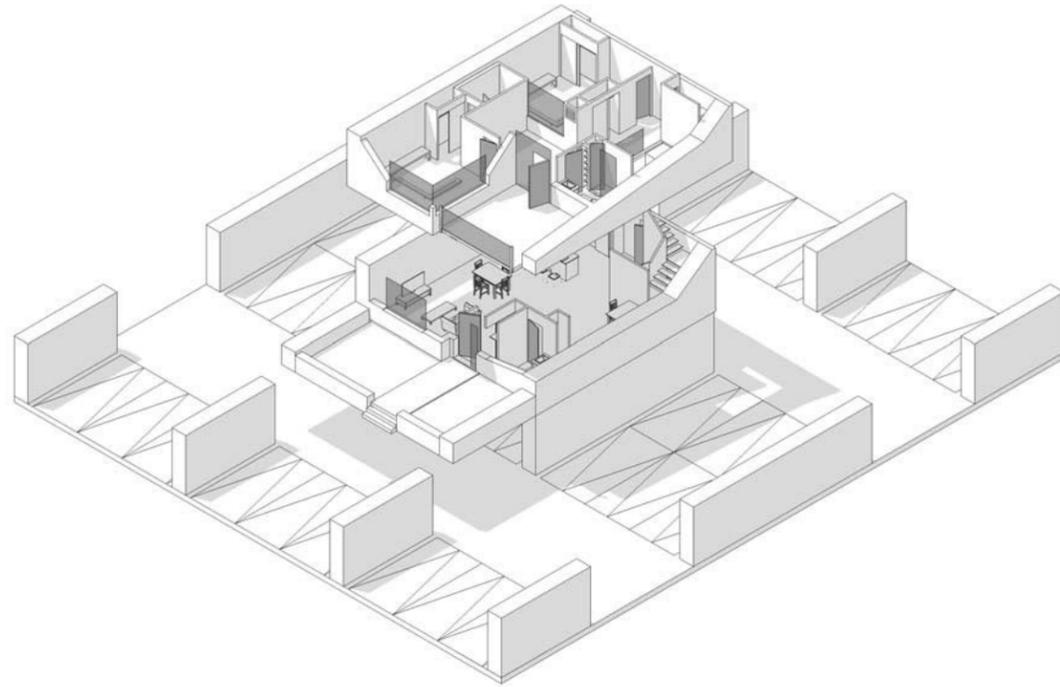
First, as an auto-centric site, the project proposes to locate the majority of the parking below grade to open up the surface parking for development. The below grade parking then becomes a grid that will help to create and structure the development above. In figure 7, we can see that the parking bays provide a standard repetitive unit that can be used throughout the entire site whether it is residential or commercial.

This brings us to the second component: the building units. To intensify the site the project will increase the number of commercial units as well as integrate residential units. As mentioned before, big-box store developments fall into a routine of only being used

between the hours of 9am-5pm. Thus, by adding residential units, as well as other commercial uses such as restaurants, the project will increase the usability of the site beyond the routine business hours. Given that people value their space at home, this project introduces a residential unit that incorporates the suburban condition into an urban environment. Figure 8 illustrates several different residential apartment units that are arranged in an order that offers a variety of housing opportunities across the site, as per SG principle #3. The additional commercial spaces will vary between stores, office spaces, restaurants, salons, cafes, and bookstores, and will have the same open layout in order to allow business to insert their own designs. These commercial spaces, however, will not only increase the usability of the site they will also provide work for people living in the community, as well as attract business from other parts of the city.

7. Residential and Commercial Units built off the structural wall of the parking grid



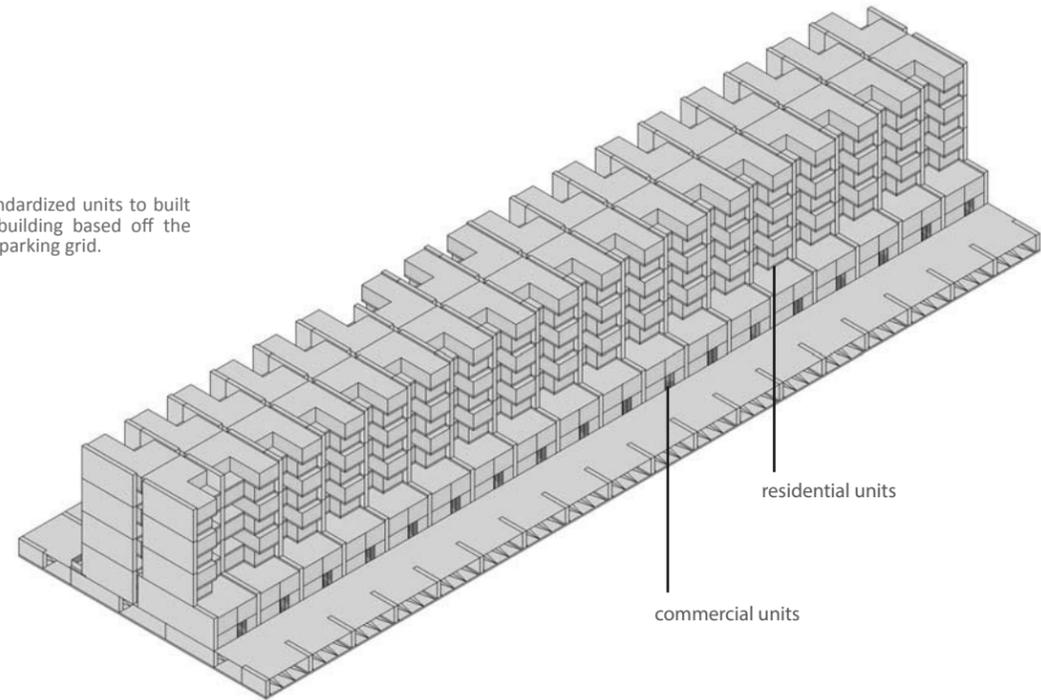


8. Different residential unit layouts, varying in size to meet the needs of a larger variety of residents.

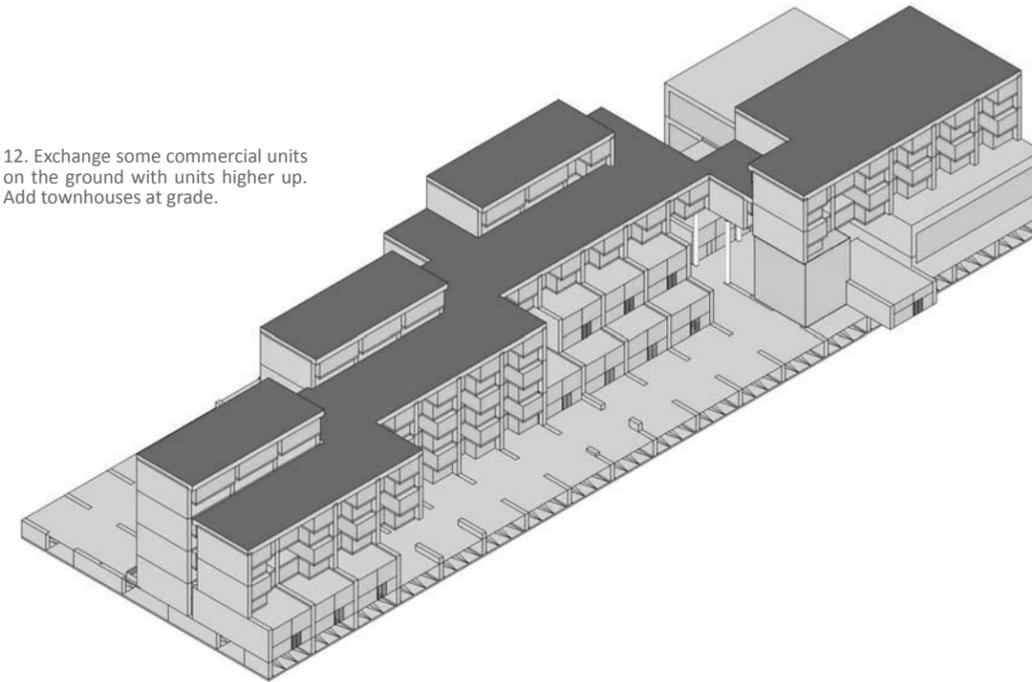


9. Residential units stacked up forming a larger block

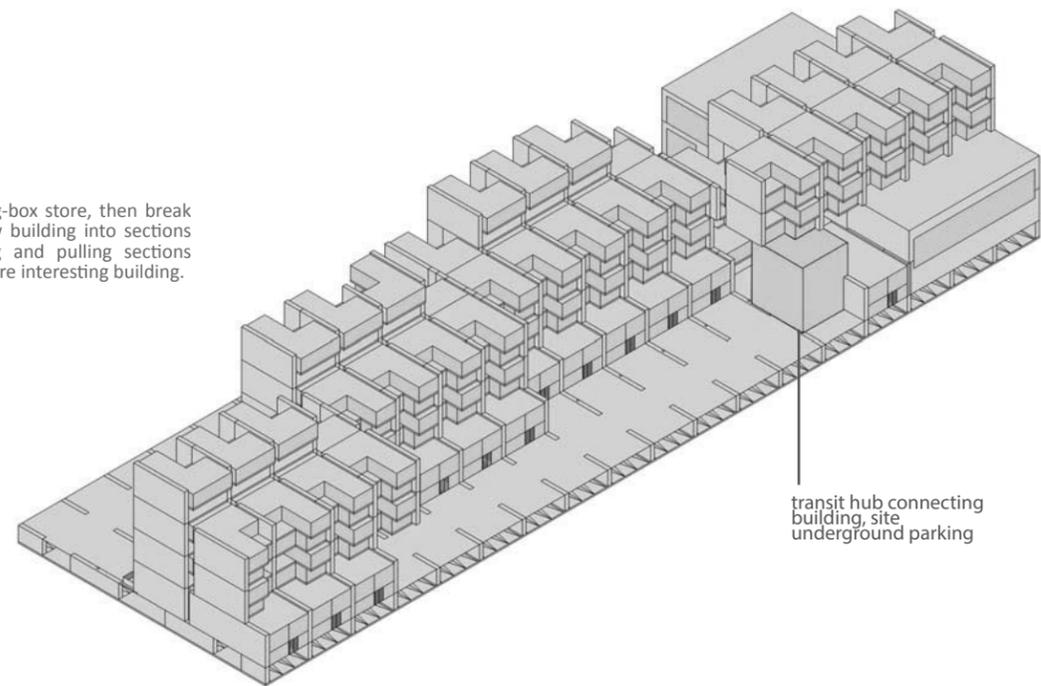
10. Using standardized units to built a large row building based off the underground parking grid.



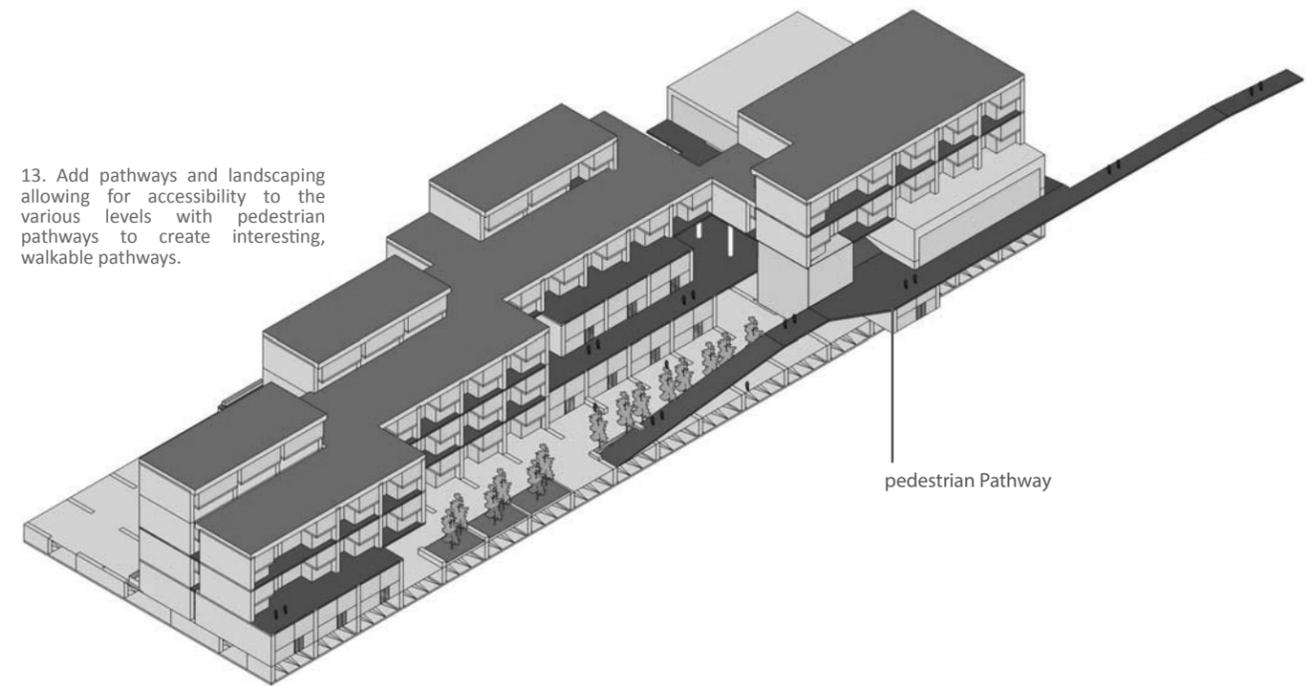
12. Exchange some commercial units on the ground with units higher up. Add townhouses at grade.

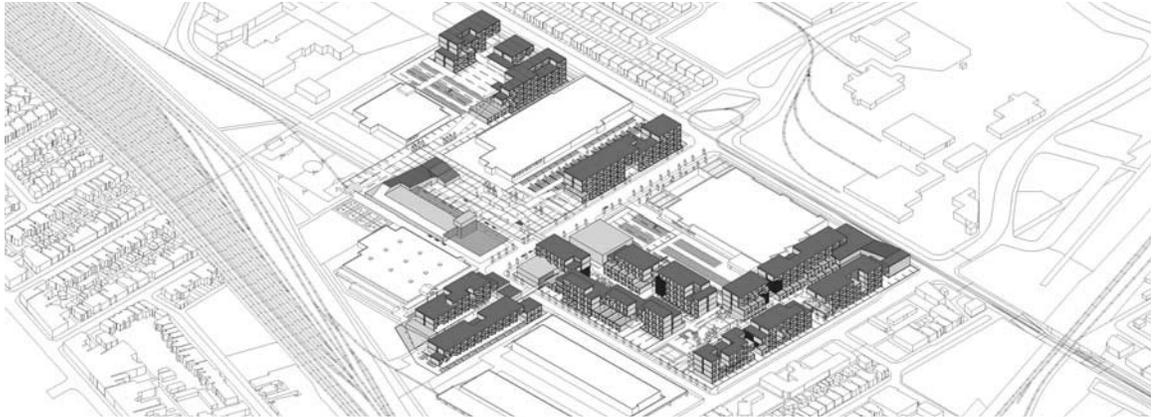


11. Add a big-box store, then break the large row building into sections then pushing and pulling sections creating a more interesting building.

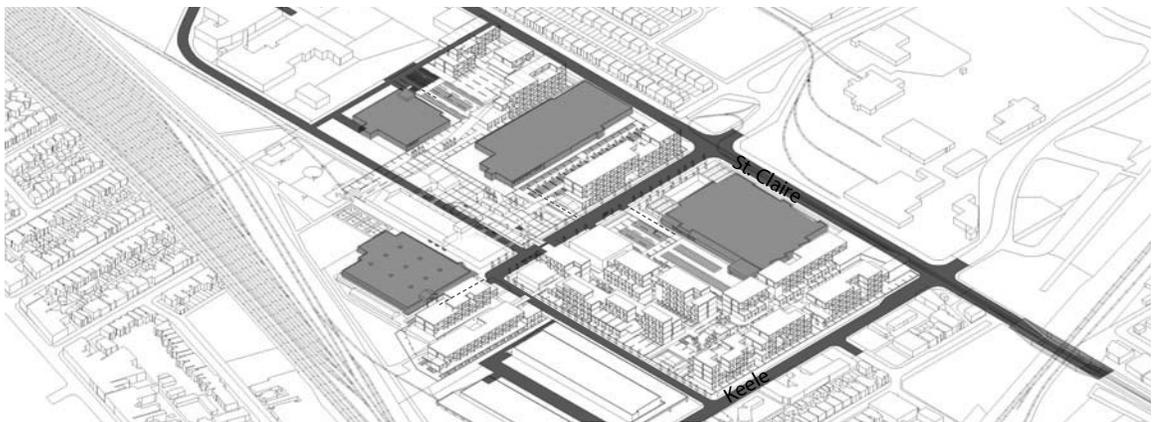


13. Add pathways and landscaping allowing for accessibility to the various levels with pedestrian pathways to create interesting, walkable pathways.





14. Build up the area with a mixture of residential, commercial, office, and community buildings



15. Build up the area with a mixture of residential, commercial, office, and community buildings

16. Parked cars creating a buffer between pedestrian and auto traffic.



Increasing the site's usability is not just about adding programs - it is also about accessibility. This brings us to the fourth component, and SM principle #4 walkable neighbourhoods. This project is proposing to use both residential and commercial units to create a succession of buildings that are divided by roads but are linked together with pathways. Keeping the auto-centric conditions there are three points of access for the car: two from St. Claire Avenue and one from Keele Street (see figure 15). These roads retain access to the major stores (e.g. Home Depot and Canadian Tire) and the below grade parking lots. Street side parking is proposed to create a more comfortable walking experience in addition to controlling the speeds of vehicles moving through the site. On-street parking and/or bike lanes have been proven to reduce traffic speed because increasing the amount of activity on the street requires the driver to slow down in order to process the surrounding environment.¹ For instance, in figure 14, we can see the row of parked cars helps to create a buffer from traffic, allowing an enjoyable walking experience. Furthermore, creating

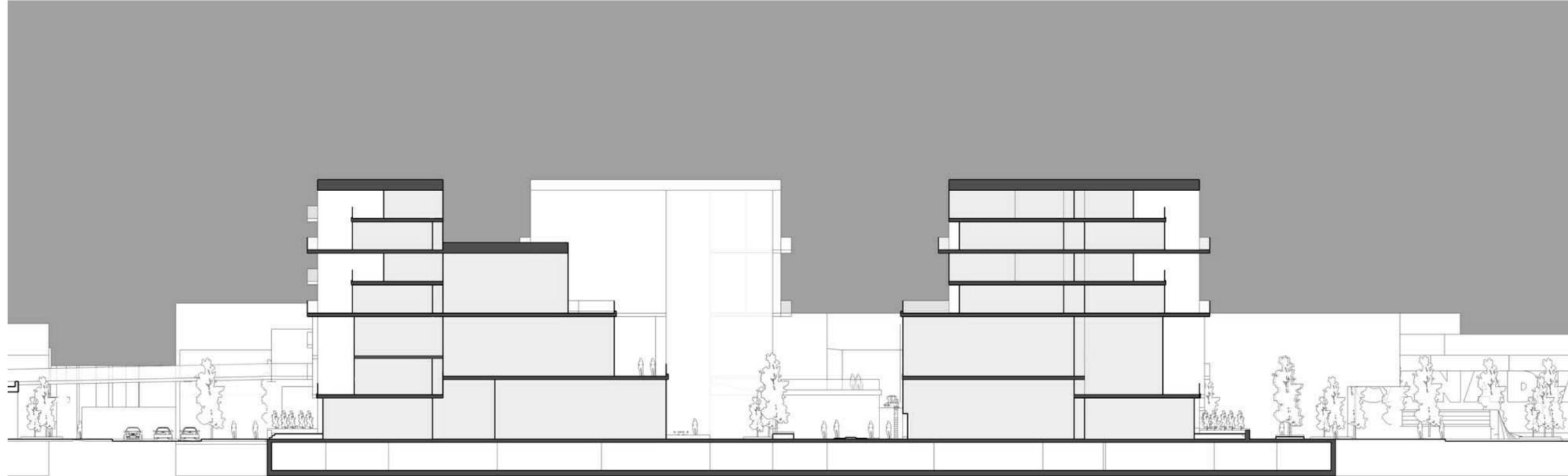
a variety of streets-capes makes it interesting to walk though. The pathways that link the building between the roads would be long and continuous, allowing for leisurely walks without having to revisit the same buildings multiple times. Along the pathways is where the majority of the commercial space will be located, as we would like to keep the majority of the residential units private (see figure 17). The pathways, however, do not just link the buildings but the landscaping as well. A pedestrian bridge over the CN rail line has been added to further link The Stockyards Redevelopment to The Junction. At the center of the site is a large park that breaks ups the intensity of the new development. There is also a proposed park running the along the existing CN rail line to link up with the existing West Toronto Rail-path, a bike path which runs from The Junction towards downtown Toronto. Moreover, linking the parks with the pathways provides an opportunity to interlace soft and hard landscapes along the pathways, which offers enjoyable settings for pedestrians even when they are not shopping. Figure 17 & 18 is a pair of vignettes illustrating the multiple soft and hard landscaping along the path. The design is also influenced by the parking grid

17. Perspective of pedestrian path between proposed buildings.

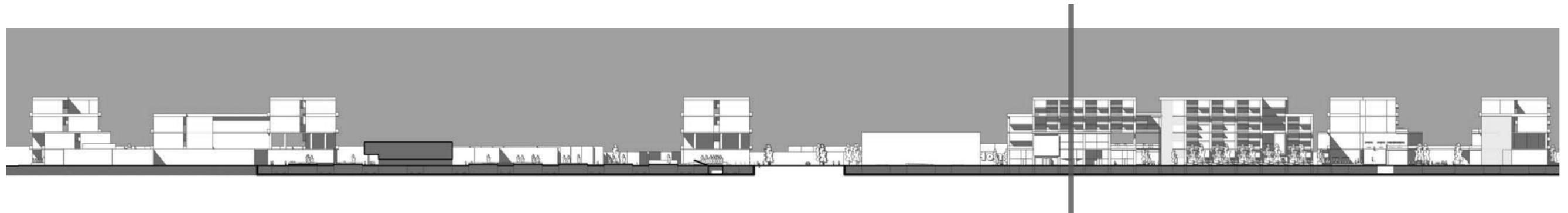


18. Perspective of landscaped path along pedestrian corridor.



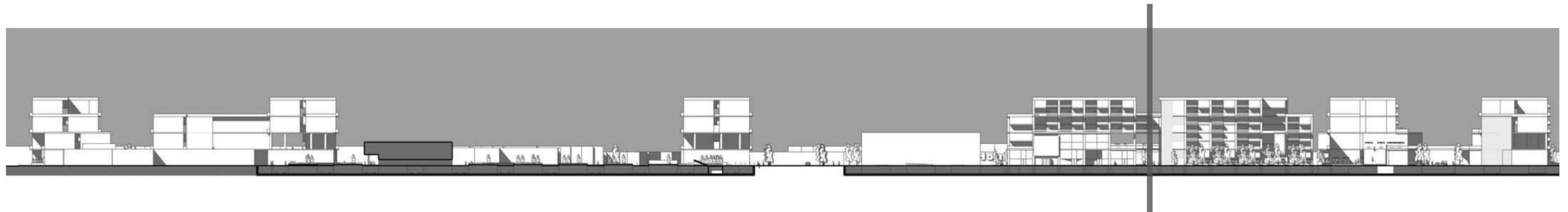


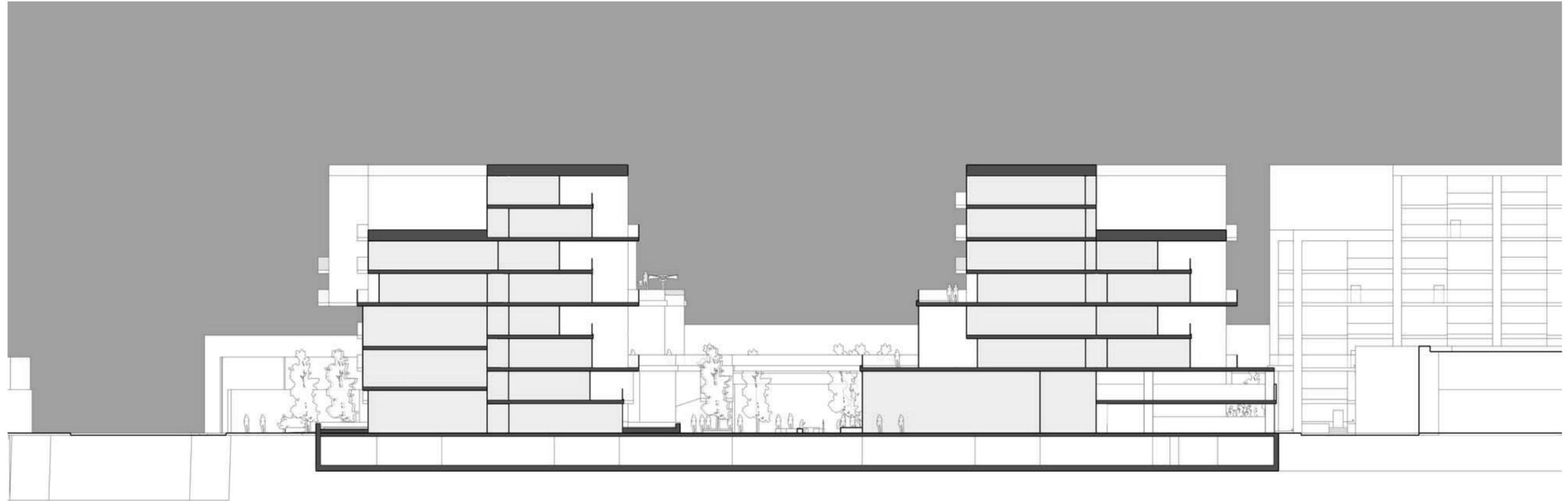
19. North-South Section cutting through residential and commercial [Above]. Location of Section [Below]





20. North-South Section cutting through residential and commercial [Above]. Location of Section [Below]



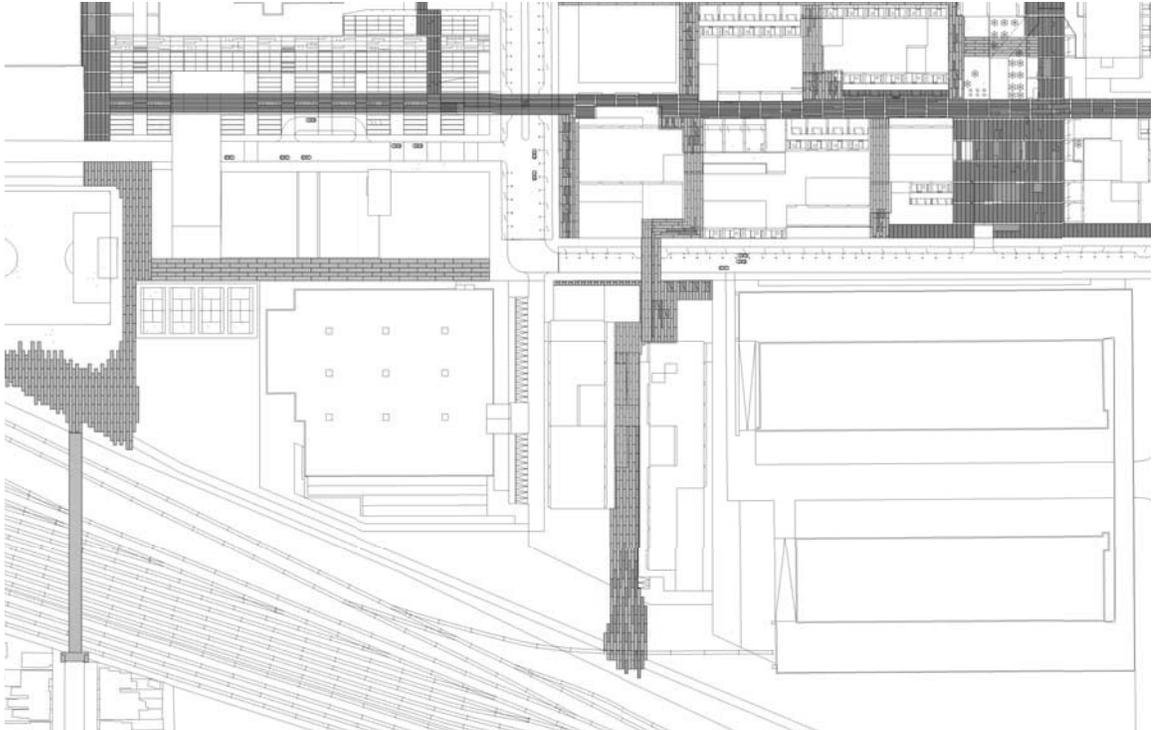


21. East-West Section cutting through residential and commercial [Above]. Location of Section [Below]





22. North-South Perspective Section. Showing access from underground parking into residential units.



23. Pedestrian Pathway crossing the site utilizing a variety of landscaping.

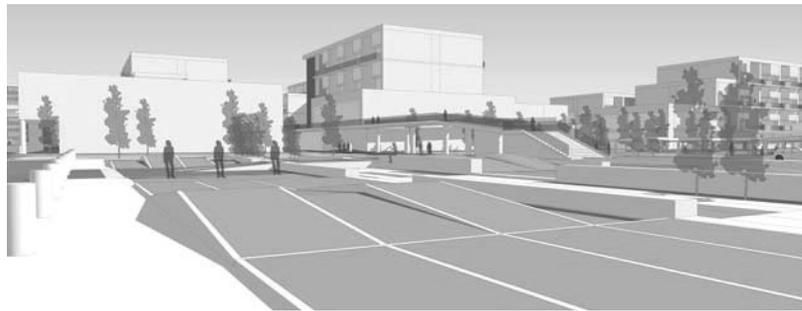
below. Providing these pathways will increase the usability of the site because the connections made between the roads and the surrounding neighbourhood.

This site can easily accommodate enough condominium towers to increase the density of the site, however, according to Jan Gehl, vertical buildings have no association with the street once they are over 5 stories (13.5m).² Therefore, this project is proposing to keep the buildings low to help the residents interact with the activities of the area; to watch and follow the life of the city that surrounds them. The proposed residential, and commercial, units will be within communication distance of the ground and the people there. This would be an issue if traffic proliferated the site, but because the majority cars are being relocated below grade and pathways are being introduced in their stead, the additional noise would be traveling cars (which have been reduced in speed).

24. Section Detail of mixed use program and pedestrian path.



To further increase the sense of community - corresponding with SG principle #5 - on this site, the project is proposing a community center. The community center offers the neighbourhood a sense of place that connects to the people who live there. Additional community-driven features, such as an open platform for farmers markets, festivals, and events as well as ice sports, would surround



25. Open Platform for festivals, farmers markets, winter sports. [Top]

26. Soccer field and Sports amenities bring a variety of activities to the site. [Left]

27. Proposed community center offering a public space for social interaction. [Right]

the proposed community center during winter (see figure 25). There will also be a hall associated with the community center for hosting indoor events. Away from the central area there is a soccer field (something I felt was hard to find in Toronto) adjacent to the earlier proposed pathways/linear park. By providing this community center we are creating a space for the neighbourhood to interact. Although there are a few other community centers close by, this one would be closer to Dundas and specific to the adjacent neighbourhoods.

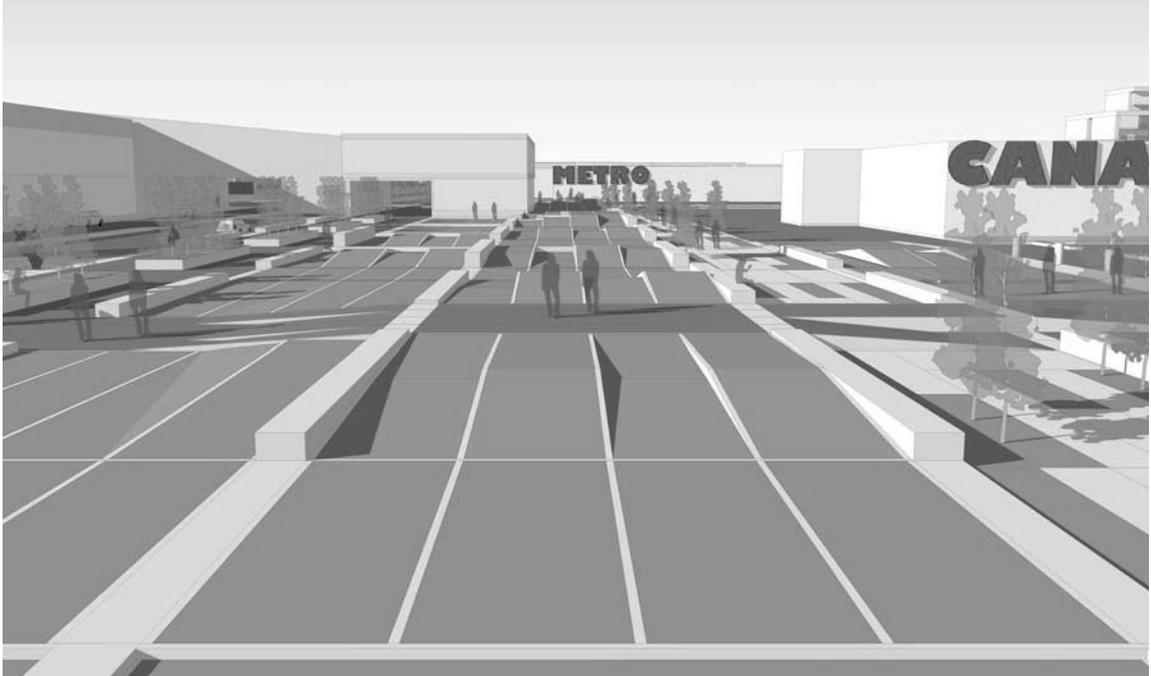
Using the principles of Smart Growth as a basis for the design, we are able to establish a set of conditions that would promote dense urbanization and also allow for a departure from auto-dependency. While these principles help set up the potential for expanding community growth, it must be stated that the intent of this project is not to create a new community, but to set conditions that would connect it to the existing community of The Junction.

Note

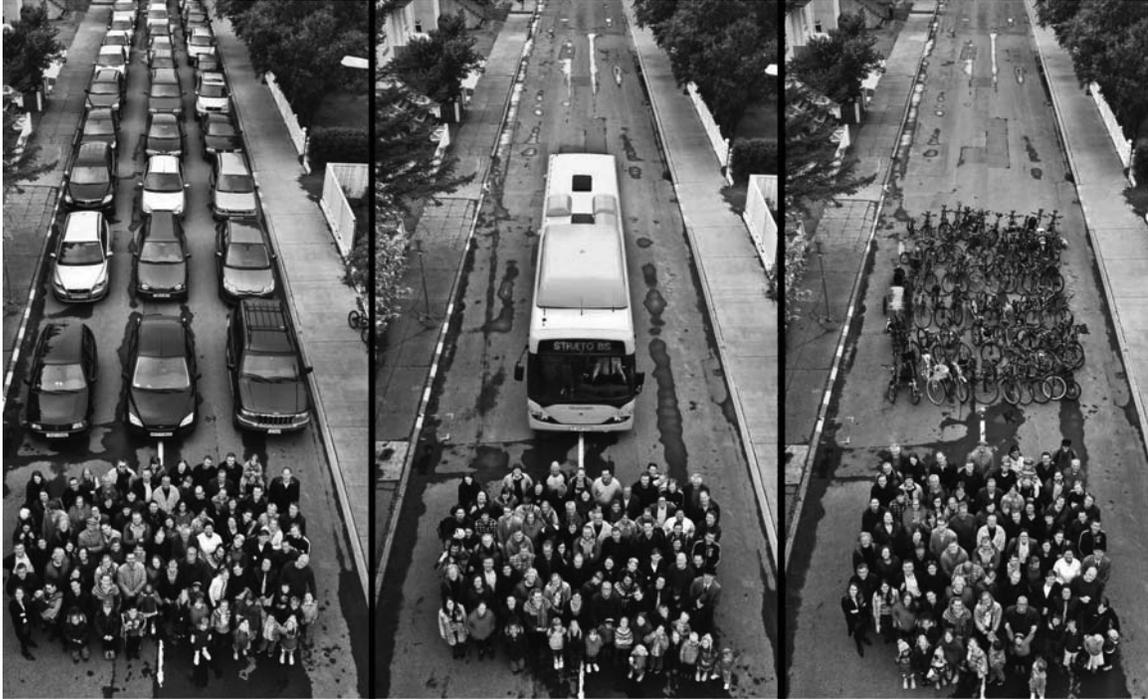
1 JAN GEHL, *CITIES FOR PEOPLE* (WASHINGTON, DC: ISLAND PRESS, C2010) P. 44
 2 JAN GEHL, *HOW TO STUDY PUBLIC LIFE* (WASHINGTON, DC: ISLAND PRESS, 2013) P. 109



28. Perspective along Old Stockyards Road



29. Perspective of Landscaped Park



CONCLUSION

1. 'Bike to Work' A Recreation the famous Muenster poster comparing the amount of space required to transport 60 people; by car, bus, or bicycle. This image taken in Iceland.

People wanted to leave the crowded preindustrial city; it had become old and unsavory to them. The new private and open suburban lifestyle attracted residents away from the city core. At the same time in history people became engrossed with the idea of cars. They embraced the automobile and allowed it to permeate their lives. Over time the physical conditions of the built environment were so changed that the only viable means of transportation for people was the automobile. Thus began a vicious circle, where the cycle was to meet the needs of the car, only to have the car determine the needs of the people. It changed from an issue of want to an issue of need as people and cities became auto-centric and auto-dependent.

How did this affect the community and social interaction of the city, the streets, and daily life? The answer: people became cut off and separated from each other, their communities, and the built environment. Psycho-social auto-dependency of has lost its appeal. People are now seeing the car as a burden and an extra expense, something that is needed but not wanted. Finally, people are coming to terms with the separation that suburban conditions have created. They are now looking to return to a time before the

car, when life was better and people were more connected. They want to get back to the ideas of where people are living in an active community able to engage with each other without resorting to using a car. They want to revive the lost urban life.

With redevelopment (New Urbanism, Smart Growth) of urban design space, such as slowing down car traffic, and discouraging parking and auto-oriented development in favour of higher density focused on pedestrian and transit-oriented development the possibility to break away from a car-centric city urban development occurs. Densification, adding more people to residential areas and more businesses in commercial areas, is not the same as intensifying cities with integrating business and residential. With Intensification, cities are then able to support the growing interest in urban public life by combing the requirements of residents living in the city.

This is very important. Cities should promote building up their urban areas, because not only would this put more businesses in proximity to residents (which would strengthen the local economy) but it would also reduce the amount of new roadways and infrastructure built and support mass-transit. This would lower the cost for everyone. As it stands now, with the cost of having a car, both time and financial, there is greater appeal to live in dense active cities. As time, social, and economical costs of auto-dependence continues to rise, more people will be looking for an alternative to using the car, such as public transit, walking or bicycling. In response, urban and transit planning would focus on the needs of its citizens versus the (previous) needs of the automobile. Living downtown, residents would be provided with the opportunity to engage with their urban surroundings, thereby establishing a dynamic setting for public life and human interaction.¹

Despite providing a timely and necessary response to auto-centric and auto-dependent cities, intensification, densification and other means of (re)planning the downtown still raise questions. Things to wonder about though are: When would that density become too much? Would we repeat the condition of the crowded preindustrial city, spurring residents to look for a means to stretch out and one again return to the suburbs? The other thing that caught me, when focusing on the cost, is that people tend to tolerate conditions if

they are cheap, putting saving before their wellbeing. Jeff Speck warns in *Walkable City* that if the cost of car fuel becomes cheap, for instance an alternative fuel source. The costs savings of suburban living would renew people's interest in cheaper property and space found in suburbs. People would then continue to tolerate the distances and auto-dependency. The last obstacle I want to bring up is the psychological barrier of mass-transit in North America. It is still widely considered the means of travel for the poor. That is to say, people won't use transit because they are better than it, they can afford to drive instead. Regardless of how well designed walkable neighbourhood become or improved transit systems are. Moreover, as the cost of driving continues to raise it reinforces that those unable to afford a car use transit. What is needed is a change in the way society thinks about transit.² Any new urban developments need to be seen as youthful, lively, and exciting, thereby, attracting people truly looking for a different lifestyle otherwise it will become another disconnected part of the urban fabric.

Note

1 MARGARET CRAWFORD, MARTIN WACHS. *THE CAR AND THE CITY* (ANN ARBOR, UNIVERSITY OF MICHIGAN PRESS. 1992) P. 262

2 Eric Jaffe, [Why Correcting Misperceptions About Mass Transit May be More Important Than Improving Service](http://www.theatlanticcities.com/commute/2013/11/why-correcting-misperceptions-about-mass-transit-may-be-more-important-improving-service/7719/) The Atlantic Cities. <<http://www.theatlanticcities.com/commute/2013/11/why-correcting-misperceptions-about-mass-transit-may-be-more-important-improving-service/7719/>>

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