

ARE WE THERE YET?  
A STUDY OF PUBLIC SPACE IN  
MIDTOWN KITCHENER-WATERLOO

by

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I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

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## ABSTRACT

With the introduction of the Light Rail Transit (LRT) route, Midtown Kitchener-Waterloo is now easily accessible from other areas in the Region via several transit options without the need to rely on personal vehicles. The LRT connects public transit to pedestrian and bicycling infrastructure, and, more importantly, acts as a catalyst for mixed-use, residential, and commercial development along its route. These are drastic changes in both how people move from place to place, and where those places are within the Region.

The public spaces of Midtown Kitchener-Waterloo will need to evolve in response to the changes prompted by the LRT development. The anticipated increase in population residing in this corridor will require additional amenities, and the streetscapes will need to address the augmented flows of people, all while enhancing without compromising the existing character. Through analysing the shifting priorities of emerging stakeholders, this thesis will explore how the public spaces of Midtown will reform during this period of change, and supplement ongoing government initiatives.



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# INTRODUCTION

A new piece of large scale infrastructure in a city can emerge as both a divider and a connector simultaneously. The newly constructed Light Rail Transit (LRT) in Kitchener-Waterloo embodies this concept. As a connector, it is intended to protect the city edges by limiting sprawl, and activate city cores by providing reliable and frequent mass transit connecting Kitchener and Waterloo.<sup>1</sup> More importantly, it is intended to act as a catalyst, spurring development along its length, and providing more housing, retail, and office space in the cores. Conversely, it is also acting as a social divider. With an ingrained car culture present in the Region of Waterloo, many residents are grumbling at the use of their tax money for a piece of infrastructure that, not only will they refuse to use out of spite, but they also resent even more due to the inconvenience of construction and detours. The construction phase alone did result in local businesses suffering or closing as access to downtown retailers was greatly impeded.<sup>2</sup> To the public of Kitchener-Waterloo, the LRT is a very charged subject.

Midtown Kitchener-Waterloo is a particularly fascinating area. It's located between the two cores of Downtown Kitchener and Uptown Waterloo, and has historically been a relatively low-density area. There are a few key institutions, employers, and established neighbourhoods, including Grand River Hospital, the insurance company SunLife Financial, and Mount Hope Cemetery as major stakeholders. There are currently roughly 10 000 people making trips to and from Midtown daily. The introduction of the LRT changes a lot of the dynamics of this area, not just how people move from place to place, but also what and where those places are. With the densities of the LRT corridor changing so quickly, the adjacent public spaces will need to be re-evaluated. Do the public spaces meet the needs of the community? Do they facilitate easy wayfinding with the new emphasis on multi-modal transit? Are they enjoyable spaces to be in? And how can the public spaces in Midtown Kitchener-Waterloo support the anticipated land use and density transitions to come?

The City of Kitchener examines these questions through the PARTS (Planning Around Rapid Transit Stations) project. PARTS proposes a planning alternative to the current conditions of Midtown, one supported by substantial research and resources. The PARTS proposal reconsiders a large swath of Midtown, and gives a broad framework for growth. This thesis supplements the PARTS proposal by resolving certain wayfinding conditions and public spaces within Midtown.

In the upcoming sections, I will be exploring several recommendations. First, I position my approach and critical stances within the pertinent discourse and provide broad context for many of the decisions made throughout the design process. Secondly, I narrow the discussion to Kitchener-Waterloo to uncover the local factors at play. Next, a closer look at the external and internal forces affecting Midtown will inform my projections for the growth of the area. Following, I present my framework for public spaces in two different methods. I outline strategies in an analytical method to explain the reasoning behind decisions, but I also depict journeys through perspectives to convey the experiential understanding of public space and wayfinding. Lastly, I relate my design to that proposed by PARTS Midtown, and discuss the two complementary approaches to public space.

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1. "What is ION?," *GrandLinq Contractors*, accessed May 3, 2017, <http://www.rideion.ca/what-is-ion.html>.

2. Greg Mercer, "LRT Work a 'Nightmare' for Retailers at Kitchener's Courtland Plaza," *Waterloo Region Record*, January 14, 2016, <http://www.therecord.com/news-story/6231415-lrt-work-a-nightmare-for-retailers-at-kitchener-s-courtland-plaza/>.





## CRITICAL STANCE

When designing public spaces, there are a few questions that require careful consideration. Foremost, what is public space? Who is the public, and how do we/they experience public space? There are several notable theorists, researchers, and designers who have given considerable thought to these topics, and inspire further consideration of the role of design. The following overview of ideas is not intended to be exhaustive, rather, it aims to contextualize the concepts and ask questions that are then explored further through the design in the Public Space Design Strategies section.

How do we understand public space? Before designing public spaces, it is crucial to consider what is considered public space. Kurt Iveson outlines main approaches to the definition of 'public space' in his text "Publics and the City".<sup>3</sup> Topographical approaches, Iveson argues, are the most common understanding of public spaces, as they are places that are conceived of being accessible to the members of 'the public'.<sup>4</sup> This approach can be visually represented through drawings similar to those of Nolli's famous plan of Rome, where space is shown as either public or not.

Of course, this approach has several issues, the most notable of which is the assumption made that publicness and privateness are binary opposites.<sup>5</sup> A more applicable outlook positions publicness and privateness at two ends of a scale, with the values of that scale shifting based on the context of the design. This distinction offers nuanced implications to the design of public spaces surrounding institutions like hospitals and schools, which house zones that are accessible to different groups at different times. Secondly, while a space may be conceived to be accessible to 'the public', it may not actually be publicly accessible due to other deterrents including social, economic, or physical barriers.<sup>6</sup> Design then, can either alleviate or exacerbate these issues. With this in mind, how can urban design broach these barriers to communicate wayfinding strategies to all? What additional barriers interfere with the infrastructural support of various modes of transportation, and how can design minimize these barriers? Lastly, and relatedly, spaces that may not be designed to be public can become public through the activities that occur within them. While this may present an issue for some projects, for this study I am more interested in the non-private interstitial spaces between buildings, and those spaces designed specifically for public use.

'The public', however, as a concept is a bit more difficult to dissect. Alastair Hannay has compiled several understandings of 'the public' in his text, "On the Public".<sup>7</sup> While 'the public' is traditionally understood to have political connotations, Hannay argues that the term should transform alongside the spatial evolutions of politics, publics, and communication through the great acceleration.<sup>8</sup> One such transformation can

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3. Kurt Iveson, *Publics and the City*, (Malden, Massachusetts: Blackwell Publishing, 2007).

4. Ibid.

5. Ibid.

6. Ibid.

7. Alastair Hannay, *On the Public* (Oxon: Routledge, 2005).

8. Ibid.

be credited to Jane Jacobs, who introduced the concept of social capital as a unifier for the public, although many fields have since expanded on what social capital is. A generally accepted definition of social capital is the “...trustworthiness of social environment, which makes possible reciprocity exchanges,” and through measuring the value of social networks we can examine how the public are linked or disconnected.<sup>9</sup> Jane Jacobs’ descriptions of the necessity of this trustworthiness are embedded throughout her book, “The Death and Life of Great American Cities”.<sup>10</sup> Jacobs astutely noticed the negative effects when social capital is forcibly removed: spaces that were designed to be public were in reality empty, such as in public housing projects.<sup>11</sup> Effectively, without social capital, there simply wasn’t ‘a public’ to occupy the public spaces. This concept is particularly pertinent when examining areas subjected to renewal or gentrification caused by a new piece of infrastructure. How can the design of new public spaces respect the trustworthiness of existing social networks maintained by adjacent established neighborhoods? Can the disconnecting effects of the construction period be mitigated? How can the overall approach to public space enrich the anticipated social capital of an area as it densifies over time? A basic understanding of social capital is fundamental in the success of public space design.

Comparatively, George Baird’s contemplations on how the public experiences the built environment take another approach.<sup>12</sup> Baird posits that, as long as the public is distracted, “...architecture is readily able to influence its behaviour, without that audience becoming aware, let alone critical of, the social and political manipulations to which [they] may be subjected.”<sup>13</sup> While this theory has a multitude of implications, I am particularly intrigued by how it affects the choices of people as they navigate. More specifically, how

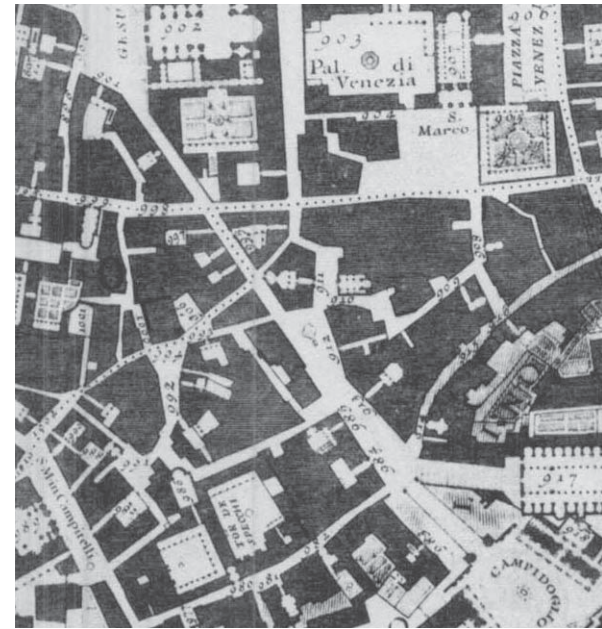


Figure 1.1  
Nolli’s map of Rome positions the interior of buildings like churches just as publicly accessible as exterior streets and piazzas.

9. Caitlin Eicher and Ichiro Kawachi, “Social Capital and Community Design” in *Making Healthy Places: Designing and Building for Health, Well-being, and Sustainability*, ed. Andrew L. Dannenberg, Howard Frumkin, and Richard J. Jackson (Washington, DC: Island Press, 2011), 118.

10. Jane Jacobs, *The Death and Life of Great American Cities* (New York: Random House, 1961).

11. *Ibid.*

12. George Baird, *Public Space: Cultural/Political Theory; Street Photography*, (Amsterdam: SUN Architecture Publishers, 2011.)

13. George Baird, “Praxis and Representation,” in *Queues, Rendezvous, Riots: Questioning the Public in Art and Architecture*, ed. George Baird and Mark Lewis (Banff, Alberta: Walter Philips Gallery, 1994), 6.

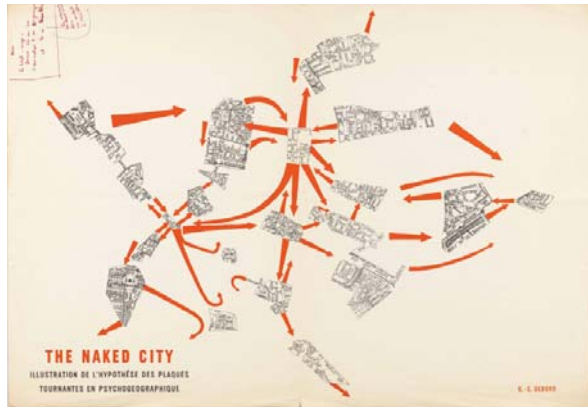


Figure 1.2  
 Guy Debord's famous illustration is a clear representation of a cognitive map. It distills a city into a set of relationships and distinctions between imageable places.

does the built environment affect the wayfinding choices of people on a subconscious level, even when they don't necessarily pay attention to their surroundings? How can design, at an urban scale, influence how people navigate? What are the related implications for various modes of transportation, and how they intersect? What is the role of urban design in the subconscious communication of paths of travel?

Before delving into this next question, I should elaborate further on what wayfinding is. The following set of theories and research each unpack some comprehension of the processes involved in wayfinding, starting with the man who coined the term, Kevin Lynch.

In his text, "The Image of the City," Kevin Lynch describes mental images of cities as evolving collections of relationships and distinctions.<sup>14</sup> Lynch clearly stated that these mental images vary drastically depending on the individual, yet there were common threads that he focussed on, which he distilled into universal terms.<sup>15</sup> He first focused on legibility, and stressed the importance of the clarity and structure of mental images in relation to the process of wayfinding.<sup>16</sup> This imageability, or the ease with which a mental image is created, is needed in public spaces to increase recognizability, sense of place, and navigability, all of which are important factors in how people perceive a public space.<sup>17</sup> Lynch further outlined several variables that contribute to or negate imageability, all of which are important to consider when designing public spaces. For imageability to work effectively, there needs to be a clear relationship between the built environment and people's perception of that environment, which can present problems if the built environment is undergoing substantial changes.

Lynch's theories of relationships between imageable places have evolved into the concept of cognitive maps, which have been studied further by cognitive scientists among other researchers. Notably, Gary L. Allen published a paper in the *Professional Geographer* journal outlining the cognitive aspects to wayfinding.<sup>18</sup> Allen defined three methods of wayfinding; commuting, exploring, and questing, and outlined the strategies involved in accomplishing

14. Kevin Lynch, *The Image of the City*, (Cambridge, Massachusetts: The M.I.T. Press, 1960).

15. Ibid.

16. Ibid.

17. Ibid.

18. Gary L Allen, "Cognitive Abilities in the Service of Wayfinding: A Functional Approach," *Professional Geographer* 51, no. 4 (1999): 555-561.

each of the three methods. One of the means Allen described is “navigation by cognitive map,” which he defined as a knowledge-based, internally organized strategy.<sup>19</sup> Allen further elaborates by describing the flexibility provided by this wayfinding strategy, as well as the need for repetitive encounters with recognizable elements of the built environment.<sup>20</sup> While stability in imageability is important, changes related to the introduction of a single piece of infrastructure present opportunities for reconfiguring urban components to enhance navigation by cognitive map in the subsequent years. If an urban centre is going through a process of upheaval to introduce a new method of transportation, designers should seize the opportunity to also reconsider the future urban environment. There also need to be recognizable cues in the built environment so that, when cognitive maps fail, people have an alternative plan. With this in mind, Allen also describes three other main strategies undertaken while wayfinding; path integration, repetitive locomotion, and piloting, all of which can contribute to those alternative plans.<sup>21</sup> Of those three options, piloting presents the most spatially intriguing opportunities, as it is navigation based on landmarks. How can the deliberate design of urban spaces frame views and paths to key landmarks? For instance, if a hospital is a notable landmark in an urban centre, how can the buildings, sidewalks, trees, and streetscapes reveal views or routes to the hospital? What other built and green features might aid in piloting? How can one understand their position in Midtown Kitchener-Waterloo through piloting using existing and proposed landmarks?

The relationships between design and wayfinding emerge in the work of designers Paul Arthur and Romedi Passini in their book, “Wayfinding: People, Signs, and Architecture.” Arthur and Passini use architectural methods to analyse spatial planning and architectural elements based on wayfinding.<sup>22</sup> They investigate entrance features, circulation systems, and other spatial typologies, and highlight the purpose of architectural communication for wayfinding based on piloting.<sup>23</sup> These considerations are applied, through an iterative design



Figure 1.3  
Mollerup lists social navigation, or following the crowd, as one technique used in the act of wayfinding.

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19. Ibid.

20. Ibid.

21. Ibid.

22. Paul Arthur and Romedi Passini, *Wayfinding: People, Signs, and Architecture* (Canada: McGraw-Hill Book Company, 1992).

23. Ibid.

processes, to Midtown Kitchener-Waterloo and depicted in the following chapters. Subsequently, they discuss the role of graphic design and signage in providing wayfinding information.<sup>24</sup>

I have come this far in a discussion about wayfinding, and have only just now mentioned signage. Does that seem peculiar? Reconsider Baird, and ask yourself again if that seems peculiar. Many people associate the word “wayfinding” with “signage”, although Lynch defined “wayfinding” as a process. How can we have meaningful discussions when our language is incongruent? Mollerup noticed this dissonance in terminology, and takes to writing to rectify the situation.

Mollerup accepts Lynch’s original intent that “wayfinding” is the process of finding one’s way, however, Mollerup introduces the term “wayshowing” to apply to all the things that aid in that process.<sup>25</sup> Those things could be signage, or any of the elements Arthur and Passini analysed in great detail. By separating the act of wayfinding from the noun of wayshowing, Mollerup allows for clearer discussions in the field moving forward. This distinction allows for greater clarity in research, as well as in discussions surrounding urban design. Naturally, through the course of his writings, Mollerup also bestowed a significant amount of advice for executing successful wayshowing, ranging from identification of effective signage locations within urban environments to selecting legible fonts and pictographs for rapid communication.<sup>26</sup> With this emphasis on effective communication, I noticed many similarities between Mollerup and Jan Gehl’s approach to public spaces.

Gehl’s book “Cities for People” discusses design principles for cities and public spaces that prioritize the main inhabitants of the spaces: People.<sup>27</sup> Gehl also describes people as the best attraction of cities.<sup>28</sup> As such, he offers advice for designing spaces that people will enjoy, with an emphasis on the types of activities anticipated in each space and the vitality associated with each type of space.<sup>29</sup> Gehl advocated for pedestrian-oriented design, and highlights design choices ranging from massing to materials to enhance the pedestrian experience.<sup>30</sup> While designing for people may not seem revolutionary, it is important to contextualize that mentality in a region that often designs for personal vehicles like cars rather than people. An urban centre already experiencing turbulence by transitioning to accept a new mode of transportation must also examine how different modes of movement affect public spaces. What best practices are there for designing areas of transition between different modes of transportation? What clues do people read from the built environment that can enhance their experiences in wayfinding?

In a similar vein, cognitive neuroscientist Colin Ellard unpacks what types of spaces people actually enjoy in his book, “Places of the Heart: the Psychogeography of the Everyday Life.”<sup>31</sup> Ellard analyzes design through a scientific lens, yet presents the results in an accessible

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24. Ibid.

25. Per Mollerup, *Wayshowing > wayfinding : basic and interactive* (Amsterdam: BIS, 2013).

26. Ibid.

27. Jan Gehl, *Cities for People* (Washington: Island Press, 2010).

28. Ibid.

29. Ibid.

30. Ibid.

31. Colin Ellard, *Places of the Heart: the Psychogeography of the Everyday Life* (New York: Bellevue Literary Press, 2015).

manner so that non-academics can also learn from his research. Much of Ellard's discussion centres around scientific proof that the design advice offered by people-first advocates, including Gehl, make for more successful public spaces.<sup>32</sup> Ellard elaborates on this in great detail, describing the various studies he has conducted, including analyzing people's behaviours in different streetscape settings, monitoring nervous system changes throughout different built and natural environment exposures, and even studies in boredom and how being under- and over-stimulated affects which routes people choose to walk along.<sup>33</sup> Much of the research Ellard cites supports Gehl's overall approach to cities. They both describe the need for diversity along streetscapes, particularly that spaces are scaled appropriately for people, but Ellard discusses the psychological need for stimulation whereas Gehl elaborates on how the design of urban space can be successful. Ellard even refers to Gehl's approaches as a less obtrusive, observational method of researching the types of spaces people prefer to be in.<sup>34</sup> This type of research acts as the stepping stone from rhetoric to an interdisciplinary, evidence-based design approach.

The distinction between rhetoric and evidence-based design is important. Much of the discussion up to this point has been centred around my critical stance within the general pertinent rhetoric, however, it is important to mention the sources that adopt an evidence-based approach. These sources are typically more focussed on testing specific features, rather than on locating a greater ideological position within the design field. One such source is the book, "Perception," which is a compilation of explanations of studies that, in part, aim to unpack how people perceive space and objects.<sup>35</sup> This information is particularly relevant when considering Allen's research on how people wayfind, and should not be overlooked when designing wayshowing for various speeds of transportation. Similarly, the book, "Making Healthy Places: Designing and Building for Health, Well-being, and Sustainability" is a summary of studies that showcase design choices that lead to healthier cities.<sup>36</sup> Featured are choices that lead to both physical and mental health of the populations of cities.<sup>37</sup> Many of the included studies were clearly influenced by the discussions generated by the voices of Jane Jacobs on social capital, Jan Gehl on pedestrian-oriented design, and Kevin Lynch on wayfinding; and in turn have influenced the design proposed herein. Specifically, the benefits of greenspaces are multi-fold; their environmental qualities are often claimed as their main benefit, but the ability to see greenery, as well as be immersed in it, leads to mental health improvements. With this in mind, it seems ideal to position greenery adjacent to spaces of healing, as well as in areas with a high concentrated population.

These theories have been put to the test in several cities, both globally and locally. Notably, French urban designer and architect Antoine Grumbach reimagined the streetscape of Boulevards des Marechaux in Paris to incorporate a tramway in the mid 2000s. Grumbach was

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32. Ibid.

33. Ibid.

34. Ibid.

35. Randolph Blake and Robert Sekuler, *Perception* (New York: McGraw-Hill, 2006).

36. *Making Healthy Places: Designing and Building for Health, Well-being, and Sustainability*, ed. Andrew L. Dannenberg, Howard Frumkin, and Richard J. Jackson.

37. Ibid.

cognizant of the social and political context he was designing in, and his writing on the project describes the redesigned “green ribbon” as a territory for reconciliation with the periphery.<sup>38</sup> Grumbach also highlighted a decrease of reliance on private vehicles, and the need to meet the spatial needs of current and future lifestyles.<sup>39</sup> This reconsideration of spaces surrounding transit infrastructure provides much for contemplation. Grumbach’s proposal rejuvenated the public spaces surrounding the tramway. The design relies on ample greenery to connect to adjacent established neighborhoods, as well as to provide wayshowing. Elements like trees, curbs, and posts create spatial separations between the active and passive transportation zones. The journeys of pedestrians, cyclists, drivers, and transit riders alike were considered, and features like wide sidewalks and lighting enhance the overall experience.

More locally, the City of Kitchener underwent a streetscape redesign along King Street in 2011. The overhaul provided transitional spaces between the street and the sidewalk which could be used as an extension of either use depending on the season.<sup>40</sup> The inconsistent use of space had the potential to confuse drivers who occasionally visited the area, and so the locations of bollards communicate when drivers or pedestrians have priority use. Additional planters, benches, and improved lighting have transformed King Street into a space that people feel more comfortable being in. These amenities provide support for street festivals, local businesses and their customers, as well as employees in the area. Further, the redesigned sidewalks provide spaces for the local restaurants to spill out into, and set up exterior patios. These key tweaks have contributed to an improved vitality in Downtown Kitchener.

The significance of the newly reconstructed King Street in Kitchener requires context. In the next section, I will introduce you to the twin cities of Kitchener-Waterloo, and outline my critical stance within the regional design circumstances.

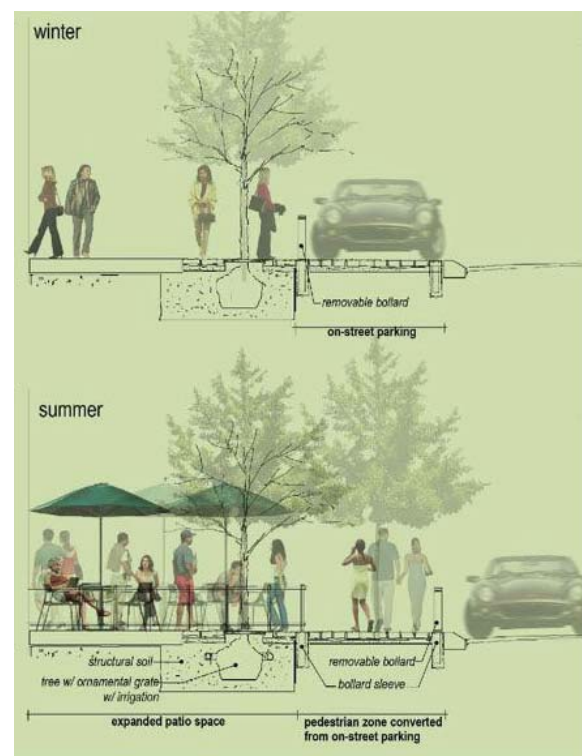


Figure 1.4  
The King Street reconstruction in Downtown Kitchener included the design of seasonally flexible streets, and the provision of amenities that enhance the pedestrian experience. These include increased provision for waste and recycling receptacles, places to sit, street trees and related shade, variability in the paving, interesting lighting, and places to lock bicycles.

38. Mathieu Flonneau, “Le Tramway de Paris” *Revue Urbanisme*, no. 344 (2005).

39. Ibid.

40. “The New King Street,” *City of Kitchener*, accessed July 16, 2017, <https://www.kitchener.ca/en/businessinkitchener/KingStreetMasterPlan.asp>





## KITCHENER-WATERLOO

The cities of Kitchener and Waterloo have a unique and at times peculiar series of relationships, most of which I will not attempt to unpack, however, a brief synopsis is important to understand the overall context of this design. Key underlying economic factors, physical relationships, and social tensions, in particular as they relate to public spaces, are discussed in this section. The two cities have a symbiotic relationship, wherein Waterloo and Kitchener both rely on and benefit from each other's successes. This relationship is complex, but I will attempt to distill key factors succinctly.

The City of Waterloo is home to two universities. The University of Waterloo is renowned for its engineering programs, its progress in computation, and its co-operative education innovations. Wilfred Laurier University is known for its business and music programs, and deep focus on the importance of arts education. Together, the two universities currently have roughly 54 000 students.<sup>41</sup> While the 2016 census lists the City of Waterloo's population at roughly 105 000, this number does not account for the entire student population.<sup>42</sup> Essentially, Waterloo is a city that has a large percentage of youth engaged in post-secondary education in engineering and business. This manifests throughout much of Waterloo's cultural and economic drivers. It creates an emphasis on an innovative, educated culture which has sparked the creation of think-tanks and cutting edge academic and private partnerships in Waterloo, including the Centre for International Governance Innovation (CIGI), the Perimeter Institute of Theoretical Physics, and the Quantum Valley Investments. These centres, along with the universities, draw world-class educators and theorists to the City of Waterloo. Further, the two Universities spawn startup ventures, mostly in the technology industry, that build on the research and relationships established through post-secondary education. Many of these are located in North Waterloo, but some relocate to the City of Kitchener.

Kitchener, on the other hand, has developed over time to focus on other factors, although they are currently in a period of change. The 2016 census reports a population of roughly 233 000 in Kitchener, which is more than double that recorded for the City of Waterloo.<sup>43</sup> The economic drivers for Kitchener have historically been industrial as the city has a long history of manufacturing. The cost of living continues to be less in Kitchener than in Waterloo as its population trends to a more working class resident, with many still employed in these industries. That is not to dismiss that both Kitchener and Waterloo thrived on industry in their early days, but their relationships to industry have since shifted. In Kitchener, many of the historic, industrial buildings downtown are being repurposed as "brick and beam" desirable locations for the technology industry, initially due to cost effectiveness, but moreso now because of proximity and trendiness. Many of their employees are graduates from the universities in Waterloo. This shift in economic and cultural priorities is not unique to Kitchener-Waterloo but can be seen in many maturing industrial cities.

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41. "Just the Facts," *Wilfred Laurier University*, last modified 2016, <https://www.wlu.ca/about/just-the-facts/index.html>.; "Student Headcounts," *University of Waterloo*, last modified 2017, <https://uwaterloo.ca/institutional-analysis-planning/university-data-and-statistics/student-data/student-headcounts>

42. Statistics Canada, 2016 Census of Population.

43. *Ibid.*



Figure 2.1  
The growth of Uptown Waterloo (background) and Downtown Kitchener (foreground) centred along King Street, depicted in the middle. The overt tree canopy throughout the rest of urbanized Kitchener-Waterloo is mainly the result of low-rise single family dwelling construction, with connections to parks and recreational spaces.

Kitchener-Waterloo is primarily organized along a linear tract, with King Street at the heart of the historical route. Curiously, King Street is considered to run East-West in Kitchener, and North-South in Waterloo, despite being a continuous route. Nonetheless, King Street has typically been a main vehicular thoroughfare between the two cores, connecting the patchwork remainders of previous street layout orientations, often at odd angles. King Street connects the main centres of the two cities, Downtown Kitchener and Uptown Waterloo, which are only approximately three kilometers apart. An umbrella level of government for both cities, the Region of Waterloo, makes decisions regarding mutual interests between the two cities, including transportation.

Despite the interconnected geographical relationship between Kitchener and Waterloo, there are defined existing cultural tensions between the citizens of the two cities. Downtown Kitchener has struggled over time with economic issues that have resulted in vacant storefronts, vandalism, and homelessness. The core in Waterloo rebranded as “Uptown Waterloo” to disassociate itself with the issues experienced by those in Downtown Kitchener. In Kitchener-Waterloo, there was no right and wrong side of the tracks; instead, there was a right and wrong side of the border, with a perception that Waterloo residents were more forward thinking, and Kitchener dwellers were less educated and falling behind.

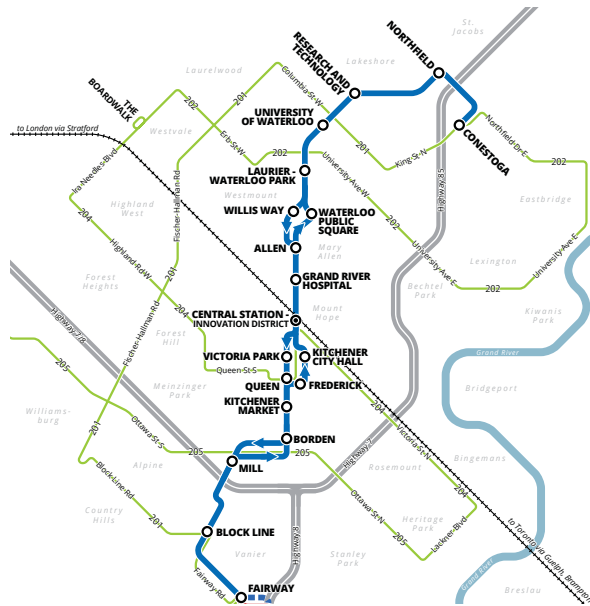


Figure 2.3  
LRT marketing materials emphasize the connections to express bus routes, the current inter-city rail tracks, and other significant landmarks.

On each terminal end of the linear urban path of King Street are shopping malls, and in many cases these are blamed for deteriorating downtown conditions. More pertinently, suburbia and urban sprawl consume much of the former countryside around both cities, with smaller clusters of shopping centres dispersed amongst those outpost neighbourhoods. This process of urbanization, with a strong focus on single family dwelling construction and car culture, has also contributed to an underutilized downtown space. The economic disparity between the emerging suburbs and Downtown Kitchener was for many years quite stark.

In 2003, the Region of Waterloo introduced a strategy that would drastically change the way Kitchener-Waterloo would continue to grow. The Growth Management Strategy denoted several key objectives for growth, notably, "...intensification of the [central transit corridor], including the implementation of an LRT [light rail transit] system, to leverage capital investment and support the revitalization of our downtown core areas..."<sup>44</sup> The motivations behind the LRT were only in part transit-focused, rather, the LRT aimed to provide incentive to agglomerate capital within and subsequently reinvigorate the central cores.

There are numerous reasons this could be beneficial to Kitchener-Waterloo. Environmental concerns include the protection of farmland, reduction of private vehicle emissions, and the sustainability of lifestyles. Economic arguments would cite the costs of creating and maintaining extensive infrastructure systems like roads and sewers as urbanization continues to consume the countryside without an intervention. Further, by creating a piece of infrastructure along which capital can be agglomerated, property values would increase, and businesses and residents would both be attracted back into the cores.

These arguments work well in their abstracted form, however, when applied to the actual route designated for the LRT they seem a little perplexing. The central strip of the route, encompassing Downtown Kitchener through to Uptown Waterloo, shows the most potential to grow as expected. However, examination of the route shows there may be other, higher priority factors in the decision making processes, as exemplified through route decisions that likely alleviated short-term economic crunches during construction.

44. *Regional Growth Management Strategy* (Region of Waterloo, 2003).

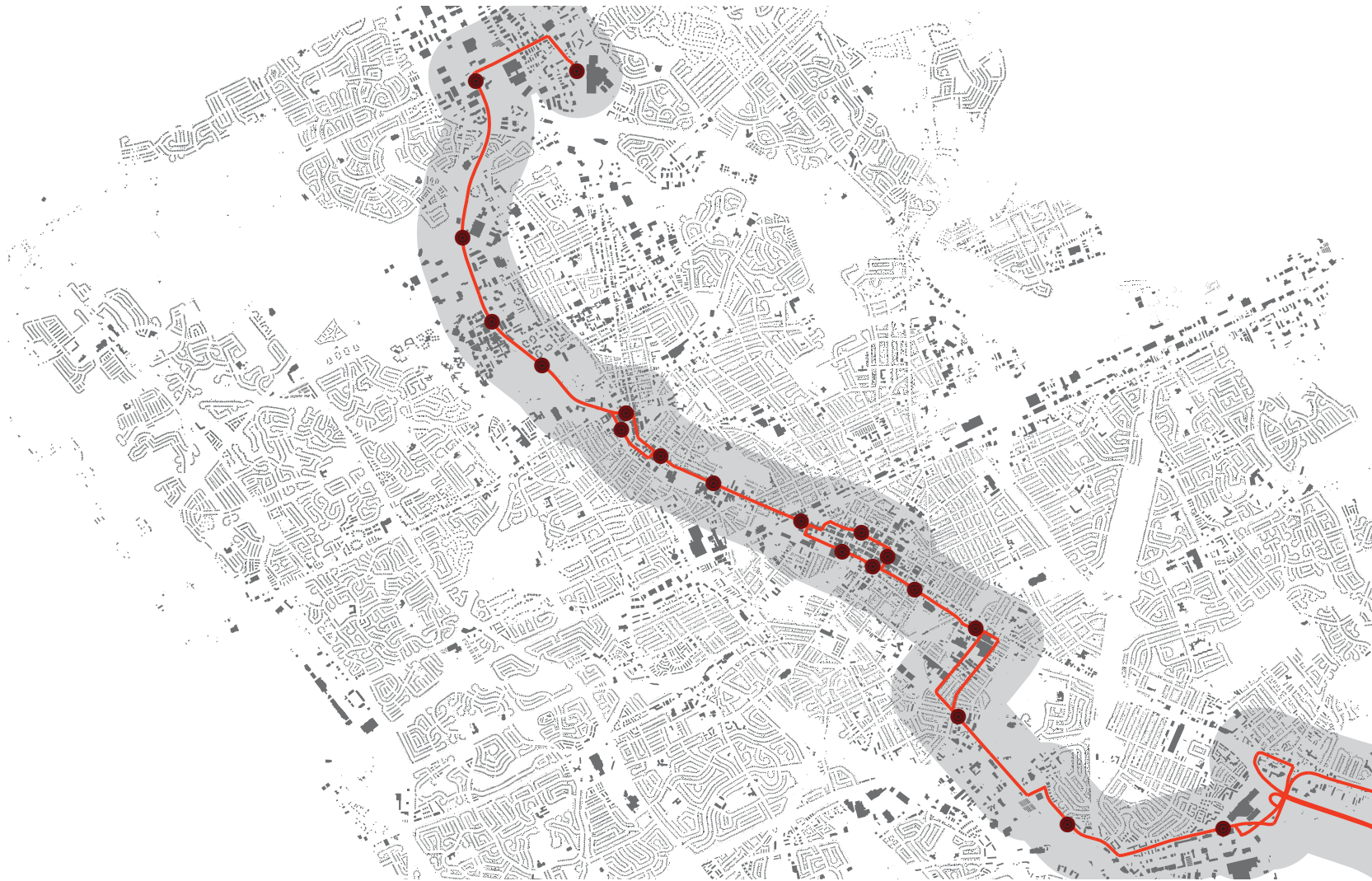


Figure 2.4

The LRT route is here overlaid onto the buildings of Kitchener-Waterloo. Much of the initial development is expected to occur within 500m of the LRT route, and as such that area is highlighted. The LRT travels between the two shopping malls, passing through commercial, residential, recreational, and light industrial areas, while avoiding most of the sprawling residential neighbourhoods. Potential future expansion routes to Cambridge are also shown.

For example, the LRT tracks divide Waterloo Park, greatly reducing the functionality and walkability of the park. Presumably, the region does not want development within the boundaries of park. Similarly, the LRT follows the hydro easement not because it was the best route based on the pre-stated criteria, but likely due to other political and economic factors.

Since the original guiding principles for the LRT seem to be deprioritized in the decision making process, the main benefit associated with the LRT tends to be mass transit. This raises a few issues, as Kitchener-Waterloo definitely has a car-centric culture. The issue of the LRT is where the socio-economic struggles within Kitchener-Waterloo have come to a head. Taxpayers were not only disgruntled, but they were also organized. Over 900 citizens signed a petition in an effort to stop the LRT, and further, the Coalition Stop Waterloo LRT went through the courts in another attempt.<sup>45</sup> To be “anti-LRT” was even an election platform.<sup>46</sup> Many people still perceive the LRT as a disruptive force, as it has caused intense construction within the cities for several years, forcing the closure of local businesses, and with very little discernible benefit to the average person during this phase. Currently, developers are buying and building, property values are increasing, and gentrification is knocking.

The City of Waterloo is well-versed in rapid development, particularly around the student neighbourhoods near King Street and Columbia Street. Buildings that were originally constructed as single family dwellings were rented out to the student population, increasing the amount of people in the area without providing additional amenities. Over the past ten years, however, many of these low-density buildings have been demolished and replaced by high-rise, multi-unit residential buildings with limited plan approval checks. The public spaces in these areas have not been enhanced to support the drastic increase in population. By this I don't mean solely through the provision of infrastructure like roads and mass transit. The provision of spaces that facilitate social capital is crucial, particularly for temporary populations like students. Any new social spaces created by these developments have been privatized as in-building lounges, or roof amenities, with very little genuinely public space. Additionally, the combined psychological effects of unmitigated tall buildings, a lack of greenspace, busy traffic, a food desert, and the resulting social isolation of many single room plans being rented certainly has not helped students experiencing mental health issues.

That being said, newer student housing developments, like the Hub at Columbia Street and Albert Street, include more interior and exterior common spaces, and involved considerable city input during the design stages as the City of Waterloo has become more involved in recent years. Further, the developments proposed along the LRT route target the young professional client base, and as a result propose a more engaged relationship with public space. Larger proposed developments prioritize mixed uses, with residential, commercial/retail, and office spaces within close proximity. This allows exterior public spaces to be activated at a variety of times by a variety of people.

This type of strategy supports an engaged view of public space that Kitchener-Waterloo is poised to accept. More specifically, within this design proposal, public spaces are aligned with the LRT route. If done well, this could shift the general perception of the LRT to a more favourable tone. It could also increase the overall imageability of the spaces connected to the LRT, such that another backbone of wayfinding is added within Kitchener-Waterloo. These ideas are tested further in Midtown.

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45. “Judge Dismisses Motion to Stop LRT Construction” *CBC News* (2014).

46. Mike McCulloch, “Broadcaster to Run for Waterloo Mayor on Anti-LRT Platform” *CBC News* (2014).



## MIDTOWN

In between Downtown Kitchener and Uptown Waterloo is a low-density region that has, in recent years, taken the name Midtown. It does not have defined boundaries, nor does it have any official standing whatsoever. The term “Midtown” trickled from bottom up, from condo marketing material and community members as a way to self-identify as residents of the areas between the cores of Kitchener and Waterloo.

Midtown is generally accepted as framed by Weber Street and Park Street, although also connecting Belmont Village. This district straddles the border of Kitchener and Waterloo, and so there are different policies in place from each city, although there are some broader policies that encompass the entire Region of Waterloo. Beyond both cities, there are several other key stakeholders in Midtown. Grand River Hospital is the closest hospital to Waterloo, and has a specialized cancer treatment centre. Kitchener-Waterloo Collegiate & Vocational School (KCI) offers courses in horticulture, health and wellness, and information and communication technology. SunLife Financial is one of the key insurance companies that remains as an economic driver in the Region. These three institutions have roughly 8000 employees/students/volunteers who take daily trips into and out of the area, which is by estimation roughly two thirds of those who travel to downtown Kitchener daily.

Running directly through the heart of Midtown is King Street, which recently underwent major modifications to receive the LRT system. With the LRT as a catalyst for development, Midtown will densify drastically. Figures 3.1 and 3.2 illustrate these changes. Along Park Street, single family dwellings will likely be replaced by medical office spaces, as this is already a trend in that neighbourhood. Moving north, the large surface parking lot situated between the insurance company and the hospital will be infilled, and providing office, retail, and residential spaces. Both the hospital and the insurance company would relocate their parking. SunLife’s parking would be submerged beneath the developments to the West and East, and Grand River Hospital’s parking would be partially within a new parking garage, and partially submerged under the site. On the other side of King Street, several smaller buildings could be transformed into commercial and residential complexes, with townhouses facing the established neighbourhood to the North.

There are many other areas within the context of Midtown that will be redeveloped. A large housing, commercial, and office complex is proposed for the intersection of King and Victoria, replacing a strip plaza. Mid-rise apartment buildings replace corner stores. Tri-plexes replace single-family dwellings. While these types of densification do not have the direct effects of gentrification, they raise property values which can be felt by existing families and businesses alike.

These predictions are based on extensive research into the existing and proposed conditions of the area which take into account the voices of the current stakeholders. The Region and the Cities prepared several reports while looking into the LRT, and engaged in community feedback sessions. This next segment outlines some of the main sources I’ve examined, and how they contribute to the overall context.

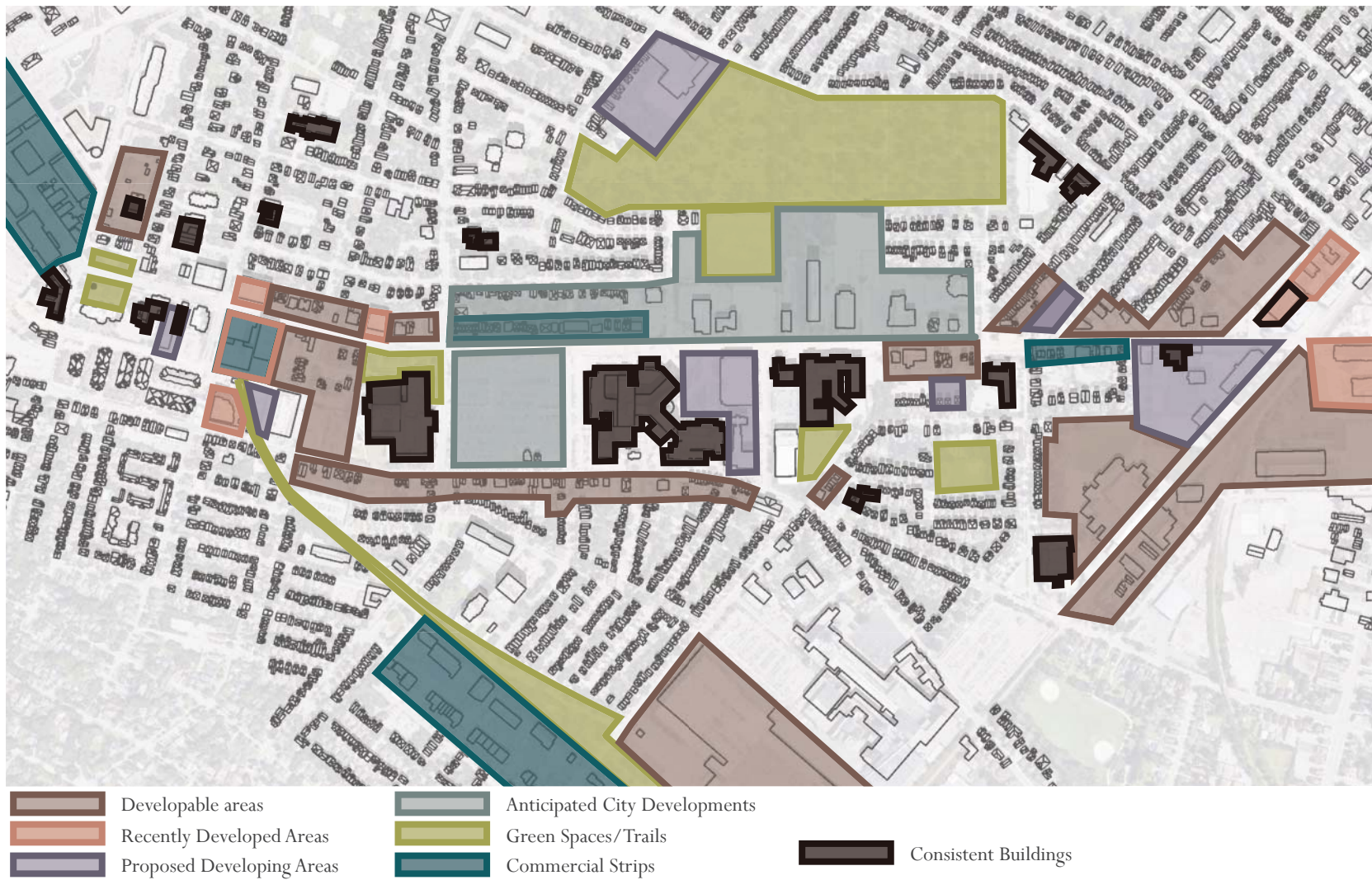


Figure 3.1

This drawing represents an approximation of Midtown Kitchener-Waterloo as it stood in 2015. Some areas were already going through transition, and others were earmarked for densification. Some areas developed an identity as commercial strips, while others are very much residential neighbourhoods. These pre-established identities are important for understanding the organic nature of how Midtown might grow and densify.



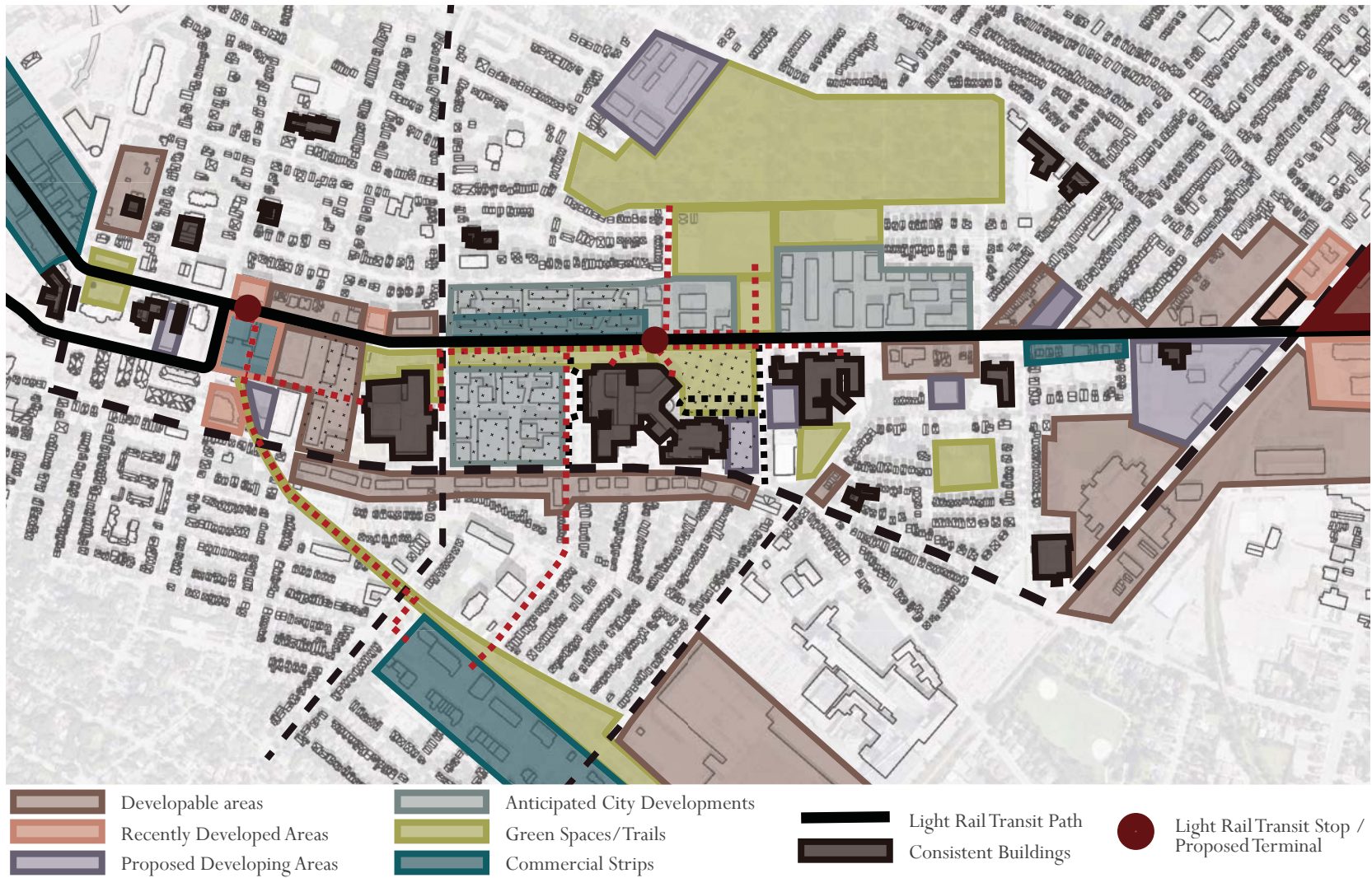


Figure 3.2

Comparatively, Midtown as of 2030 is captured in this drawing. Main vehicular routes are shown in black dashed lines, while pedestrian desire lines from LRT stops to main points of interest are indicated in red dashed lines. The LRT route prompts significant development, particularly in the vicinity of the transit terminal and the hospital stop. The stakeholders invested in Midtown in 2030 will be somewhat different from those in 2015, but some commonalities will of course remain the same.

The existing zoning near Grand River Hospital is generally aligned with this proposed scheme, however, the design is not prescriptive to it. Along King Street, current Kitchener zoning calls for medium and high intensity mixed use, encouraging the development of residential, commercial, retail, and offices in close proximity to the LRT line. Both of these zoning regulations have the same floor space ratio and facade height ranges. The degree of intensity that distinguishes the two zones is not related to density, rather, seems to be related to how prescriptive the regulations are for each zone. While many of the regulations seem reasonable, requirements like the maximum 10m front yard width would prohibit much of the public space treatment proposed in this design. On the other hand, the existing zoning also supports my predictions for the growth of Park Street, as that stretch is zoned separately from the established neighbourhood to permit both residential dwellings and health offices and clinics. Currently, ambulance traffic does not travel along Park Street due to noise complaints from the neighbouring residents, however, as the neighbourhood changes that routing should be revisited.

The Kitchener Integrated Transportation Master Plan from 2013 presents insights into how people travel through Kitchener, and is the current guiding document for practicing professionals.<sup>47</sup> It calls for a complete streets attitude moving forward to promote cycling, walking, and transit to reduce the reliance on private vehicles.<sup>48</sup> The document outlines broader node and corridor views of analysing Kitchener-Waterloo, and highlights key frameworks for incentivizing alternative modes of transportation.<sup>49</sup> Unfortunately, as this document was likely created during the planning processes for the LRT route selection, the LRT is absent from much of its discussion, rendering it almost useless for predicting traffic patterns in the future.

Similarly, the City of Kitchener, in 2010, released a “Cycling Master Plan for the 21st Century” document, which outlines a policy framework for transforming Kitchener into a bicycle-friendly city.<sup>50</sup> The document also contains a map depicting the existing and proposed cycling infrastructure overlaid on top of the existing road network of 2010.<sup>51</sup> However, as this document was prepared prior to the introduction of the LRT, the City proposed cycling network misses crucial connections with the LRT stops. Notably, the stop at Midtown is mostly avoided by cycling infrastructure, and Grand River Hospital is not serviced by cycling infrastructure at all.<sup>52</sup> This is taken into consideration in my proposed design, as I have included bike lanes along both Park and King streets, allowing for multi-modal transit options and connections to the City of Kitchener’s cycling network.

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47. IBI Group, Kitchener Integrated Transportation Master Plan: Transportation’s Role in a Complete and Healthy Kitchener (City of Kitchener, 2013).

48. Ibid.

49. Ibid.

50. IBI Group, City of Kitchener Cycling Master Plan for the 21st Century (City of Kitchener, 2010).

51. Ibid.

52. Ibid.

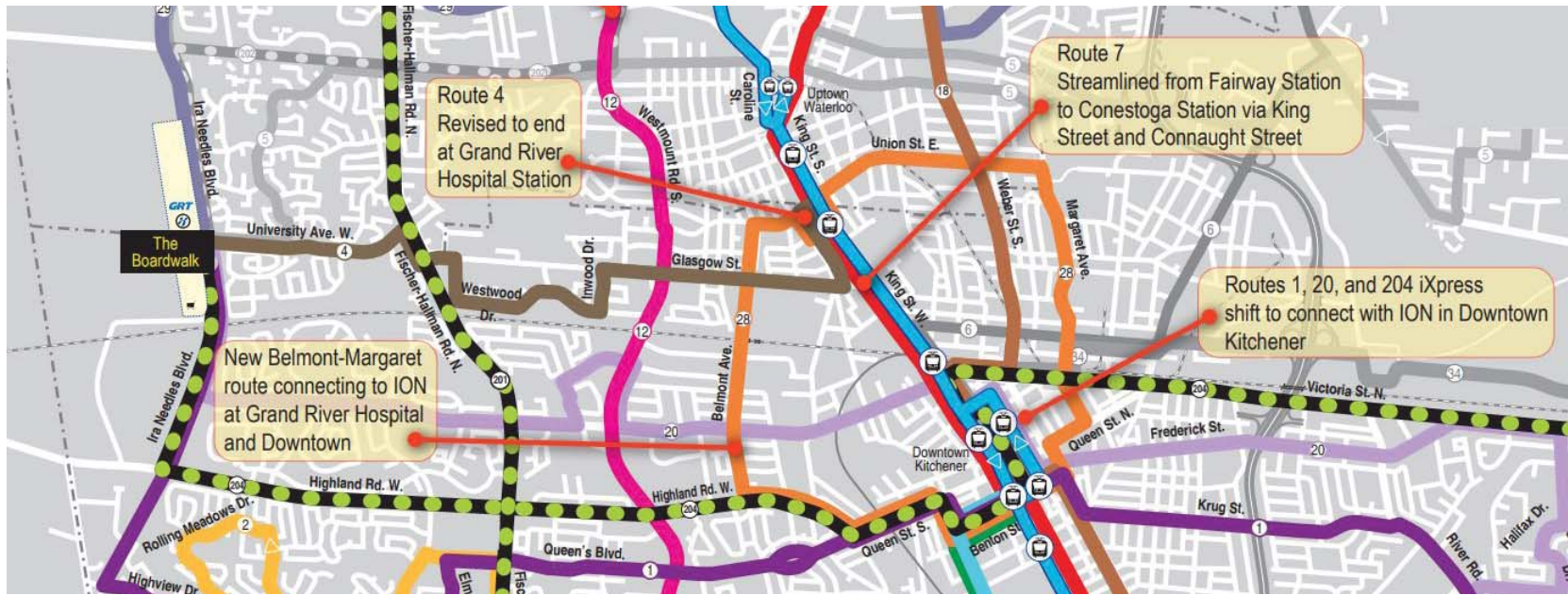


Figure 3.3  
Grand River Transit is implementing a new route through Midtown, circulating from the North side of the cemetery, past the hospital, through Belmont Village, and connecting to the new transit hub at King and Victoria.

Grand River Transit, however, is currently in the process of overhauling the bus routes in the region to service the predicted flow patterns associated with the anticipated growth. There are several bus routes proposed for Midtown, three of which intend to have connections with the LRT stop at the hospital.<sup>53</sup> Route 7 will continue as it has historically existed, and run along the length of King Street through the two cities. The stops on the bus routes are much closer together than on the LRT route, so Route 7 will act as a local route while the LRT is intended to be an express route. Route 4 will change from its current condition, and only connect from King Street West to the Boardwalk commercial zone on the far limits of urbanized Kitchener-Waterloo.<sup>54</sup> Finally, a new route is proposed that links the hospital to downtown Kitchener: Route 28. This route circles through Belmont Village, past the hospital, and north of the cemetery.<sup>55</sup> The restructured routes will take effect in 2018, with a subsequent round of revisions in 2031.<sup>56</sup> While there currently is no provision for bus stops with waiting areas as would be required by these routes, this proposal considers this spatial need.

53. Region of Waterloo, 2021 Transit Network (2017).

54. Ibid.

55. Ibid.

56. Ibid.

Further, the alignment of the citywide “Parks Strategic Plan” and the LRT is sub-optimal, simply because of the timing. This is another document released in 2010, prior to the drastic impact of the LRT. For Midtown, the “Parks Strategic Plan” suggests maintaining the existing neighbourhood parks, but does not consider creating new greenspaces.<sup>57</sup> Although the report does not go into specifics for Midtown, I imagine this recommendation was developed out of concern for the existing low density in relation to a critical population level to keep parks safe and activated. However, with the anticipated growth in Midtown, those critical population levels will increase as well, necessitating the expansion of the existing greenspace network.

Of particular note to Midtown is the Planning Around Rapid Transit (PARTS) Midtown studies. The City of Kitchener is conducting research around the LRT route to guide the densification and transit connections.<sup>58</sup> As such, much of the above fragmented recommendations for public space are looked at cohesively and specifically in areas around the LRT stops. This research includes public consultations to gauge how stakeholders perceive the LRT, densification, development, public space, and their neighbourhoods.<sup>59</sup> The PARTS research is ongoing in parallel with this thesis, and as such PARTS preliminary research helped guide this proposal. The study areas and focus areas for both sets of research overlap, but are not identical. Further, the resources available to conduct and analyse the PARTS research outstrips those available to prepare this proposal. PARTS research was publicly released in stages, beginning with the results from public consultations, then a summary of how those translate to planning priorities, followed by iterations of building form design, and lastly a comprehensive package summarizing all the previous information and complete with a master plan design. The comprehensive package was released in late fall, 2017, and presents a proposal that this thesis supplements.<sup>60</sup>

PARTS foresees a similar level of development and growth in Midtown as proposed in the maps above. With high- and mid-rise development centred around King Street, and mid- and low-rise development tapering towards the established neighborhoods, PARTS suggests a densification along the LRT route that brings a wide variety of uses to the associated public spaces. The main differences between building forms in the PARTS predictions and the projections presented through this thesis primarily lie in the treatment of King Street, including the growth of the hospital and adjacent commercial spaces. Before discussing the PARTS research in more detail, I will outline the public space design strategies as proposed in this thesis, as a point of comparison.

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57. Parks Strategic Plan (City of Kitchener, 2010).

58. “PARTS Midtown.” City of Kitchener. Last modified May 18, 2017. <https://www.kitchener.ca/en/livinginkitchener/PARTS-Midtown-Station-Study-Area-Plan.asp>

59. Ibid.

60. “PARTS Midtown Plan.” City of Kitchener. Last modified October 2, 2017. [https://www.kitchener.ca/en/resourcesGeneral/Documents/CSD\\_PLAN\\_PARTS\\_Midtown\\_Plan\\_WebB.pdf](https://www.kitchener.ca/en/resourcesGeneral/Documents/CSD_PLAN_PARTS_Midtown_Plan_WebB.pdf)



Figure 3.4

PARTS envisions a similar growth pattern for Midtown. They allow the hospital to create satellite buildings, both to the North and East. The large parking lot to the West has towers comparable in height to the SunLife tower, while I am proposing shorter high-rise residential towers instead. The main difference between the approaches is the handling of public space. PARTS Midtown prioritizes developments over public spaces, whereas my approach reorients the public spaces as a higher priority.



## PUBLIC SPACE DESIGN STRATEGIES



Figure 4.1

This aerial view depicts a potential future of central Midtown. King Street, with the LRT and improved bikeways, is the central artery along which development is focussed. The developments taper from intensely mixed use along the LRT artery to the single family dwellings in the established neighbourhoods. Here, King Street is acting as a connector for people, but also for the greenspaces in Midtown. The spaces associated with LRT become a green corridor, linking the existing gardens on the SunLife grounds with the proposed sensory gardens at Grand River Hospital, and through the enhanced playing field area up to the cemetery.

With the current traffic patterns surrounding Grand River Hospital, there is a problem area near the proposed LRT stop. Cyclists, private vehicles, and emergency vehicles converge in a single lane of traffic directly in front of the hospital, with pedestrians from the LRT crossing through that chokepoint. This is a tricky situation that could potentially cause frustrations for drivers, and create a dangerous situation for pedestrians, cyclists, and ambulances on route to the hospital.

To alleviate this confluence, and enhance the public space in this area, I propose a series of design interventions. The following components correspond to Figure 4.2.

1. In line with hospital's growth vision, the private vehicle access to the hospital will continue to be from Green Street, but will also connect to the anticipated parking garage and proposed underground parking structures.
2. The ambulatory approach to Grand River Hospital and ambulance bay is relocated to off of Mount Hope Street.
3. The pedestrian entrance to the hospital is through the plaza on King Street.
4. Grand River Hospital has an extended green space which acts as a sensory garden.
5. On the North side of King Street, a community garden provides local residents with small plots to grow plants and vegetables in.
6. A play area for children and youth with play structures is proposed near the established neighbourhood by the cemetery.
7. To improve the physical education and extracurricular spaces at KCI, the existing sports field is doubled in size, and spectator stands along with change rooms are provided.
8. King Street is widened from Union Street to KCI to accommodate bikeways and street parking.
9. A linear park space is proposed along King Street to increase walkability and to connect the greenspaces within the area.

The passenger drop off to the hospital remains in generally the same place at grade, connecting to the existing main entrance to the hospital. It provides several drop off spots, as well as access to the proposed 1 500 spot parking structure which will extend below grade under the adjacent greenspace. The parking structure will consolidate the existing rental of spaces at nearby factories and surface lots, and should provide direct links to the Grand River Regional Cancer Centre and the main internal circulation system.

To accommodate the ambulatory entrance repositioning to the other side of the hospital, and ensure ambulance right of way, I propose a widening of Mount Hope Street to three lanes for the block adjacent to the hospital. While current ambulance routings avoid Park Street due to neighbourhood noise concerns, my projected land use transformations from residential to commercial and healthcare allow a reasonable buffer such that ambulances could expect to use Park Street again. This further justifies relocating the ambulance approach off of King Street.

The pedestrian approach from the LRT stop is completely transformed, now that much of the other programming is shifted away from the King Street frontage. A pedestrian plaza with seating and bicycle storage lies directly between the entrance and the LRT stop. Additionally, as the construction of the underground parking will disturb much of the soil in the area, many of the existing grading issues that present difficulties for pedestrians navigating the site can be resolved easily.



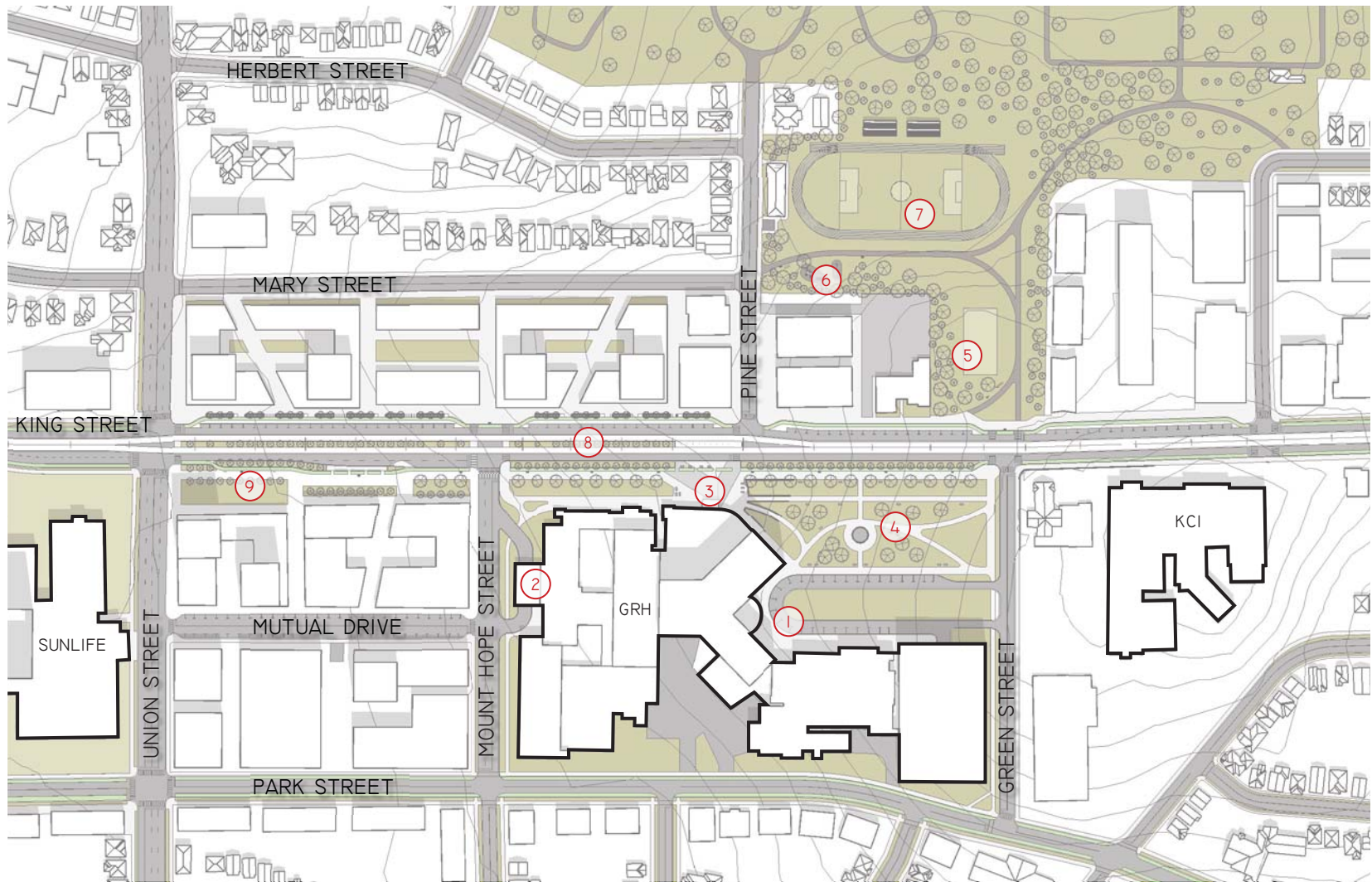


Figure 4.2

This plan correlates with the design interventions on the previous page. The three major institutions, KCI, Grand River Hospital, and Sunlife Assurance, are highlighted to emphasize the relationships between the major stakeholders, the flows of people, and public space.

The proposed configuration of public spaces imply a reorganization of interior functions within the hospital. Notably, the emergency department could relocate closer to the ambulance drop off area, allowing for restructured internal circulation between the pedestrian and private vehicular entrances. The existing circulation systems these entrances tie into are split between two levels, which could be consolidated to one. As such, the grade changes created by the underground parking generally align with the existing street level rather than the existing building storeys. This would also provide opportunities for amenities like the food court and market place to realign with the exterior public spaces, potentially drawing from a broader customer base. It may be possible for these changes to occur without disturbing expensive equipment and machinery already installed within the hospital, however, I have not explored these options extensively. The reorganisation of the internal workings of the hospital, along with the feasibility and phasing of that reorganisation, are questions I pose, rather than attempt to answer.

The reorientation of public spaces also re-examines the effectiveness of traditional transportation networks currently in use in Midtown. The proposed scheme provides safe spatial divisions between each mode of transportation, while ensuring key destinations are serviced by each mode. Further, each method of transportation has secondary spaces associated with it, as well as desirable accessories that enhance their experiences. The following plans and sections capture these spatial relationships.

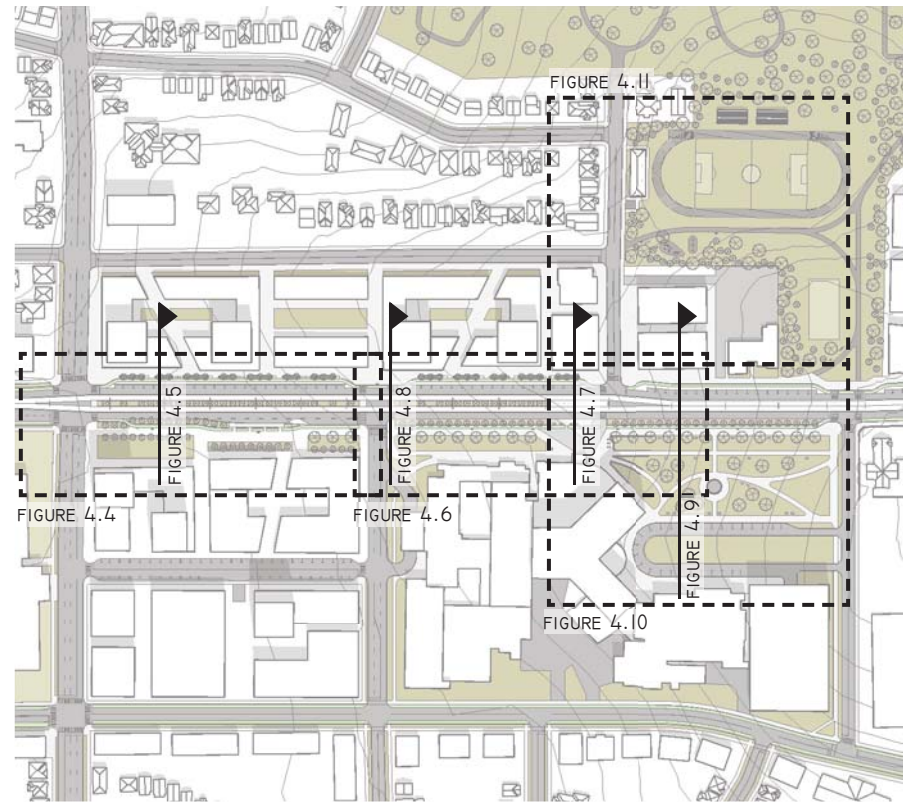


Figure 4.3

The drawings on the following pages are presented according to the layout on this keyplan.

Figure 4.4 (top of facing page)

Here, King Street is featured between Union Street and Mount Hope Street. The LRT runs through the centre, with street trees between the two tracks. The North side of King Street has street parking to service the retail and commercial businesses closeby, while the South side presents a bus stop and a turning lane. The bikeways are separated from the vehicular traffic. To the North, a raised pedestrian refuge protects cyclists from parked car doors, and to the South, the bikeway is integrated into a mixed use trail. Intersections are protected for both cyclists and pedestrians with zebra crossings and signage, and through distinct paths of travel. The wide sidewalks for pedestrians allow space for travel and informal uses like socializing. The adjacent green spaces provide shade and calming effects, as well as spaces for leisure.

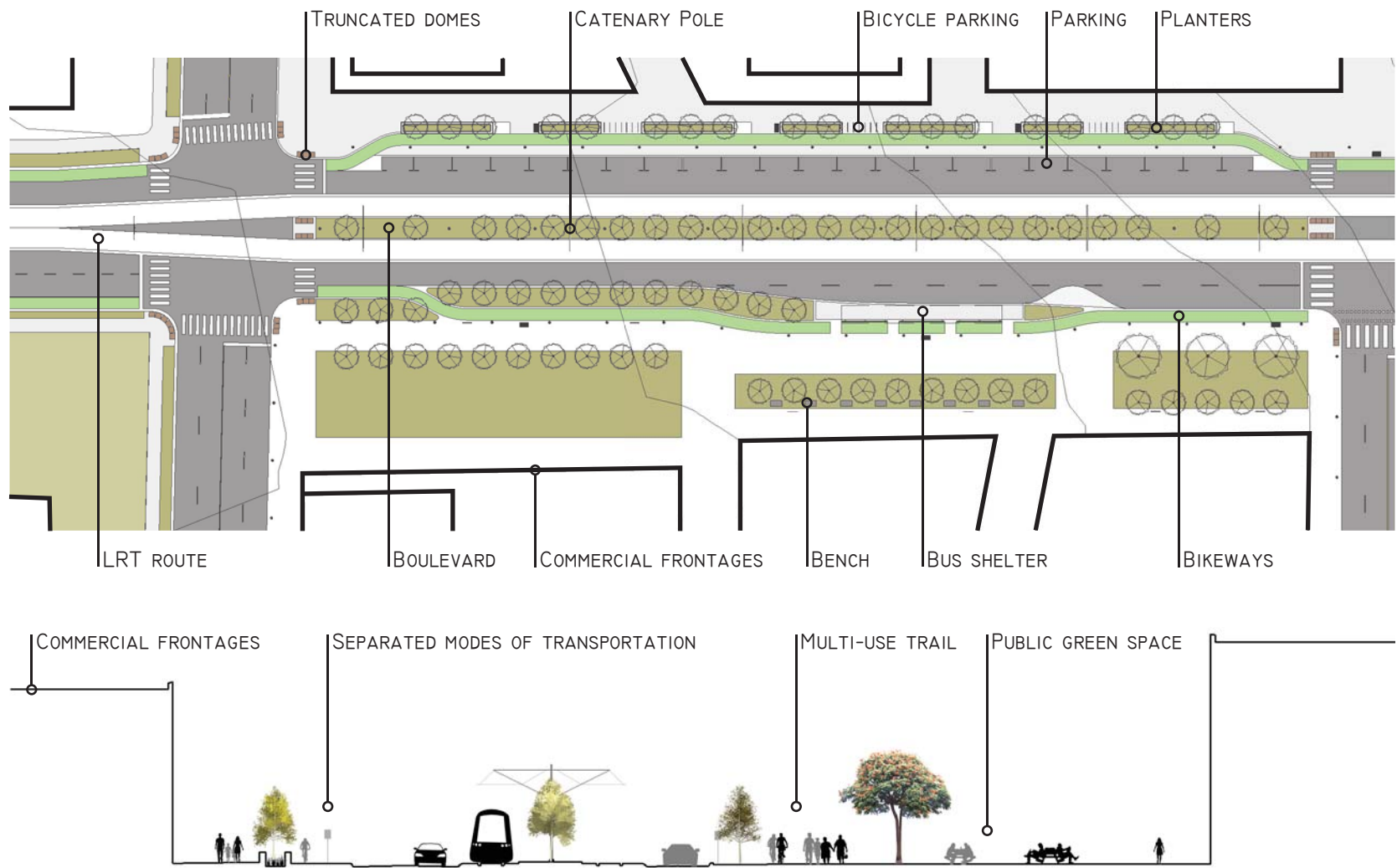


Figure 4.5  
 This section shows the typical relationships between the modes of transportations proposed in this scheme. Many of the modes of transportation have vertical separations between them, as well as horizontal buffers. To the North, the street trees are enclosed within bench-like walls, but their root systems can grow under the sidewalk. To the South, the greenspaces are more flexible for occasional users.

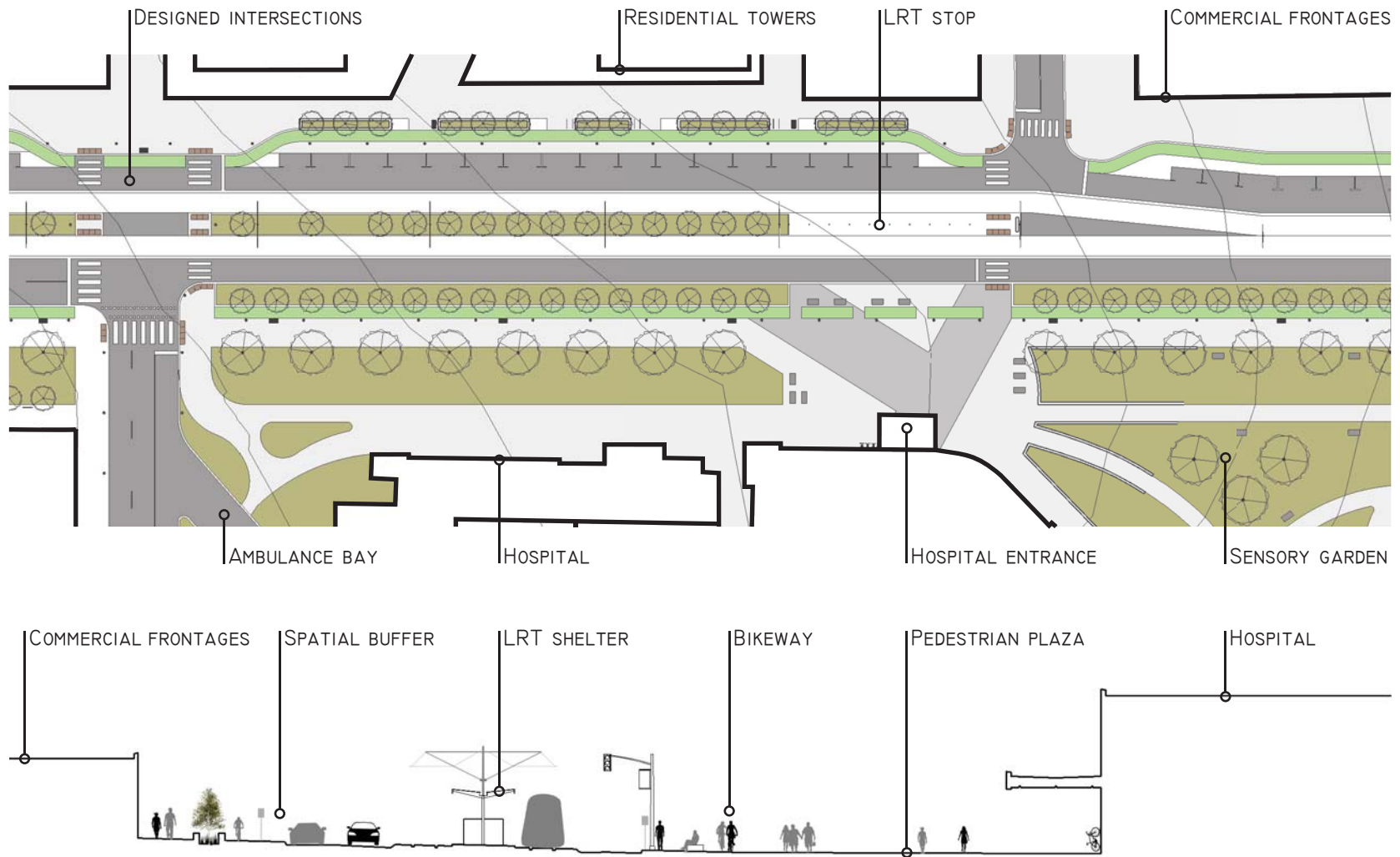


Figure 4.6 (top)

Continuing along King Street through past Pine Street, each mode of transportation follows similar principles to the previous block. The Grand River Hospital LRT stop terminates the centre boulevard, with direct crossings in both directions. To the South, a pedestrian plaza lies in front of a reconfigured entrance to the hospital, complete with bicycle storage facilities.

Figure 4.7 (bottom)

This section aligns the proposed entrance to the hospital, the pedestrian plaza, and the LRT stop.

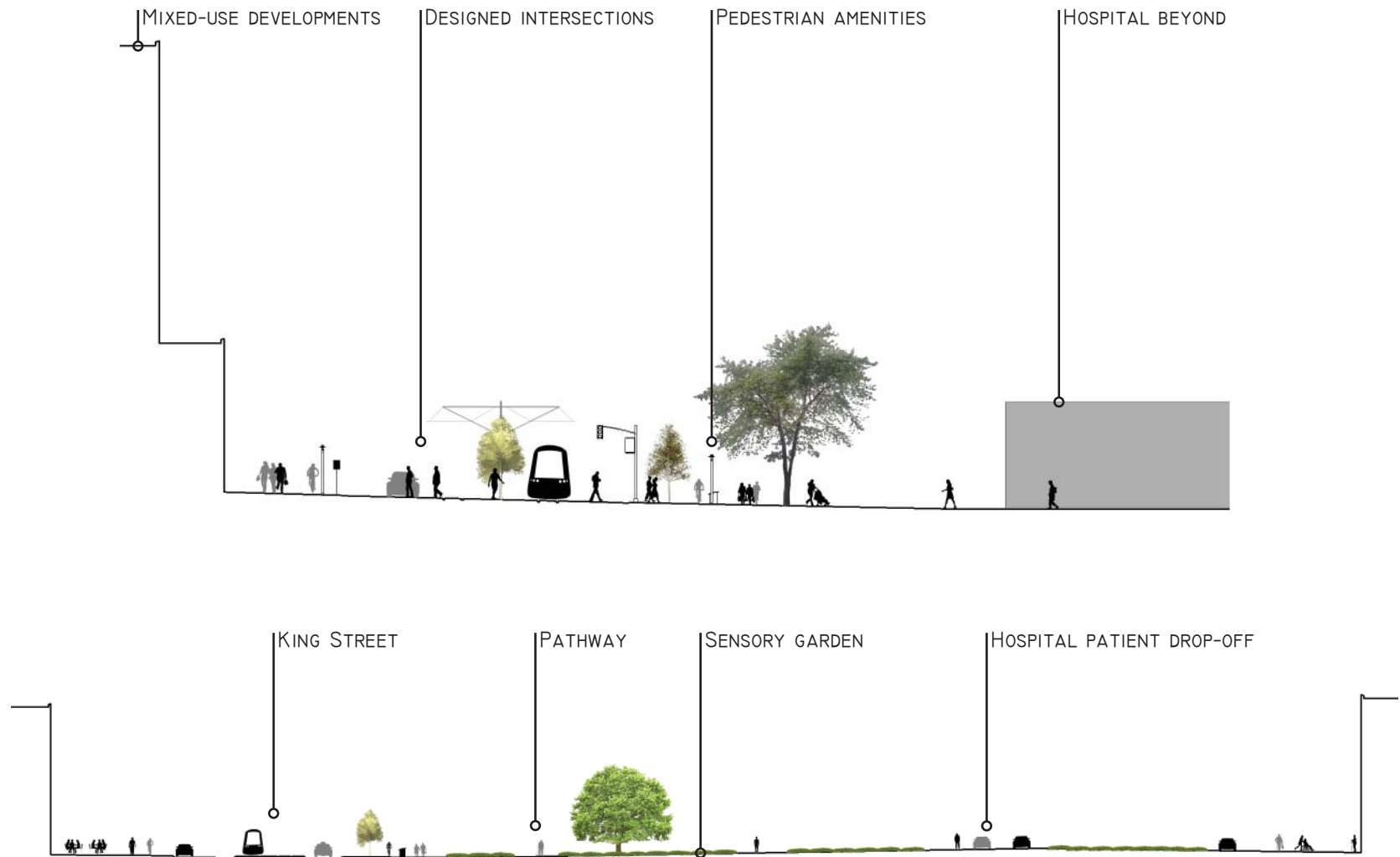


Figure 4.8 (top)

Cutting through an intersection, this section shows how the vertical separations between the modes of transportation flatten to allow changes in direction.

Figure 4.9 (bottom)

This section highlights King Street without the boulevard, and continues through the proposed garden adjacent to the hospital.

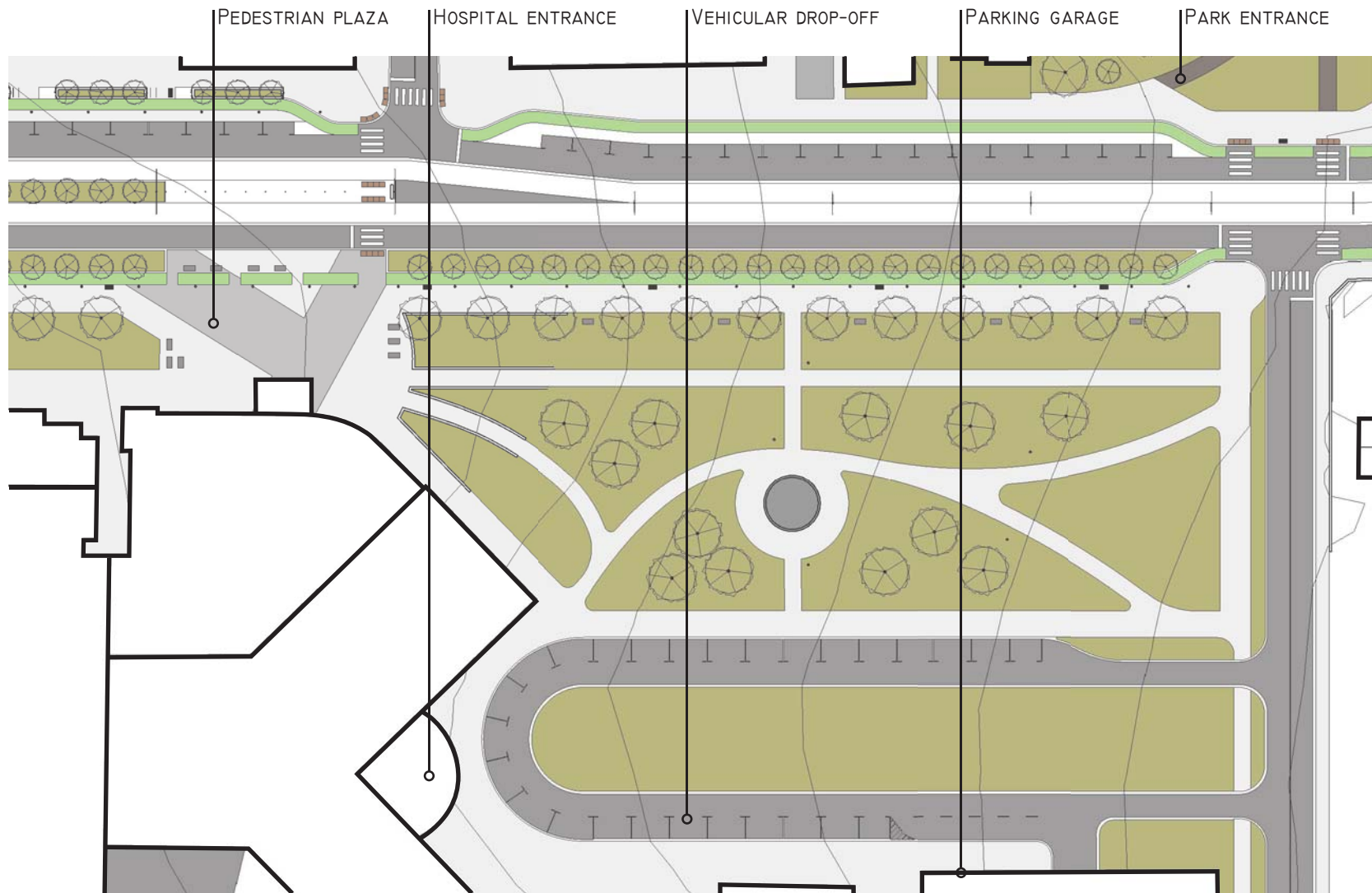


Figure 4.10

In between the pedestrian and vehicular entrances to the hospital is a sensory garden. This space features plants that are not only aesthetically pleasing, but also stimulate the other senses. Patients can benefit from the calming effects of this garden to help in their healing journeys, with both physical and mental health benefits. The fountain in the middle of the garden provides a focal point around which patients and visitors can gather. Trees and bushes define more intimate spaces within the garden.

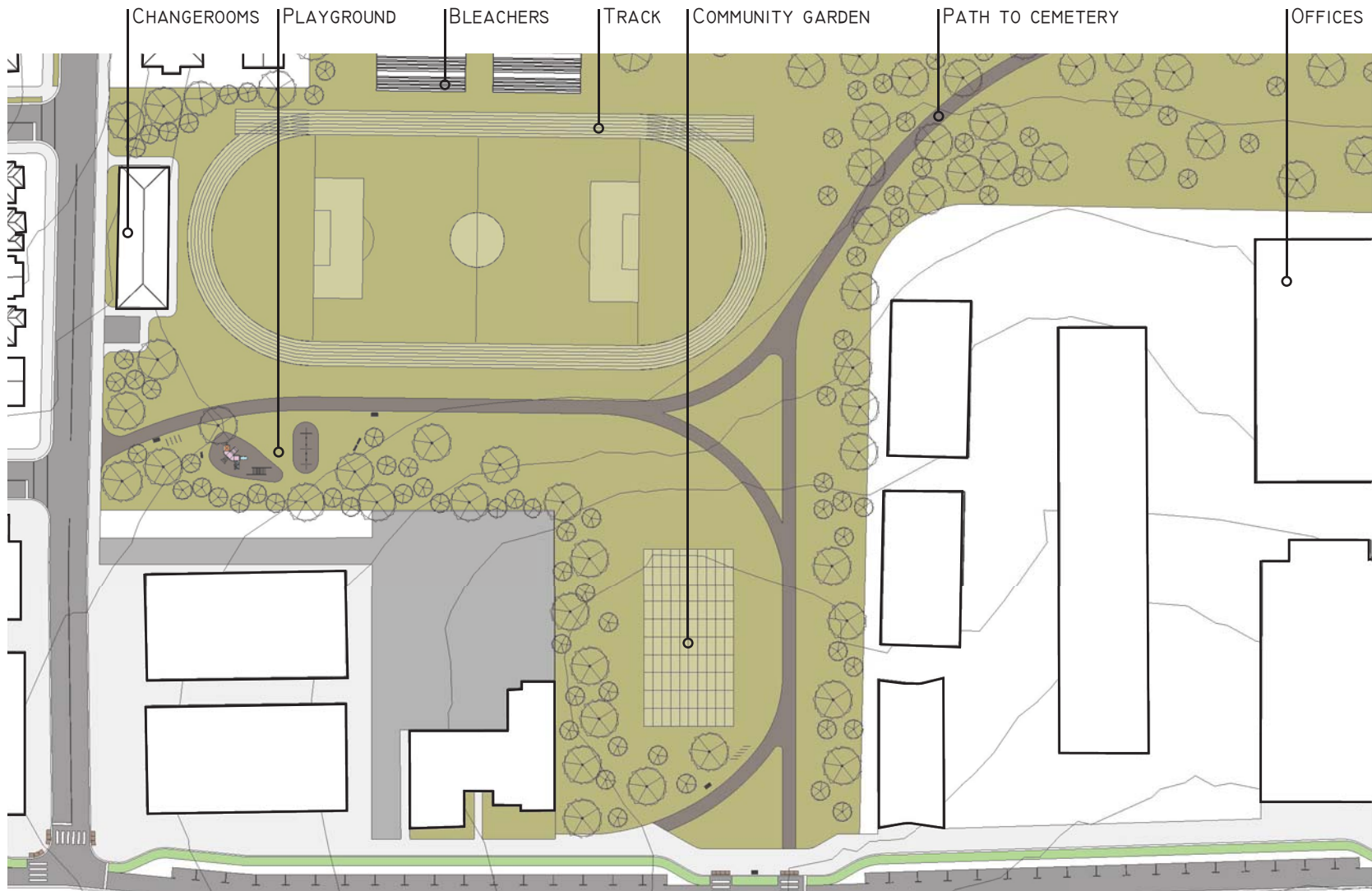


Figure 4.11

The proposed track replaces the half-size field already in use by KCI, and along with the spectator stands and change room shelter, would greatly enhance the physical education program and extracurriculars offered in this area. The adjacent play area is shaded by trees in the afternoon. The trail system connects to the paths in the cemetery, which are used for both leisure and active transportation. Lastly, the community garden allows plots of land to be rented by community members for the growing season, and connects to the network of community gardens across the Region.





## VIEWPOINTS

The following images capture the experience of navigating through the proposed series of spaces in the design. They supplement the analytical portrayal of Midtown with a series of experiences that aim to bring groundtruth and pedestrian relatability to the proposal. These viewpoints are crafted in journeys, similar to Cullen’s “Townscape” scenarios. They do not attempt to represent the entire breadth of experiences, rather, they portray key moments within those journeys.

The first sequence of images depict a journey along the South side of King street, starting at the LRT stop, and ending at the nearby bus stop. This route overlaps with routes taken by those travelling to the hospital, to Sunlife, and to the adjacent businesses. As such, its efficient design lends itself well to commuters and quest-based trips. The second journey is leisure-based, travelling through the park and garden areas, and arriving at the pedestrian plaza.

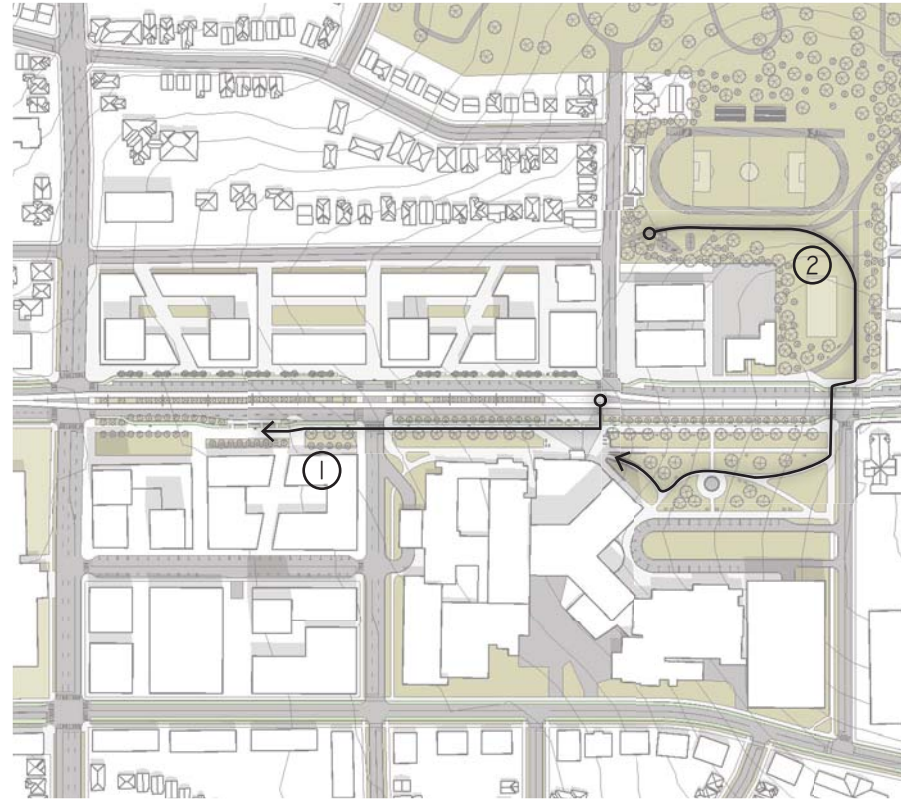


Figure 5.1

This keyplan denotes the routes for the journeys depicted in the following sequences of images.



Figure 5.2

As you step off the LRT, you glance around you. The hospital is across the street and to the right, and your bus connection is just a bit further down. You need to wait for the light to change before crossing King Street, so you wait at the truncated domes and pull out your work phone. It's important that you're on time today.



Figure 5.3

There was a decent break in the cyclists, and crossing over to the plaza was pretty easy today. Sometimes it takes you a while to cross, but usually only in rush hour. The pedestrian plaza seems busy though, with lots of people crossing through. A slip of conversation, stolen on the breeze, reminds you of your backlog of tasks at work. A cyclist whizzes by to your right, following the green pathway along the street.



Figure 5.4

Many of your work tasks will have to wait until after the important morning meeting. You check your watch as you walk, and the flash of the truncated domes in your peripheral vision ahead warns you of the upcoming intersection. You cross the street, to the annoyance of the driver waiting to turn. You have time, but not enough for a coffee. You see your connecting bus is approaching the bus stop ahead, and pick up your pace. The leaves on the trees on the boulevard flutter as a train in the opposite direction whizzes by.



Figure 5.5

The sounds of a jingling bell as a door opens remind you of the cafe in the adjacent building, and you make a note to leave more time tomorrow to pick up a coffee. As you approach the bus stop, you go over your meeting agenda again in your head, to make sure you have everything prepared. Are you forgetting anything? Any last minute details? People sitting on the park benches stand up and head over to the bus stop. You join them, and board the bus.

## JOURNEY 2



Figure 5.6

The weather is perfect for an afternoon stroll, so you decide to see how the neighbourhood is faring. The sound of children playing draws you into the park and along the path, where you see the climbing equipment and a handful of kids enjoying the late afternoon. You hear them running and playing, with their parents chatting closeby. Birds chatter in the trees, and sound of cicadas waft in and out. You smile as you continue along the curved path.



Figure 5.7

As you pass by the sports field, you notice its informal use for the community. A few people jog around the perimeter, and a ball is kicked around. You remember the wide open space often hosts a tai chi class early in the mornings. The lawn is well maintained, and the fresh-cut grass adds a nostalgic smell to your musings. Beyond, and to the left lies the connection to the cemetery, obscured by the trees. You choose to turn right at the pathway fork though, and head towards King Street.





Figure 5.8

You check in on the community garden as you meander by. You recall excess food grown in this garden is often donated to KCI, and used for the community meals the high school hosts. Initiatives like this make you happy and proud to be a part of this community. You notice a young couple working in the garden, and assume they live in one of the new condos, like the many dog owners out today. The church in the distance crests the gentle hill you're climbing, along with the nearby hospital parking structure.



Figure 5.9

When you reach King Street, you have a decision to make. Should you turn back home, along the street? Or should you continue on your stroll into the hospital garden? The traffic is light, and the street lights just changed, so on a whim you continue your moseying walk across the street. It doesn't take long to cross the street, and you appreciate the decreased walking distance compared to typical intersections. You hear the chime as the LRT closes its doors and continues towards Waterloo. You enter the garden.



Figure 5.10

The garden makes a very pleasant strolling space. A tall plant is growing beside you, and after rubbing its leaves, you realize it is a type of mint. You smell your fingers as you walk along, enjoying the sound of the birds and the glimpses of the bumble bees. You recognize several other species of plants, some of which you feel the urge to touch or smell. This garden refuge, between Kitchener and Waterloo, is a gem. The path curves, and the way is framed by trees. The hospital hovers beyond.



Figure 5.11

You hear the sound of burbling water as you approach the fountain, and decide to sit for a while to enjoy the moment. You catch pieces of conversations from other strollers as they meander by, but pay no attention. You can barely hear the sound of the LRT train swooshing past. You enjoy the sun on your face, but decide to continue on. There are several paths out of the garden. Heading to the left would lead you to the hospital patient drop off area, and to the right takes you directly to King Street. You stroll straight, to the pedestrian plaza instead.



Figure 5.12

Retaining walls terminate the garden beds, transitioning into the hardscape surfaces of the pedestrian plaza. A bassist plays near the benches, busking in the sun. Beyond, the condos frame the sky, with commercial spaces lining the street. The LRT approaches the stop, and the dinging of a cyclist's bell can be heard. This is a faster pace area, with people crossing the plaza in a hurry. You join them, and pick up your pace as you head home.



## PARSING PARTS

The City of Kitchener is examining future development around the LRT line through the PARTS project. PARTS proposes guidelines for land use, infrastructure, and notions of urban design, which will be used as a basis for planning policies to come.<sup>61</sup> Fundamentally, the PARTS proposal foresees a similar level of development and degree of densification as what I've outlined above. Both design schemes were developed independently, and focus on slightly different priorities. As such, this thesis adds an additional level of resolution to key design areas that PARTS Midtown does not approach. Here follows a comparison of how the two schemes complement each other.

At a high level, both PARTS and this proposal examine the context of the Midtown LRT stop. PARTS outlines a rather broad study area, and addresses the low-density manufacturing zones, established neighborhoods, the cemetery, and the hospital.<sup>62</sup> This proposal considers similar boundaries, but focusses more narrowly on the vicinity around the LRT stop and hospital. Further, PARTS is a City of Kitchener project and resultantly has a hard boundary at the city limits, although is cognisant of potential impacts across that border as well.<sup>63</sup> This thesis, on the other hand, makes no distinction between the geographical boundaries of the two cities. PARTS examines a larger swath of land, as well as incorporating experts from many fields.<sup>64</sup> The breadth of the PARTS study is suitable for an infrastructure project of this scale, but also curtails the depth of the proposed scheme. This thesis suggests targeted interventions that focus on wayfinding through urban design, and could be enveloped by the PARTS proposal.

The Vision and Objectives for the Midtown area as set out by the PARTS study align with the vision behind this thesis. Both schemes aim to temper the expected changes from the LRT to create a more vibrant Midtown. PARTS suggests reducing block sizes, allowing institutions and employment to expand, and improving neighbourhood connections while respecting established neighbourhoods and heritage landmarks.<sup>65</sup> PARTS also proposes limiting the amount of surface parking, and positioning commercial spaces adjacent to the LRT route.<sup>66</sup>

While some of these objectives are beyond the scope of this thesis, the proposed scheme elaborates on several of the objectives. PARTS acknowledges the need for public space throughout Midtown, and suggests isolated public areas.<sup>67</sup> This thesis elaborates on the concept of public space to include the LRT route, and proposes the use of public space as a connecting device. Further, the proposition of a pedestrian plaza at the Midtown LRT stop, rather than commercial streetscapes, will aid in wayfinding, place making, and improve the public sphere within Midtown. As multipurpose spaces, the pedestrian plaza and adjacent linear park can further enhance the hospital, adjacent commercial areas, the existing

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61. Ibid.

62. Ibid.

63. Ibid.

64. Ibid.

65. Ibid.

66. Ibid.

67. Ibid.

neighborhood, and the anticipated growth in the area. While each of these are included in the PARTS objectives, achievement of the objectives is not as thoroughly considered. The inclusion of designed transportation infrastructure, including bicycle lanes and pedestrian crossings, creates better connections both across and along King Street, which also ties into the PARTS objectives. Lastly, PARTS emphasizes the need for green spaces, but here again proposes isolated parkettes with limited inclusion of street trees.<sup>68</sup> While this approach expropriates minimal private land, it also doesn't realize the potential of public green spaces. Overall, the Midtown objectives set forth by the PARTS proposal align very closely with those guiding the targeted interventions within this thesis.

Similarly, the overarching vision proposed by PARTS for the entire LRT route feeds into complementary strategies. While some are less directly applied to the Midtown area, it is important to study the overall context of the new infrastructural line, and understand the role Midtown plays within the system. Here again, I elaborate on several of the concepts highlighted by PARTS, despite developing my proposal independently. Primarily, this thesis has developed a stronger proposition for transforming streets into places, as well as creating a network of park and open spaces. Redefining the King Street experience to include landscaping and trees creates a backbone for the network of green spaces. These two strategies should be developed together. Further, the creation of a transit supportive development pattern can be folded into the same discussion, particularly enhancing pedestrian crossings, establishing cycling infrastructure, and creating finer grain city blocks. Examining these discussions through the lens of reimagining King Street as a green artery in both transit and landscape can create a better wayfinding experience between and among the two cities.

Much of the PARTS report elaborates on how the guiding strategies and objectives could be introduced to the Midtown area, with sections on "Mobility", "Public Realm", "Technical Considerations", and "Implementation".<sup>69</sup> While each of these subjects are considered in this proposal, I have focused more intensely on public realm and mobility. Currently in Midtown, public space is space for movement, and the two topics are often considered as one. The PARTS proposal dissects the two topics individually, which is promising for the value of both public spaces and mobility in Midtown, yet may lead to siloed interventions.

The PARTS proposal outlines five key directions with subsequent strategies to improve mobility throughout Midtown. First, introducing a new block pattern can help connect and interweave the remnants of previous patterns.<sup>70</sup> New streets can service the anticipated areas of development and densification while respecting the current traffic flows through the established neighborhoods.<sup>71</sup> As the LRT tracks are to have signalized crossings only, and each of these streets is a potential ambulance route, what results is a very short stretch of King Street serviced by a large amount of stoplights. This thesis proposes a few slight adjustments that tweak this traffic flow. By relocating the emergency department and

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68. Ibid.

69. Ibid.

70. Ibid.

71. Ibid.



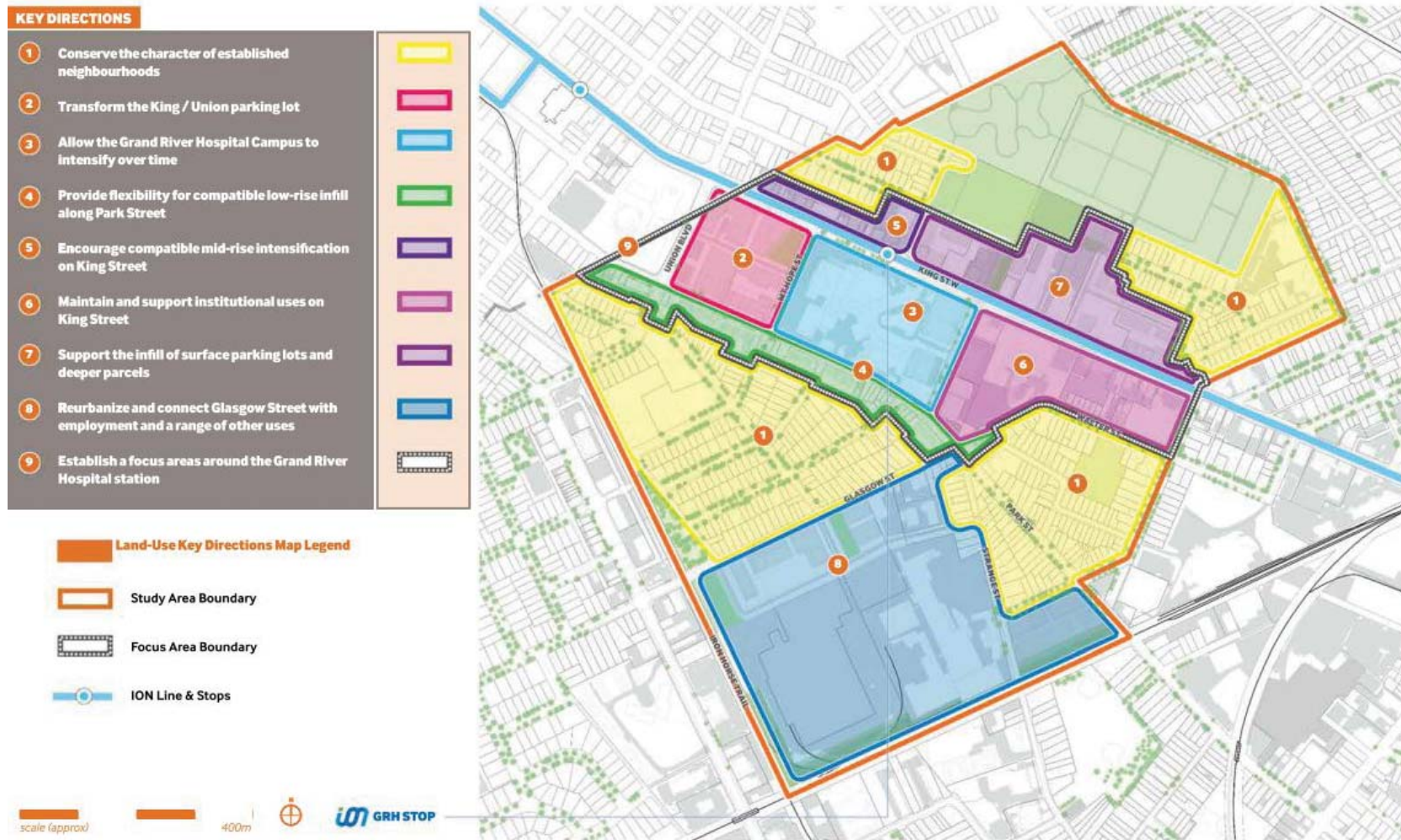


Figure 6.1

PARTS proposes nine key directions to lead Midtown. Most of these directions are considered within this thesis, however, without the hard boundaries that PARTS prescribes to each direction. This thesis does not propose designs for the reurbanization of Glasgow Street, nor does it suggest applications for the industrial lands depicted in direction eight. Rather, I narrowed the scope to the areas directly surrounding the LRT stop, and refined an approach to public space and wayfinding that compliments these key directions.

its access, ambulances can be routed along Park Street instead of King Street. This reduces the need for signalized crossings at each of the dead end streets North of King Street. These intersections could instead be mediated by a stop sign and forced right turn only, paired with a signalized pedestrian crossing. Routing ambulances along Park Street provides other benefits as well. Currently, with curbs separating the driving surfaces from the LRT tracks and the sidewalk, there isn't enough space for private vehicles to pull over when an ambulance approaches. Ambulances are permitted to mitigate potential traffic by mounting the LRT tracks, however, that is a less than ideal situation. Routing the ambulance traffic along Park Street eliminates this problem, and as a result enhances the King Street experience.

Next, PARTS suggests improving the cycling network and enhancing connectivity between existing trail segments.<sup>72</sup> Here both proposals agree on the goal, while using different strategies to achieve it. PARTS focusses on bicycling connections across King Street, and green network connections that skirt the core of Midtown.<sup>73</sup> This approach is useful for cyclists cutting from one city to the other who wish to avoid Midtown. On the other hand, I propose an alternative approach. Increasing greenery in the core, and using it as a connective tissue between the two cities allows Midtown to become a destination in itself. Providing protected bicycle lanes along King Street is crucial, both for encouraging active transportation servicing the anticipated residential developments, as well as for the growth of the commercial zone. PARTS proposes cycling infrastructure beyond the core of Midtown, however, and draws strength from considering the areas around Glasgow Street, as well as connections to the intermodal transit hub.<sup>74</sup>

PARTS also considers parking within Midtown, and recommends removing street parking entirely to create a more pedestrian friendly streetscape.<sup>75</sup> Street parking is to be replaced with underground lots as well as surface parking to the rear of buildings.<sup>76</sup> PARTS' approach has a few practical restrictions, however, and this thesis adds a level of resolution to the situation. I propose underground parking and parking lots to the rear of buildings, but also allow a limited amount of street parking along King Street. This parking is crucial for temporary visitors to the area, including delivery vehicles, commercial customers, and those with mobility aids. The design of this strip provides safe spaces for pedestrians, cyclists, and motorists alike, with buffer zones to protect cyclists against dooring. Nonetheless, Midtown must infill the present surface parking lots and mandate developments include underground parking.

The strategies outlined in PARTS for Mount Hope Street are broad directions for future consideration.<sup>77</sup> These include prioritizing pedestrian crossings and providing bicycle lanes, as well as creating a phasing strategy that responds to development timelines.<sup>78</sup> While this thesis does not detail Mount Hope Street, it offers design suggestions that could be implemented in this area.

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72. Ibid.

73. Ibid.

74. Ibid.

75. Ibid.

76. Ibid.

77. Ibid.

78. Ibid.



Figure 6.2  
PARTS represents a King Street streetscape with trees, commercial spaces, and the LRT route. The hospital is barely noticed due to the commercial and office spaces proposed adjacent to the street. This aerial view highlights the intent for landscape and greenery in the area, as well as the anticipated development levels. The LRT stop is highlighted in blue, and is featured in most of the renders and maps in the PARTS proposal.

The strategies PARTS proposes for enhancing the King Street streetscape are largely elaborated upon within this thesis. PARTS outlines a requirement for street trees between developments and the street, and notes the importance of street furniture.<sup>79</sup> Similarly, the strategies for Park Street are simply directions for continuing research and design, rather than a detailed proposition.<sup>80</sup>

As mentioned previously, the urban square proposed by PARTS adjacent to the hospital is somewhat isolated. The location is convenient as there currently is a parking lot on site, but it may not necessarily have the appropriate adjacencies to activate the park throughout the day and year. On the other hand, the extended green space near the cemetery fills the programmatic gaps left by the urban square. The two green spaces work well in tandem, but their comparative seclusion from King Street may prove troublesome.

Overall, the PARTS proposal and this thesis are closely aligned in vision, objectives, and key strategies. This thesis delves into some of the opportunities in much more detail to propose design solutions that PARTS did not consider. The two proposals complement each other, and offer a well-rounded approach to wayfinding within public spaces in Midtown.

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79. Ibid.

80. Ibid.





## CONCLUSION

The importance of the public spaces in Midtown Kitchener-Waterloo should not be overlooked as both cities are experiencing major changes both from the LRT and the subsequent development. The public spaces provide several benefits to the community, on multiple levels; they provide places for social bonding within Midtown, allowing the established and developing communities places to play, to gather, and to grow together. The streetscape strategies provide intermodal transit connections, allowing the LRT route to densify within a people-first framework. Lastly, the emphasis on visual communication will allow those not intimately familiar with the changes in this part of Kitchener-Waterloo to effectively wayfind throughout their journeys.

Overall, the anticipated density transitions in Midtown present several opportunities. The Cities of Kitchener and Waterloo are focused on controlling zoning and height restrictions, and are considering the public spaces surrounding this new piece of infrastructure through the PARTS project. As with all change, there will be some who embrace it, and some who oppose it. It will be much easier to assuage those opposed to the LRT if the public spaces surrounding the infrastructure are enriched by its presence and encourage its use. Mediating the developments that are proposed are certainly one facet of that strategy. Designing the interstitial public spaces is another crucial component, one that should be emphasized in a context of an infrastructural project of this magnitude.

While PARTS Midtown examines interstitial public spaces, it engages a more cautious approach to public space. Specifically, PARTS assumes very little land expropriation.<sup>81</sup> A small amount of private land was consumed in the street widening to accommodate the LRT infrastructure. Beyond that, PARTS proposes a small parkette in the current Sunlife parking lot location.<sup>82</sup> This thesis, on the other hand, proposes a wider linear track of expropriated land along King Street. By reexamining existing relationships of public and private land divisions, we can provide greenspaces with a larger variety of adjacent uses, as well as improving the natural light along the streetscape. This approach considers King Street as not only an infrastructural arm to move people, but also as an area to be enjoyed in its own right. While the PARTS proposal is more likely to appease current stakeholders, the approach outlined in this thesis creates a series of spaces that could greatly benefit a broader swath of stakeholders, at a small expense.

Without significant land expropriation, PARTS considers the transformation of surface parking into the addition of outbuildings related to the hospital.<sup>83</sup> These buildings, situated directly adjacent to King Street, are intended to provide a more active streetscape.<sup>84</sup> The success of this approach would depend on the use of those spaces; medical offices and administrative uses would potentially provide less street activation

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81. Ibid.

82. Ibid.

83. Ibid.

84. Ibid.



Figure 7.1

Overall, much of the programming proposed by PARTS aligns with this proposal, but in slightly different configurations. Here, PARTS suggests parkland and a sports field where my proposal depicts similarly. The configurations and adjacencies are the main difference.

than commercial or retail spaces. While incongruent to the internal circulation of the hospital, this strip would be ideal for relocated food and marketplace programming. The buildings proposed by PARTS for this area would reduce the amount of natural light penetrating into the interstitial spaces, which greatly impacts the experiential quality of the public space. There is no doubt that the hospital complex requires more floor area, the vehicular circulation needs reworking, and the internalized entrances to the hospital cause wayfinding difficulties. As such, this proposal assumes the hospital will consider its own growth within the given framework of realigned public spaces without prescribing that growth in detail.

While many aspects of this design are speculative, these forms are firmly grounded in research. Each stakeholder in Midtown has their own agendas for how the area should progress, and the overall picture portrayed here balances many of these priorities. Institutional stakeholders, like Grand River Hospital, have graciously permitted in-person research on their grounds and provided access to key floor plans of the existing buildings. Private stakeholders, like the current residents of Midtown, have a knack for ensuring their opinions on the current developments are heard, through online blogs, community associates, Jane’s Walks, and appealing to their city councillors. The overall proposition gains strength from considering these various points of view.



One of the main trends that stakeholders have expressed to some degree is a desire for a more pedestrian-oriented King Street experience. Governments for both cities pushed for a reorientation of King Street from a car-dominated thoroughfare to a multi-modal transit area with a strong emphasis on pedestrian connectivity. While the City of Kitchener is looking into the areas around LRT stops for both densification guidelines and urban design strategies, this proposal supplements that research with additional layers of exploration.

For instance, imbedded within this urban design project is a more careful focus on notions of wayshowing. These concepts are particularly important considering the rapid pace of development anticipated in Midtown. The importance of wayfinding emerges at a small scale when considering how people navigate between the LRT and various locations within Midtown, and also at a broader scale when determining how Midtown connects to Uptown and Downtown. Through the process of urbanization, these connections are evolving, and so must their images.

As King Street evolves from a predominantly private vehicle thoroughfare to a multi-modal axis, the associated wayshowing systems must also evolve. The proposed scheme depicts multiple levels of wayshowing, including large scale urban forms, small scale material changes, transient signage, and options for accessibility. By keeping these priorities at the forefront, designers can aid Kitchener-Waterloo in its transformation from a sleepy university town into a bustling hub for the technologically minded. With evolving stakeholders, expanding transportation methods, and more compact living spaces, the urban spaces of Kitchener-Waterloo require navigational forethought as they continue to develop.

This proposal also reconsiders the role of public space in Kitchener-Waterloo. As living spaces compact through the densification of the core, adjacent public spaces should accommodate the anticipated increase of use. The role of greenspaces within the urbanizing core is crucial for mental health, physical well being, sustainable lifestyles, and recreational and educational activities. Through the parallels of greenspace connections and the new LRT infrastructure, Midtown's identity can shift from a haphazard collection of urban fabric remnants to an active artery of public spaces grounding existing institutions. With Grand River Hospital directly engaging King Street, and its related realm of activity, the pedestrian plaza acts as a moment of interchanges amid the carefully choreographed streams of movement. Without limiting the possibilities of those interchanges, this proposal attempts to capture a variety of benefits that this approach can have for the stakeholders.

Further, the theories explored in this proposal can be applied beyond Midtown to the rest of Kitchener-Waterloo. A wide spread wayshowing system, paired with the reconsideration of significant streetscapes and public spaces, would greatly enhance the experiences of those travelling throughout the Region of Waterloo. Further, attempts to reconcile the projected cardinal axis in Kitchener-Waterloo could be integrated into the large-scale wayshowing system to simplify many of the existing navigational challenges. An enhanced wayfinding system for both temporary events and long-term visions would tie in to various placemaking movements throughout the Region, as well as connect the various forms of public space and greenspaces throughout.

It is my hope that this project will help reshape Midtown in the years to come. It does not attempt to answer every question, and it naturally poses several more that need further consideration by other invested designers and researchers. The timing of this work, predominantly during the construction of the LRT tracks, allows for a speculative approach that overlooks some of the nuances of post-construction logistics. As such, this scheme is blissfully ignorant of the potential public outcry over additional construction and the further disruption of daily life should the scheme be implemented post-construction. Nonetheless, the dynamic and enlivened Midtown Kitchener-Waterloo proposed by this orientation of public spaces merits contemplation.



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