THE REVITALIZATION OF TRADITIONAL MAINSTREETS THROUGH DESIGN:
NOTRE-DAME STREET, LACHINE QC

By Matthew Ippersiel

A report submitted to the School of Urban and Regional Planning
in conformity with the requirements for the degree of Master of Urban and Regional Planning

Queen's University
Kingston, Ontario, Canada

Copyright © Matthew Ippersiel, 2012
Acknowledgements

I would like to thank Ajay, Rick, Susan, Patrick, Andrea, and the Grad Res crowd for their constant support and inspiration throughout this process. Without them, this never would have been possible.

Also, thanks to the students and faculty of SURP for their support and friendship over the last two years.
Table of Contents

Acknowledgements......................................................................................................................... i
Table of Contents .............................................................................................................................. ii
List of Figures ................................................................................................................................ iv

Chapter 1.0: Introduction ................................................................................................................... 1

Chapter 2.0: Research Methods ......................................................................................................... 5
  2.1 Analytical Framework ................................................................................................................... 5
    Phase 1: Understanding ................................................................................................................... 5
    Phase 2: Exploring ........................................................................................................................ 7
    Phase 3: Deciding What to Do .......................................................................................................... 7
  2.2 Scope of the Study ........................................................................................................................ 7
  2.3 Limitations .................................................................................................................................. 8
  2.4 Method of Evaluation .................................................................................................................. 9

Chapter 3.0: Understanding .............................................................................................................. 13
  3.1 Regional Urban Structure .......................................................................................................... 13
  3.2 City (Borough) Urban Structure ................................................................................................ 13
  3.3 Neighbourhood Urban Structure ............................................................................................... 16
  3.4 Blocks and Lots Urban Structure ............................................................................................... 20
  3.5 Individual Building .................................................................................................................... 25

Chapter 4.0: Exploring ...................................................................................................................... 31
  4.1 Evaluative Scale .......................................................................................................................... 31
  4.2 Evaluation of Existing Conditions ............................................................................................. 32
4.3 Analysis ........................................................................................................................................... 41
4.4 Design Principles .............................................................................................................................. 44
Chapter 5.0: Recommendations ........................................................................................................... 45
  5.1 Specific Interventions ......................................................................................................................... 45
    5.1.1 Lachine Market ............................................................................................................................ 45
    5.1.2 Maintenance ................................................................................................................................. 47
    5.1.3 Pedestrian Experience ............................................................................................................... 47
    5.1.4 Connectivity ............................................................................................................................... 49
    5.1.5 Placelessness .............................................................................................................................. 52
    5.1.6 Street Identity ............................................................................................................................. 53
Chapter 6.0: Conclusions ......................................................................................................................... 56
  6.1 Re-evaluation ................................................................................................................................... 56
  6.2 Discussion ......................................................................................................................................... 59
Work Cited ............................................................................................................................................... 61
List of Figures

Figure 1.1: Painting of Notre-Dame St. during pre-war era
Figure 1.2: 1912 Map of Notre-Dame Street
Figure 2.1: Frameworks and Development Patterns Table
Figure 2.2: Study Area
Figure 2.3: Evaluation Criteria - Requirements for Great Streets
Figure 2.4: Evaluation Criteria - Qualities that Contribute
Figure 3.1: Regional Map
Figure 3.2: City Scale Frameworks and Development Patterns
Figure 3.3: Bicycle and Greenspace Networks
Figure 3.4: Neighbourhood Scale Frameworks and Development Patterns
Figure 3.5: View of lot opposite Market from 15th Avenue
Figure 3.6: View Corridors from Notre-Dame to the Waterfront
Figure 3.7: Scale of Blocks and Lots
Figure 3.8: Scale of the Street
Figure 3.9: A Variety of Entrances, Balconies, Windows, and Awnings
Figure 3.10: Bird-Eye View of the Lachine Market
Figure 3.11: The indoor and outdoor Market structures
Figure 3.12: Corner-lot building with unique cornice
Figure 4.1: Evaluation Scores and Descriptions
Figure 4.2: Evaluation of Requirements for Great Streets
Figure 4.3: Qualities that Engage the Eyes
Figure 4.4: Transparent Storefronts
Figure 4.5: Examples of Poor Maintenance
Figure 4.6: High-quality workmanship and misuse of materials
Figure 4.7: Evaluation of Qualities that Contribute
Figure 4.8: Examples of special design features
Figure 4.9: Examples of parkettes and temporary terraces
Figure 5.1: View of proposed landmark buildings from east
Figure 5.2: Infill buildings contributing to definition of street
Figure 5.3: Location of proposed extension of street
Figure 5.4: Proposed bike path connection on 18th Ave.
Figure 5.5: Example of gateway element in east
Figure 5.6: Summary of Interventions
Figure 6.1: Re-evaluation of Requirement for Great Streets
Figure 6.2: Re-evaluation of Qualities that Contribute
Executive Summary

The decline of traditional mainstreets became a common trend throughout the latter half of the 20th Century. Once the economic and social backbone of cities and neighbourhoods, in many cases, they now represent a shadow of their former selves. In response to this, and in recognition of the dwindling social importance that traditional mainstreets were capable of providing, many municipalities have taken steps towards the revitalization of the streetscape through design.

Notre-Dame Street in the Borough of Lachine in the City of Montreal is a prime example of one such traditional mainstreet that has fallen into decline. With a history dating back as far as the 1870’s, the street has played an important economic and social role in the community since then. Today, however, the street is showing signs of economic downturn in the form of boarded up windows, crumbling infrastructure, and questionable development patterns such as an abundance of off-street parking lots and large setbacks. In spite of this, the street has managed to retain a number of community assets such as the public market and several historically significant buildings.

This study will focus on the portion of Notre-Dame Street between 19th Ave. and the eastern end of the street, just passed 6th Ave. It will attempt to investigate how design can help improve the built environment.
The approach that was taken in order to achieve this was heavily based on the methods of the urban design firm Urban Design Associates (UDA), as is detailed in their book *The Urban Design Handbook* (2003). UDA recommends taking a three-phase approach to the design process: 1) The understanding phase, in which the study area's frameworks and development patterns are systematically identified at various scales in order to become familiar with the area; 2) The exploring phase, where public consultation typically would lead to the development of design principles; and 3) The deciding-what-to-do phase, where the design principles in the previous section are translated into tangible design recommendations.

In lieu of the public consultation portion of the exploring phase, an evaluative criteria based on Allan Jacobs' findings in his book *Great Streets* (1993) was developed. This method served to identify the elements of the street worth retaining and those in which it is lacking, similar to that which would have been achieved through public consultation.

The evaluative criteria were composed of the eight requirements for great streets and the 12 contributing qualities identified by Jacobs. Each criterion was applied individually to Notre-Dame St. and was given a score on a scale of five. The results in terms of the eight requirements can be seen in the following table:

<table>
<thead>
<tr>
<th>REQUIREMENTS FOR GREAT STREETS</th>
<th>RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walkability</td>
<td>☀</td>
</tr>
<tr>
<td>Physical Comfort</td>
<td>☀</td>
</tr>
<tr>
<td>Definition</td>
<td>☀</td>
</tr>
<tr>
<td>Qualities that Engage the Eyes</td>
<td>☀</td>
</tr>
<tr>
<td>Transparency</td>
<td>☀</td>
</tr>
<tr>
<td>Complementarity</td>
<td>☀</td>
</tr>
<tr>
<td>Maintenance</td>
<td></td>
</tr>
<tr>
<td>Quality of Construction and Design</td>
<td>☀</td>
</tr>
</tbody>
</table>

The evaluative criteria yielded a wide array of results, identifying both the strengths and the weaknesses of Notre-
Dame Street. In terms of certain criteria, such as transparency, physical comfort, and walkability, the street scored highly. However, it also proved to be lacking in criteria such as definition, quality of construction and design, and most remarkably, in levels of maintenance.

Similarly, the criteria which addressed the qualities that contribute to great streets scored highly on criteria such as special design features, many buildings/diverse, and density, but also showed that improvements were needed in terms of accessibility, places, and beginnings and endings.

Based on the findings of the evaluation, six design principles were established to guide specific interventions:

1. Foster the Lachine Market's importance as a key institution and gateway in the community.
2. Fix dilapidated infrastructure and buildings.
3. Maintain and build upon the pedestrian experience.
4. Improve connectivity by car, bike, and transit.
5. Address issue of placelessness at the east end of the street.
6. Reinforce Notre-Dame's unique history and culture.

Bearing these in mind, specific interventions were devised to achieve each principle. A total of 19 recommendations were made, ranging both in cost and level of disruption to the current urban form.

As a final step, to be sure that the proposed interventions would have a positive effect on the study area, the evaluative criteria were reapplied to the street, presuming that all proposed changes had been made. Based on the ratings of the re-evaluation, the study concludes that the proposed interventions would grant significant improvements to Notre-Dame Street in almost all categories. At worst, some of the ratings have remain unchanged, but none have decreased.
Chapter 1.0: Introduction

The popularization of the automobile and the construction of highways has had a profound impact on North-American communities. This cultural shift heavily influenced the urban landscape in many ways, not the least of which was permitting suburban development. An extension of this was a change in shopping habits, making shopping malls an appealing option to car owners. Prior to malls, traditional mainstreets, typically closely knit, mixed use, and usually embedded in neighbourhoods, were an efficient way of providing residents with their commercial needs. However, improvements to transportation routes granted individuals a level of mobility that had hitherto been impossible and often made driving to a shopping mall or strip mall easier than walking to the nearest mainstreet.

Likewise, greater leasable areas and plenty of open space that could be converted into parking lots was an alluring alternative to large stores and businesses looking to expand. As the number of patrons dwindled and property values decreased, many businesses on mainstreets relocated to malls or shut down altogether (National Trust for Heritage Protection, n.d.). In a vain attempt to keep them competitive, many municipalities resorted to demolishing buildings on their mainstreets and replacing them with parking lots, fracturing their once continuous streetscape.

As similar narratives unfolded in communities across Canada and the United States, the decline of traditional mainstreets became a common trend throughout the latter half of the 20th Century. Once the economic and social backbone of cities and neighbourhoods, in many cases, they now represent a shadow of their former selves. Their decline would often manifest itself as boarded up storefronts, poor levels of maintenance, and archetypical architectural details being replaced with building materials better suited for warehouses. In response to this, and in recognition of the social importance that traditional mainstreets are capable of providing, many municipalities have taken steps towards the revitalization of the streetscape through design.

Through its *Urban Design Guidelines for Development along Traditional Mainstreets* (2006), The City of Ottawa is one such
municipality. The policy document provides a workable definition of what a traditional mainstreet is, which will serve as the definition that will be used throughout this report. It defines traditional mainstreets (in contrast to arterial mainstreets) as generally being developed prior to 1945, having a tight-knit fabric, small-scale buildings with narrow frontages, and small or no setbacks. It also describes them as having predominantly mixed land uses with commercial uses on the ground level and residential uses on the upper levels. It argues that mainstreets normally have four-lanes, with on-street parking and limited parking lots.

Based on Ottawa's definition, Notre-Dame Street in the Borough of Lachine in the City of Montreal is a prime example of a traditional mainstreet. It is also a good example of one that has fallen into decline. Historically, Notre-Dame served as an important economic zone in the borough, but has since slipped into decline and has scarcely seen efforts of revitalization.

The street first appears on maps as early as 1879, but only between 15th and 10th avenues (Hopkins, 1879). The street was then referred to as St. Aurelie. By the year 1912, the street had assumed the name it bears today. By this time, the road had also broken through the long blocks to the west, taking the course that it retains to this day (Figure 1.2). Only the east end of the street is notably different, maintaining a connection to the nearby important route, St. Joseph Street.

Today, the infrastructure of the street has fallen into disrepair, parking lots have been permitted to abut portions of the street, and businesses are poorly patronized. Despite the street’s decline, there has been a renewed interest in revitalizing the areas surrounding the street, which is

Chapter 1.0: Introduction

Figure 1.1: Postcard of Notre-Dame St. during pre-war era
evidenced by the recent construction of new condominiums, apartment buildings, and townhouses. The street has also managed to retain several historic landmark buildings, a clinic, and the public market.

But this also raises the question of why it is worthwhile to revitalize traditional mainstreets at all? Why not promote shopping malls rather than mainstreets? Returning to Ottawa’s guidelines, it touches upon the potential mainstreets hold that is yet to be achieved by other forms of

Figure 1.2: 1912 Map of Notre-Dame Street

Source: http://services.banq.qc.ca/sdx/cep/document.xsp?id=0000225139
commercial centres. According to the guidelines, traditional mainstreets "offer some of the most significant opportunities in the city for intensification through more compact forms of development, a lively mix of uses, and a pedestrian-friendly environment." This building and street configuration permits not only a strong pedestrian orientation and a potentially transit-friendly environment, but also plays a key role in reducing a dependency on fossil fuels and levels of carbon emissions. But perhaps most importantly, in addition to providing good shopping environments, mainstreets also contribute to the amount of livable public space in cities which carry with it a social and historical significance that is poorly replicated by malls and lifestyle centres. They offer a core to communities in a way that malls rarely are and are worthy recipients of our best efforts to maintain and promote them.

That being said, there is often no simple solution in doing so. Many of the problems that have led to the decline of traditional mainstreets are systemic in nature and can be linked to larger issues faced by urban areas, such as an overwhelming dependence on the automobile for transportation. While by no means does urban design represent a panacea to counter these large-scale trends, it nonetheless represents one of the pieces of the puzzle in addressing the decline of the traditional mainstreet. The City of Ottawa recognizes this with their design guidelines aiming to "assess, promote, and achieve appropriate development along mainstreets" (2006).

Thus, this study will not attempt to provide recommendations to solve all of Notre-Dame's problems, but rather to investigate how design can help improve the built environment. It will aim to assess the current state of the street and explore how design can help to achieve appropriate development along Notre-Dame Street. In order to achieve this, the study will propose an analytical framework from various sources which will aspire to identify the current conditions as well as the strengths and weaknesses of the street.
Chapter 2.0: Research Methods

2.1 Analytical Framework

In their book *The Urban Design Handbook* (2003), authors at Urban Design Associates (UDA) describe in detail an approach to urban design, devised to be used as common practice for projects. Their method establishes an analytical framework applicable to any situation, which facilitates comprehensive, informed decisions. UDA recommends taking a three-phase approach to the design process: Understanding, exploring, and deciding what to do. In addition to the three phases of the design process, UDA also recommends beginning with a preparatory phase where the urban structure is identified, which will be included in the first phase. Because of its comprehensive nature, this study will follow a simplified and slightly modified version of UDA's design process, to meet the needs and limitations of the study.

Phase 1: Understanding

According to UDA, the understanding phase is dedicated to gathering as much data as possible to develop an in depth understanding of the site. The primary method that will be used to achieve this will be systematic self-observation via site visits and by creating a series of base maps. One of the main tasks during the site visits is to conduct photo-reconnaissance, which will include taking pictures of buildings, architectural details, streets, sidewalks, etc. The base maps created will be informed not only from the photo-reconnaissance and information collected during the site visit, but from maps and satellite images made publicly available.

It is in this phase that the urban structure of the study area will be identified. The study area will be looked at through a series of different scales: Regional, city (borough), neighbourhood, blocks and lots, and individual buildings. Because no one map can show all information, the point of studying the area at these various scales is to control the balance between the scope and the detail in each map and ultimately identify as many relevant components as possible. Together, the data identified on these maps compose the urban structure. At each level, the urban structure is examined through two groupings of information: the frameworks and the development patterns.
The frameworks are described as the individual man-made and natural features of an area. In a collection of chapters written by colleagues of theirs in the Urban Design Department at the University of Westminster entitled *Approaching Urban Design: The Design Process* (2001), editors Greed and Roberts recommend beginning the design process in a similar fashion by identifying what they refer to as the urban armature. Due to the extensive nature of the list, it will be used in combination with UDA's. The frameworks include such elements as open space networks, the street hierarchy, bicycle and pedestrian infrastructure, and transit stops.

The development patterns, on the other hand, will identify contemporary and historic patterns of the urban fabric, even if they have disappeared over time. In contrast to the frameworks, it will record neighbourhoods, land uses, view corridors, lots, setbacks, access to buildings, etc.

As the level that the study area is being looked at changes, so do the frameworks and development patterns that will be observed. Figure 2.1 displays the five levels at which the site will be examined and each level's associated frameworks and development patterns.

**Figure 2.1: Frameworks and Development Patterns Table**

<table>
<thead>
<tr>
<th>Level</th>
<th>Frameworks</th>
<th>Development Patterns</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regional</td>
<td>Natural elements, highways, road systems, bodies of water.</td>
<td>Boundaries of cities, boroughs.</td>
<td>Island of Montreal</td>
</tr>
<tr>
<td>Neighbourhood</td>
<td>Street hierarchy, bicycle paths, public spaces, transit.</td>
<td>Land uses, view corridors, block system.</td>
<td>Study area</td>
</tr>
<tr>
<td>Blocks and Lots</td>
<td>Pedestrian infrastructure, transit stops, parking, alleys, street furniture, lighting.</td>
<td>Building footprints, building heights, setbacks, scale of street.</td>
<td>Half the study area</td>
</tr>
<tr>
<td>Individual Buildings</td>
<td>Facade directions, awnings, balconies, signage, variety of details, fenestration.</td>
<td>Archetypal buildings, means of access, special buildings.</td>
<td>Lot</td>
</tr>
</tbody>
</table>

From each map created, a descriptive paragraph will accompany it, along with a list of noteworthy observations that will aim to contribute to the understanding of the study area.


Phase 2: Exploring

According to the second phase in UDA’s methodology, it is at this stage that the majority of public consultation should occur to shape the design principles.

One of the key outputs of the public consultation at this phase, according to UDA, is the identification of both the most important positive qualities of the site to be retained and the most serious problems to overcome. Based on the strengths and weaknesses identified, several design principles are devised at this point to guide the design recommendations made in the following phase.

However, based on the limited time and resources available, it is acknowledged that a limitation in this study will be the lack of public consultation. While not a complete substitute, the lack of public consultation will attempt to be replaced by the evaluation of the current condition of the street, conducted by the researcher. To accomplish this, an evaluative criteria based on Allan Jacobs’ book Great Streets (1993) will be prepared and used to identify the good elements of the street and what areas it is lacking in (see section 2.4: Method of Evaluation).

Phase 3: Deciding What to Do

In the final phase, entitled deciding what to do, the design principles in the previous section will be translated into tangible design recommendations for Notre-Dame Street.

2.2 Scope of the Study

Because of the length of Notre-Dame Street in Lachine, the study area will be limited to the eastern half of the street, which is where the majority of the commercial activity is located. In the east, the study area will be bounded by the end of the street, where it meets the industrial park, just beyond 6th avenue. In the west, the study area will end at the Lachine Market at 19th avenue. Limiting the study area in the west at the Market is convenient because it is at this point that the street transitions in land use, slightly changes directions, and the size and orientation of blocks alter the urban fabric. In the north and the south, the study area will extend roughly as far as the depth of the first buildings on Notre-Dame Street. The
choice to restrict the study area to these limits is reinforced by this portion of the street being identified as a commercial zone on the borough map (Ville de Montréal, 2010).

2.3 Limitations

It should be acknowledged that on account of temporal and budgetary constraints and limited access to resources, there will be significant limitations to this study. Firstly, the most obvious limitation of the study is the impossibility of including public input in the decision-making process. UDA's design...
The process is strongly rooted in public consultation with meetings with stakeholders occurring during all three phases. However, involving the public is both time consuming and requires a certain amount of capital for advertising, venue and equipment rental, etc., neither of which are feasible. In lieu of public consultation, decisions will be made primarily by the researcher. One example of this is found in Phase 2 during the identification of the most positive and negative aspects of the study area, where they will be decided on by an evaluative criteria rather than by public opinion. While there is still value in including this portion of the process, it should be recognized that the results yielded by the evaluation may not necessarily be aligned with the values of members of the community.

Second, according to Gaber and Gaber (2007), while the benefit of this kind of field research is that it is unobtrusive, it's greatest limitation is that there is a heightened risk of research bias, which could compromise the internal validity of the study. Especially in photo-reconnaissance, where it is impossible to record every aspect of the street, the planner must make a conscious decision regarding what the most important images are to be captured. In this sense, the planner's values are reflected in what is deemed important and presents challenges relating to whether or not the planner accurately interpreted what was recorded in the field.

Finally, the end product of this study would ideally offer several different design options that would provide alternatives for the aesthetic revitalization of the street ranging in estimates of cost. However, because of time restrictions, this is not possible and the design solutions will be limited to one vision for the street.

2.4 Method of Evaluation

In his book Great Streets (1993), Allan Jacobs attempts to single out what design elements lead to the creation of urban streets that are enjoyed by people. In the fourth part of his book, named “Making Great Streets,” Jacobs identifies eight non-specific qualities that he believes all great streets have. He also writes that for a street to be truly great, it must have not only have one or two of the qualities, but all eight must be present. These qualities extend from providing physical comfort, to the inclusion of qualities that engage the eyes, to the street being properly maintained.
Moreover, Jacobs also identifies a number of designable physical qualities that aren't necessary to have in every great street, but contribute heavily to its quality. These include features such as trees, distinctive places, or identifiable beginnings and endings.

In order to guide the design principles in the Exploring phase, an evaluative framework will be constructed using the eight requirements for great streets, along with the twelve qualities that contribute (See Figure 2.3 and 2.4). The study area will be evaluated by rating each criterion on a five-point scale, in order to identify what could be improved and what should be retained. Once this has been completed, the design principles will be tailored to address as many of the findings as possible.

In the final portion of the study, once design recommendations have been made, the evaluative criteria will be used once again to reevaluate the proposal for the street. This will serve to demonstrate that the proposed interventions have improved the street in contrast to its original form.
Figure 2.3: Evaluation Criteria - Requirements for Great Streets

<table>
<thead>
<tr>
<th>REQUIREMENTS FOR GREAT STREETS</th>
<th>DESCRIPTION</th>
<th>CONTRIBUTORS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Walkability</strong></td>
<td>Street is a public place that invites safe, leisurely walking and allows users to become intimately involved with their surroundings.</td>
<td>Trees on sidewalks, closely-knit urban fabric, adequate sidewalk space, buffer of parked cars, slow traffic.</td>
</tr>
<tr>
<td><strong>Physical Comfort</strong></td>
<td>Level of comfort and protection from the elements for pedestrian users.</td>
<td>Shaded areas, warm areas for when it's cold, protection from wind and poor weather.</td>
</tr>
<tr>
<td><strong>Definition</strong></td>
<td>Clearly communicated boundaries, both vertical and horizontal that keep eyes on the street.</td>
<td>Buildings are greatest contributors to boundaries, but trees and walls also help. Definition is lost at a height-to-width ratio of 1:5 or less on a 30 degree angle. Narrow spaces or no spaces between buildings also contribute to definition. Buildings height on the best streets are less than 30 metres.</td>
</tr>
<tr>
<td><strong>Qualities that Engage the Eyes</strong></td>
<td>Qualities that are moving and/or reflecting light in different patterns. A visual complexity, but not over complexity, that draws the eye.</td>
<td>A variety of surfaces including windows, signs, trees, complex building details.</td>
</tr>
<tr>
<td><strong>Transparency</strong></td>
<td>A transparency between the public realm of the street and the private realm indoors. Psychologically provides a sense of habitation or possible refuge.</td>
<td>Windows, doors (with or without windows) , and passageways contribute to transparency. A transition zone between street and shop entrances helps.</td>
</tr>
<tr>
<td><strong>Complementarity</strong></td>
<td>The way in which buildings relate to one another in terms of details and height.</td>
<td>Similar building heights, no dramatic transitions. Similar (but not identical) materials, colour, window openings, architectural styles.</td>
</tr>
<tr>
<td><strong>Maintenance</strong></td>
<td>Cleanliness, care of physical environment.</td>
<td>Lack of potholes, walkways that are well-maintained contribute. Boarded up windows, litter, neglected open spaces, uncared for trees are detractors.</td>
</tr>
<tr>
<td><strong>Quality of Construction and Design</strong></td>
<td>Appropriate materials and care. Quality workmanship of buildings and streetscape elements.</td>
<td>Shabby materials, false materials meant to imitate another, sloppy painting, bad joinery, are all detractors.</td>
</tr>
</tbody>
</table>

Figure 2.4: Evaluation Criteria - Qualities that Contribute

<table>
<thead>
<tr>
<th>QUALITIES THAT CONTRIBUTE</th>
<th>DESCRIPTION</th>
<th>USE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Trees</strong></td>
<td>The most cost-effective improvement to streets, typically planted on sidewalks and in public places.</td>
<td>Add to aesthetics, provide shade, used as safety barrier, can slow traffic. Most effectively spaced 15-25 feet apart (4.6m-7.6m), closer the better, regularly spaced, not adjusted to every &quot;special circumstance&quot; (ie bus stops, building entrances, etc).</td>
</tr>
<tr>
<td><strong>Beginnings and Endings</strong></td>
<td>Great streets often have something special, a physical marker, delineating its beginning or end. Usually a landmark, market, gateway, building.</td>
<td>Used to introduce and invite users to the area and contribute to placemaking.</td>
</tr>
<tr>
<td><strong>Many Buildings/Diverse</strong></td>
<td>More rather than fewer buildings. Diversity amongst buildings is supported by having many rather than fewer buildings.</td>
<td>Vertical lines between buildings will contribute to giving the street reference lines and a sense of scale.</td>
</tr>
<tr>
<td><strong>Special Design Features</strong></td>
<td>Details on gates, fountains, benches, kioskes, paving, lights, signs, and canopies.</td>
<td>Well-designed, not too tall street lamps, special paving patterns, comfortable benches, contribute to making places more memorable.</td>
</tr>
<tr>
<td><strong>Places</strong></td>
<td>Street widenings, plazas, parks, and open spaces. Most important on streets that bend and turn.</td>
<td>Provide stopping places, pauses, reference points along the path. Contribute to community building.</td>
</tr>
<tr>
<td><strong>Accessibility</strong></td>
<td>Great streets typically take people from one place to another, on foot, bicycle, transit, or automobile.</td>
<td>Buffers protecting pedestrians from cars, slow driving encouraged, bus routes, connections to other areas, more entries onto street, handicap access.</td>
</tr>
<tr>
<td><strong>Density</strong></td>
<td>Density and land uses are important to vibrant streets.</td>
<td>Housing on or nearby the street promotes use of the street.</td>
</tr>
<tr>
<td><strong>Length</strong></td>
<td>The longer a street, the more difficult to sustain visual interest and diversity.</td>
<td>Special buildings, focal points, changing buildings and gentle curves and bends help break up the street.</td>
</tr>
<tr>
<td><strong>Slope</strong></td>
<td>Many great streets have noticeable changes in elevation.</td>
<td>Topography often provides views that should be maintained.</td>
</tr>
<tr>
<td><strong>Parking</strong></td>
<td>Great streets typically do not have an abundance of on or off street parking.</td>
<td>Absence of driveways, garages, ground-level lots, and access to parking lots on the street. Number of spots is limited to below the level of demand.</td>
</tr>
<tr>
<td><strong>Contrast</strong></td>
<td>Qualities that set the street apart from others.</td>
<td>Contrast in shape, size, length, design, details, buildings.</td>
</tr>
<tr>
<td><strong>Time</strong></td>
<td>Great streets have typically existed for a long period of time, being modified and tinkered with along the way.</td>
<td>Incremental changes over time in planters, lighting, architectural styles can bring diversity and a sense of history to the street.</td>
</tr>
</tbody>
</table>

Chapter 3.0: Understanding

3.1 Regional Urban Structure

Frameworks

The study area is located in the Borough of Lachine, in the City of Montreal. Figure 3.1 shows the location of Lachine in the greater context of Montreal, located on the southern edge of the Island. The borough has good access to the St. Laurence River and the western mouth of the Lachine Canal.

Lachine is well connected in the network of highways which pass through the Island, with four major expressways traversing its boarders.

Development Patterns

Lachine is abutting two of the other boroughs of Montreal (LaSalle and St. Laurent) and three other de-amalgamated cities on the Island, including Dorval, Montreal-West, and Côte-Saint-Luc.

3.2 City (Borough) Urban Structure

Frameworks

The study area is located in the south-eastern quarter of Lachine, running roughly parallel to and 400 metres north of the water front (Figure 3.2). While not directly abutting it, the site is within close proximity of the major greenspace network which runs along the waterfront, the peninsula at the end of the Lachine Canal (La Grande Jêtée), and the Lachine Canal.
Figure 3.2: City Scale Frameworks and Development Patterns
The proximity of the greenspace network to the site is particularly relevant because of the bicycle infrastructure located along it. A bike path runs along the majority of the park system, heading to the west through Lachine and east through the Borough of LaSalle, both along the Lachine Canal and the waterfront’s linear park (Figure 3.3). At 32nd Avenue, the bike network also branches to the north, where it follows the greenspace along the old railroad tracks located between William-Macdonald and Victoria Street. This is the portion of the segregated bike path that runs closest to the study area. A section of the path traverses through the study area at its eastern boundary along 6th Avenue, where it connects the railroad path to the waterfront path. A short on-road connection exists between the railway bike path and the Lachine Market down both shoulders of 18th Ave., however, its painted lines have faded to a degree that it is difficult to tell whether it exists or not.

Figure 3.3: Bicycle and Greenspace Networks
The Borough of Lachine is well connected to Montreal’s network of highways and arterial roads. In all, four highways pass through the borough (Figure 3.2), highways 720, 13, 20, and 138. Highway 20 is the most pertinent to the study area as it traverses through Lachine and connects the Borough to the tip of the Island in the west and to downtown Montreal in the east. It is also the highway with exits closest to the study area, on 1st and 32nd Avenues.

**Development Patterns**

While it is largely unclear as to where neighbourhoods begin and end in much of Lachine, the study area appears to be located at the core of a distinct neighbourhood bordered by several edges. The neighbourhood is bounded by Victoria in the north, the industrial park at 6th Avenue in the east, the waterfront in the south, and 19th Avenue in the west, where the street and surrounding buildings change character.

The City of Montreal identifies the portion of Notre-Dame Street that spans the study area as being an economic zone (Ville de Montréal, 2010). Four other economic zones in Lachine have also been identified by the City and in some ways compete with Notre-Dame. These include a strip of businesses along 32nd Avenue, Les Galleries Lachine (a local shopping mall), a strip mall on 28th Avenue, and a portion of Provost Street to the North of Notre-Dame.

### 3.3 Neighbourhood Urban Structure

**Frameworks**

The street hierarchy is one of the critical frameworks that should be taken note of at the scale of the neighbourhood. At the higher end of the scale, the area immediately surrounding the study area is distinctly devoid of any arterial roads. However, the area is well connected in terms of roads that can be described as collectors.

The majority of the collectors pass through the neighbourhood surrounding the study area, running parallel to Notre-Dame Street (Figure 3.4). The most notable of these include Provost, Victoria, and William-Macdonald to the north of the study area, and Saint Louis and Saint Joseph to the south. One rare north-south oriented collector road is located at 6th avenue on the edge of the study area.
Figure 3.4: Neighbourhood Scale Frameworks and Development Patterns

Source of base satellite image: https://maps.google.ca

Chapter 3.0: Understanding
The most common type of street found in the area are local roads, which are found in abundance. The majority of these streets are oriented north-south and many cross through Notre-Dame between 19th and 6th Avenues. One local street, Piché Street, runs parallel to Notre-Dame just below the public market between 19th and 15th Avenues.

Asides from the major park system located at the water front and along the Lachine Canal, the Borough is dotted with small to large greenspaces in the residential areas located south of Highway 20. The majority of these include community parks and parkettes, but a few larger parks exist, usually associated with an institution such as a school. The exception to this is Park LaSalle, located directly north of the study area. Park LaSalle is a large park intended to serve the entire borough, and includes amenities such as tennis courts, a lodge, a baseball diamond, and a public swimming pool. While not directly adjacent to the study area, the park is still located at a close enough proximity to it that it plays an important role to residents living in the neighbourhood. Within the study area itself, there is a distinct lack of greenspace.

**Development Patterns**

The block system in the area surrounding the study area is such that the blocks are a fairly standard shape, with a few notable exceptions. The standard block found in the neighbourhood is approximately 60m wide on the east-west axis and varies from roughly 100m to 275m metres on the north-south axis. The majority of blocks abutting the study area are also roughly this shape.

On the blocks of this shape, the predominant land use is residential. Housing units dominate the area both north and south of Notre-Dame, stretching as far in the south as the waterfront. Notre-Dame Street itself is the exception to this rule, as it is predominantly commercial and mixed-use. At the west of the street, the buildings, including the Market, are almost all commercial use. In the central area of the street, there are a few blocks in particular which are entirely mixed-use, and in the east, there is predominantly a mix of commercial buildings and mixed-use buildings. One institutional building, the CLSC du Vieux La Chine (a local
branch of government clinics found across Quebec), is partially in the study area at its westernmost end.

The blocks that differ from this standard are typically associated with changes in land use or a special area. These include the Lachine Market, a large institutional block south of the street, LaSalle Park, and an industrial site in east.

The blocks that contain the Market have retained the same width as the streets of the standard block, but a break-through road between 19th and 15th Avenues (Piché Street) runs south of the market block and the two commercial blocks east of it, making them the smallest blocks in the area. Conversely, the industrial lands at the opposite end of the study area form a megablock, marking the end of the Notre-Dame Street. Similarly a large, primarily institutional block to the south of the area has amalgamated the space of three blocks containing a high school, a grade school, and two churches. The final exception to this regular block shape is the previously mentioned LaSalle Park, north of the study area.

There are several important view corridors in the study area which are worth maintaining. One is along Notre-Dame Street itself, especially facing east, where a slight natural slope helps provide a view towards the end of the street. Two slight bends in the street at 15th and 18th Avenues inhibit the view from being as long as it potentially could be and interfere with having a view of the landmark market place from the east end of the street. It should be noted, however, that the bends in the street would still permit a view of the block opposite the Market from as far away as 14th Avenue.

Figure 3.5: View of lot opposite Market from 15th Avenue

Source of base image: https://maps.google.ca
Several important views of the waterfront to the south also exist along the street. The most important of these are located at the east end of the study area, in the area surrounding the Lachine Market (See Figure 3.6), where the Notre-Dame is at its closest to the water and the streets are relatively straight. However, while the waterfront is visible from the Market, no part of the Market is largely visible from the waterfront, as there is little to distinguish it from its surroundings along 18th Avenue.

3.4 Blocks and Lots Urban Structure

Frameworks

Notre-Dame Street has a high level of pedestrian infrastructure available to users throughout the study area. Sidewalks are the most notable example of this, stretching along every block within the area. The only exceptions to this are one side of William-MacDonald Street in the west and a small portion of Notre-Dame at the very end of the study area in east. The width of the sidewalks vary from roughly one...
and a half to four metres, and curb extensions are found at seven corners along the street. Electronic crossing signals are only found at the study area's only traffic light at 10th Avenue.

Crosswalks also are found at almost every intersection along the street and come in a variety of styles (see Figure 3.7). At 18th Avenue, the crosswalks adjacent to the Market have been stylized using special paving materials and patterns. Further east, several other crossings have also received a special paving treatment, albeit much more modest. Elsewhere in the study area, it is much more common to find painted crossings in the form of two white strips, or a series of yellow crossing lines indicating pedestrian priority.

While every intersection features one form or another of a crosswalk, they are inconsistently located. At one intersection, for example, only one faded crossing exists where there is the potential for four. Furthermore, the majority of crossings are oriented for pedestrians to cross the quiet side streets, whereas at only six of the 14 intersections is there infrastructure available to cross Notre-Dame. At one point in the eastern half of the study area, there is a four block walk between crossings traversing Notre-Dame.

Furthermore, while there is a great deal of pedestrian infrastructure available to pedestrians, its current state of maintenance detracts considerably from its effectiveness. While painted crosswalks are ubiquitous throughout the street, many, if not most have faded almost entirely out of existence. Crossings with special paving materials are also not immune to this lack of maintenance, as they are often cracked, crumbling, or partially paved over with asphalt.

There are a total of six bus stops within the study area (see Figure 3.7). The majority of stops are for two regular-service bus lines (195 and 110) but two stops also service an express bus running only on weekdays (495). The closest bus stops to the Lachine Market are at the corner of 16th avenue and outside the CLSC just west of the study area.

For users accessing Notre-Dame via automobile, there is a significant amount of parking available. Free street parking is consistently found along the entire length of the street and on side streets as well. The only restrictions on street parking are
Figure 3.7: Scale of Blocks and Lots

Chapter 3.0: Understanding
occasional limits on the amount of time a vehicle can be parked in a spot. Off-street parking is also readily available to patrons, residents, and the public (see Figure 3.7). In the east end of the study area, there are no parking lots accessed immediately from the Notre-Dame, but rather they are located behind the buildings abutting the street and must be accessed via the side streets. Contrary to this, many of the parking lots in the west end are located directly on Notre-Dame Street and, in several notable cases, have their entrances/exits located directly on the mainstreet.

There is a certain amount of street furniture available to pedestrians in the study area, however it is fairly sparsely located. Simple, but well-built cast iron and wood benches are the primary example of this. The benches are typically accompanied by matching waste bins and occasionally by concrete planters. There is a notable lack of street furniture available at the public market, especially on the pedestrianized portion of 18th Avenue.

The lighting along Notre-Dame Street varies from the east to the west. In the west, the only lighting available, including in the market are standard tall street lights found along the majority of streets in North America. Beginning at 15th Avenue and continuing to the end of the street, however, pedestrian-scale lighting can be found. The lamps are tastefully designed and painted black with yellow-tinted glass. Hooks protruding from the pole also provide the possibility to suspend hanging flower pots. While the lights are consistently designed throughout the extent of the east end of the street, they are inconsistently spaced.

Development Patterns

The buildings along the street vary in height from one storey to three storeys, however, only a handful in the study area are one-storey structures, including the Lachine Market building.

Most commonly, the buildings along the street are directly abutting the sidewalk, with no set back. This is especially true in the east end of the street, where the footprints of the
buildings are directly connected to the sidewalk, save an empty lot and the last building before the industrial park. In the west of the street, this standard gradually fades away as building footprints become more irregular and setbacks become less consistent. At the corner of 14th Avenue, for instance, a restaurant provides the first break in consistency as its footprint encroaches a few feet ahead of its neighbouring buildings. Further west, a few buildings begin to be setback a few metres, with one business spaced far enough back to permit enough room for a small off-street parking lot. At the west end of the street, buildings such as the Market, the funeral parlor, and the gas station completely change the character of street by having irregularly shaped footprints, low heights, and large setbacks. This change in the urban fabric is exacerbated by an increase in the number of parking lots located directly on Notre-Dame.

The building heights and setbacks contribute to the scale of the street. In Allan Jacobs' book Great Streets (1993), which will be used as the base for the evaluative criteria in the following chapter, he argues that it is preferable to measure the scale of a street at a 30-degree angle from the facade of the street.
the building, rather than at the conventional 90-degree angle. This, he argues, is due to the fact that it is at this angle that the street is more commonly experienced by pedestrians, as users rarely turn their heads a full 90 degrees from the direction they are walking. Because of this study's heavy reliance on Jacobs' book, all measurements of the scale will be taken in a fashion consistent with this.

As Figure 3.8 shows, the typical height-to-width ratio of the street is roughly 1:3 where the buildings are three storeys and 1:4½ where the buildings are two storeys, assuming 4 metres for the ground floor and 3 metres per upper floor. It is worth noting that while these scales reflected the average block, they become much lower in the west end.

3.5 Individual Building

Frameworks

In comparison to its side streets, Notre-Dame has a disproportionately high number of interesting architectural details. Likely a result of the role that it plays in the area as a commercial and mixed-use traditional mainstreet, individual buildings take a much different appearance to their neighbouring streets. Moreover, while there are few drastic changes in building height, there is nonetheless a lack of homogeneity along the street. The street has evolved in such a way that the buildings along it can vary quite starkly from one to the next. Fenestration, building materials, balconies, awnings, signage, and entrances are just a few examples of the elements that vary between buildings, contributing to a rich mix throughout the street (See Figure 3.9).

Figure 3.9: A Variety of Entrances, Balconies, Windows, and Awnings
That being said, the street is a mixed bag of both interesting and unique architectural details that give the user the sense that they could be at no other place than Notre-Dame Street in Lachine, and others that could commonly be found along any large arterial street in North America.

Despite the numerous special architectural details along the street, many buildings have opted to renovate their facades over time. As is commonly observed in the east end of the street, many of the original architectural details have been lost or covered by aluminum or vinyl siding installed on the facades of the buildings. This building technique has not only limited itself to buildings with larger footprints, such as hardware stores, but interestingly enough, has been permitted on some smaller commercial buildings as well.

To make matters worse, vacant or poorly maintained buildings along the street are a common problem. Many buildings clearly once contributed more to the streetscape than they do now, having either been abandoned or neglected to a point of extreme disrepair.

Because of the number of businesses along Notre-Dame, signage on the facade of buildings is a common occurrence. A wide variety of signage is found along the street, however, there are also similarities in the way it is done. Store signs tend to be rather small and apparently cater more to users on foot, rather than those travelling at higher speeds in a vehicle. Typically, they are printed on awnings or have been placed on the facade of the building above the entrance. While most are oriented to face directly across the street, occasionally smaller signs have been permitted to hang off the fronts of buildings and face along the length of the sidewalks. The two largest signs in the study area are located on the large hardware store and at the gas station, where the signs are more reminiscent of an arterial street.

Awnings are another common occurrence along Notre-Dame. Overhanging a portion of the sidewalk, they are commonly found on the facades of individual buildings over main entrances and occasionally over upper storey windows.

Likewise, balconies can be found on the facades of buildings throughout the study area. Found on some of the mixed-use
buildings, they vary in the level of extravagance of their design.

As is expected of a primarily commercial and mixed-use street, the storefronts along the ground floor of the buildings in the study area are often highly transparent, as they are typically lined with large windows. Interestingly, it is a common occurrence for the entrances of shops to be set back within the building. This gives the shop an increased area of glass through which goods may be advertized.

**Development Patterns**

The special status and role in the community attributed to Notre-Dame becomes apparent through a rudimentary examination of how the individual buildings have developed in relation to the street over time.

Firstly, it is important to note that all buildings along the street choose to orient themselves towards Notre-Dame and not their respective side street. This gives evidence to its superior position on the hierarchy of streets in the area.

While there is no one archetypal building that is constant throughout the study area, there are several similar building styles that are persistent.

The most common archetype found within the study area is the two or three-storey red brick, mixed-use building. These buildings, found throughout the entire area, are distinguished by their typically red brick exterior, large storefront windows on the ground level, and the interior access to the residential second floor. Often, the upper floors of these buildings have a small balcony for the use of the residents. While they share key characteristics, these buildings also vary widely. In some cases, they are several storefronts wide, and can also be two or three stories. Likewise, oftentimes the entrance to the storefront has been sunken back into the building, and other times it is flush with the sidewalk.
The two-storey building with a setback second storey, is another recurrent archetype. At least three buildings in the study area are variations on this style with a storefront on the ground level, and interior access to the residential second floor. Often these buildings have a long balcony running along the second storey.

A final archetype, variations of which can be found along the street, is the angled corner-lot building. This style of building is also commonly a mixed-use building with a storefront along the ground floor. As with the other archetypes, these buildings have interior access to the upper levels, are up to three storeys tall, and are primarily made of red brick. What distinguishes this style of building from others is their prominent locations on corner lots and their angled corner facing onto the intersection. Often this archetype will play upon this feature by having multiple, ornately decorated balconies on the angled corner.

Notre-Dame Street also has a number of unique buildings that contribute greatly to the character of the street and not go unacknowledged.

The Lachine Market is without a doubt the most remarkable of these, and should be considered the greatest landmark along the street. Located between 19th and 17th Avenues, the Market is granted its own small block with Piché Street bordering it in the south (See Figure 3.10). Furthermore, the portion of 18th Avenue which intersects it has been

Figure 3.10: Bird-Eye View of the Lachine Market
pedestrianized and is segregated from automobile traffic by bollards. The Market itself is composed of three structures. A restaurant is located at the west end and the indoor portion of the market is attached directly to it. On the opposite side of 18th Avenue, a roofed, but open structure represents flexible space and is used to sell produce and flowers during the warmer months, while providing parking for users during the colder seasons.

The Market is also important because it has been a key component to the community for a long period of time. The Lachine Market has been a part of the residents of Lachine since 1886, but following a fire, was only rebuilt at its present location in 1909. The building housing the market has since been lost to a second fire, has been rebuilt, and has witnessed several revitalization efforts, the most recent of which occurred in 2004 (Ville de Montréal, n.d.).

A second special building in the study area is the Alexandra Theatre on the corner of 9th Avenue. Built in 1915, the building was one of two theatres along Notre-Dame which have since shut down (the second is directly opposite the theatre on 9th Ave). Destroyed by a fire and rebuilt in 1918, the

Figure 3.11: The indoor (top) and outdoor (bottom) Market structures
building once seated 1053 (Cinema Tour, 2008). The theatre closed in the 1970s, was temporarily converted to retail, and is now completely vacant. Despite the level of neglect to its exterior, the building remains one of the tallest and most imposing in the study area and is still an unmistakable landmark. Unlike the second theater, which is now a clothing store and has hidden its history well, the Royal Alexandra is conspicuous in its original use. Its name remains imprinted on the building’s exterior and the area where the marquee likely protruded from the facade is still visible. On the interior, the balcony and much of the original interior design remains, but is apparently in need of repair.

Another such special building in the study area is located at the north-west corner of 14th Avenue. This building is a variation on the angled corner lot archetype, but should be considered a special building in its own right due to the extravagant cornice above the balconies. As a testament to the building’s distinctiveness, one of the few historical pictures available of Notre-Dame Street was taken of this building (See Figure 3.12). The exterior of the building and the cornice have been restored in the last five years.

The Bank of Montreal building is considered a final special building along the street. Located at the corner of 10th Avenue, it stands out due to its unique architecture and grandiose false columns.
Chapter 4.0: Exploring

4.1 Evaluative Scale

The ultimate goal of the Exploring Phase of Urban Design Associates' methodology is to develop design principles. The design principles, in turn, serve to succinctly summarize the best parts of the study area that are to be retained and the worst parts are that are to be improved in a way that can guide specific recommendations in the following chapter. Traditionally, the principles are developed through public consultation, however, for the purposes of this study, an evaluative criteria will be implemented to identify what to retain and what to improve.

In his book Great Streets (1993), Allan Jacobs provides detailed descriptions of his requirements and contributors to great streets. Their summaries can be found in Figures 2.3 and 2.4 respectively.

This study has taken Jacobs' findings and has converted them into evaluative criteria which could be applied to any street.

Each of the criteria will then be applied to the study area in order to break it down into its various components and rate them individually. Each criterion will scored on a five-point scale, ranging from "bad" to "excellent" (see figure 4.1).

The evaluation of the street will be followed by a brief analysis of how the street fared and will attempt to identify any discernible patterns that have emerged in order to make sense of the data.

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Bad" /></td>
<td>Bad</td>
</tr>
<tr>
<td><img src="image" alt="Poor" /></td>
<td>Poor</td>
</tr>
<tr>
<td><img src="image" alt="Fair" /></td>
<td>Fair</td>
</tr>
<tr>
<td><img src="image" alt="Good" /></td>
<td>Good</td>
</tr>
<tr>
<td><img src="image" alt="Excellent" /></td>
<td>Excellent</td>
</tr>
</tbody>
</table>

Figure 4.1: Evaluation Scores and Descriptions
4.2 Evaluation of Existing Conditions

Figure 4.2: Evaluation of Requirements for Great Streets

<table>
<thead>
<tr>
<th>REQUIREMENTS FOR GREAT STREETS</th>
<th>RATING</th>
<th>RATIONALE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Walkability</strong></td>
<td>☠️</td>
<td>Pros: Adequate space on sidewalks; curb extensions; trees, curbs, and on-street parking serve as a buffer between pedestrians and vehicles; pedestrianized portion of 18th Ave and special crosswalk treatment. Cons: Poor maintenance of crosswalks and stop lines; crosswalks sporadic arranged.</td>
</tr>
<tr>
<td><strong>Physical Comfort</strong></td>
<td>☠️</td>
<td>Pros: Trees shade sidewalks, building heights allow for sun to warm street in winter, Market provides shade in summer and warm indoor area in winter. Cons: Trees are irregularly spaced and benches are too few and far between.</td>
</tr>
<tr>
<td><strong>Definition</strong></td>
<td>☠️</td>
<td>Pros: 1:3-1:4½ street scale (on 30° angle) provides good definition; few spaces between buildings; no buildings over 30m. Cons: Setbacks and off-street parking interfere with the definition in some areas.</td>
</tr>
<tr>
<td><strong>Qualities that Engage the Eyes</strong></td>
<td>☠️</td>
<td>Pros: Buildings with interesting architectural details and elements that draw the eye including balconies. Street has well-designed street furniture and light fixtures, and many street trees present. Cons: Some facades of buildings have been renovated using siding and removing windows, rendering them largely featureless.</td>
</tr>
<tr>
<td><strong>Transparency</strong></td>
<td>☠️</td>
<td>Pros: Mixed-use and commercial land uses have many large windows on ground floors; several passageways. Cons: Windows of vacant shops often have boarded up their windows.</td>
</tr>
<tr>
<td><strong>Complementarity</strong></td>
<td>☠️</td>
<td>Pros: Similar building heights along the street and smooth transitions Cons: Often stark transitions in building materials from one building to the next.</td>
</tr>
<tr>
<td><strong>Maintenance</strong></td>
<td>☠️</td>
<td>Cons: Cracks in streets and sidewalks; faded or paved over stop lines, crosswalks, and bike paths; boarded up storefront windows.</td>
</tr>
<tr>
<td><strong>Quality of Construction and Design</strong></td>
<td>☠️</td>
<td>Pros: Good workmanship on benches, lighting, and planters; specially paved crosswalks at the Market. Cons: Gravel parking lots, vinyl and aluminum siding on building facades.</td>
</tr>
</tbody>
</table>

**Walkability** - Notre-Dame Street rates as being "good" in terms of walkability. The presence of sidewalks throughout the study area, at times up to four metres wide, provide an environment in which the user is capable of becoming intimately involved with the his or her surroundings. Street trees lining the sidewalk, curbs, and on-street parking provide Chapter 4.0: Exploring
a buffer between pedestrians and vehicles, allowing the user to walk safely and leisurely through the study area. Curb extensions also facilitate crossing the street in many cases. The market area also has made noticeable efforts to become a more walkable environment, pedestrianizing a small portion of 18th Avenue and crosswalks made of different materials crossing Notre-Dame Street.

The prime detractor from the street receiving a higher rating in terms of walkability is the deteriorating infrastructure at crosswalks. Yellow painted crosswalks indicating pedestrian priority and stop lines at corners have often faded beyond recognition, reducing the ability of pedestrians to cross streets safely. This is worsened by large gaps between available north-south crossing points.

**Physical Comfort** - The street receives a "good" score regarding physical comfort due to the presence of street trees, benches and a well-shaded public market as a central node of activity. The height-to-width ratio of the street is such that it provides a healthy balance of shade and sun to help keep the street comfortable in all four seasons, and the buildings are not tall enough to encourage a wind-tunnel effect. Perhaps the only factor that stands between a perfect rating is that trees along the street tend to be placed at an irregular rhythm and benches are found only occasionally.

**Definition** - Compared to many other North-American city streets, the definition of Notre-Dame is respectable, but still leaves something to be desired.

On sections of Notre-Dame with little or no setback, measured at a 30-degree angle, the height-to-width ratio of the street is roughly 1:3 where the buildings are three storeys and 1:4\(\frac{1}{3}\) where the buildings are two storeys. This contributes fairly strongly to the definition of the street, but is also nearing the 1:5 ratio limit at which adequate definition is lost.

The spacing between buildings and the height of buildings on the street also contribute to the definition of Notre-Dame. In terms of spacing, in most areas, the boundaries of the street are clearly
communicated, having abutting buildings from one end of the block to the other. However, in other areas, off-street parking, undeveloped lots, and buildings with a large setback interfere with the definition. In terms of building height, no building on the street reaches or exceeds 30 metres, which Jacobs notes is the maximum height observed on the great streets he studies.

**Qualities that engage the eyes** - On the whole, Notre-Dame can be described as having a "good" rating of qualities that engage the eyes. Buildings with interesting architectural details are found on landmark buildings and modest housing alike, breaking the monotony of their facades with varying buildings materials, horizontal and vertical lines, and patterns of fenestration and balconies. The presence of street furniture, light fixtures, street trees, awnings, and store signage reflect the light in a various ways, casting a range of patterns of shadows. However, while all these elements contribute to a complex streetscape, it proves to not be overbearing. One of the more interesting architectural features persistent throughout the study area is the setback entrances to shops, adding two additional, often angled panes of glass (see figure 4.4). This detail helps not only entrepreneurs to increase the visibility of their wares, but also to break up the facade of a building, adding one more element that draws the user's eye.

The main detractor from this criterion is the existence of many buildings that, over time, have renovated their facade, removing windows and other architectural details likely to
draw the eye, and replaced them with plain, monotonous, vinyl or aluminum siding.

**Transparency** - Notre-Dame Street receives the highest rating relating to transparency. Given the amount of ground floor retail present on the street, large storefront windows granting the user an opportunity to peer into buildings is commonplace. As was mentioned earlier, many storefronts have their entrance setback within the building, increasing the area of transparent materials on the facade of a building. Several passageways also exist between buildings, providing glimpses into the private realm of backyards. The only true detractor from the street’s transparency is the number of vacant businesses that have had their windows boarded up, which nonetheless retain the opportunity to one day regain their transparency.

**Complementarity** - Overall, the street rates as having “fair” complementarity. The primary contributing factor to this element is the relative heights of the buildings on the street. Ranging from one to three storeys, the buildings never transition from one to next with a difference of more than a storey. What prevents this criterion from having a higher score is the various architectural styles, or at the very least building materials, that vary too drastically. Returning to what was previously noted regarding the replacing of facades with inferior materials, this not only reduces the number of elements likely to draw the eye, but also causes stark differences in the appearance of one building to the next, negatively affecting complementarity.

**Maintenance** - One of the major issues affecting Notre-Dame Street according to this method of evaluation is the level of maintenance, which is rated as "bad." The two major detractors from this element are a lack of maintenance on streets and sidewalks, and boarded up businesses. Cracks in both the street and sidewalks are a common occurrence due to negligence of repair. Cycling and walking are discouraged as lines on the street indicating a bike lane or crosswalk are often
faded beyond recognition or partially paved over. In some cases, stop lines have been all but erased from the street, putting pedestrians at risk of injury from automobiles at intersections.

Jacobs (1993) includes boarded up windows in his "maintenance" category (while more accurately an issue of occupancy) because it is similar in both its manifestation and its effect on users. While it may be difficult to address such an issue via urban design, it is impossible to deny that the ubiquitously found boarded up windows of a shop along Notre-Dame detracts severely from its overall aesthetic quality.

**Quality of Construction and Design** - Notre-Dame Street has a mix of quality design and materials, and those that are misused. Planters and benches, made of real wood and cast iron immediately stand out as an example of quality workmanship on the street and stylized pedestrian-scale lamp posts another. Attention to detail is also noticeable around the Market, where the crosswalks have been distinguished using different shades of brick laid in an artistic pattern. The Market also appears to not fully achieve its potential. The parking lots across Notre-Dame Street from the Market are another example of poor quality of construction, as gravel is used as a surface treatment and concrete bollards separate lots. Vinyl and aluminum siding can also be considered a major detractor as they are all too commonly misused as a material on the facades of buildings on Notre-Dame Street.

Figure 4.5: Examples of Poor Maintenance

Figure 4.6: High-quality workmanship (L) and misuse of materials (R)

Chapter 4.0: Exploring
### Figure 4.7: Evaluation of Qualities that Contribute

<table>
<thead>
<tr>
<th>QUALITIES THAT CONTRIBUTE</th>
<th>RATING</th>
<th>RATIONALE</th>
</tr>
</thead>
</table>
| **Trees**                 |        | Pros: Many trees on the sidewalk, well-used in the Market.  
Cons: Spaced too far apart, unevenly spaced. |
| **Beginnings and Endings**|        | Pros: Landmark Lachine Market building heralds economic zone at east end of study area.  
Cons: No distinct beginning or ending to street at the east end as street transitions to industrial  
park; gateway in west is only present on the Market side of the street. |
| **Many Buildings/Diverse**|        | Pros: There are many buildings along the street, typically with narrow frontages. |
| **Special Design Features**|        | Pros: Good attention to detail on lampposts, benches, hanging flower pots, and awnings. |
| **Places**                |        | Pros: Market represents unique place; occasional parkettes and terraces also contribute.  
Cons: Lack of any parks, plazas, or open spaces on the east end of the street; landmarks buildings  
deteriorated. |
| **Accessibility**         |        | Pros: Many cross streets; a bus route along the street; proximity to bicycle path.  
Cons: Few bike paths; pedestrian crossings are often faded; the street does not connect to  
anywhere in the east. |
| **Density**               |        | Pros: Many mixed-use buildings directly on Notre-Dame; surrounding residential neighbourhoods  
contribute to level of potential users in close proximity. |
| **Length**                |        | Pros: Length is approximately equal to the average length of Jacobs' great streets; slight curve in  
street and various landmark buildings along the way maintain visual interest. |
| **Slope**                 |        | Pros: Slight downward slope that follows the direction of the street towards the east; not too  
steep as to prevent mobility. |
| **Parking**               |        | Pros: Parking available for patrons of businesses.  
Cons: Apparent over-supply of parking; many entrances to lots along street. |
| **Contrast**              |        | Pros: Street serves a different purpose than its immediate surrounding neighbourhood; landmark  
buildings and the Market help to differentiate Notre-Dame from nearby Provost Street.  
Cons: Bears many similarities to other mainstreets in Montreal from the same period; could stand  
to further differentiate itself from Provost. |
| **Time**                  |        | Pros: Having existed for roughly 150 years, the street has retained a number of buildings from  
various periods; Market is a prime historical asset, having served the community since 1909. |
Trees - Notre-Dame does have many trees along its sidewalks on both the north and south sides, which account for its rating of "fair." The street is not rated higher in this category because they are typically spaced too far apart, or unevenly so, ranging anywhere from nine to 28 metres apart. Trees have been used effectively within the market area, where several small trees highlight the pedestrian portion of 18th Avenue.

Beginnings and Endings - At the east end of the study area, the shift in the nature of the street from primarily residential to an economic zone is heralded by the landmark Lachine Market building (though it should be noted that across the street there is little more than a gravel parking lot). However, at the east end, there is little signaling the end of the street. Rather, the street uncomfortably transitions into the industrial park: sidewalks gradually disappear, street lamps, trees, and street furniture become non-existent.

Many Buildings/Diverse - Notre-Dame scores highly on the criterion of having many and diverse buildings because of its many frontages and typically small lots. Where larger lots exist, the facade of the building is often divided with vertical lines giving the illusion of many small buildings. They are also diverse, in the sense that the buildings are predominantly commercial and mixed-use and exhibit a range of architectural details.

Special Design Features - The street scores highly on this criterion as a great amount of attention has been given to small details on lampposts, benches, hanging flower pots, and awnings. Specially paved crosswalks along the portion of the street adjacent to the Market also contribute.

Chapter 4.0: Exploring...
**Places** - Notre-Dame avoids monotony, the Market represents a memorable place on the street, and temporary seasonal extensions to the sidewalk, terraces, and parkettes help to achieve distinct areas. In spite of all this, it receives a "poor" rating in terms of places as these are primarily concentrated in the west and there are few true elements in the east end of the study area that contribute to a sense of place. Some landmark buildings may have once contributed to this, but now have lost this function, as they are often in desperate need of repairs. In what is seemingly a silent acknowledgement of this, Notre-Dame gradually fades from a traditional mainstreet to an industrial site in the east, becoming increasingly placeless as the street transitions.

**Accessibility** - Notre-Dame Street receives a "poor" rating in terms of accessibility. There are thirteen perpendicular streets that intersect the study area both from the north and the south which provide access, not including the two ends. The 195 bus route runs along the street through the entire study area, connecting users to the bus terminus in Dorval and Angrignon metro station in LaSalle. The bike path is also in close proximity, however, only connects to the street at two points. Pedestrian accessibility to portions of the street is made more difficult due to the sporadic arrangement and poor maintenance of crosswalks.

**Density** - Jacobs (1993) describes people living on or nearby the street as being one of the contributing factors to great streets. In this regard, Notre-Dame is fortunate to include many mixed-use building, and be surrounded by residential neighbourhoods (Figure 3.4). For this reason, it is rated as having a "fair" density.

**Length** - The full length of the street extends roughly two and a half kilometres, however, the portion of the street within the study area is only approximately one kilometre long. While
Jacobs acknowledges that it is possible for great streets to be any length, this distance is approximately the average length of those in his case studies. Notre-Dame rates as having a "good" length not only because of the appropriate distance it stretches, but because it has several elements along the way that somewhat manage to retain visual interest such as a slight curve in the street and several landmark buildings.

**Slope** - The topography in the study area is such that it has a gradual slope descending towards the east, following more or less the direction of the street. The change in elevation adds another dimension of complexity to the street, but at no point does the slope become so acute as to discourage or inhibit movement, even amongst individuals with reduced mobility.

**Parking** - It is difficult to know whether the supply of parking outweighs the demand. This information is not available and doing the calculations would exceed the limitation of this study. However, during the multiple site visits, there appeared to be an overabundance of parking both on and off street. While there are no driveways present along Notre-Dame, there are many small to medium sized lots in or abutting the study area, primarily concentrated in the east where the over-abundance is most apparent. On-street parking is also available more or less along the entire length of the street. One of the main detractors to the score given to parking is the manner in which it is permitted to exist. Even in cases where there are opportunities to have the entrance on a side street, many parking lots enter and exit directly onto Notre-Dame. Because of this apparent overabundance in the west and the number of entrances on the street, Notre-Dame is rated as having "poor" parking.

**Contrast** - Notre-Dame street contrasts well from its immediate surroundings. The north-south streets that run perpendicular are primarily residential and are much quieter. In comparison, Notre-Dame is predominantly commercial and mixed-use, has few setbacks, and has additional streetscaping elements. Nearby Provost Street is similar to Notre-Dame in many respects, but the Market and some of the landmark buildings along the street are key to distinguishing it. That being said, some of these buildings, such as the Alexandra Theatre, are vacant and dilapidated, presenting a missed
opportunity to setting itself apart as a unique street in the Borough of Lachine.

On a greater scale, Notre-Dame further loses its contrast from other streets in the region. While unique in its own ways, it is nonetheless reminiscent of other traditional mainstreets in other old suburbs of Montreal such as Wellington Street in Verdun or Notre-Dame Street in St Henri, which developed during the same period.

**Time** - Notre-Dame Street may not have the storied history of many of the streets that Jacobs (1993) references in *Great Streets*, but it nonetheless has existed in one form or another for roughly 150 years and has a collection of historic buildings dating back to another age. The Lachine Market, established at its present location in 1909, is perhaps the street’s greatest asset in this regard, despite having lost its original structure to fire (Ville de Montréal n.d.).

**4.3 Analysis**

Applying the evaluative criteria to Notre-Dame has drawn out several strengths of the street worth retaining and fostering, but has also identified many issues, some of which being quite severe.

One of the strengths that is most evident about Notre-Dame is the highly enjoyable and comfortable environment that it provides for those on foot. The street rates high in *Physical Comfort*, *Walkability*, and the *Slope* is not inhibitive. Simultaneously, *Special Design Features, Many/Diverse Uses*, high *Transparency*, and many *Qualities that Engage the Eye* keep the user stimulated and fascinated.

The definition of the street also promotes a pleasant environment for pedestrians, sheltering users from the elements while not dwarfing them. However, according to the rating, this is one area that stands to be improved. *Maintenance* detracts from this, jeopardizing the safety of users, and a more regular occurrence of street trees would contribute to further improving a more comfortable pedestrian environment.

Another notable element to retain and build upon on Notre-Dame Street is the importance of the Lachine Market. Frequently identified as an asset to the street, the Market
contributed strongly to Places, Qualities that Engage the Eyes, Special Design Features, Many/Diverse Buildings, Beginnings and Endings, and Contrast. That being said, it was also identified as having room for improvement in the areas surrounding the Market in terms of strengthening the quality of design and the role it plays as a gateway to the commercial end of the street.

One of the most glaring issues on the street is the dilapidated state of its infrastructure and many of its buildings. Maintenance, tied directly to this issue, was the only element in the evaluation to warrant a rating of "bad." This may not necessarily be an issue that can be addressed entirely through design as many of the detractors are related to the upkeep of private property. However, investment in the maintenance of public infrastructure will likely have positive spin-offs on the upkeep of private property. Moreover, poor maintenance was also noted as a detractor from several other evaluation criteria such as Walkability, Places, and Accessibility.

According to the evaluation, the elements contributing to Notre-Dame's unique culture and history appear to be polarized between components that strongly reinforce this, and others that represent missed opportunities. Several of the criteria, including Qualities that Engage the Eyes, Special Design Features, and Many/Diverse Buildings are directly related to the heritage of the street and the role it played historically as a critical piece of the community. Scores in Quality of Construction and Contrast, while not as high, reveal potential for strengthening the unique character of the street and setting it apart from others. While Time may not have received an especially high rating, the fact that it was rated as "fair" indicates that there are many components that have persisted throughout time. These are worth safeguarding in the aspiration of retaining elements from that particular era.

Surprisingly, Notre-Dame has been attributed as having a "poor" rating in terms of Places. This is described as being surprising because the street is not lacking in variety, has several landmarks, and the Market represents a strong place in the west. However, in spite of this, the east end of the street appeared to be suffering in multiple categories which contributed to the placelessness of the street. Beginning and Endings is one such category that reflected this with a poor rating.

Chapter 4.0: Exploring
score, by having no true ending to the street in the east. *Maintenance* is another criterion which has scored badly and ultimately detracts by reducing the number of buildings that stand out along the street. The derelict Alexandra Theatre is one such site that would contribute a memorable sense of place in the east, but its current state reduces it to fading into the background. The "fair" score given to *Quality of Design and Construction* also contributes to this issue, as the siding used on the facade of some buildings gives the user the impression that they could be on any one of a number of streets and not any one street in particular.

A lack of connectivity also appears to be one of the worst issues of the street. Scoring as "poor," *Accessibility* has also proven to be a major issue with the street. Bad maintenance detracts from the pedestrian experience, but the study area still rates highly on *Walkability*. Similarly, the street benefits from having a bus route run along it, making it accessible by transit. The greater issues, leading to poor accessibility on the street are related to the a lack of connections to any other neighbourhood in the east. The poor score for *Beginnings and Endings* is tangible proof of this. The problem is further exacerbated by poor connectivity by bicycle, although in this case, a general lack of infrastructure and poor maintenance of that which is in place is mainly responsible.
4.4 Design Principles

Based on what has been identified as being the best and worst parts of Notre-Dame Street, the following design principles have been produced:

1. *Foster the Lachine Market's importance as a key institution in the community and on the street and promote the area around it as a gateway into the commercial district.*

2. *Fix dilapidated infrastructure and buildings.*

3. *Maintain and build upon the pedestrian experience by improving current walkability, safety, pleasantness, and comfort.*

4. *Improve the connectivity of the street by car, bicycle, and transit.*

5. *Address issue of placelessness at the east end of the street.*

6. *Reinforce Notre-Dame's unique history and culture that sets it apart from other streets.*
Chapter 5.0: Recommendations

Based on what has been identified as the strengths and weaknesses of Notre-Dame Street, six design principles have been produced. The ultimate goal of identifying the principles was to recognize the ways in which the street needs to be improved as well as what needs to be retained. Bearing the familiarity of Notre-Dame's frameworks and development patterns achieved in Chapter 2, the goal of this chapter will be to make recommendations as to how they can be modified to achieve the design principles. The recommendations will take the form of specific design interventions, each linked with the principle it is setting out to achieve. These interventions will be specific enough to achieve a certain degree of clarity as to what changes are necessary, but will avoid being overly prescriptive in nature to maintain flexibility. By taking this approach, the intent is to be precise in what changes need to be made, but also acknowledge that they may be achieved in various ways.

5.1 Specific Interventions

5.1.1 Foster the Lachine Market's importance as a key institution in the community and on the street and promote the area around it as a gateway into the commercial district.

1. Build landmark buildings on either side of 18th Avenue - Strategically placed prominent buildings will anchor the beginning/end of the street at the market. If placed correctly, the buildings will help to create terminal vistas from all four directions along Notre-Dame and 18th Avenue. Creating visually conspicuous buildings at the end of the vistas will improve wayfinding and create a visual pull to the Lachine Market. While the Market is socially and economically important, it lacks in visual prominence at a distance.

These two buildings should be permitted to exceed the standard building heights along the street and should also be permitted architectural styles that deviate from the norms on the street. This will serve to distinguish them from their surrounding and catch the eye. This is not to say that the buildings should be permitted to tower over the others, but rather reach their maximum at roughly five or six storeys.
They should also be consciously designed to retain a human scale and not dwarf Market and its surroundings. In order to achieve this, the buildings would benefit from being built on a three-storey podium, and by setting back the higher stories.

Ideally, the buildings should be mixed-use, so as to contribute to the commercial nature of the street on the ground level, with residential units on the upper levels, adding to the population base of users who will likely patronize local businesses.

2. Improve design work at 18th Ave. and on pedestrianized area - Ideally, the paving material along Notre-Dame would change for the entire length of the Market block (or close to it), rather than just on the crosswalks. This intervention would not only help to bolster the marketplace’s status as a special place along the street, but an artistic paving treatment would improve the pedestrian experience in the area. Motorists passing through would be aware that they are entering a shared space and would likely respond by lowering their speed and having a heightened awareness of people crossing the street.

Between the market buildings, the pedestrianized area of 18th Avenue has already received a certain degree of attention in terms of design. However, to further foster the Market as an important institution in the community, users should be
invited to spend longer periods of time in the space. The simple provision of benches or some form of informal seating would contribute to social activity and would encourage users to enliven the space by spending leisure time in it.

**5.1.2 Fix dilapidated infrastructure and buildings.**

1. **Better maintenance of sidewalks, streets, buildings and infrastructure** - Very little needs to be said in regards to this to this specific intervention as it is fairly straight forward and leaves little to subjectivity. The intervention basically addresses the glaring issue of maintenance, both in terms of buildings and of infrastructure. From the perspective of the municipal government, the ways in which infrastructure needs to be better maintained are clear. Cracks in sidewalks and streets need to be repaired, potholes need to be filled, telephone poles need to be straightened, and crosswalks need to be either repainted or resurfaced, depending on the material used.

However, the maintenance of individual buildings is much more difficult for the municipality to address, as the buildings are typically privately owned and are thus not the government's responsibility to upkeep. One way in which this may be addressed is through municipal by-law such as a community standards by-law under which property owners are penalized for improper maintenance of their property. The enforcement of such a by-law may be effective in discouraging serious disregard of damage to the building, visible graffiti, rot or deterioration, broken windows or shingles, etc.

**5.1.3 Maintain and build upon the pedestrian experience by improving current walkability, safety, pleasantness, and comfort.**

1. **Better maintenance of pedestrian infrastructure** - Similar to the response to design principle 5.1.2, maintenance plays a major role in achieving this principle as well, specifically regarding that of crosswalks and sidewalks. In many cases, there was little evidence remaining of crosswalks that had been permitted to fade out of existence. Simply repainting many of them would drastically improve the pedestrian experience in the study area and would make it clearer to motorists at which points they should be especially attentive to possible crossing pedestrians. Similarly, deteriorating
sidewalks negatively affect the pleasantness and comfort of the street, as the user is distracted from his/her enjoyment of their experience by having to remain alert for potentially dangerous cracks, holes, or broken edges.

2. Provide more evenly spaced crosswalks and curb extensions - The unevenly-spaced crosswalks are most evident along allowing the user to traverse Notre-Dame Street is most apparent in the east end where no crossing exists for a distance of four blocks. As a space which is intended to promote walkability and pedestrian activity, there should be no greater a gap than of two blocks between crossings.

Curb extensions are another contributor to the pedestrian's safety and comfort, but increasing their visibility to motorists and reducing the distance needed to cross the street. However, even more so than crosswalks, the curb extensions in the study area are rare and irregularly space. A conscious effort should be made to include them at as many crossings as possible, if not at all of them.

3. Plant more evenly spaced trees - Having more trees along Notre-Dame will contribute heavily towards achieving this design principle in several ways, not the least of which being the improvement of the buffer between automobiles and pedestrians. Asides from this, trees will also make the street more comfortable for pedestrians by providing shelter from the sun and wind, while contributing to the aesthetic pleasantness of the streetscape.

4. Infill parking lots and promote smaller setbacks in west end - While the east end of Notre-Dame has few parking lots directly on the street and no setbacks, the west end slowly transitions away from this, many parking lots exiting directly onto the mainstreet and several buildings having generous setbacks and low heights. This transition detracts from the intimate scale of the street found in the east and promotes an environment that is less comfortable and safe for the pedestrian. By infilling parking lots and better controlling the permitted setback, the urban fabric can continue as it is in the east towards the west, reconnecting the Market to the rest of the economic zone. Ideally, infill buildings will retain the two or three storey standard height along Notre-Dame and will reflect (but not necessarily duplicate) the archetypal architectural styles along the street.
5. Maintain and promote setback store entrances, awnings, and street trees - In his landmark 1975 book, *The Experience of Landscape*, Jay Appleton develops what he refers to as prospect-refuge theory. This theory, in short, argues that for evolutionary reasons, humans feel most comfortable in spaces that are partially concealed (refuge), but also permit views (prospect). Applied to the context of a traditional mainstreet, Crankshaw (2009) argues that a few of the most important contributors to negating the feeling that one is exposed and isolated are alcoves and sunken entrances into buildings, street trees, and awnings. Notre-Dame Street is fortunate to have no shortage of existing cases of this, which should be retained, and a similar style should also be promoted in future retail development.

5.1.4 Improve the connectivity of the street by car, bicycle, and transit.

1. Extend the street at the east end - This intervention is likely the most disruptive to Notre-Dame's surroundings in terms of alterations to the urban fabric and change of land use, intensity, and demographics. In order to improve connectivity...
to the mainstreet and bring more users into the space so that
they become aware of what goods, services, and experiences
it has to offer, it is recommended that the street be extended
towards the east, eventually reconnecting to St Joseph Street,
as it once did. Despite being a narrow street along the
lakeshore, St Joseph is well-used by commuters and is often
congested during peak hours. Relieving some of the traffic on
St-Joseph and increasing the permeability of the urban fabric
may be mutually beneficial to both streets. Not all users may
be drawn to the east end of Notre-Dame based on
attractiveness or anchor stores alone. The street must lead
somewhere, encouraging users to not only pass through it, but
simultaneously improve the visibility of stores and or other
reasons to spend time on the street.

Beyond 6th Avenue, the street may choose to continue its
mixed-use and commercial land use, or may transition
towards a predominantly residential use. It would be
unadvisable however to remain entirely industrial were the
street to be extended. As the proposed portion of the street
strays out of the extent of the study area, this study will not
delve too in depth as to how the street will manifest itself
beyond 6th Avenue. However, it is advisable that the most
beneficial land uses to the rest of Notre-Dame would be for
the area to be zoned either mixed-use to continue the feel of
the street, or have it entirely zoned residential to expand the
neighbourhood and increase the number of users.

2. Place bus stop directly at the Market - Bus stops should be
placed as close as possible to the Lachine Market, in either
direction of the 195 route. The Market is the most valuable

Chapter 5.0: Recommendations
asset of the street and should be serviced as such by public transit, improving its accessibility by users arriving by bus. Moreover, patrons of the market will oftentimes be leaving with heavy bags of groceries and the walking distance to collection points should be minimized.

3. **Improve bike path along 18th Avenue** - 18th Avenue presents an ideal opportunity to improve accessibility to the market, especially for cyclists. As the Market sits directly between two east-west axes in the greater bicycle network (along the old railroad tracks in the north and along the waterfront in the south) a proper connection along 18th Avenue would be ideally situated to link the two. A small bridge crossing the narrow canal and connecting St. Joseph Street to the bike path conveniently already exists at the base of 18th Avenue. This intervention would also improve accessibility to Marketplace and the gateway area leading into the rest of the economic zone. Because of the narrow nature of the street south of the Market, a permanent divider separating vehicles and bicycles may be unfeasible. Clearly painted bike lanes would likely be adequate.

4. **Investigate bicycle lane along Notre-Dame** - While there is insufficient data available as to whether it is feasible or desirable to install a bike lane along Notre-Dame, it is worthwhile investigating. As it stands, there are very few points at which cyclist have access to the street via dedicated lanes, and the street may benefit heavily from promoting a more evenly divided modal split and inviting more cyclists to use the space.

Chapter 5.0: Recommendations
5.1.5 Address issue of placelessness at the east end of the street.

1. Gateway element at the east entrance - The gateway element may take a variety of different forms such as an arch, a monument, a public space, or a prominent building, but it must be a landmark by nature and should stand out from its surroundings. Similar to the west end of the street, the gateway should herald the beginning of the economic zone portion of the street. The gateway in the east end would be heavily supported by, if not dependent on, first extending the street eastward to St Joseph, as is recommended per the first intervention of the previous design principle.

2. Refurbish Alexandra Theatre - The Alexandra Theatre represents a missed opportunity in addressing the issue of a lack of a sense of place in the east end of the street. The once monumental building has lost much of its function as a landmark useful for wayfinding and to counter this, it is recommended that the exterior of the theatre be refurbished.

As for the interior of the building, insufficient information is available as to what condition it is in, but adaptive reuse should be considered. The building would likely serve well as an community institution, which would simultaneously draw users to the street and contribute to the social capital of the neighbourhood. A community theater is the most evidence use, but others may be considered.
3. Better control of the use of appropriate materials in facades
- The inappropriate use of vinyl or aluminum siding was identified as a detractor from several of the criteria in chapter four. While the use such materials may be appropriate in some circumstances, their use on the facades of buildings on Notre-Dame detracts from the visual complexity and interesting architectural details typically found on the street, contributing to the street's unique character. The use of such materials should be controlled carefully and discouraged from being used.

5.1.6 Reinforce Notre-Dame’s unique history and culture that sets it apart from other streets.

Because of the nebulous and overarching nature of this design principle, many of the specific interventions addressing it serve a dual purpose of achieving another principle as well. Nevertheless, it would be remiss to neglect to also include them under this principle as well.

1. Place pedestrian street lamps throughout study area - While the east end of the street is dotted with identical, tastefully designed pedestrian street lamps and hanging flowers, the rhythm they establish abruptly ends west of 15th Avenue. The lamps help to establish a theme along the street which contributes to the sense of place. However, as the economic zone extends beyond 15th Avenue in the west, continuing this trend to the market place would serve to further unify the sections as a whole.

2. Protect and promote archetypal buildings and special buildings - Both the buildings that exemplify standard archetypes and those that set themselves apart as unique and special buildings on Notre-Dame help to establish the street's unique identity and entrench a sense of place in the user's mind. In the interest of not losing the character of the street that has been established over decades, measures should be taken to guide future developments and renovations to foster architecture supporting the archetypes and protecting the special buildings. In particular to special buildings, policy should ensure that they are properly cared for, as their effectiveness as a landmark is reduced when they are permitted to fall into a state of disrepair.
3. Improve design work at 18th Ave. and on pedestrianized area of Market - The Market is one of the key elements that sets Notre-Dame apart from other streets. As discussed in design principle 5.1.1, one of the interventions should be to improve design work in and around the market. Doing so would not only foster the Market as a gateway and a key institution in the Market, but on a greater scale, would also support the history, culture, and identity of the street as a whole.

4. Better control of the use of appropriate materials in facades - As mentioned under design principle 5.1.5, the use of inappropriate materials in facades often reduces the amount of visual complexity and interesting architectural details on the street, and unintentionally covers up the history and identity Notre-Dame.
Chapter 5.0: Recommendations
Chapter 6.0: Conclusions

6.1 Re-evaluation

Based on the specific interventions that have been recommended in the previous chapter, it is now possible to re-evaluate the street as it would be, assuming the proposed changes were implemented. Similar to Chapter Four, the same evaluative criteria will be reapplied to the street, now also taking into consideration the proposed changes. For interventions that simply recommend investigating the possibility of intervening, as is the case with proposing a bike path along Notre-Dame, the re-evaluation will rate what effect they would have were they implemented, not simply investigated. The evaluation will differ from chapter four in that it will not go into specific detail regarding all the contributors to each criterion. Rather, in addition to receiving a new rating, the interventions that would contribute to the criterion's improved rating will be listed (See figures 6.1 and 6.2).
Figure 6.1: Re-evaluation of Requirements for Great Street

<table>
<thead>
<tr>
<th>REQUIREMENTS FOR GREAT STREETS</th>
<th>RATING</th>
<th>CONTRIBUTING INTERVENTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Walkability</strong></td>
<td>🟢🟡</td>
<td>Improve design work at 18th Ave.; better maintenance of sidewalks, infrastructure; more evenly spaced crosswalks and curb extensions; evenly spaced street trees; pedestrian street lamps throughout study area.</td>
</tr>
<tr>
<td><strong>Physical Comfort</strong></td>
<td>🟢🟡</td>
<td>Improve design work at 18th Ave.; better maintenance of sidewalks, infrastructure; infill parking lots and promote smaller setbacks in west end; maintain and promote setback store entrances, awnings, and street trees; pedestrian street lamps throughout study area.</td>
</tr>
<tr>
<td><strong>Definition</strong></td>
<td>🟢🟡</td>
<td>Infill parking lots and promote smaller setbacks in west end; evenly spaced street trees.</td>
</tr>
<tr>
<td><strong>Qualities that Engage the Eyes</strong></td>
<td>🟢🟡</td>
<td>Landmark buildings at 18th ave.; better control of the use of appropriate materials in facades; improve design work at 18th Ave.; evenly spaced street trees; maintain and promote setback store entrances, awnings, and street trees; gateway element at the east entrance; refurbish Alexandra Theatre; pedestrian street lamps throughout study area; protect and promote archetypal buildings and special buildings.</td>
</tr>
<tr>
<td><strong>Transparency</strong></td>
<td>🟢🟡</td>
<td>Maintain and promote setback store entrances, awnings, and street trees</td>
</tr>
<tr>
<td><strong>Complementarity</strong></td>
<td>🟢🟡</td>
<td>Infill parking lots and promote smaller setbacks in west end.</td>
</tr>
<tr>
<td><strong>Maintenance</strong></td>
<td>🟢🟡</td>
<td>Better maintenance of sidewalks, infrastructure.</td>
</tr>
<tr>
<td><strong>Quality of Construction and Design</strong></td>
<td>🟢🟡</td>
<td>Improve design work at 18th Ave.; more evenly spaced crosswalks and curb extensions; evenly spaced street trees; maintain and promote setback store entrances, awnings, and street trees; gateway element at the east entrance; better control of the use of appropriate materials in facades; pedestrian street lamps throughout study area; protect and promote archetypal buildings and special buildings.</td>
</tr>
</tbody>
</table>
### Chapter 6.0: Conclusions

Figure 6.2: Re-evaluation of Qualities that Contribute

<table>
<thead>
<tr>
<th>QUALITIES THAT CONTRIBUTE</th>
<th>RATING</th>
<th>Contributing Proposed Interventions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Trees</strong></td>
<td>![Rating]</td>
<td>Evenly spaced street trees; maintain and promote setback store entrances, awnings, and street trees.</td>
</tr>
<tr>
<td><strong>Beginnings and Endings</strong></td>
<td>![Rating]</td>
<td>Landmark buildings at 18th ave.; improve design work at 18th Ave.; gateway element at the east entrance.</td>
</tr>
<tr>
<td><strong>Many Buildings/Diverse</strong></td>
<td>![Rating]</td>
<td>Landmark buildings at 18th ave.; infill parking lots and promote smaller setbacks in west end; refurbish Alexandra Theatre; protect and promote archetypal buildings and special buildings.</td>
</tr>
<tr>
<td><strong>Special Design Features</strong></td>
<td>![Rating]</td>
<td>Improve design work at 18th Ave.; gateway element at the east entrance; pedestrian street lamps throughout study area; maintain and promote setback store entrances, awnings, and street trees.</td>
</tr>
<tr>
<td><strong>Places</strong></td>
<td>![Rating]</td>
<td>Landmark buildings at 18th ave.; improve design work at 18th Ave.; build bike path along 18th Avenue; gateway element at the east entrance; refurbish Alexandra Theatre.</td>
</tr>
<tr>
<td><strong>Accessibility</strong></td>
<td>![Rating]</td>
<td>Better maintenance of sidewalks, infrastructure; more evenly spaced crosswalks and curb extensions; extend the street at the east end; place bus stop directly at the Market; improve bike path along 18th Avenue; investigate bicycle lane along Notre-Dame.</td>
</tr>
<tr>
<td><strong>Density</strong></td>
<td>![Rating]</td>
<td>Landmark buildings at 18th ave.; infill parking lots and promote smaller setbacks in west end.</td>
</tr>
<tr>
<td><strong>Length</strong></td>
<td>![Rating]</td>
<td>Extend the street at the east end.</td>
</tr>
<tr>
<td><strong>Slope</strong></td>
<td>![Rating]</td>
<td></td>
</tr>
<tr>
<td><strong>Parking</strong></td>
<td>![Rating]</td>
<td>Infill parking lots and promote smaller setbacks in west end.</td>
</tr>
<tr>
<td><strong>Contrast</strong></td>
<td>![Rating]</td>
<td>Improve design work at 18th Ave.; landmark buildings at 18th Ave.; maintain and promote setback store entrances, awnings, and street trees; gateway element at the east entrance; refurbish Alexandra Theatre; better control of the use of appropriate materials in facades; pedestrian street lamps throughout study area; protect and promote archetypal buildings and special buildings.</td>
</tr>
<tr>
<td><strong>Time</strong></td>
<td>![Rating]</td>
<td>Maintain and promote setback store entrances, awnings, and street trees; refurbish Alexandra Theatre; better control of the use of appropriate materials in facades; protect and promote archetypal buildings and special buildings.</td>
</tr>
</tbody>
</table>
6.2 Discussion

Based on the ratings of the re-evaluation, it is clear that proposed interventions would grant significant improvements to Notre-Dame Street in almost all categories. At worst, some of the ratings have remain unchanged, but none have decreased. With some categories, such as Maintenance, significant improvements would be achieved with only one intervention. In the case of others, such as Many/Diverse Buildings, Special Design Features or Time while many interventions may contribute to improving these criteria, little or no gain has been recorded. This is not to be interpreted as the interventions achieving little or nothing. Rather, it demonstrates that great improvements are not so easily achievable for some criteria. On a more sophisticated rating system, with a more refined scale than the five ratings presently used, the improvements would register.

The largest unanswered question in this study is how to implement such interventions. A number of planning and design tools and processes are typically available to municipalities and help to control development. These

include, but are not limited to community design plans, design guidelines, the site plan approval process, secondary plans, by-laws, and zoning by-laws. The how of what needs to be done to improve Notre-Dame Street is another question in and of itself and the availability of such tools was intentionally omitted from this study as to avoid influencing or limiting the what.

Similarly, while no monetary amounts have been given to each of the specific interventions proposed, it is clear that they vary greatly in terms of cost, benefit, disruption to business owners, etc. Some, such as the maintenance of the street, are relatively inexpensive and minutely disruptive when compared to extending Notre-Dame Street eastward and reconfiguring land uses. Likewise, the industrial lands may be critical to the borough’s economy and the improvement of the traditional mainstreet may not justify the loss of jobs. Ideally, further research should delve into these unanswered questions by conducting an evaluation to determine the feasibility of each intervention. Likewise, some may be completed in a month, others may only be completed over the course of several generations. It would also prove to be beneficial to establish some manner of timeline which would prioritize the

Chapter 6.0: Conclusions
interventions based on urgency, time of completion, and available resources.

In the event that all the proposed interventions were to be implemented, it would be misguided to think that the proposed changes would elevate Notre-Dame Street to the same level as La Ramblas in Barcelona, Avenue Champs-Elysées in Paris, or some of the other world-class streets listed in Allan Jacobs' *Great Streets*. Notre-Dame Street is at the heart of one of the oldest neighbourhoods in Lachine and it is best suited to play the role of a traditional mainstreet to the community, as it always has. This study does not intend to change the essence of the street, but rather provide insight into where improvements are needed what are the ways in which improvement may be achieved. Shifting societal values, changes in planning ideology, neglect, poor regulation, and misguided decisions are likely to blame for the street's diminishing value to the neighbourhood and the borough. Left on its present course, its value will likely continue to wane, as it will likely carry on deteriorating or developing in an inappropriate fashion. While the recommendations put forward would greatly contribute to improving Notre-Dame Street, they should not be interpreted as being the only possible solution. Nonetheless, the recommendations are a piece of the puzzle in the revitalization of the street. Whether they are ultimately implemented or not, at the very least, this study brings to light the potential that the street holds; a potential that would be remiss not to make an effort to achieve.

Chapter 6.0: Conclusions
Matthew Ippersiel 2012

The Revitalization of Traditional Mainstreets Through Design

Work Cited


