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CITY PORTRAIT

Toronto

How far can the city go?

Marie Baléo



La Fabrique
de la Cité

Toronto

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Table of contents

4	Toronto, from “good” city to global city
6	A brief history of Toronto
10	Map
12	Key figures
14	A dizzying ascent
30	Toronto’s response to growth challenges
60	When Toronto met Sidewalk Labs: a threat or an opportunity ?
79	An uncertain future
80	Notes
87	<i>La Fabrique de la Cité</i>
89	Acknowledgements & Credits

Introduction

Toronto, from “good” city to global city

A multicultural metropolis with an international focus, a testing ground for those who are now creating tomorrow's city, Toronto aspires to offer its own vision of urban modernity, building on economic growth supported by innovation. The ambition of this “*New York run by the Swiss*” (Peter Ustinov) to become a “global city” goes hand in hand with references to the “villages” which make up its physical and political space, thus creating a double image. This may well be the specific feature of Toronto: the encounter, in the mid-20th century, of the quiet history of a North American city and a path towards becoming a global metropolis.

In Toronto, the future is not only dreamed of, it is created and embodied. At least that is the clear ambition of public and private stakeholders through many projects, including the smart neighbourhood project by Sidewalk Labs on the Quayside site, which is undoubtedly the most famous example. Tomorrow's city will not be like the one Moebius drew in *The Long Tomorrow*, fully and purely vertical, in which people suffocate in the gloom. On the contrary, it will be made up of large spaces which can house living and working areas, in order to accommodate urban functions, paying attention to green spaces through fully transparent constructions, and attempting to build a space in which people will not live next to each other but will form a community. Perhaps Rimbaud would have been fascinated by these new “*crystal chalets*”, the inescapable symbols of a modernity which seeks to combine technology and nature.

It would be easy to give into the teleological temptation of claiming that Toronto could only become what it is today. This would be forgetting the unexpected events that put their stamp on its development. Nothing seemed to indicate that this small conurbation founded at the end of the 18th century, called York until 1834, was destined to grow beyond the simple status of provincial capital. Toronto first forged its image in Anglican puritanism and royalist solidarity, as opposed to the image of rival Montreal, a missionary and mystical city. Stuck in the shadows of Montreal for many years, the Toronto elites seized the originally scathing nickname “muddy York” to encourage the local government to take measures to improve infrastructure.

The 20th century was marked by rivalry with Montreal in terms of image and above all in economic terms. Toronto came out on top by securing its position as a major financial centre on the continent. As Canada’s financial capital and the second financial hub in North America after New York, Toronto broke a record in September 2017, receiving 1.4 billion dollars of direct foreign investment in one week. For the British daily newspaper, The Guardian, *“What Chicago was to the 20th century, Toronto will be to the 21st. Chicago was the great city of industry; Toronto will be the great city of post-industry”*. As the fourth most populated city on the continent with 2.8 million inhabitants (and 10 million in its metropolitan area), the city benefits from its location at the heart of the Great Lakes region: more than 60% of the population of the United States lives within a 90-minute plane journey from Toronto. However, the rapid success of this city which rose from obscurity in less than a century seems to be more the result of an accident than a voluntaristic strategy, like that rolled out by Singapore, for example. How far can this “accidental metropolis” go? ■

A brief history of Toronto in key dates¹

1792 The parliament of Ontario meets for the first time in Niagara.

1793 The current site of Toronto is selected to become the capital of Upper Canada; the reasons for this choice include its strategic trade and military location and the potential of its backcountry². John Graves Simcoe, Lieutenant-Governor of Upper Canada, also selected this site as a defensive measure, as the British authorities feared that Canada would be invaded by the United States³; Newark, which was the capital of the province up to this point, was too exposed to this threat.

A fort was built on the site (then called York) to defend the entry to Toronto Bay; its construction marks the start of Toronto's urban history.



Fig.1
York in 1803

1795 York has a dozen or so houses and a small military camp.

1825 Work to dig and extend the Erie Canal to Oswego is completed, creating a direct link between southern Ontario and New York. York then became a trade hub of a reach and importance that enabled it to overtake Montreal and its Saint Lawrence River.



Fig.2
Act of Incorporation of the
city of Toronto, 1834



Fig.3

Unemployed workers
sleeping in Queen's Park,
1938

- 1834** York has 9,000 inhabitants; incorporated into a city for the first time, it reverts to its original name, Toronto⁴.
- 1856** A railway line connects Toronto and Montreal for the first time.
- 1867** Birth of the Canadian Confederation; Toronto becomes the capital of the newly created province of Ontario.
- 1891** Toronto has a population of 181,000.
- 1904** A major fire destroys the city centre.
- 1906** The energy produced by Niagara Falls now provides the city's electricity.
- 1914** The Royal Ontario Museum opens in Toronto.
- 1921** Toronto has a population of 522,000 inhabitants; the Toronto Transportation Commission, the city's municipal public transportation agency, is founded.

- 1929** As the USA is severely hit by the Depression, the Toronto Stock Exchange suffers the worst crash in its history.

- 1930s** The effects of the Depression continue to be felt in Toronto, where they result in an impoverishment of the population, in particular in the suburbs. 25% of Torontonians are unemployed. Several municipalities are declared insolvent and many forms of public spending to develop municipal infrastructure are frozen.

- 1939** Canada declares war on Nazi Germany.

- 1945-1960s** The post-war era is the start of a period of economic prosperity for Toronto, supported by major migratory flows.



Fig. 4
Building work on the
Toronto subway

- 1953** Creation of the Corporation of Metropolitan Toronto, the first attempt to achieve metropolitan governance, including the municipality of Toronto and adjacent municipalities.
- 1954** Inauguration of the first subway line.
- 1966** The borders of the city of Toronto are redefined as the city absorbs thirteen adjacent municipalities.
- 1967** The GO-Transit regional public transportation system is introduced, connecting Greater Toronto and the neighbouring areas of Hamilton and Pickering.

Fig. 5
GO-Transit trains



- 1976** A census reveals that Toronto is now the most populated city in Canada, overtaking Montreal. The CN Tower, an iconic building in the city, is opened; standing at 553 metres in height, it is the tallest tower in the world at the time. Toronto hosts the Paralympic Games in the same year.
- 1983** The municipalities of Etobicoke, Scarborough and York are incorporated into Greater Toronto.
- 1998** With the criticised “amalgamation” of five neighbouring boroughs and the dissolution of the metropolitan system, the city of Toronto takes on its current borders.
- 2010-2014** Rob Ford (Progressive Conservative Party) becomes Mayor of Toronto.
- 2014** John Tory (Progressive Conservative Party) succeeds Rob Ford.

Fig. 6

The CN Tower being built in 1975



2017 Following a competitive request for proposals process, the entity responsible for coordinating the revitalisation of Toronto's waterfront, Waterfront Toronto, selects American company Sidewalk Labs, a subsidiary of Alphabet (parent company of Google), to develop a smart neighbourhood on a brownfield site located on the shores of Lake Ontario.

2018 Doug Ford, brother of the former Mayor of Toronto, becomes Premier of Ontario.

June 2019 Sidewalk Labs submits its Master Innovation and Development Plan to Waterfront Toronto. In this long document of more than 1,500 pages, the company describes in detail its smart neighbourhood plan and proposes the creation of an IDEA District thirty times larger than the plot of land identified in the initial request for proposal.

Oct. 2019 Sidewalk Labs and Waterfront Toronto reach an agreement under which the American company is obliged to scale down its ambitions. A public consultation phase is launched, following which Waterfront Toronto will publish, in March 2020, its final decision on whether or not to pursue the project.

Fig. 7

Quayside, potential site for Sidewalk Labs's intelligent neighborhood





←
**Pearson International
Airport**

Royal Ontario Museum

**University
of Toronto**

**Ryerson
University**

City Hall

Old City Hall

CN Tower

Main train station



Historic buildings Recreational areas

Evergreen Brick Works → an urban innovation and cultural site located in a former brickmaking factory

Toronto's central train station

Pearson International Airport

University of Toronto

Ryerson University

Toronto City Hall

Toronto's Old City Hall

CN Tower → Highest building in Toronto at 553 metres

Royal Ontario Museum



Neighborhoods

Quayside → Potential site of the future smart neighbourhood designed by Sidewalk Labs

Distillery District → A historic site and jewel of Canada's Victorian industrial architecture

St. Lawrence Market → Historic market located in the Old Town district of Toronto

Key figures

Population

City of Toronto (2016)⁵ (+4.5% between 2011 and 2016)

2,731,571 inhabitants

Greater Toronto Area (2018)⁶

6,847,794 inhabitants

Surface area

Toronto⁷

630.2 sq.km

Greater Toronto⁸

5,903 sq.km

Number of inhabitants with a university certificate, diploma or degree at bachelor level or above (city of Toronto)⁹

835,255

Total median after-tax income of households (CAD) (2015)¹⁰

58,264

Total median income of households on a national scale: 61,348 CAD

**Median employment
income
(CAD) (2015)¹¹**

33,602

National median employment income : 33,684 CAD

**Number of inhabitants
aged 15 and over without
employment income (2015)¹²**

716,035

**Number of inhabitants
with employment
income ...**

...below 19,999 CAD (2015)¹³

553,410

...above 100,000 CAD (2015)¹⁴

165,330

**Unemployment rate
(December 2018)¹⁵**

8.2%

National average : 7.7%

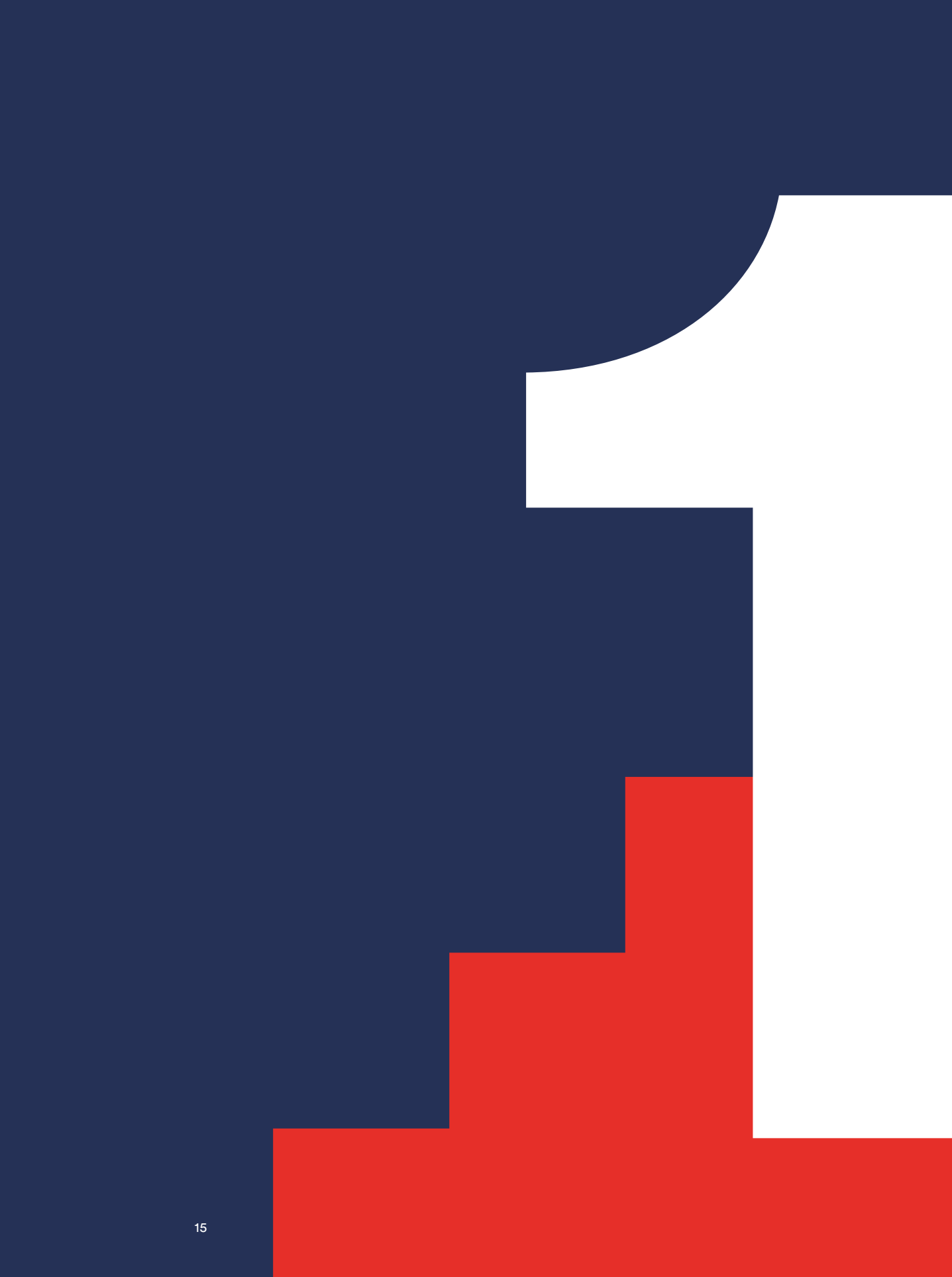
**Number of foreign
nationals living in
Toronto¹⁶**

395,295

**Number of Toronto
residents whose native
language is neither English
nor French¹⁷**

1,186,885

A dizzying ascent



1. The history of an uneventful provincial capital

Toronto, the nerve centre of Ontario

The agglomeration of York was created in 1793 in a bay of Lake Ontario. It was originally a place of transit known to fur traders since Europeans settled in the region in the late 15th century. For a long time, it was similar to the border villages founded by loyalists who had fled the United States during the War of Independence. It was nevertheless intended from its foundation to be a capital, that of the British province of Upper Canada from 1791. John Graves Simcoe, the first governor of the province, saw York as a strategic stronghold for the region's development¹⁸. Its first rivals were the towns of Kingston and Niagara, with more advantageous locations, the former being at the crossroads between the Great Lakes and the Saint Lawrence River and the latter being close to the United States. **From the 1830s, Toronto nevertheless became the leading trade power in the province by developing an export economy which, from the outset, was firmly focused on the USA.** From the mid-19th century, the city was connected by rail to New York, Detroit, and Chicago. Upon the creation of the Canadian Confederation in 1867, Toronto became the capital of the province of Ontario. **Its economy became industrialised due to demographic growth fuelled by major migratory flows.** Clothing factories, foundries and printing works flourished. From 1879, the city established customs duties with a view to protecting its industry from competition from neighbouring USA. Hydroelectric power supplied by Niagara Falls from 1911 facilitated the city's industrial development and marked its entry into the modern era.

The turning point of the post WWII era

In the first decades of the 20th century, Toronto experienced considerable industrial and financial expansion, though its neighbours in north-eastern America continued to significantly outperform the city¹⁹. **Prior to World War II, there was little to suggest the unparalleled growth that Toronto would soon experience, as it was a sparsely populated and relatively small provincial capital at the time** (in 1951, it still only occupied one eighth of its current surface area). The post-war years were a turning point in the city's history, driven by **a phenomenon the legacy of which would transform the long-term future and identity of Toronto: the convergence of major migratory flows from many European and Asian countries.** At this time, Toronto became home not only to people from rural Canada but also to people from Hungary following their country's invasion by the Soviet Union in 1956 and from Vietnam, following the fall of the pro-western government in Saigon²⁰.

Fig. 8
Chinatown Dragon
Dance, 1965.



The creation in Toronto of communities that shared the same national or regional origin or spoke the same language helped new arrivals to settle more easily into Canadian society and to find employment. The countries in which migratory flows to Toronto originated changed from the 1960s, when Canadian immigration legislation was relaxed, in particular for third world countries: migratory flows from China and South Asia increased at this time. This migratory dynamic has continued over time : *"In 1956, during the Hungarian revolution", explains urban planner Joe Berridge, "the border remained open for two weeks and 56,000 Hungarians came to Toronto. During the Vietnam War, 40,000 young American men came to Toronto and most stayed. 65,000 Vietnamese 'boat people' did the same, as have 45,000 Syrian refugees"*. This tradition of welcoming major migratory flows is widely viewed as an asset and a unique feature in Toronto's history, despite the painful episodes of protests against the arrival of Chinese (1887) and Greek (1918) people.

“ This tradition of welcoming major migratory flows is widely viewed as an asset and a unique feature in Toronto's history.”

Toronto's urban shape was also transformed in the years immediately after World War II. While as late as 1946, *"90% of the manufacturing enterprises in York County still were to be found within the boundaries of the City of Toronto"*²¹, a change occurred in the 1950s: in 1954, this figure fell to only 77%, showing that businesses chose to build on former agricultural land located beyond the city limits. This trend would accelerate *"as the years passed and as new highways offered alternatives to railways for transporting goods economically"*²². ■

2. A metropolis of growing influence

Seeking a governance model commensurate with Toronto's size

Another major change occurred in Toronto in the post-war decades: **the creation of suburbs, brought on by an abandonment of the city centre and the shores of Lake Ontario in particular**, where industrial activity was highly concentrated. As the use of cars became widespread, **around 200,000 inhabitants moved to these areas beyond the city limits between 1940 and 1953**²³. The rapid expansion of Toronto's suburbs made some believe that local government needed more centralization and financial capability to develop roads, transit, sewers, and parks, etc.²⁴ These needs became imperative with the post-war population explosion²⁵. Very quickly, Toronto *"burst its relatively compact boundaries in an orgy of urban sprawl, which consumed some of Canada's best farmland"*²⁶. This development was not without difficulties: *"suburbanization put intense pressure on municipalities because of the difficulties in supplying services to low-density neighbourhoods in contrast to the old city where greater population and business concentrations made service delivery more efficient and created a richer tax base to support those services"*²⁷.

In response to these challenges, the Province of Ontario created a two-tier government structure in 1953, made up of the Municipality of Metropolitan Toronto, in charge of regional issues (infrastructure, transportation, urban planning, justice, social welfare, traffic management²⁸, etc.) and of thirteen municipalities¹ responsible for more specific and local matters (fire protection, waste collection, sewers, parks, etc.)²⁹. For André Sorensen, Professor of Geography at the University of Toronto, *"the creation of Metro Toronto was a very careful, deliberate and strategic move to build infrastructure, using the City of Toronto's tax base to finance the building of suburban infrastructure. Metro Toronto is a fantastic innovation, in the sense that, all of the suburban growth was managed by a regional-level government, that was quite effective. There was significant redistribution of the tax base, to create equal levels of services, to build a big infrastructure, in particular transit, and to create a really strong public education system"*. An iconic figure in Toronto's history, Frederick Gardiner, the first chairman of the Metropolitan Toronto Council, played a key role in implementing this level of governance able to meet the growth of the Toronto urban area and the necessary political and administrative adjustments that must be made to support it. At the same time, the municipality completed the construction of the city's subway, before launching the development of parks and highways, including the Gardiner Expressway (see p.39) which runs along the shores of Lake Ontario, connecting the city centre to the suburbs. **In 1966, the City of Toronto absorbed a few adjacent municipalities, getting one step closer to its current borders.**

¹Toronto, Etobicoke, North York, Scarborough, York, East York, Forest Hill, Leaside, Long Branch, Mimico, New Toronto, Swansea, Weston.

Municipalities and provinces: a history of conflictual relationships

Canada's political and institutional history is marked by the prominence of provinces within the federal system. **While the Canadian constitution allocates specific jurisdiction to the federal government and the ten provinces, it does not acknowledge municipalities as a separate order of government**³⁰. This may be explained by the prevailing demographic situation in 1867, when the constitution was adopted: the ten most populous cities in Canada accounted for less than 10% of the country's total population at the time. The constitution gives the provinces exclusive powers to make laws in relation to 'municipal institutions in the province'³¹. The provinces *"have the ability to dictate the size and structure of city governments, to set the conditions of their ability to raise capital, and to apply duties and obligations to them"*, writes Alan Broadbent³². It is therefore up to each province to decide on the distribution of responsibilities among itself and its municipalities, which are mere legislative appendages. Anne Mévellec, Guy Chiasson, and Yann Fournis note that *"municipal councils are made up of independent councillors, elected by direct universal suffrage by single-ballot majority voting on the basis of electoral districts"*, which *"contributes to heightening the municipal vision geared towards services"*³³. It is therefore clear that municipalities have been deemed "creatures" of the provinces in Canadian rulings, a moniker that is ever-present in the narratives of local stakeholders, and one which they no longer seem to be able to do away with today^{34, 35}. To tackle the pressures that these cities with soaring population levels must face, the Province of Ontario did agree to create a regional governance body: this was Metro Toronto, founded in 1954, which no longer exists today³⁶.

To date, Toronto is the only municipality in Canada to have its relations with the province governed by a specific agreement, the Cooperation and Consultation Agreement³⁷; other cities in Ontario have more complex arrangements with fewer guarantees of independence. **The Province of Ontario has nevertheless shown on numerous occasions that it intends to retain its control over Toronto**, refusing the federal government's call for an increased division of its jurisdiction with the municipality. Citizens in Toronto continue to be affected by the province's control over the city: in the middle of the last municipal election campaign, **in 2018, the Premier of Ontario, Doug Ford, suddenly cut the number of municipal councillors in Toronto from 47 to 25**. *"In Canadian municipal affairs, provinces get what provinces want"*, write Enid Slack and Richard Bird³⁸. Toronto's City Council offsets this relative incapacity with a strong democratic culture: André Sorensen, Professor of Geography at the University of Toronto, explains that *"there is a long tradition of very careful, thoughtful governance, that has been supported by very strong civil society actors, in Toronto. [...] It actually does have a strong democratic culture, even if the institutions of City Hall are legally quite weak, and financially weak"*.



Fig. 9
Montreal in 1731

When Toronto ousted its historic rival

On the banks of the Saint Lawrence River, Montreal was an important port from its foundation in 1642, from which many raw materials such as fur and timber were exported. The development of the railway supported the growth of trade in this city. In the early 20th century, Montreal's banks had more financial assets than their counterparts in Toronto. **At the time, Montreal dominated the other cities of Canada in all areas of economic life, while Toronto focused on trade with the USA and more specifically the region around New York.** Yet while Montreal was the long-standing undisputed metropolis in Canada, this was without reckoning with Toronto's rapid rise from the 20th century onwards. Geographer and urban planner Georges Benko states that:

“The competition between Toronto and Montreal is long-standing and is part of the history of a geographical shift of the North-American economy towards the West. The general migration movement of the North-American population from East to West, which was matched by a new North to South movement, left Montreal on the periphery of the demographic centre of gravity. Toronto was able to take advantage of the East to West movement in the USA.”³⁹

Toronto's centrality and its proximity to the border proved once again to be strategic assets for its development. At the end of World War II, the population of Toronto exceeded that of Montreal. The economic slowdown of the 1930s was felt more keenly in Montreal than in Toronto, which was experiencing demographic and economic growth and captured many investments. **Yet it is only after World War II that the economic influence of the capital of Ontario exceeded that of Montreal once and for all.** *"From the 1950s, [Toronto] asserted its supremacy over its rival Montreal and worked to secure its leadership in the Canadian urban hierarchy"*⁴⁰, writes Guillaume Poiret. This rivalry was conveyed in subsequent years through major architecture projects: while Montreal's Tour de la Bourse, for which building began in 1961, reaches 194 metres in height, Toronto responded in 1967 with the TD Tower (223 metres).

Toronto took full advantage of the post-war boom period, whereas Montreal had to deal with the *Grande Noirceur* (Great darkness), a period of conservative reforms labelled by some authors as the *"Ancien régime québécois"*⁴¹. Montreal did, however, have the privilege of hosting the summer Olympic Games in 1976, attracting global media attention, while Toronto had to content itself with the Paralympic Games, with less media coverage.

Montreal was, however, conclusively unseated: Georges Benko writes that *"Canada became a two-headed country. Geography gave rise to Montreal, while people created Toronto"*⁴². In the 1970s, *"financial activities, headquarters and part of the dynamic tertiary sector left Montreal for Toronto"*⁴³. Between 1976 and 1981, Toronto experienced growth of 7%, compared to 0.9% in Montreal. Montreal's unemployment rate was 4.5 points higher than its rival's at that time. The reason for this is that the industrial fabric did not favour the city in Quebec: *"In Montreal, traditional low-productivity industries (textile, hosiery, clothing) accounted for a quarter of employment, as against only 8% in Toronto"*⁴⁴.

Fig. 10
Chicago, ousted rival



“Montreal’s industrial structure has aged”, “it is poorly suited to the market” adds the geographer⁴⁵. In relation to the favourable economic situation which enabled Toronto to oust Montreal as the economic capital of Canada, the American think tank The Brookings Institution states that:

“The balance tipped toward Toronto just as the financialization of the global economy, and the growing role of creative and cultural sectors in urban competitiveness (where Toronto already had anchor institutions), began to take shape. Toronto’s pathway to becoming a global city was thus shaped by factors beyond its control but fashioned locally by an emerging Canadian business elite that clustered in the city at the right time”⁴⁶.

While in 1961, around 22% of major companies in Canada had their headquarters in Montreal, this figure fell to 17% in 1966, as against 26% in Toronto⁴⁷. Today, Greater Toronto alone is home to around half of the headquarters in Canada⁴⁸. The 1995 referendum on Quebec’s independence heightened this trend further: following the election of the *Parti Québécois*, the province of Quebec organised a consultation with a view to converting the province into a sovereign state. The result was close, votes against independence won with a score of 50.6%. *“Toronto benefited from this movement. The current version is Brexit. It urges companies to consider whether they should relocate their financial assets and headquarters that are easily transferrable”*, explains Marek Gootman, non-resident senior fellow at The Brookings Institution. Stephen Marche, journalist at the Guardian, writes that **“Montreal decided to become a French-Canadian city. Toronto decided to become a global city”**⁴⁹. *“Montreal’s replacement by Toronto as the unparalleled economic capital of Canada was accelerated by the ‘secessionist’ fears fuelled by the English-speaking economic community in Quebec”*, confirms The Brookings Institution. While Montreal is now a leading centre of excellence in artificial intelligence, this expertise should not overshadow the fact that Toronto is now the second Silicon Valley (see below).

A first-class regional and global metropolis

Toronto then outshone other competitors that included for a time Vancouver and the American cities of the Great Lakes region and the US East Coast. **No other Canadian city now seems able to compete with Toronto’s economic power:** Ottawa, the political capital, is a smaller city with an economy intrinsically linked with its status as the headquarters of national institutions; Quebec enjoys sustained growth but not at the same levels as Toronto; Vancouver, despite a healthy economic growth and a low unemployment rate⁵⁰, cannot be counted as a real competitor as it is penalised by its small population and isolated geographical location. On the other side of the border, Chicago’s economy remains marked by a decade of crisis recovery, while its population is declining and economic opportunities seem limited in the city⁵¹; Toronto’s population exceeded the declining population of the largest city in Illinois in 2016. With around 672,000 inhabitants today, Detroit’s population has been cut by half since the 1950s⁵²; it is another city which is struggling to come back from the multifaceted economic crisis of 2008 and to reinvent its deindustrialised economy.

Toronto’s primacy over its former rivals can be explained in particular by a significant development of its labour market. American urban planner Richard Florida explains:

“While Rustbelt metros in the U.S. have seen slow rates of job growth or even job decline, Canadian metros in and around the Great Lakes had rates of job growth that rival America’s high-flying Sunbelt metros. Toronto’s rate of job growth was comparable to Houston (1.79 percent vs. 1.91 percent), with both of them adding more than 600,000 jobs over this period (2001-2016).”⁵³

Fig. 11

1995 referendum on
Quebec’s sovereignty



Between 2012 and 2016, “Toronto’s job growth (1.84 percent, 79th) was comparable to Los Angeles (1.84 percent, 80th) and better than Boston (1.78 percent, 84th), New York (1.77 percent, 85th), or San Diego (1.70 percent, 89th)”⁵⁴.

Lastly, Toronto has ranked top of global city rankings for several years: “Toronto tends to score well in many “global city” surveys, through its unusual ability to earn high (although not top) marks both for economic dynamism and for quality of life and livability”, explains Mark Kleinman⁵⁵. According to the Economist Intelligence Unit, in 2015 Toronto was the best city in the world to live in, on the basis of an index which compares “safety, livability, cost of living, business environment, democracy, and food security.”⁵⁶ ■

3. How can the miracle of Toronto be explained?

The economic and cultural benefits of migration

The very strong demographic growth that Toronto has experienced for several years is set to continue, as the Greater Toronto Area, which currently has a population of around 6 million inhabitants, should have 13 million by 2050⁵⁷. The demographic growth remains high and stable; between 2006 and 2016, its annual rate was between 4% and 4.5%⁵⁸. This trend can be explained by positive net migration⁵⁹: **the city is the leading destination in Canada for immigrant populations, as it attracts more than two thirds of the country's migration inflows**⁶⁰. Toronto welcomes 125,000 new inhabitants each year, as against 30,000 in London and 30 to 40,000 in New York, according to urban planner Joe Berridge. **These migration flows drive Toronto's economic dynamism** by providing the secondary sector with a considerable workforce and by meeting

a “visible minority”. At the same time, Toronto, a “city of neighbourhoods” or even “city of villages” is seeing the development not only of the traditional Chinatown and Little Italy, common in many North-American cities, but also Little Portugal, Greektown, Koreatown and Little Poland, as Guillaume Poirer explains:

“If there is a place where the term multiculturalism has meaning, it has to be this city which is home to more than fifty nationalities and which soaks up this diversity to make its own mark of identity [...] In this large Canadian village, the door is open to welcome many of the new arrivals, synthesizing a complex identity made of sharing and borrowing on the basis of the many cultures which live in it.”⁶²

Fig. 12
A street in Little Italy



the supply of low- or medium-skilled jobs. Lastly, with the Federal Skilled Workers Program, which is aimed at highly qualified workers wishing to settle permanently in Canada, flows of skilled workers and entrepreneurs add to the numbers of Toronto's middle class.

The cultural and linguistic diversity that results from such migration is becoming the key feature in Toronto's contemporary identity, as 51% of Toronto's inhabitants and 20% of people living in the Greater Toronto Area were born outside Canada⁶¹. Today, around one million inhabitants of Toronto identify as being part of

Overview of Toronto's linguistic and cultural diversity

Number of inhabitants in Toronto whose mother tongue is neither English nor French⁶³

1,186,885

Of which⁶⁴:

Chinese: 245,285
Tagalog: 83,230
Spanish: 72,850
Italian: 62,640
Portuguese: 59,355
Tamil: 57,535

Russian: 36,145
Korean: 33,665
Arabic: 29,825
Greek: 27,840
Polish: 25,060
Vietnamese: 24,775

Number of foreign nationals living in Toronto⁶⁵

395,295

Number of immigrants⁶⁶

1,266,005

Date of arrival⁶⁷

Before 1981:
294,065

2001-2010:
330,550

1981-1990:
171,565

2011-2016:
187,950

1991-2000:
281,870

The financial sector: the driving force behind Toronto's growth

The rapid and considerable growth of Toronto's financial sector from the 1970s enabled it to become the ninth financial centre worldwide and the second in North America, with only New York ahead of it today. Toronto alone came out of the 2008 financial crisis relatively unscathed. While Canadian banks recorded substantial losses due to their relations with their American counterparts, which experienced massive credit losses⁶⁸, their situation remains better than that in the many other countries affected by the subprime mortgage crisis. How can the resilience of the Canadian banking sector be explained against the worst global financial crisis since the Depression? *"Toronto's lack of ambition is why the financial collapse of 2008 never happened here. The strong regulations of its banks preventing their over-leverage meant they were insulated from the worst of global shocks",* writes Stephen Marche in The Guardian⁶⁹. Toronto recovered relatively easily from this shock and continued its journey to becoming a major financial centre: **it currently houses 30% of all financial services headquarters in Canada (including the headquarters and/or divisions of five of the six leading Canadian banks⁷⁰) and has the second-highest concentration of large bank headquarters in the world⁷⁰.**

⁷⁰ Namely: BMO, Royal Bank of Canada, Toronto-Dominion Bank, the Bank of Nova Scotia (executive office) and the Canadian Imperial Bank of Commerce (CIBC, executive offices).

“Toronto's lack of ambition is why the financial collapse of 2008 never happened here. The strong regulations of its banks preventing their over-leverage meant they were insulated from the worst of global shocks.”

Following suit from Canadian banks and financial institutions, internationally renowned Canadian business law firms and major audit, consultancy and accountancy firms operate from Toronto, where 7,175 jobs in the legal sector come directly from the financial sector. In 2017, this sector employed 274,525 people in the Toronto metropolitan area (i.e. 8.3% of the total population), to which 133,957 indirect jobs can also be added. **This growth in the number of jobs in the financial sector has only been exceeded in the last five years in Beijing and Shanghai.** The financial sector currently accounts for 13.6% of the metropolitan area's gross domestic product and **Toronto is now the fourth city in the world for outward foreign direct investment.**

Fig. 13
BlackBerry
headquarters
in Waterloo



The Toronto-Waterloo Innovation Corridor

Another major asset which boosts Toronto's competitiveness and economic appeal is that the capital of Ontario currently hosts one of the leading ecosystems of innovation and technology stakeholders in the world. This technology "super-cluster" (communication technologies, robotics, software, artificial intelligence, etc.) relies on the economic strength of a corridor which connects Toronto to the city of Waterloo, long-standing headquarters of BlackBerry, where there are a growing number of startups founded by former employees of the group (Waterloo has the second-highest density of startups in the world⁷¹). The Toronto-Waterloo Innovation Corridor, which comprises four urban centres, has around 15,000 high-tech companies including Google, Facebook, IBM, Cisco

Systems Canada, Symantec and Microsoft Canada⁷². With 205,000 employees, Toronto's technology sector is the second-largest in North America, ranking immediately behind Silicon Valley. The number of programmers and engineers rose by 50% between 2012 and 2017, while 82,100 jobs were created in the sector over the same period⁷³. In addition to the tech sector itself, the wider tech ecosystemⁱⁱⁱ employs 401,000 people^{iv} in Toronto, where it accounts for 15% of the total number of jobs⁷⁴. "All industries are

ⁱⁱⁱ Namely all jobs, including non-tech jobs, created by tech companies and jobs related to tech expertise in non-tech companies and sectors.

^{iv} Including 72,000 people in jobs non-technology-related jobs within tech sector companies, 231,000 people in tech jobs in non-tech companies and 98,000 people in tech jobs in tech companies.



Fig. 14

Downtown Toronto,
2016.

becoming tech industries, with the number of tech jobs in non-tech industries outnumbering tech industry employment in 2015 by 36%”, wrote TechToronto in a 2016 report⁷⁵.

While it has not yet produced a “unicorn” (a startup valued at \$1 billion or more), Toronto’s tech sector has generated income of \$360 billion⁷⁶, i.e. 17% of Canada’s GDP. Its dynamism is so strong that Silicon Valley companies recruit engineers and other skilled workers from here, and are encouraged to do so by the relaxed immigration legislation applicable. Conversely, many foreign workers in Silicon Valley are leaving the US for Toronto, discouraged by the prohibitive cost of living in California and the restrictions the USA places on holders of a H-1B visa^v. The migration policy rolled out by the US government since Donald Trump’s election as US President has hastened the departure of this highly-skilled and highly-sought-after workforce

to Canada. This phenomenon is of such a scale that The Economist has called it an “*exodus of tech workers from Silicon Valley*”⁷⁷. **This exodus is a boon for Canada, where tech vacancies are forecast to reach 200,000 by 2020⁷⁸.** This windfall can also be explained by the relatively affordable operating costs for a company in Toronto: the estimated cost of employing 500 people and renting premises with a surface area of 75,000 sq.m is on average 30 million dollars, as against 59 million in San Francisco, according to the Financial Times⁷⁹. Lastly, Toronto undoubtedly benefits from the concentration of first-class universities and higher education institutions which conduct research that supports its innovation and technology ecosystem, such as research conducted by the University of Toronto (the computer science department of which ranks among the top ten globally by the Shanghai Index⁸⁰) in the field of artificial intelligence.

^v It is difficult for the latter to found companies; they must wait sometimes up to 20 years before being granted a green card.

“Toronto is not a knowledge capital like Stockholm, San Diego or Philadelphia and Baltimore.”

For local stakeholders, the current challenge is to convert the Toronto-Waterloo Innovation Corridor into a world-class cluster⁸¹ not only one that leads in North America. Yet “despite its strong positioning, the equity value of the [Toronto-Waterloo] corridor’s tech companies lags far behind those of peer cities like Chicago, Boston, Berlin, and Singapore”, notes consulting firm McKinsey⁸². At the same time, some risk factors are emerging: **the innovation corridor is currently experiencing slow growth**, notes the McKinsey report, which means that the city “fell in the global ecosystem rankings from #8 to #17 between 2012 and 2015, driven by gaps in commercial activity and talent, capital deficits, lack of connective infrastructure, and limited access to early adopters”⁸³. **Toronto is suffering from the difficult transition of innovations created in its academic excellence ecosystem to the market:** “part of the commercialization lag is due to IP ownership and management rules, as well as revenue-sharing requirements in Canadian universities”⁸⁴. Toronto also suffers from a national disadvantage: Canada does not attract enough capital (in 2015, it only attracted just 1% of global VC investments⁸⁵), despite a sharp rise in VC investments in Toronto itself (1.3 billion dollars in 2018, as against 296 million in 2013)⁸⁶. “Toronto is not a knowledge capital like Stockholm, San Diego or Philadelphia and Baltimore”, explained Marek Gootman, non-resident senior fellow at The Brookings Institution, during the *La Fabrique de la Cité*’s urban expedition in Toronto. “Toronto’s trade sector productivity differential, over the past ten years, has been negative, below the national trajectory. GDP growth per worker is lower than 0.5%, which is lower than in Montreal. While Toronto has fundamental assets, there are also areas that the public sector and the private sector must work on”.

Lastly, the poor condition of Toronto’s infrastructure threatens the balance and strength of this innovative ecosystem: “The infrastructure connecting the urban centres in the corridor, mainly via traditional commuter rail and highways, has long been cited as insufficient for facilitating access between residents of the different cities. This limits spillover between the pockets of expertise forming in each city”⁸⁷. While Toronto’s pathway may appear miraculous, it should not overshadow the significant challenges which could soon hinder its growth: governance and financing of infrastructure, an emerging shortage of affordable housing or worsening socio-economic inequality which is already sizable. ■

Toronto's response to growth challenges



Appeal, a dynamic demography and economy, etc. While Toronto has many assets, it is currently facing as many challenges.

Infrastructure, in particular the mobility network, is now undersized and mostly dilapidated. Property prices are soaring, while the city is already experiencing a shortage of affordable housing. This can only be overcome by proactive public policies and massive investments. **Economic and social inequality has deepened over the last two decades**, in a city which has been relatively spared by this phenomenon up to now. For these problems to be solved, a governance model must be adopted which is suited to Toronto's size and its planning challenges on a metropolitan scale and relations between province and municipality must be improved.

1. Governing an expanding metropolis

“Some thought that the neo-conservative Harris government wanted to fill the City of Toronto’s city council, which was previously progressive, with conservative politicians from the suburbs and to meet the financial problems of the latter by transferring resources from the city centre to the suburbs.”

In 1998, with a view to boosting the upward development of its capital, the province of Ontario overhauled its governance again: it adopted the 1998 “City of Toronto Act” which put an end to the metropolitan system (see above) and created a single level of governance. The “City of Toronto” now governs the territory which was formerly that of the metropolis and replaces the municipalities of Toronto, Etobicoke, Scarborough, North York, East York and York. The surrounding suburban area, nicknamed 905 after its telephone code, is made up of municipalities which were not amalgamated but which are nevertheless part of the metropolis. These suburbs are divided into four regional municipalities: Hamilton, Peel, York and Durham.

This “amalgamation”, promoted on grounds of increasingly effective governance and local finances, is, however, criticised by some observers: “Some thought that the neo-conservative Harris government wanted to fill the City of Toronto’s city council, which was previously progressive, with conservative politicians from the suburbs and to meet the financial problems of the latter by transferring resources from the city centre to the suburbs”. For Mark Kleinman, “the Province rejected these city-region solutions and instead opted to merge the authorities within metropolitan Toronto into one single-tier authority in pursuit of the chimera of reduced service costs through amalgamation”⁸⁸. This objective was not reached: “The potential cost savings from amalgamation were small, as the three largest expenditures were already at the metro level – welfare assistance, transit, and policing [...]. Between 1998 and 2002, about 2,700 city jobs were eliminated, but 3,600 new ones were created [...]. In the longer term, expenditures on fire protection, garbage collection, and parks and recreation all increased after amalgamation”⁸⁹, notes Mark Kleinman.

76% of the population of the former Metro were against this project, nicknamed “Megacity” by its critics, although it does reflect, according to geographer Guillaume Poirer, a desire to endow Toronto with the necessary weapons for its survival in view of the competition between global cities, presented as “a means of adapting Toronto to globalisation, against a backdrop of growing competition between major global cities to attract investors”.

Fig. 15

Enid Slack during *La Fabrique de la Cité's* Urban Expedition to Toronto



Criticism of amalgamation is far from over: *"it has been 20 years since Toronto was amalgamated into a 'MegaCity', and yet the surgical scars have not yet healed", writes Toronto-based journalist Shawn Micallef.* Councillor Krystin Wong-Tam made the same remark, qualifying amalgamation as an *"arranged marriage that we have been trying to get used to since 1998."* Others believe that amalgamation was an opportunity for the province to transfer some of its competences to the newly created 'Megacity' without giving it the necessary corresponding resources to take ownership of these new competences. *"We have created a city that was too big and too small. It was too big to have local responsiveness, but it was too small to deal with the regional issues, which are issues around transportation and land use planning in particular. We missed an opportunity",* says Enid Slack, Director of the Institute for Municipal Finance and Governance at the University of Toronto. Amalgamation has therefore not brought about an organisation of the territory on the scale of the urban area which connects Greater Toronto and Hamilton.

There are many past examples of attempts to create regional organisations, such as Ontario's Office of the Greater Toronto Area by the province of Ontario in 1988 and the Greater Toronto Services Board in 1998. These attempts failed, however, and these bodies proved to

be empty shells without any real authority. **Today, there are few regional authorities in Greater Toronto, with the exception of Metrolinx, the provincial government transportation agency for the Greater Toronto-Hamilton urban area,** which oversees GO Transit, the mobility network of the Greater Toronto-Hamilton area (see below). By means of comparison, Vancouver and Montreal each have a genuine metropolitan authority, the Montreal Metropolitan Community and the Metro Vancouver Regional District respectively.

Amalgamation had a significant impact on Greater Toronto's political balance. Since 1998, Toronto's city council has been dominated by politicians representing the suburbs, whose weighting counterbalances that of Toronto's city centre. As these suburbs are traditionally conservative for the most part⁹⁰, unlike the highly progressive city of Toronto, the city mayors have tended to be from the conservative party since amalgamation, with the exception of David Miller (2004-2010).

There is no clear shift to a regional governance system on the horizon today: *"We will never have a Grand Paris, or greater London council in Toronto, because it would end up being two-thirds of the province. And so, the province, politically, would never let that happen",* explains Toronto-based urban planner Joe Berridge. Marek Gootman (Brookings Institution) confirms this analysis: *"There were various attempts to constitute a government structure that would create a grand Paris, a grand Toronto, but they have all been unsuccessful, generally because you would just create this enormous entity that would have a political power, that would be equivalent to the province"* ■

2. The unsolvable problem of infrastructure

Fig. 16

Railways in Toronto



The demographic growth that Toronto is currently experiencing can only be sustained if considerable investments are made to endow the capital of Ontario with infrastructure of quality and capacity commensurate with the needs of its population. According to the Association of Municipalities of Ontario, **the lack of investment in municipal infrastructure in the province reached CAD 60 billion in 2015, slightly more than €40 billion.** The Greater Toronto Area is a prime example of this situation: what is currently described by some observers as an infrastructure crisis appears to be the main obstacle in Toronto's ascent to becoming a global city, an obstacle that it is struggling to overcome.

“Notwithstanding \$32 Billion funded in the 10-year capital plan, the City still has unmet capital needs of \$33 Billion over the next 15 years.”

The effort that Toronto must make in terms of infrastructure is proportional to the ageing and obsolescence of its existing infrastructure and to structural under-investment. “Notwithstanding \$32 Billion funded in the 10-year capital plan, the City still has unmet capital needs of \$33 Billion over the next 15 years”, acknowledges the municipality in a 2017 document⁹¹.

“How can the renovation and construction of infrastructure be financed even though Canadian municipalities are traditionally reluctant to increase the tax burden of their taxpayers?”

However, it appears urgent today to endow this metropolitan area experiencing strong growth with resilient infrastructure that can deal with climate change and natural hazards (repeated flooding, blizzards, heat waves, etc.). In 2013, according to Infrastructure Ontario, “the Toronto urban area experienced a record 126 mm of rainfall in only a few hours, contributing to around \$940 million in damage for the city of Toronto alone”; this severe flooding affected 4,579 homes and 750,000 people lost power⁹². In Toronto, 51% of the city's sewage system is over fifty years old and half of the ducts are over fifty-five years old.



The challenge faced by the Toronto infrastructure crisis is twofold: firstly it concerns the governance of infrastructure (mainly that of mobility), against a backdrop of contradictory claims from the province and municipalities, and secondly it concerns financing: how can the renovation and construction of infrastructure be financed even though Canadian municipalities are traditionally reluctant to increase the tax burden of their taxpayers? Faced with the difficulties that the municipality and the province have to work together to plan, implement and finance mobility projects, is another governance system possible and desirable, and if so, how should it be organised?

It is in the field of mobility infrastructure and more specifically of public transportation that the aporia is most clear: while there is still limited use of public transportation and a need for significant investment, there is a lack of an integrated regional vision and very unequal services to different areas, which threatens to further exacerbate the inequality that polarises the people of Toronto today. **The price of a monthly public travel pass in Toronto is CAD 150 (i.e. around €102),** making it the fifth most expensive pass in the world after London, New York, Sydney, and Dublin. At the same time, **Toronto's road network is the second most congested in North America and the modal share of cars is heavily prevalent** (private cars: 70%, public transportation: 23%, pedestrians: 5%, cyclists: 1%). This situation is becoming critical now, and at its centre lies a complex governance, against a backdrop of tensions between the province and the municipality.

Congestion: a major issue

Toronto is among the top ten most congested cities in North America and is currently the second most congested city in Canada after Vancouver⁹³; in 2006, according to the Ontario public transportation agency Metrolinx, **the annual cost of congestion in the Greater Toronto-Hamilton area was estimated at CAD 3.3 billion, i.e. €2.25 billion.** Without a significant improvement to transportation infrastructure, this figure could rise to CAD 15 billion (€10.2 billion) per year by 2030⁹⁴. The presence of many bottlenecks also results in 52 million hours of additional travel time per year in this densely populated urban area.

The Gardiner Expressway, an outdated infrastructure archetype

Built between 1955 and 1966 by the Ontario Ministry of Transportation, the Frederick G. Gardiner Expressway, or Gardiner Expressway, is now a major thoroughfare connecting Toronto's city centre with its western suburbs. At the time of its construction, Toronto's shores were highly industrialised; the gradual deindustrialisation and rejuvenation of districts along Lake Ontario, starting with the Entertainment District and the Waterfront, now raise the question as to whether such an expressway is still needed as it clearly marks an urban divide. Initially designed for much less daily traffic, the Gardiner Expressway currently conveys 120,000 vehicles each day. As the expressway is very severely dilapidated, its maintenance costs hundreds of millions of Canadian dollars, while it is thought that *"a potential replacement solution would cost billions of dollars"*⁹⁵.

Plans to extend the expressway to the east are met with calls to demolish it⁹⁶, on grounds that such a project is incompatible with the waterfront revitalisation project. There are plenty of development projects which aim to transform the spaces under the expressway into public spaces in their own right: revegetation, cultural or sports facilities, etc. At the same time, the closure of the expressway has been under study since that of its eastern end in 1999⁹⁷, replaced by a linear park⁹⁸ with cycle paths

and street art installations. Congestion in the region is at such a high level that reducing or closing the expressway would only have benefits if it included incentives to reduce the use of cars. Studies are still being conducted to decide the future of the expressway, while the most probable scenario is now that of hybrid reconfigurations⁹⁹.

Fig. 17
Under the Gardiner
Expressway



Public transportation: a governance conundrum

Upon the creation of Metropolitan Toronto in 1954 (see above), it was decided that the management and organisation of public transportation would come under the metropolitan remit: the Toronto Transit Commission was founded, which covered the metropolitan area and inaugurated its first subway line in the same year. New lines and extensions followed, which were always delayed during to insufficient structural financing.

At the same time, Ontario intended to implement a public rail transportation network in the region connecting Toronto and Hamilton along Lake Ontario, using the existing freight lines. Its aim was to promote Toronto's extension towards the west and therefore to develop a regional economy. The GO Transit network was founded in 1968, short for "Government of Ontario Transit". However, this network was intended to connect the two areas and not to improve Toronto's own mobility system. **The federal government and the province were not very concerned with the future of Toronto's**

transportation network, as demonstrated by the official rejections of frequent requests in the 1950s for federal and provincial financial assistance for the development of new lines of transportation. Gradually, various municipal and metropolitan commissions began to suggest that the province should take a more active role in the coordination of transportation systems, but these voices were not heard.



Fig. 18
A GO Train leaving
Toronto's central
station



Fig. 19

The PRESTO Card, aimed at facilitating passage from one public transit network to the other

The province did, however, interfere increasingly in the area's public transportation, sometimes enforcing guidelines without prior consultation with the municipalities concerned. There was a turning point in 1977 when, following a report by the Royal Commission on Metropolitan Toronto, **the province rejected the recommendation of a regional coordination body** made up of local and regional representatives, noting that cross-border issues (i.e. concerning several municipalities) fell under its exclusive competence.

Today, the provincial government is actively interested in regional planning and the organisation of transportation in the Toronto area. In this respect, a key step forward was the 2006 creation of the Metrolinx agency, for the coordination, planning, financing and development of an integrated transportation network. With a view to working with federal, provincial and municipal partners, Metrolinx merged with GO Transit in 2009 in order to combine the latter's operating experience with its own planning capabilities¹⁰⁰. The aim is to step up investments and public transportation service capacities in the region. To achieve this, Metrolinx published a regional transportation plan in 2008 entitled "The Big Move: Transforming Transportation in the Greater Toronto and Hamilton Area"¹⁰¹. **This integrated transportation plan defines ten strategies which should diversify transportation options, make some investments, promote the integration of the network and contribute**

to an overall improvement of services in the area.

The plan's most ambitious initiative is to create a vast network (1,400 km of tracks) of rapid transit by 2033 for a total cost of over CAD 68 billion. The "Big Move" was very quickly fiercely criticised. Journalist Steve Munro stated that it was "*cobbled together on the basis of local plans of the area's authorities*"¹⁰². **The plan's promises are far from being kept, with the notable exception of the integration of networks for users,** with the 2011 creation of PRESTO, an electronic transport card which aims to facilitate travel between networks. Some observers also criticise the fact that the transportation system remains focused on the city of Toronto itself. It is only in 2017 that the Toronto subway went beyond the city limits, connecting Toronto to Vaughan via York University¹⁰³.

Toronto's mobility stakeholders

Founded in 2006, **Metrolinx** is the provincial agency which plans and implements the transportation system in the Greater Toronto and Hamilton area. The 2006 Metrolinx Act confers upon the agency two major roles: coordinating, planning, financing and developing a multimodal transportation network and purchasing vehicles, facilities and related services on behalf of the municipalities of Ontario. Its 2041 Regional Transportation Plan, published in 2018, claims to be *“the blueprint for creating an integrated, multimodal regional transportation system that will serve the needs of users”*. It presents the *“shared goals of Metrolinx, the provincial government, the municipalities of the Greater Toronto-Hamilton area and transit agencies, and the actions to be conducted to implement an integrated transportation network”*. Metrolinx is regularly criticised for its lack of independence. An investigation by the Toronto Star revealed in 2017 that the agency had approved the construction of two stations following pressure from the Ontario Ministry of Transportation and despite recommendations to the contrary from an independent consulting agency.

Local public transportation companies which provide transportation services in their respective municipalities. The Toronto Transit Commission (TTC) is the agency in charge of public transportation for and in the city of Toronto. It manages the subway, tramway, buses and light rail lines and is the third largest public transportation system in North America¹⁰⁴. Its network remains underfunded and as a result is saturated.

The Ministry of Transportation of Ontario (MTO) is in charge of many aspects of transportation management on a provincial level, in particular the creation and maintenance of the provincial road network and the management of public transportation infrastructure, via Metrolinx.

The federal government has regularly granted transportation subsidies over the last decade. However, these subsidies have proved to be non-recurring, often specific to a project and of highly variable amounts.

Many experts are now calling for Toronto to have a regional transportation authority, which would be a potential intermediary level between Metrolinx and local public transportation companies. For Enid Slack, Director of the Institute on Municipal Finance and Governance at the University of Toronto, such an authority could work hand in hand with the local agencies of the various municipalities:

“ We could perceive a two-tier structure: **the regional authority would coordinate the services which cross the borders of municipalities and would be in charge of integrating services and of pricing and major projects while the municipalities and local service providers would focus on strictly local services.** In other words, the regional authority would be in charge of planning and the local authorities of implementation.”¹⁰⁵

Matti Siemiatycki from the University of Toronto, confirms that such a structure would be relevant:

“In the GTA, Metrolinx is the regional player, although it lacks some attributes that many analysts say should be vested in a regional transit authority for maximum effectiveness, including greater planning and revenue-raising powers. Meanwhile, the TTC has long been working with its transit partners across the GTA to coordinate travel (with Mississauga since the 1990s and with York Region and GO for

*the past decade). The result is a system of overlapping roles and responsibilities and, thus, confusion among the various transit agencies. [...] **Toronto needs a body that coordinates service, scheduling, and fares – not only among different modes of transportation (subway, bus, streetcar, bike, car share, etc.), but also among service providers (GO, TTC, York Region Transit, MiWay, etc.)**”¹⁰⁶.*

THE BIG MOVE

TRANSFORMING TRANSPORTATION IN THE GREATER TORONTO AND HAMILTON AREA

Fig. 20

The Big Move, Metrolinx's
regional transportation
plan

These proposals are part of the fierce debate which opposes the champions of integration and the advocates of fragmenting municipalities within a metropolitan area. Those in favour of integration argue that the Toronto urban area needs a common institution to deal with common issues (*"the current arrangement of a single-tier authority for 2.8 million residents is both 'too big and too small'"*, Mark Kleinman¹⁰⁷): **the creation of such an institution would, according to them, bring about improved coordination of services** and a management which is better adapted to externalities, improved cost sharing and economies of scale. **Those in favour of a fragmented system, meanwhile, claim that the strict separation of municipalities and their institutions would provide a more democratic response to inhabitants' needs** and would guarantee a deeper understanding of local needs.

The question of governance in Toronto and in particular for transportation is far from being resolved, while the population and therefore its mobility requirements are continuing to grow inexorably. The introduction in 2019 of provincial legislation according to which Ontario grants itself the right to seize, without compensation, the assets of the Toronto Transit Commission and provides from the outset that the TTC has no means of legal recourse¹⁰⁸ is the latest sign of tensions between the province and Toronto. **It is part of an attempt by the province to recover jurisdiction over the TTC's four subway lines.** To justify this "upload", the Ontario government has argued its larger fiscal capacity and its experience in region-wide planning¹⁰⁹.

Mobility in Toronto in figures

The TTC's transportation system ¹¹⁰

75 subway stations and 76.9 km of route
4 lines in operation ¹¹¹

The GO Transit transportation system ¹¹²

67 stations, 460 km of railway,
56.5 million passengers per year

15 bus terminals for 44 lines and
16.7 million passengers per year

Number of inhabitants who commute to a different census subdivision for work ¹¹³

208,165

Number of inhabitants who use public transportation for their commutes to work ¹¹⁴

463,005

Number of inhabitants using a vehicle (as a passenger or driver) for their commutes to work ¹¹⁵

629,430

Number of inhabitants who walk to work ¹¹⁶

107,665

Number of inhabitants with a commute to work lasting over 60 minutes ¹¹⁷

202,830

How should mobility infrastructure be financed?

The coherence of the public transportation system in the Greater Toronto-Hamilton urban area is suffering from the difficult coexistence between mobility stakeholders, including GO Transit, Metrolinx and the TTC. One question is at the heart of the conflict: who should pay for public transportation infrastructure and in which area? Should the TTC, for example, pay for the maintenance and management of the parts of the network located beyond the city limits of Toronto? This is an urgent question at a time when *“the misalignment between the three levels of government has contributed to an estimated \$30 billion capital funding gap to build rapid regional transportation network and billions more needed for operations, maintenance and rehabilitation”*, according to Infrastructure Ontario.

Enid Slack describes the current sources of financing for public transportation in Toronto as follows:

“There are two sources of financing for transportation: one is directly linked to transportation and the other comes from general tax revenue. The former is comprised of user fees. We make users pay to use Toronto’s public transportation system. [...] There are taxes related to car use, for example vehicle registration tax. The city of Toronto has the right to raise such a tax and has done so briefly but it is no longer the case today [...]. Then, general tax revenue, for example property tax, which is the main source of tax revenue for Canadian municipalities.”



Fig. 21

Subway station, Toronto

Funding mobility infrastructure is no easy feat: in the Greater Toronto and Hamilton Area, transit fare revenues cover between 70 and 80 percent of operating costs, one of the highest proportions in North America¹¹⁸. Steve Munro, a Toronto-based journalist who specialises in mobility, sums up the issue as follows: *“the lack of investment in public transportation is not a rare thing, but in the Greater Toronto and Hamilton Area, what started out as a lack of transportation has now become a deep hole that it will never get out of”*¹¹⁹. According to the TTC’s capital investment plan, *“roughly \$16 billion of the \$22 billion required to maintain just subways and stations over the next 15 years is not funded. If the province spent \$160 million a year during that time, the total would only be \$2.4 billion”*¹²⁰. The federal government recently promised \$660 million. It only provides funding for transportation sporadically, and *“this funding can disappear as quickly as it appeared”*¹²¹. **The need for financing is therefore pressing and far from being satisfied.**

According to journalist Shawn Micallef, these difficulties in financing can be explained in particular by Toronto’s long-standing disinclination towards any increase in taxes. The largest single source of income to the city is the property tax, which accounts for nearly 40 percent of revenues¹²². **Debates on increasing fiscal pressure on taxpayers seem to be prohibited since Mel Lastman, the first mayor of the city post-amalgamation, “froze tax rates two decades ago”**¹²³. *“Since 1998, our elected representatives have not wished to increase property taxes above the rate of inflation, and as a city, we do not have the maturity to accept the fact that we must pay for the services that citizens require [...]. We do not have the necessary political courage, right now on the city council, to have an honest conversation with our citizens and residents and to tell them that to build a liveable and sustainable city, they must pay taxes”,* says Krystin Wong-Tam, Toronto city councillor.

For Matti Siemiatycki, one solution to the mobility infrastructure financing challenge could be found in a road tolling system: *“the City of Toronto should consider reintroducing plans to charge road tolls on the Don Valley Parkway and Gardiner Expressway, with the proceeds going towards transit upkeep”*¹²⁴. Enid Slack agrees with this: *“we should introduce urban tolls on our main highways, not only because it provides revenues for municipalities, but also because it can change people’s behaviours.”* ■

3. Affordable housing: Toronto's Achilles heel?

The upcoming housing crisis ...

Toronto has the very sad distinction of being the Canadian capital of inequality: a study conducted in 2015 showed that **inequalities in income rose by 31% in the city between 1980 and 2005, compared to 14% on a national scale.** This gap is compounded by a geographical divide: income inequality between Toronto's neighbourhoods has grown by 96% over the same period. According to David Hulchanski, professor at the University of Toronto, this trend can be explained for the most part by changes in the local housing market. The unprecedented demographic growth and economic appeal that Toronto is currently experiencing has unsurprisingly resulted in a sharp rise in residential property prices in the Greater Toronto area. **Here, as in many other attractive major cities experiencing growth, this rise in prices not only affects low-income households but also the middle classes.** According to the 15th annual international housing affordability survey by Demographia¹²⁵, Toronto is now among the *"10 least affordable markets"*; according to a report by UBS, **it is even the third city in the world at risk of housing bubbles after Hong Kong and Munich**¹²⁶. At the same time, **the median price of a house in Toronto is 7.7 times greater than the median household income.**

The situation is not much better on the rental market: rents are rising considerably today, which cannot be offset by a control system implemented in the 1970s. **30% of tenants in Toronto devote most than 30% of their income to housing.** The private rental market only offers one affordable housing unit (defined as low-cost housing at 30% of a household's pre-tax income) for every four low-income households. **The vacancy rate for Toronto's housing is close to zero today** and the demographic growth that results from migration flows received by the city further exacerbates the situation, to the extent that Toronto is currently experiencing the classic symptoms of an affordable housing crisis: **overcrowding, greater commute distances for households forced to live increasingly further afield, widespread increase in the ratios of income, etc."** A return to more affordable home price levels in Toronto is unlikely, barring a catastrophic downturn in the housing market"¹²⁷, note Frank Clayton and Diana Petramala, researchers at the Centre for Urban Research & Land Development at Ryerson University.

Although the municipality adopted the "Housing Now" plan in October 2018 in which it undertook to complete 10,000 housing units (of which one third is affordable housing, defined as available at prices under 80% of market prices) near public transportation stations, the critical situation of Toronto's residential housing continues to force young workers and young households of the middle classes to move away from the city centre. "Something happened in 2016-2017 in Toronto", explains Sean Gadon, Director of the Housing Secretariat of Toronto who is in charge of designing the municipality's housing plan. "The middle class found themselves in a position where they had an affordability problem. We have historically had problems with affordable housing for people in need, around 15% of the population, but what happened in this decade is completely different and we have not seen it before".

... hidden by the growing number of building sites!

New luxury residential projects are on the rise in Toronto today, where "the clientele is mostly interested in old mansions (at least €10 million) and contemporary homes (starting at €5 million) in the district of Rosedale, or in city centre apartments"¹²⁸. Most of these new housing units are concentrated "in a relatively small and increasingly dense portion of Toronto's territory, the 'Avenues', hubs of urban growth, like Yonge/Eglinton or Dundas West/Bloor, and commercial or industrial districts such as the Golden Mile"¹²⁹. More than 180,000 sq.m of office space is currently being built in the centre of Toronto: **this surge in the construction of city-centre offices, to the**

detriment of the suburban "office parks" popular during the 1990-2000s, results in demand for more central housing, which, by definition, cannot be met by the suburban housing supply. This may explain the current enthusiasm for the aforementioned luxury housing: "in the last decade, there has been a visible shift in the investments shaping the city's urban fabric. Where architects like Daniel Libeskind and Frank Gehry once designed extensions to cultural infrastructure, in Toronto they now turn to luxury residential development", comments journalist Evan Pavka¹³⁰.

Fig. 22
A growing number
of cranes in Toronto
city centre



This proliferation of “condos” meets a demand which is more foreign than local. The role of foreign investment in the creation of the current situation is significant. For example, **Toronto ranks sixth in the preferred destinations of wealthy Chinese nationals for their real estate investments**¹³¹. The province of Ontario has been attempting to contain the trend by implementing, since 2017, a tax aimed specifically at foreign buyers; a measure which appears to have had positive effects as since then price inflation on the residential market seems to have slowed¹³². Following on from a regulation introduced in Vancouver, another major Canadian city with a residential market under great strain, **the province has decided to levy a 15% tax on purchases of property** located in the Golden Horseshoe, the region stretching from Niagara to Peterborough and including the Greater Toronto area, by individuals which are neither Canadian nationals nor permanent residents¹³³. **The provincial government believes that “investment by foreigners hovers around 8% in Toronto and the surrounding region”;** *“Developers are telling us they have individuals coming, jumping in the queue and buying multiple units with no intention of living in them,”* said Charles Sousa, Ontario’s minister of finance, to The Guardian¹³⁴.

This inflow of foreign investment has itself had a considerable impact on domestic demand, as explained by researcher Josh Gordon:

“The long and sustained wave of foreign capital, combined with the recent surge in foreign purchases, has created a strong dynamic of expectation. Against the backdrop of a record hike in prices and forecast continued mass arrival of foreign capital, many domestic buyers, whether or not speculatively, have attempted to enter the market, even at very high prices”.

Toronto's housing figures

**Number of private dwellings
(2016)**¹³⁵

1,179,057

Number of single detached houses¹³⁶: 269,675

Number of apartments situated in a building
that has five or more storeys¹³⁷: 493,280

Number of households¹³⁸

1,112,925

Of which own their home¹³⁹: 587,095

Of which are tenants¹⁴⁰: 525,835

**Number of housing units
requiring major repairs**¹⁴¹

78,595

**Number of households
spending less than 30% of
income on shelter costs**¹⁴²

704,665

**Number of households
spending 30% or more of
income on shelter costs**¹⁴³

406,070

(46% of households)¹⁴⁴

Percentage of owner households spending 30% or more of its income on shelter costs ¹⁴⁵

27.4%

Percentage of owner households with a mortgage ¹⁴⁶

57.5%

Percentage of tenant households in subsidized housing ¹⁴⁷

15.1%

Percentage of tenant households spending 30% or more of its income on shelter costs ¹⁴⁸

46.8%

Average monthly shelter costs for rented dwellings ¹⁴⁹

CAD 1,242

Average purchase price of a condo (July 2019) ¹⁵⁰

CAD 800,900

(4.4% increase compared to July 2018)

Supply falling short of demand

The luxury housing units built on the banks of the Don River do not meet the demand from low- and medium-income families; prices are too high and their configuration and location are inappropriate.

"As was true in the 1960s, the city is still struggling to provide affordable housing for those outside of the 1%. Small-scale developments have begun to occupy former parking lots and vacant spaces in areas largely populated with single-family dwellings, but not without controversy. An 8-story, 16-unit condominium in Toronto's Annex neighborhood was met with resistance by the area's elite residents—from Handmaid's Tale author Margaret Atwood to grocery mogul Galen Weston Jr.—much to the chagrin of authors and critics alike", writes Evan Pavka¹⁵¹. City councillor Krystin Wong-Tam confirms this statement: "the cost of housing and of transport continues to rise in disproportionate fashion to the cost of wages, that

have been relatively stagnant for 15 years. It is causing a lot more people to be under housed. So, that means that they're not living in the type of housing that they really require". Krystin Wong-Tam also reminds that most housing units under construction are aimed at home ownership while around half of Toronto's residents are tenants; "we are not good at building the widest range of affordable housing", she concludes.



Fig. 23
Condominiums
in Toronto

“Six out of ten tenants plan to leave the Greater Toronto area because the housing crisis has taken from them any future prospects.”

In 2018, the province of Ontario adopted a law which introduced an inclusionary zoning system, which authorises municipalities in the province to force developers to offer a set percentage of affordable housing in all new-build residential buildings¹⁵². The municipalities in Ontario can also determine the duration during which these housing units must remain affordable and the measures or incentives to be applied to offset development costs. The city of Toronto took the opportunity made possible by this provincial legislation to offer in its Housing Now plan long-term leases and tax incentives to developers and non-profit housing companies, provided that one third of the new housing units built on these sites are classified as affordable. **3,600 of the 10,000 planned housing units must be affordable, i.e., put on the market at 80% or less of the average rent on the Toronto market.** The rest will either be market-rate rentals or condominiums – allowing for those profits to subsidize the affordable housing¹⁵³. **This plan was criticised by some analysts on grounds that it would not produce sufficient affordable housing to constitute a major response to demand from the poorest inhabitants,** while the municipality replied that more severe restrictions could prove to be counter-productive and could discourage potential bidders.

As the outcome of this approach remains to be seen, the fact is that **waiting times before eligible households obtain social housing in Toronto are continuing to get longer:** “delays in social housing force individuals and families with low incomes to sign up to endless queues to obtain affordable housing”¹⁵⁴. The average number of years an applicant on the chronological list waits to be housed in a two-bedroom apartment is currently eight years¹⁵⁵. 181,000 people are on the waiting list for affordable housing, explains Krystin Wong-Tam. These delays fuel the phenomenon of gentrification: **a recent survey found that six out of ten tenants plan to leave the Greater Toronto area because the housing crisis has taken from them any future prospects**¹⁵⁶.

Fig. 24

Beyond the city
centre, detached
houses as far as the
eye can see



The challenge of the “middle” housing segment

It now appears that one of the main challenges that Toronto must meet is that of diversifying its housing stock. *“Toronto is in desperate need of a full spectrum of housing that is accessible and affordable, and the system is failing to meet demand in every category”*, noted the Toronto Community Foundation in a 2018 report¹⁵⁷. Toronto’s residential typology is mainly made up of collective housing skyscrapers or individual houses; *“there are no three- or four-storey residential buildings in Toronto!”*, explains Frank Clayton from Ryerson University¹⁵⁸.

Missing middle housing includes housing unit types that fall between a single-detached or semi-detached house and a high-rise apartment building (defined as five or more storeys). These types include ownership and rental townhouses, duplexes, laneway homes and low-rise apartments (triplexes, quadraplexes, stacked townhouses and garden apartments). These housing units are very important on a functional residential market as they provide affordable and family-friendly housing in a city in which the prices of individual houses have risen significantly.



Fig. 25

View from the CN Tower,
September 2019

Clayton and Diana Petramala. *"In the current system, there are conflicting interests among builders, homeowners and politicians. Builders want enhanced density, as they are developing projects in a market marked by high demand and rising land costs; [...] homeowners are concerned about the impact of development on their day-to-day living and on the value of their property."*¹⁵⁹ Lastly, the two researchers explain that the municipal governance system in Toronto, which is based on wards, encourages elected representatives to pay special attention to very local issues rather than the interests of the municipality or the greater urban area.

Breaking down the taboo of densification ?

Toronto now hardly builds any middle housing: while 93,000 such housing units were produced between 1946 and 1970, then 73,000 between 1971 and 1995, these figures fell to only 18,000 between 2006 and 2016; the drop in the production rate of this housing was most striking in the 1990s. This period, and the start of the 2000s, marked a shift by developers to collective housing in skyscrapers. **However, the demand for middle housing has been increasing since the mid-2000s** in the city of Toronto itself and in the Greater Toronto area. How can this disaffection for the middle segment of the market be explained? *"The supply of sites available for all types of housing in Toronto is controlled by the municipal government and not by the open market"*, note Frank

Another solution to diversify Toronto's residential housing is the densification of some neighbourhoods in which housing meets demand but in which any form of scaling up of construction has been blocked for many years. The city of Toronto's "Official Plan" makes the existing low densities in certain "stable neighbourhoods" sacrosanct. These account for 75% of residential areas. The term "yellow belt" was coined by urban planner Gil Meslin to define all of these residential areas which form a belt around the city centre of Toronto where regulations prevent the construction of buildings with heights of over ten metres and only permit detached housing¹⁶⁰. *"Over the 30-year span of the Official Plan, more than 800,000 new people will have to be accommodated in*

only 25% of the city's geography, and the Official Plan, taken strictly, also protects many fairly low-density neighbourhoods located along subway lines in the city", note Frank Clayton and Diana Petramala¹⁶¹. Toronto-based journalist John Lorinc confirmed this analysis: "neighbourhoods of detached housing for families are protected by the regulation from even the mildest form of intensification"¹⁶². The existence of a green belt, made up of agricultural land and parks around Greater Toronto, within the Golden Horseshoe, further exacerbates the situation by preventing the city from expanding to other land.

Fig. 26
Diversity of Toronto's
urban fabric



The provincial administration has addressed the issue of densification, which has been made a priority. "Densification has been a political concern for the province since the end of the 1980s. Yet it was only in 2006 that a coercive, proactive and ambitious growth management policy was introduced which made urban densification a main focus [...]. The province is the main stakeholder in the drafting and close oversight of the implementation of densification policies by municipalities [...]. All municipalities in the area are obliged to apply the provincial Growth Plan through tools intended to facilitate the densification of urban spaces", writes Anastasia Touati¹⁶³.

In the 2006 "Growth Plan for the Greater Golden Horseshoe"¹⁶⁴, the province encourages densification in certain areas, enforces minimal population densities and discourages low-density building projects in suburban areas. In this way, it intends to slow the development of many detached houses in areas which are poorly serviced by the public transportation networks ■

4. The looming worsening of economic and social inequalities

The critical situation in which Toronto finds itself in terms of housing is further fuelling a worrying increase in social inequality in the Greater Toronto area. The NGO Daily Bread demonstrated in a report entitled “Who’s hungry - A profile of Hunger in Toronto” that food bank use had risen by 14 percentage points in ten years in the Greater Toronto area¹⁶⁵. While this figure has fallen in Toronto city centre since 2018, the NGO observes in its food banks a 61% increase in visits since 2008. Inequalities are also visible spatially: average income in downtown Toronto and in the city’s suburbs can represent two times the average metropolitan income, and pockets of poverty have been emerging to the north of the city since the 1990s¹⁶⁶. *“The challenge for our city is that we’ve become increasingly polarized around incomes”*, notes Krystin Wong-Tam. At the same time, **the gentrification of some parts of the city is occurring**

Fig. 27
Graffiti Alley,
Toronto,



so quickly that indicators are sometimes struggling to keep up; along Englington Avenue West, the growing number of condominiums and luxury stores is proof of this process, while the city’s system of homeless shelters can no longer manage to satisfy demand.

The increase in inequalities may be explained in part by the difficulty in controlling the dynamics which contribute to them. In a movement similar to that experienced in San Francisco and other North-American cities, **the globalisation of Toronto’s economy, particularly through the growth of the finance and tech sectors, has attracted a higher class with very high incomes, affecting the neighbourhoods in which these strategic sectors operate.** As these new populations live close to their place of work, these neighbourhoods have developed various top-end stores and leisure facilities (organic shops and restaurants, coffee shops, gyms and yoga rooms) and property prices have soared. ■

At a crossroads

Neither a fully-fledged global city nor a mere regional metropolis, Toronto's urban area enjoys strong dynamism but its future remains uncertain unless it finds answers to the urgent questions raised by its development with regard to housing, infrastructure and economic and social inequalities. **Signs of an economic slowdown are already apparent. Between 2000 and 2010, Toronto's productivity, defined as real Gross Domestic Product (GDP) per worker, declined by 6 percent,** this put the city in last place out of twelve North American peer city regions: Montréal, Vancouver, and Calgary in Canada and New York, Los Angeles, Chicago, Boston, Seattle, San Francisco, Dallas, and Atlanta in the United States¹⁶⁷. At the same time, the growth rate for wages in Toronto remains moderate (+4.2% between 2001 and 2010, versus 6% in Montreal, and 7.7% in Vancouver, and behind a nationwide level of 10.2% growth over the same period. *"All US peers have higher median wages than Toronto and higher growth rates in the same period, with the exception of Los Angeles (3.8 percent), Boston (1.3 percent), and New York (-3.0 percent)"*, writes the Toronto Region Board of Trade.¹⁶⁸ ■

Two red diamond-shaped stop signs are positioned on a dark blue background. The signs are slightly offset from each other, with the one on the right appearing slightly further back. The text is overlaid on the intersection of the two signs.

When Toronto met Sidewalk Labs: a threat or an opportunity?





Fig. 28

View of Quayside

In March 2017, Waterfront Toronto, an entity founded in 2001 to steer the revitalisation of the deindustrialised banks of Toronto, launched a call for proposals to develop Quayside, a former port site covering 4.8 hectares along Lake Ontario. The winner was announced in October 2017 as Sidewalk Labs, a US company and subsidiary of Alphabet, Google's parent company. Its plan to create a mixed-use smart neighbourhood made up of 50% retail stores and 40% housing won over the representatives of the province of Ontario, of the Canadian government and the municipality of Toronto brought together under Waterfront Toronto. The goals announced for Sidewalk Labs' project include the creation of a *"complete community that improves the quality of life for a diverse population of residents, workers, and visitors"*, *"where people, companies, startups, and local organizations advance solutions to*

the challenges facing cities, such as energy use, housing affordability, and transportation" and also *"make Toronto the global hub of a rising new industry: urban innovation"*. The project will include smart design (30-storey wood constructions) and technologies to test urban solutions in a wide variety of areas such as housing and mobility, while setting *"new standards of sustainability, affordability, and economic opportunity"*. Sidewalk Labs estimates that the project will generate 4.3 billion dollars in tax revenue for Canada, the province of Ontario and the municipality of Toronto; 14.2 billion dollars per year of additional gross domestic product (GDP) for Canada, and 93,000 jobs (of which 44,000 would be open-ended contracts) by 2040. The investments planned by Sidewalk Labs would also, according to the company, *"catalyze 29 billion dollars in third-party real estate investments"*.

“Act as the vehicle through which academics, industry leaders, entrepreneurs [...] and public agencies can work together to solve major urban challenges.”

In June 2019, Sidewalk Labs submitted an ambitious Master Innovation and Development Plan (MIDP) to Waterfront Toronto. In this document consisting of more than 1,500 pages the company sets out the various components of the projects and the roles and responsibilities that it proposes to take on. What is notable is that the MIDP proposes to achieve the priority goals set by Waterfront Toronto's call for proposals *“in an area of the eastern waterfront which includes Quayside and a portion of the Port Lands [...] The overall project area will be known as the Innovative Development and Economic Acceleration (IDEA) District”*. With a surface area of some 140 hectares, this area is thirty times greater than the plot of land on which the Waterfront Toronto call for proposals was focused. The company plans to acquire land in Quayside and in Villiers West (see map), plots of land which together account for 16% of the IDEA

District's total surface area. The company justifies this proposal as follows: *“the completion of two real estate development projects, in Quayside and Villiers, at the start of the project, for a total estimated cost of 3.9 billion dollars, is critical to achieve the project's goals”*. Sidewalk Labs would “overinvest” there to demonstrate the impact and financial viability of its innovations.

Sidewalk Labs also proposes to provide 10 million dollars in initial capital for a new Urban Innovation Institute, drawing inspiration from Cornell Tech in New York, to be specialised in the field of urban innovation. Its vocation would be to *“act as the vehicle through which academics, industry leaders, entrepreneurs [...] and public agencies can work together to solve major urban challenges”*. The company would also invest 10 million dollars in a new venture capital fund aimed at local start-ups active in the field of urban innovation.

Another of Sidewalk Labs' proposals stated in the MIDP is to take on the role of “lead developer” for the project, hiring third-party companies, contractors and operators to develop the site, but would also act as a “technical partner and advisor”, providing a *“range of technical consulting and management services to extend sustainable economic development and use innovative strategies to meet the urban challenges of the eastern waterfront”*. The company specifies that *“this role would involve preparing technical specifications and performance requirements to guide innovative development [...] and, if the project moves on to the later phases, helping to find partners and operators for advanced systems, such as an advanced electricity network, a new rainwater management system and dynamic streets. This role would begin at Quayside and would extend over a larger area once a series of milestones are reached”*.

“How can the foray of a tech and platform economy player into urban planning be analysed?”

In Toronto, the US company also sees itself as a provider of infrastructure systems, particularly when it proposes in its Master Innovation and Development Plan the construction of a light rail line (LRT) to service the future neighbourhood: “If Waterfront Toronto and the public powers so wish, [Sidewalk Labs could invest] in a light rail trainline on the waterfront, in the municipal infrastructure and advanced infrastructure systems”, writes the company. “Sidewalk Labs would also provide optional support for the financing of municipal infrastructure (such as parks and sewers) required to develop the IDEA District”; claims which an editorial in the Guardian countered while signalling the risk related to “handing responsibility for part of [Toronto’s] infrastructure over to a giant private company”.

The heated debate surrounding the project since 2017 is focused firstly on Sidewalk Labs’ desire to take on a role of developer and even regulator in the urban area, a role traditionally entrusted to public authorities, and secondly on the proposed use of data collected



Fig. 29
The IDEA District



Fig. 30
The Quayside project

by sensors present on the site, a point of contention between the local population and the New York-based company. While the widespread use of facial recognition and its derivatives tarnish the image of the smart city, it is unsurprising that Sidewalk Labs' project has met with fierce and sustained opposition from Torontonians. On 31 October 2019, Waterfront Toronto's study of the MIDP and the following negotiations resulted in an agreement between the two parties, an agreement with terms that force Sidewalk Labs to lower its expectations. A period of public consultation was then opened and Waterfront Toronto will announce its final decision on 31 March 2020. Without knowing the outcome, the Quayside project as it exists today upholds a vision of a neighbourhood in which sensors would be omnipresent, from pavements to housing interiors. Against this backdrop, what can be done to protect citizens' privacy? More broadly speaking, how can the foray of a tech and platform economy player into urban planning be analysed?

Understanding the Quayside project

Chronology

2001

Foundation of Waterfront Toronto.

2007 - 2009

Waterfront Toronto purchases the land of Quayside (4.8 hectares) for CAD 68 million with a view to building affordable housing on the site, offering public access to the waterfront and extending the tram network.

March 2017

Launch of a call for proposals for the redevelopment of Quayside. In the absence of a financial commitment from the three levels of government (*“with two decades of tripartite government funding coming to an end in 2020/21, the agency’s finances were precarious and its ongoing existence under threat”*¹⁶⁹), Waterfront Toronto looks for a partner to finance this project.

October 2017

Sidewalk Labs’ proposal is selected. Waterfront Toronto and Sidewalk Labs sign a framework agreement under which they agree to create an urban neighbourhood using sensors to collect data with a view to more achieving an effective management of urban resources and assets. The framework agreement is not shared with the three tiers of government prior to its publication.

2018

Major citizen consultation phase: public meetings held in March, May, August and December 2018.

April 2018

Creation of a Digital Strategy Advisory Panel providing its expertise on issues of confidentiality, data ownership and intellectual property.

31 July 2018

Signature of a Plan Development Agreement between Waterfront Toronto and Sidewalk Labs, replacing the 2017 framework agreement.

December 2018

Publication of a report by Ontario's Auditor General which criticises Waterfront Toronto's management of the project.

June 2019

Publication of a Master Innovation & Development Plan (MIDP) guided by the 2018 consultations. Sidewalk Labs proposes to invest 10 million dollars for the financing of the development process; 40 million additional dollars may be paid if Waterfront Toronto meets certain conditions, in particular the launch of a major flood protection plan (requiring financing of 1.25 billion dollars by the three government tiers). In exchange, Sidewalk Labs undertakes to secure Alphabet's promise to open Google's Canadian headquarters in Quayside.

31 October 2019

Waterfront Toronto and Sidewalk Labs agree on much less advantageous terms for the latter than those set out in the MIDP. A period of public consultation was then opened and Waterfront Toronto will announce its final decision in March 2020.

1. A tech player in charge of city-making?



Fig. 31
Dan Doctoroff, CEO of
Sidewalk Labs

The concerns raised by Sidewalk Labs' project in Toronto can be explained in part by the unprecedented nature of the foray of a tech-sector giant into urban planning. *"Simply by wielding the 'pen' in designing the master plan for Toronto's new neighborhood, Sidewalk has exercised a significant public planning function",* according to Ellen Goodman, Professor of Law at Rutgers Law School, and Julia Powles, Associate Professor at the University of Western Australia ¹⁷⁰.

Sidewalk Labs has never concealed its intentions: its ambition, like that of its parent company, is to build and manage a city. As early as 2013, Larry Page, CEO of Google, spoke about *"setting aside part of the world"* for technological experiments ¹⁷¹. In February 2016, Dan

Doctoroff, CEO of Sidewalk Labs, spoke to students at New York University, asking them: *"what would you do if you could build a city from scratch?"* ¹⁷². He also declared that Alphabet, Google and Sidewalk Labs's parent company, is the *"single most ambitious company that ever existed"* aside from possibly the Dutch East India Company, which *"had the power to wage war"* ¹⁷³.

The technical and problem-solving approach specific to Google and tech companies is conveyed by its unique vision of urban planning: the MIT Tech Review reveals that *"unsurprisingly for a company spawned, in part, by technologists, Sidewalk thinks of smart cities as being rather like smartphones. It sees itself as a platform provider responsible for offering basic tools (from software that identifies available*

“ Sidewalk Labs has furthermore demonstrated an urban governance vision as it proposes in its MIDP the creation of no fewer than five new public entities which, together, would manage the IDEA District.”

parking spots to location-based services monitoring the exact position of delivery robots), much as Google does with its smartphone operating system, Android”¹⁷⁴.

Sidewalk Labs has furthermore demonstrated an urban governance vision as it proposes in its MIDP the creation of no fewer than five new public entities which, together, would manage the IDEA District: the Open Space Alliance, which would be in charge of managing public spaces, the Waterfront Transportation Management Association, which would be responsible for the physical and digital mobility infrastructure, the Waterfront Sustainability Association, the Waterfront

Housing Trust and the Urban Data Trust (see below). Yet, as David Robertson, who opposes the project, notes, “*all of these agencies would report to an overseer body called the Public Administrator. The Public Administrator is to be a public agency with representation from the city. None of these agencies can be set up without a lot of special permissions and changes to existing legislation and regulations at all three levels of government*”¹⁷⁵.

Moreover, the company proposes to take on the role of regulator itself. Natasha Tusikov, Assistant Professor at York University, writes that “*it wouldn’t be unusual for a company to propose rolling out its prototype modular pavement, composed of interlocking pre-cast concrete pavers, for streets in Quayside, as Sidewalk Labs is proposing, [...] But Sidewalk Labs also proposes to grant itself the capacity to set the rules that will govern the urban infrastructure within the project neighbourhood*”¹⁷⁶. Back in 2016, the Wall Street Journal predicted that Sidewalk Labs was ultimately “*seeking autonomy from many city regulations, so it could build without constraints that come with things like parking or street design*”¹⁷⁷. Ellen Goodman and Julia Powles also highlight the power of regulation resulting from the exclusive control of data produced and collected in the neighbourhood: “*even if the government sets regulatory standards and enforces them, control over data can serve a de facto private lawmaking function*”¹⁷⁸.

“The government has a different relationship with people’s data and information than the private sector. One has social contract, the other does not”

Many observers also remind that the goals of a private tech company are considerably different to public authority missions and that there is no evidence that a private player would pursue general interest goals, just as nothing subjects it to the restrictions applicable to public stakeholders in the provision of public services. Toronto-based activist Bianca Wylie, the figurehead of local opposition to the project, explained during *La Fabrique de la Cité*’s urban expedition to Toronto in September 2019 that “the government has a different relationship with people’s data and information than the private sector. One has social contract, the other does not”.

Private players taking an interest in urban planning is not unprecedented, as reminds Isabelle Baraud-Serfaty, consultant and urban economy expert at ibicity: “with the escalation of energy and digital technology issues, new entrants, such as Siemens, IBS or Cisco, have taken part in urban development and have confirmed their positions as fully-fledged city stakeholders [...] these were [...] a limited number of major groups which ‘urbanised’ their strategies by positioning themselves as key partners to city councils”¹⁷⁹. Yet the arrival of tech start-ups and platforms in urban planning has different consequences: “it would be a shift

Fig. 32

Bianca Wylie during
La Fabrique de la Cité’s
Urban Expedition to
Toronto



from a city based on infrastructure to a city based on platforms and services”, explains Isabelle Baraud-Serfaty¹⁸⁰. Ellen Goodman and Julia Powles state that in relation to Sidewalk Labs’ project, “urban governance is reconceptualized as facilitating the collection and transmission of data to applications and services that run on top of the platform”¹⁸¹, in a “city-as-platform model that radically unbundles systems, spaces, and services into sets of transactions optimized according to market logic”¹⁸². They also remind that “for the technology company, the smart city is a way to capture the value of data flows—either by directly monetizing behavioral insights or by using those insights to design or acquire services—and then realizing the network effects and monopoly rents that have characterized information technology platforms”¹⁸³. In conclusion, “there can be no confidence that the Sidewalk Toronto vision is compatible with democratic processes, sustained public governance, or the public interest”¹⁸⁴. Nothing obliges Sidewalk Labs to ensure the continuity of its services. In this respect, critics of the project are quick to give the example of Google’s sudden abandonment of its installation of fibre optics in the US city of Louisville (Kentucky), a case in which Google was perceived as having “abandoned customers, messed up the city’s roads and dashed economic hopes”¹⁸⁵. ■

2. Quayside, a laboratory for widespread surveillance or the forerunner of the city of the future ?

Fig. 33

Google Headquarters in Warsaw

With Quayside, Sidewalk Labs intends to build a “*digital infrastructure that collects data for the apparent purpose of streamlined urban life*”¹⁸⁶. Countless amounts of data collected will concern the environment and individuals’ behaviour in equal measure: data on traffic, air quality, noise levels, building occupation, overflowing waste bins, high-traffic park benches and the use of household appliances in the housing units, etc.¹⁸⁷ The project will go as far as planning a centralised identity management system, through which “each resident accesses public services” such as library cards and health care¹⁸⁸, according to The Intercept. In December 2018, Sidewalk Labs also signed a partnership agreement with the Gehl Institute to prototype a new digital application called CommonSpace, aimed at making data collection and use easier and more reliable with a view to understanding the use of public space. Quayside could therefore become, according to The Atlantic, “*the most heavily surveilled real estate on the planet*”.



While 88% of Canadians claim to be concerned about the protection of their privacy in a smart city (one quarter of whom are very concerned), the Quayside project raises several major questions: to whom will the collected data belong, “*for how long and under which conditions?*” (John Lorinc)? Who can use them and how? Could they be transferred to other parties? For example, could there be a “*situation where resident aggregate data is being sold back to the government*”, which equates to making citizens pay for the data they themselves produce? How can it be ensured that the data collected is anonymised at source, regardless of the private player who collects it? So many questions that Sidewalk Labs is struggling to answer with reassurances.

Urban data: a non-controlled designation of origin?

In its MIDP published in June 2019, Sidewalk Labs introduces the concept of “urban data”, which the company defines as follows: *“personal information and information collected in a physical space in the city, where meaningful consent prior to collection and use is hard, if not impossible, to obtain”*. Elsewhere in the Plan, Sidewalk Labs specifies that urban data is *“data collected in a city’s physical environment, including the public realm, publicly accessible spaces, and even some private buildings”*. This definition allows Sidewalk Labs to include in the urban data category any data with opposite characteristics: personal or not, collected in the public or private space, etc.

Again in its MIDP, Sidewalk gives information about its proposal to create a “Data Trust” which *“should make anonymized data available freely and publicly and maintain a public registry (on line and easy to consult) of all devices collecting urban data. The Trust’s agreement is necessary to collect or use urban data for residential or commercial purposes, or urban data containing identifiable information”*. *“Any entity seeking to collect urban data must prove that they make confidentiality and the public good a priority, by filing a ‘Responsible Data Impact Assessment’ with the Data Trust”*, explained the company in a document published in 2018. This Responsible Data Impact Assessment is an in-depth analysis triggered for each proposed act of urban data collection and use. It describes the objective of the proposal, the data sources to be used, the potential impact on individuals or on a community and includes a risk-benefit analysis. In its MIDP, Sidewalk Labs confirms this proposal, providing for *“urban data checks through a democratic and independent process which would apply in addition to privacy legislation in Ontario and Canada”*.

What is Sidewalk Labs' Urban Data Trust?

The Urban Data Trust (UDT) is Sidewalk Labs' proposal to meet the challenge inherent to the confidentiality of data which may ultimately be collected in the future smart neighbourhood of Quayside.

According to the MIDP, the proposal to establish an Urban Data Trust comes from public consultations from which the idea emerged that urban data is a *"public asset"*. Given that a public asset should never be the *"property in its conventional sense"* of a person or entity, Sidewalk Labs deduces the need for a guardian or *"steward"*, which it proposes would take the form of an *"independent entity, approved by public authorities"*, the Urban Data Trust. This entity's mission would be to *"manage urban data and establish a transparent process to approve its use and collection"*. The UDT would be a non-profit independent entity, tasked with meeting digital governance issues related to urban data while promoting data-based innovations which benefit individuals and society.

This entity would not be a "trust" in the legal meaning of the term, Sidewalk Labs notes, *"trusts are not designed to benefit the public"*. Sidewalk Labs adopts the definition of "data trust" proposed by the British Open Data Institute, namely a *"legal entity which ensures independent data management"*. The UDT would not be controlled by Waterfront Toronto or by Sidewalk Labs. It could be steered by a board of directors made up of five members: a data governance, confidentiality or intellectual property expert, a representative of the community, a representative of the public sector, a representative from the academic sphere and a representative of the private sector in Canada. Sidewalk Labs states that this board *"could act on the basis of the same terms as internal control committees or research ethics committees of higher education institutions, or content moderation councils on social networks"*. It should also be noted that the UDT would have a Chief Data Officer.

This entity's first mission would be to draft some Responsible Data Use (RDU) Guidelines aimed at any public or private entity wishing to collect data in the IDEA District. These guidelines should include the need for the applicant to demonstrate a clear and beneficial objective that would result from the proposed collection and use of urban data. Its second mission would be to implement and oversee a four-step process to assess requests received.

On 31 October 2019, Waterfront Toronto declined this proposal once and for all.

The idea of a system that would run alongside the legislative framework in Canada and Ontario and the introduction of the urban data concept have been heavily criticised in the legal sector for a lack of legal foundation. Chantal Bernier, former Privacy Commissioner of Canada and currently legal advisor to Waterfront Toronto, reminded, during *La Fabrique de la Cité*'s urban expedition to Toronto in September 2019, that in terms of data collection *"Canada has a specific legal framework for public institutions and another for private companies, unlike the European Union in which the same regulations are applicable to both"*. The installation of surveillance cameras by the police and the counting of the number of passers-by or traffic assessments by Toronto city council through sensors are examples of possible data collection actions by public entities, to whom would apply *"on a federal level, the Privacy Act; on a provincial level, the Freedom of Information and Protection of Privacy Act; and on a municipal level, the Municipal Freedom of Information and Protection of Privacy Act"*, explains Chantal Bernier. These laws all oblige the entity collecting the data to provide proof of the need for the proposed collection: *"in Canada, the State can only collect personal data if it can demonstrate*

empirically the necessity and proportionality thereof", notes Chantal Bernier. The legal framework applicable to data collection by private stakeholders is different: *"if a shop in the Quayside district collected personal data, for example by using a security camera to prevent shoplifting, this collection would be subject to the Federal Personal Information Protection and Electronic Documents Act"*, unless the private company is acting on behalf of a public authority (such as a company which undertakes to install smart trash bins in the district through a public contract with the municipality), in which case the municipal legislation is applicable.



Fig. 34

Bianca Wylie, Chantal Bernier and Cécile Maisonneuve during *La Fabrique de la Cité*'s Urban Expedition to Toronto



Fig. 35
A data center

For Chantal Bernier, the concept of urban data, which would place these different data types in a single category despite the separate laws applicable to them and without worrying about the private or public status of the collecting entity, is pure fantasy. The invention of this concept enables Sidewalk Labs to ignore the status of fundamental right that the Canadian legal system confers upon the right to privacy: *“in Canadian law, the right to privacy is considered as a fundamental right enshrined in the Canadian Charter of Rights and Freedoms, the Personal Information Protection Acts have been acknowledged as having an almost constitutional status”*, reminds Chantal Bernier. *“The right to privacy is a fundamental right, which I would not see distorted by a new classification that seeks to bundle the fundamental rights concerning our personal data and other data which may be strictly environmental into a single concept. The term “urban data” has no legal status in Canada. It is not a meaningful concept”*.

The issue of citizen consent, directly mentioned in Sidewalk Labs’ definition of urban data (see above) is also a subject of heated debate, while the hopes for a *“smart city embracing privacy”* are currently being replaced by fears of a *“smart city of surveillance”*. *“If a private entity collects and collates data in public spaces, should citizens give their prior consent? How can this process*

work in practice?” wonders the Toronto-based journalist John Lorinc. Bianca Wylie, founder of the Open Data Institute Toronto, writes that *“When did we as a society say that however we move around in public space – that this is something we want to share and commodify?”*¹⁹⁰. *“We cannot base everything on consent”*, explained Chantal Bernier during *La Fabrique de la Cité’s* urban expedition. *“It is of the utmost importance to continue to respect privacy rights in the digital era that we are fully in. It is unacceptable to place the burden of consent on individuals. There must be an intermediary looking after that for them”*.

Lastly, from the first months of the project, the question of data “residency” has been raised, concerning the physical storage location of data collected in the future district. Canadian confidentiality legislation would no longer apply if data were to be archived abroad. Sidewalk Labs specifies however that the hosting of collected data in Canada is not mandatory under Canadian law or Ontario’s provincial laws and that the protection goals enshrined in Canadian law may be achieved in other ways, in particular through contractual obligations (for example by requiring cloud providers to manage data from Canada in compliance with Canadian law) and technical mechanisms (data encryption). For Chantal Bernier, the location in which data is stored is a sovereignty issue:

“ In Europe, extremely important restrictions apply to cross-border data transfers. These restrictions do not exist under Canadian law: the laws applicable to public institutions do not state this. Those applicable to the private sector require a comparable level of protection in the event of data transfers. Yet once hosted abroad, data becomes governed by the laws of general application in the State in which it is hosted.

In other words, data belonging to a Canadian that is hosted in the USA would be accessible to US law enforcement agencies under American law. This is a huge issue. It is why, even though the public sector laws do not have any provisions for this, the Canadian authorities, on a federal, provincial or municipal level, add clauses which require data to be hosted in Canada in most of their public service contracts to maintain Canadian sovereignty over Canadians' data.”

Fig. 36

Kristina Verner during
La Fabrique de la Cité's
Urban Expedition to
Toronto in September
2019



An agreement that can be seen as a call to order

Unsurprisingly, the agreement signed by Waterfront Toronto and Sidewalk Labs on 31 October 2019 following Waterfront Toronto's study of the MIDP unequivocally dismisses the concept of urban data. Two days before, Waterfront Toronto wrote to Sidewalk Labs to present its conditions for a potential agreement and asked the company to *"reaffirm its commitment to comply with all existing and future privacy legislation, regulations and policy frameworks (e.g., Canada's Digital Charter and Ontario Digital Principles). This includes an understanding that data governance, in particular, personal information, varies for public and private activities and actors"*. In the same letter, Waterfront Toronto asked Sidewalk Labs not to *"use 'Urban Data' as a term, and instead rely upon existing terminology and Canadian legal constructs for this Project"*, and also removed the idea of creating a data trust. Waterfront Toronto conditioned the continuation of the project on the withdrawal of any attempt to store data outside of Canada. The entity also asked that *"personal information will be stored and processed in Canada"*. Sidewalk Labs accepted all of these proposals the following day.

The terms of this agreement appear to reflect Waterfront Toronto's desire to take back control of the Quayside site development and to remind Sidewalk Labs that its smart neighbourhood project is part of a territory in which a set of very precise legal and regulatory texts are already applicable with regard to personal data protection. This drive to take back control most likely led to Waterfront Toronto's decision to limit it to the Quayside site alone, thereby dismissing the concept

of an IDEA District proposed by Sidewalk Labs. Kristina Verner, Vice-President of Waterfront Toronto in charge of innovation, prosperity and sustainability claimed back in September 2019 during *La Fabrique de la Cité's* urban expedition that *"when Sidewalk Labs submitted their proposal, there were some conditions that we were immediately not aligned on, that Waterfront Toronto could not support in the project. One of which was the scale submitted to us for consideration"*. Similarly, while Sidewalk Labs put itself forward to take on the role of "lead developer" on the site, Waterfront Toronto announced that it wished to open a call for proposals to identify a developer which would work in partnership with Sidewalk Labs. Lastly, if Sidewalk Labs could already see itself designing and completing infrastructure, the agreement signed on 31 October 2019 states that it is Waterfront Toronto which will now lead *"planning, design and delivery of municipal infrastructure, such as parks, waterfront promenades, streets and sidewalks, water and sewer"*.

Waterfront Toronto conditions its final agreement, expected to be announced in March 2020, on these new conditions, the outcome of its official study of the project and a new round of public consultation. Will the US company be able to overcome the objections of Toronto's civil society which is active and strongly attached to protecting privacy, supported by a clear and strict legal framework in Canada? Will the smart city imagined by this subsidiary of a Big Tech company prove solvable in Toronto's unique DNA? ■

An uncertain future

Throughout the entire 19th century and most of the 20th, *“Toronto the Good”* was *“a city of churches, which embodied the Protestant virtues of hard work, a distrust of ostentation and self-promotion”*¹⁹¹, *“a good place to mind your own business”*¹⁹², *“a city of silence, a private city, where all the best meals were eaten at home and no one noticed the absence of street life and public spaces”*¹⁹³.

How can we see in these bleak descriptions the vibrant, open and profoundly Canadian city that Toronto has become? This boomtown with the strongest growth on the American continent, which stretches both vertically and horizontally? The fact is that Toronto remains a young city, with a ductile identity that is broadly intangible for the time being. *“There’s a growing awareness that what makes Toronto successful is that it’s a work in progress, more process than place”*, writes Christopher Hume in the *Toronto Star*¹⁹⁴. Journalist Stephen Marche refers to this transient state when he describes Toronto as a city *“in mid-puberty, growing so rapidly, changing so suddenly, that often it doesn’t quite know how it feels about itself [...] Toronto’s place in the world is not fixed. That is what is so exciting about the city”*¹⁹⁵.

Will Toronto manage to pull away for good from its status as an uneventful provincial metropolis to find its proper place in a changing world? If it is successful, it will be through an ambitious strategy which will require tackling head-on the crisis of infrastructure funding and affordable housing and obtaining the adoption of a governance system commensurate with its size, free from the constraints imposed by the province. Perhaps the time has come for this “accidental metropolis” to make a conscious choice to set itself on a new pathway. ■

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Author

Marie Baléo

Research

Elise Ho-Pun-Cheung

Paul Lefort

Editor

Cécile Maisonneuve

Communications

Matthieu Lerondeau

Yamina Saydi

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Gauthier Philippe

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La Fabrique de la Cité

6, place du colonel Bourgoïn
75012 Paris - France

contact@lafabriquedelacite.com



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