URBAN INFRASTRUCTURE AND URBAN GROWTH IN THE TORONTO REGION 1950S TO THE 1990S

RICHARD WHITE

Commissioned by the Neptis Foundation

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National Library of Canada Cataloguing in Publication
White Richard, 1952-
Urban infrastructure and urban growth in the Toronto region, 1950's to the 1990's / Richard W. White.

ISBN 0-9733314-0-2

1. City planning-Ontario-Toronto-History – 20th century.
2. Cities and towns-Growth. I. Title.
HT169.C32T67 2003 307.1'416'09713541 C2003-903385-6

Design: Evoke Solutions

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PREFACE • This brief history of the Toronto region's urban infrastructure – its water supply, sewage treatment facilities, and roads – since the Second World War is, quite unapologetically, a piece of "practical" history – an effort to learn something from the past that serves a useful purpose in the present. While one would never wish such a constraint on all historical research and writing, working on this study has been both enjoyable and stimulating.

My prime purpose has been to uncover the historical relationship between the construction of the region's physical infrastructure and the expansion of the region's urban land use, with an eye to determining which of the two has been cause and which has been effect. Or, to put it more colloquially, I have asked whether development really has "followed the pipe," as today's orthodoxy maintains.

There can be no doubt about the close relationship between physical infrastructure and urban development over the last fifty years. Indeed, the relationship is mandated by Ontario law. Since at least 1946, the provincial *Planning Act* has explicitly required that new urban development, to be approved, must have provision for adequate physical services such as water supply and sewage disposal.[1] So, not surprisingly, as urban land use extended out to the newly set boundaries of Metropolitan Toronto in the 1950s and 60s, and beyond them in the 1970s and 80s, roads and pipes were generally in place to provide the necessary services.

Historical research, however, has a way of revealing complications in seemingly simple matters, and this is one such case. While it is true that the region's physical services and its growth have been closely linked, the relationship has been more complex than one might think. The current axiom – "development follows the pipe" – tells only part of the story. A close look reveals that in many cases over the last fifty years, it might be more correct to say that the pipe has followed development. Furthermore, where urbanization has followed the pipe, the infrastructure can be

1. "An Act Respecting Planning and Development," *Statutes of Ontario*, 1946, Chapter 71, 375-83; under the previous *Planning and Development Act* (1937), authority for subdivision approval had rested with the OMB. "Report of the Ontario Municipal Board for 1946," *Ontario Sessional Papers*, 1946, No. 24, 11.

seen to have *allowed* rather than *caused* the growth, for in places where development pressure has not been strong – admittedly a rare circumstance in the Toronto region's recent past – pipe capacity has often remained unused for some time.

There has turned out to be more to this study than originally expected. It soon became clear, as work progressed, that the research could serve as the foundation for a factual narrative history of the region's post-war water and sewer infrastructure construction – something that had never been written – so this more general purpose was taken on. And with this broader scope a number of aspects of the story emerged with considerable relevance of their own. One is that Metropolitan Toronto's postwar water and sewer expansion was paid for largely with capital borrowed by Metro itself, not with upper-level government grants as many today assume. Another is that a striking decline occurred in public support for infrastructure construction in the early 1970s, a development that is closely linked to the complex social and political changes of the period. These, and other, observations have been explored in this study as well.

• • •

I would like to thank the Neptis Foundation for recognizing the role that historical research can play in understanding the present, and for agreeing to provide funds for this project. I am also grateful to several colleagues who read and commented on early drafts, especially Neal Irwin of IBI Group, Jim Balfour of Dillon Consulting, Frances Frisken of York University, and especially to the venerable planning consultant Eli Comay, a participant in a good many of the activities described in this report, who granted me two long interviews and found the time to read and thoroughly discuss an early draft of the report. I am also grateful to the

engineers Don Redfern, Frank Horgan, Alan Patterson, and Howard Shrimpton for offering their thoughts and recollections in interviews, and to Peter Wright and Glynn Henry of the University of Toronto Faculty of Applied Science and Engineering for directing me to them.

I would also like to thank Judy Curry and the other librarians at the Toronto Urban Affairs Library for providing me with such excellent assistance, and both Marcy Burchfield of the Neptis Foundation and the staff at University of Toronto Cartography Office for producing the excellent maps.

Richard White
March 2003

SOURCES AND ABBREVIATIONS • This study has drawn from a wide range of unpublished, or "semi-published", reports and documents, as well as a number of interviews with participants and observers. All of the sources are fully noted in footnotes to the report.

Most of the source documents are in libraries, not archives. But since they are often as rare as archival material – I believe I was reading the only extant copy of some documents – the custom used for archival sources of identifying the location of the material has been followed in some cases.

Abbreviations used in the endnotes for these libraries are as follows:

CTA: City of Toronto Archives
MPL: Mississauga Public Library
NYC: North York Central (Toronto Public Library)
OA: Ontario Archives
UAL: Urban Affairs Library (Toronto Public Library)
UTL: University of Toronto Library
UTL-A: Architecture Library, University of Toronto Library
UTL-GP: Government Publications, University of Toronto Library

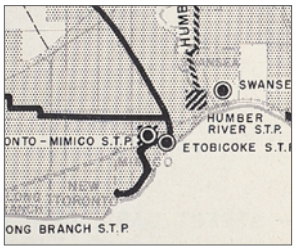
Other abbreviations used in the footnotes are:

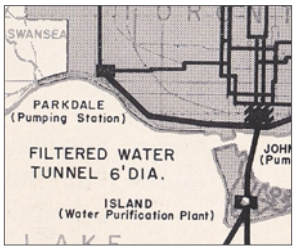
ECR - Executive Committee Report
MTPB - Metropolitan Toronto Planning Board
OWRC - Ontario Water Resources Commission
WCR - Works Committee Report

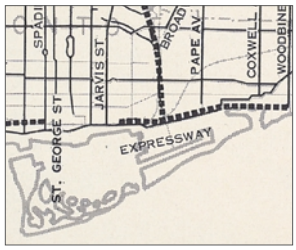
Research interviews were conducted with:

Eli Comay, retired Planning Consultant
Frank Horgan, retired Metro Commissioner of Works
Allan Patterson, retired Assistant Metro Commissioner of Works
Don Redfern, retired partner, Proctor and Redfern
Howard Shrimpton, Senior Consulting Engineer, YDSS

I. Metropolitan Toronto, 1949 -1970







The establishment and subsequent growth of Metropolitan Toronto in the first generation after the Second World War is a story that has yet to be comprehensively told. One element of it that is hard to miss, however, is that these were years of confident, decisive government action. Metropolitan Toronto was not shaped by the invisible hand of the market. Far from it. Creating the federated metropolitan municipality was, on its own, a momentous act, but the many public policies that flowed from that creation – concerning roads, public transit, water and sewer construction, land use planning and conservation, social housing, and education administration, to name only the most obvious – had far-reaching and often long-lasting effects as well. Furthermore, it was a time when trusted professionals could offer sweeping solutions to what seemed solvable problems – and be permitted to carry them out. Both these features of the age are unmistakably at work in the first, critical stage of the region's post-war infrastructure expansion.

THE REGION'S POSTWAR CRISIS • Toronto and its surrounding region faced a troublesome predicament in the years after the Second World War. Politically, the region was in pieces. The City of Toronto had resolved in 1912 to cease annexing outlying territory, and except for a small area northeast of Woodbine and Danforth, annexed in 1920, it had upheld this decision through the interwar period. This anti-annexation stance did not stop urban growth, of course; it only meant that the growth that did occur – and there was plenty of it – took place outside the city's jurisdiction. Soon, several small municipalities and townships had incorporated around the city proper, putting the municipal finances of the region badly out of balance, since the smaller outlying municipalities, most of which were largely residential,

By the late 1940s an urban region that had undergone intense industrial growth during the war, and had retooled to peacetime production with scarcely a missed beat, was limping along with undersized and outdated municipal services, yet with no political body to take the task of improvement in hand.

could not tap the city's rich commercial and industrial tax base. On top of this, expansion of municipal services in the region had been curtailed for years, first by the financial circumstances of the Depression and then by the need to put all resources and manpower into the war effort. So by the late 1940s an urban region that had undergone intense industrial growth during the war, and had retooled to peacetime production with scarcely a missed beat, was limping along with undersized and outdated municipal services, yet with no political body to take the task of improvement in hand. Worse still, all signs were that the postwar expansion had only just begun. The problems of the present were only going to worsen.[2]

Especially urgent, everyone seems to have recognized, was the problem of water and sewer services.[3] In 1949, to address this, the Toronto and York Planning Board engaged the venerable Toronto engineering firm of Gore & Storrie to conduct a thorough study of the systems in place, and recommend a course of action for fixing any shortcomings. The engineers reported that the situation had indeed become critical, and that remedial action was urgently needed.[4]

The region's sewage system at the time – if the word "system" can be used – consisted a number of small, independent sewage treatment plants that processed sewage from their immediate area and released their effluent either into an adjacent river or stream ("upstream" plants) or directly into Lake Ontario (see Figure 1). About a dozen such local plants were in use, serving small municipalities like Weston and Mimico and the urban areas of Etobicoke, York, and Scarborough Townships. Most carried out only minimal treatment in the best of circumstances, but as they were now operating at or beyond capacity, their effluents were often quite foul. The Don and Humber Rivers – into which all the upstream plant effluents flowed on their way to the lake – had become little more than open sewers. In urban areas not on suitable watercourses, septic tanks were still used; these were even

The region's sewage system in the late 1940s consisted of small, independent sewage treatment plants that carried out minimal treatment and released effluent either into a river or into Lake Ontario. The Don and Humber Rivers had become little more than open sewers.

FIG 1 | DETAIL. FOR FULL MAP **CLICK HERE**

2. The following is drawn from Carl Goldenberg, *Report of the Royal Commission on Metropolitan Toronto* (Toronto, 1965), 7-22; Metro Toronto Annual Reports, 1962, 3-7, and 1963, 2-5 (bound copies of these valuable brochures are held in UAL and CTA); James Lemon, *Toronto Since 1918: An Illustrated History* (Toronto: Lorimer, 1985), Chapter Three, "Planning For Growth, 1940-1953," covers this period very well; Richard Harris, *Unplanned Suburbs: Toronto's American Tragedy, 1900 to 1950* (Baltimore and London: Johns Hopkins, 1996), 45-50 and 78-85, shows that not all of Toronto's early suburbs were purely residential.

3. Minutes of the Metro Toronto Planning Board (including minutes of the Toronto and York Planning Board), 9 April 1947 (CTA).

4. Gore & Storrie, "Toronto and York Planning Board Report on Water Supply and Sewage Disposal for the City of Toronto and Related Areas," September 1949 (UAL).

worse, especially in North York Township where intensifying development and impermeable soils were making for badly contaminated groundwater. If nothing was done, the engineers concluded, the situation would soon be "highly dangerous and perhaps disastrous."[5] Certainly there could be no new urban growth without major improvement.

Water service was not quite so bad. The city itself owned a good water system. It had built the impressive new R.C. Harris filtration plant in the 1930s just outside the city's eastern boundary (to be as far as possible from the mouths of the city's polluted rivers) and an eight-foot-diameter tunnel to carry filtered water from the plant to a downtown pumping station for distribution. The city actually had more filtered water than it needed – it sold its excess to the outlying municipalities – but pressure was poor in some places, and capacity was not sufficient for major expansions. North and west of the city, in a long arc from central Etobicoke Township through Weston to North York, water was being drawn from wells. This was satisfactory for the time being, for groundwater was usually less polluted than rivers and lakes, but signs of contamination were appearing, and nobody was sure when the capacity of these wells would be reached.

The Toronto and York Planning Board engaged the engineering firm of Gore & Storrie to study the system. The engineers recommended a huge, unified, lake-based system for both water and sewage.

THE ENGINEERS' SOLUTION • The solution to all of these problems, the engineers explained, was a massive project to create new, unified, lake-based systems for both water and sewage. The upstream sewage plants should all be closed, and a new regional network of trunk sewers built to carry sewage to two or three large new treatment plants on the lake. Sewage belonged in sewers, not rivers, and treating it all in large lake-level plants would be far more efficient than in small scattered local plants. For water, they recommended that the city of Toronto's lake-based system be extended to service the entire metropolitan region, with a complete network of large-capacity mains, pumping stations, tanks, and reservoirs. The entire project would be expensive in the

5. Ibid., 7.

extreme – somewhere close to $25 million they estimated – but only then would the metropolitan area be adequately and safely served. And only then would it be prepared for the expected growth.

What it also needed – and on this the engineers were quite explicit – was some sort of "unified authority" to pay for and coordinate the huge undertaking. "The sooner a unified control is established over the whole area, the more efficient and economical will be the results in the end," the engineers wrote.[6]

Four years later, in 1953, they got just what they wanted when the Ontario government, in a bold and decisive move, created Metropolitan Toronto. Many forces were at work in the formation of Metro Toronto – the need for a fairer distribution of property tax revenue being perhaps the greatest – but the 1949 report by Gore & Storrie should certainly be counted among them. Adequate water and sewer services were essential, both to ameliorate current conditions and prepare for future growth, and the need for a unified political structure to provide them was at the heart of Metro's conception.

Once established in 1954, the new Metro corporation re-engaged Gore & Storrie to update its 1949 report and propose a specific plan for implementing new systems. This the engineers promptly did, reporting, not surprisingly, that the situation had grown even more dire.[7] The population of the area, they noted, had risen some 15% since their previous report just five years earlier, having more than doubled in North York Township.[8] The number of local sewage plants had increased, for under strong development pressure, especially in North York, private subdividers had built several such plants to serve their developments (already an accepted practice). The pattern of urban growth had altered somewhat, prompting the engineers to expand their proposals and change a few specifics. The cost of these larger works was now estimated at just over $100 million, but the gist of the revised report was the same as the 1949 original – establish lake-based water and sewer systems throughout the metropolitan area as fast as physi-

The need for a unified political structure to provide adequate water and sewer services was at the heart of the conception of Metropolitan Toronto in 1953.

6. Ibid.

7. Gore & Storrie, "Report on Water Supply and Sewage Disposal for the Metropolitan Area," 1954 (UAL).

8. Ibid., 1.4.

cally and financially possible.

With this new report as an approved long-term plan, work began at once. By the end of that first year, 1954, Metro had already authorized millions of dollars for water and sewer construction (see Figure 2). The project continued at a remarkable pace, with the works department every year reporting major jobs completed and new ones begun.

By the end of 1954, Metro had already authorized millions of dollars for water and sewer construction.

Two big new sewer treatment plants were built – the expanded Ashbridge's Bay plant in 1956-57, and the entirely new Humber plant in 1960-61 – while at the same time a network of underground trunk sewers to feed them was laid in the major river valleys. Two storm sewers in North York were also installed; storm sewers generally had a low priority while the new sanitary sewer system was being built, but two were needed to relieve a badly overloaded combined storm/sanitary sewer in the West Don watershed.[9]

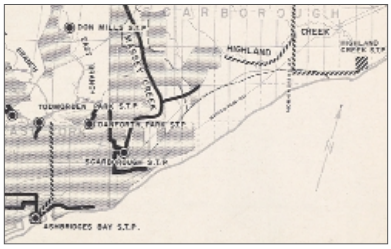


FIG 2 | DETAIL. FOR FULL MAP **CLICK HERE**

Work on expanding the water supply and distribution system ran concurrently, beginning immediately after completion of a new detailed plan by the engineering firm of James F. MacLaren Associates in 1957.[10] (see Figure 3). By 1968, an entire new water treatment plant – named after retired and widely respected Commissioner of Works Ross Clark – was in operation on the western lakeshore, further increasing capacity.[11] As the new works were put in place, the old ones disappeared. One by one, wells and local sewage treatment plants were shut down – the sites of the latter often turned over to the conservation authority for development into parks – and the pre-Metro system vanished, leaving few traces of the old, insalubrious days.

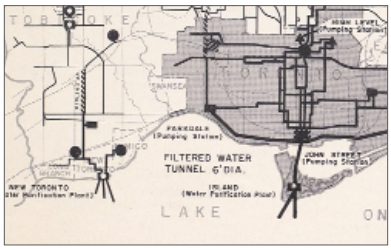


FIG 3 | DETAIL. FOR FULL MAP **CLICK HERE**

By the late 1960s, after barely fifteen years, the entire project was essentially complete. With the exception of northeast Scarborough, the future land use of which had not yet been determined, all of Metro Toronto had up-to-date sewer and water services.[12]

9. Metro Toronto Council Minutes, 1954, WCR#4, 201-02; Metropolitan Toronto, Annual Report 1963, 31; James F. MacLaren Associates, "Report on Sewer Improvements in the City of Toronto," Dec. 1960 (UAL).

10. James F. MacLaren Associates, "Report on Water Supply in Metropolitan Toronto," 1957 (UAL).

11. *Water and Pollution Control*, Nov. 1968; Metro Toronto Council Minutes, 1962, WCR#8, 1555-56.

12. Metro Toronto Annual Reports, 1967 and 1969; maps for these two years appear to be identical; beginning in 1970, the annual reports stopped showing infrastructure maps.

ROADS AND EXPRESSWAYS • The region's roads called for attention too. Their inadequacies were not endangering public health, so the need to improve them might not have been as urgent as the need to improve water and sewer services, but the inconvenience of clogged roadways was widely acknowledged, and a remedy for this problem had also been high on Metro's early agenda.

The first priority was, undoubtedly, the Lakeshore Expressway (renamed the F.G. Gardiner Expressway in August 1957). Such a road had been envisioned for years, certainly since before the war, and once the Queen Elizabeth Way had begun pouring vehicles into the city's west end in 1940, the need was obvious. As with the sewer and water projects, however, financial and coordination problems impeded progress until Metro was formed, but then work went ahead immediately. Before the end of 1953, in fact, a special committee administering the expressway had engaged consultants to draw up proposals and cost estimates, and construction was under way in the west end by mid-1956.[13]

Of equal, and maybe even greater, importance for urban growth was expanding the system of arterial roads. Some twenty or thirty (depending on how they are counted) major city streets had been assumed from the municipalities by the Metro Corporation upon its creation – thus the designation "Metro roads" – and the new owner promptly began to extend, widen, or straighten them to increase their capacity[14] (see Figure 4). Among the major undertakings was the extension of both Eglinton (1954-56) and Lawrence (1959-60) Avenues from North York east across the Don River to Scarborough, construction of the Bayview Extension (1958-59), a complete reconstruction of the Richmond/Adelaide/ Eastern Avenue complex east of downtown (1961-62), and a general widening and northward extension of most of the main north-south arteries. This last thrust followed upon the Province of Ontario's construction of Highway 401 across the northern reaches of the metropolitan area through the early and mid-1950s. By the early 1960s several Metro roads were being extended even further north,

While the sewer and water pipes were being laid, an entirely new high-capacity road network was put in place as well.

FIG 4 | DETAIL. FOR FULL MAP **CLICK HERE**

13. Metro Roads, Biennial Report, 1955-56, 21-26 (UAL).

14. Ibid., map on 8.

beyond Highway 401, to the metropolitan boundary at Steeles Avenue. In the meantime, the Gardiner Expressway, opened for use in several stages, was completed by 1964, and the area's other major expressway, the Don Valley Parkway (endorsed by municipal plebiscite on New Year's Day, 1946), was approved in 1956, begun in 1958, and built from the Gardiner Expressway to Bloor Street by 1964 and to Highway 401 in 1967.[15] So while the sewer and water pipes were being laid, an entirely new high-capacity road network was put in place as well.

PAYING FOR IMPROVEMENTS • It was an exceptional accomplishment, no doubt, and Metro Toronto was immensely proud of itself for having carried it out. Reports of the time are filled with self-congratulatory claims about the many miles of new roads, sewers, and water lines. By the 1960s the city could boast that lawn-sprinkling restrictions were a thing of the past, and that the Humber River, now largely free of sewage, had frozen over in winter for the first time in decades.[16]

The cost of these public works was, of course, equally immense. By 1965 Metro had invested $150 million in water and sewer works and, by 1970, nearly $300 million in roads – close to half a billion dollars into public infrastructure in fifteen years. Capital costs of the Gardiner Expressway, by far the most expensive single item, exceeded $100 million.[17]

By 1965 Metro had invested $150 million in water and sewer works and, by 1970, nearly $300 million in roads – close to half a billion dollars into public infrastructure in 15 years.

Much of this money was borrowed by Metro itself. This pattern of borrowing has been obscured by the fact that the creation of Metro Toronto was closely tied to the provincial government's decision to increase grants to the province's municipalities, so many of which were coming under financial strain as urbanization continued. The new municipality of Metro Toronto had been treated especially well in this new arrangement, receiving a larger per-capita grant than any other. This money, however, was for social programs, not physical infrastructure. For its pipes, and to a degree for its roads, Metro was on its own.

15. All of these details are drawn from Metro Roads, Biennial Reports, various years (UAL); for plebiscite, *Toronto Daily Star*, 2 Jan. 1946.

16. Metro Toronto Annual Report, 1962, 6.

17. Figures for roads calculated by author from annual expenditures listed in Metro Roads, Biennial (later Triennial) Reports (UAL); figures for sewage from Goldenberg, *Royal Commission on Metro Toronto*, 39, 42; cost of Gardiner Expressway from Biennial Report 1963-64, 4.

Higher-level governments did provide some assistance. Roads were quite generously funded by the province, at 50% of all capital costs, but even half was a heavy burden, given Metro's ambitious plans and the many other demands on its property-tax revenue.[18] The federal government, through the CMHC, began offering subsidies for sewage works in the mid-1960s, but these did not become significant until the end of the decade. In November 1965, Metro Works reported that it expected to receive, by 1970, $4.5 million of federal subsidies towards sewage projects – a rather meagre contribution to the enormous undertaking.[19] Water and sewer works were eligible for Winter Works subsidies from both levels of government, but these, as the name suggests, compensated only for wages paid out during the winter months and, although helpful, were also fairly small.[20] All in all, Metro had no choice but to borrow.

Creating the capacity to issue debentures had been, in fact, a central reason for Metro's formation – twelve pages of the one-hundred-page *Metro Act* are devoted to it. This is quite understandable, since the main obstacle to building new infrastructure in the late 1940s had been the inability of the smaller municipalities to borrow money to do so.[21] But what will astonish anyone who has lived through the public-debt-fearing 1990s is how proud Metro was at having borrowed this capital. Those involved in the work recall the importance Gardiner and his financial chief Arthur Lascelles placed on successfully raising capital in the New York money markets.[22] It was an administrative achievement, a sign of international confidence in the city's future. Carl Goldenberg certainly shared this view in his 1965 Royal Commission Report. Writing about the $877 million in debentures Metro had issued in ten years, he offered the opinion that "the provision of capital financing to meet the critical shortages in physical works...which faced the area in the early 'fifties has been one of Metro's greatest achievements."[23]

Much of the money to pay for public works was borrowed by Metro. In fact, creating the capacity to issue debentures was a central reason for Metro's formation.

18. Roger Graham, *Old Man Ontario: Leslie M. Frost* (Toronto: University of Toronto Press, 1990), 197-200; Carl Goldenberg, *Report of the Royal Commission on Metropolitan Toronto* (Toronto, 1965), 97-99; J. Stefan Dupre, *Intergovernmental Finance in Ontario: A Provincial-Municipal Perspective* (Ontario Committee on Taxation, 1968), 12.

19. Metro Toronto Council Minutes, 1962, WCR#6, 1178-79; 1964, WCR#3, 462-63; 1965, WCR#14, 2405.

20. Metro Toronto Council Minutes, WCR#6, 1178-79.

21. Carl Goldenberg, *Report of the Royal Commission on Metropolitan Toronto* (Toronto, 1965), 38; CTA, Fonds 28, Series 40, File 29, unpaginated clipping, *Toronto Daily Star*, 29 Nov. 1961; recollections of F.G. Gardiner; "An Act to Provide for the Federation of the Municipalities of the Toronto Metropolitan Area for Certain Financial and Other Purposes," *Statutes of Ontario*, 1953, 405-501.

22. Comay, Horgan, and Patterson interviews.

EXCEPTIONAL TIMES • Exceptional though these accomplishments were, one must recognize that these were exceptional times. Metro's population was growing steadily and fast, both from immigration and the baby boom, and housing demand was supercharged by the great craving for domestic life that followed the deprivations of wartime. Along with these trends came what seems to have been a nearly complete consensus that growth, and all of the roads, sewers, and water mains that accompanied it, was a good thing.[24] The notion that there should be "limits to growth" might have been circulating among scientists and social scientists in the early 1960s, but it did not enter public discourse in Metro Toronto. The era also witnessed unprecedented prosperity, in public and private realms. Canadian per capita incomes doubled in the twenty-five years after the war, and much more than doubled in the Toronto region.[25] The heavy European immigration of these years also must have played a part by furnishing a plentiful supply of low-cost labour for the many construction contractors, allowing work to proceed simultaneously on many projects without costs running out of control. Exceptional times, needless to say, do not last forever.

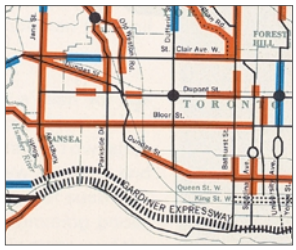
The notion that there should be "limits to growth" might have been circulating among scientists and social scientists in the early 1960s, but it did not enter public discourse in Metro Toronto.

23. Goldenberg, *Royal Commission on Metropolitan Toronto*, 45, 108; this includes capital borrowed for the construction of schools, subways, and many other items; see also the charts in Metro Toronto Annual Report 1963, 13-14, and details concerning the TTC in Metro Toronto Annual Report, 1967.

24. James Lemon, *Toronto Since 1918: An Illustrated History* (Toronto: Lorimer, 1985), 145.

25. D.R. Richmond, *The Economic Transformation of Ontario: 1945-1973* (Toronto: Ontario Economic Council, 1974) refers to this in several contexts.

II. Metropolitan Toronto Case Studies



It is time now to move closer to the process, and to examine more minutely the connection between this infrastructure and the expansion of urban land use. The analysis focuses primarily on the provision of water and sewer services.

THE ROLE OF DEVELOPERS • It is commonly believed that land developers exert undue influence on the location of physical services,[26] but in fact, in the 1950s, there is little sign of such influence. There was really no need. Once Metropolitan Toronto was defined in 1954, it was widely understood that the entire area within its boundary was going to be urban, and that services would eventually be provided everywhere. The Metropolitan Toronto Planning Board, which had to approve all proposed subdivisions, did occasionally withhold approval because physical services were not in place, but if the subdivision was within the boundaries of Metro these were delays, not prohibitions.[27] Services could always be counted on within a few years. There appear to be no cases within Metro of developments being permanently refused on account of inadequate services.

Furthermore, when Gore & Storrie developed its servicing plan in 1954, it was based on what might be called "engineering logic" – the dictates of nature tempered by practical economics – which was not very susceptible to pleading. The sewer system was to be organized by river watersheds ("sewer-sheds"), and the water system by altitude above the lake ("pressure zones"), while the precise locations of the reservoirs, mains, trunks, and pumping stations would be determined by matters such as the ease of construction and, to some degree, the cost of land. In any case, unlike the legendary nineteenth-century railway lines, whose locations had such enormous effects on property values, the precise location of these pipes made little difference; what mattered was simply whether a trunk line was close enough for local connections to be made.

Once Metropolitan Toronto was defined in 1954, it was widely understood that everything within its boundaries would eventually be urbanized, and that services would have to be provided throughout the area.

26. James Lorimer, *The Developers* (Toronto: Lorimer, 1978), for example, makes frequent comments about this.

27. Metro Toronto Planning Board Minutes, various years (CTA).

One decision, however, that was at least partly open to persuasion was when each line would be built. Gore & Storrie chose not to prioritize its recommended program of work in 1954, knowing full well that this was a job for Metro politicians: "Once your officials have studied this report, we will be glad to co-operate with them in submitting an order of preference" was as far as the engineers would go. And the city did soon prepare a prioritized multi-year plan.[28] Some immutable forces were at work here too – an upstream trunk sewer is usually of little use without a downstream section – but, still, the timing of construction was something that property developers could, and often did, influence.

Although developers had little control over the location of infrastructure, they sometimes influenced the timing of new works.

THE INTRODUCTION OF DEVELOPMENT CHARGES • Developers also helped finance these systems. Some of the municipalities in Metro had had, for some time, a tradition of involving land developers in the cost of municipal sewage services (not usually water which, unlike sewage treatment, would later be directly paid for by the users). In North York, property subdividers had been permitted, or perhaps even required, to build small sewage plants for their subdivisions, an arrangement that likely had its origins in the township's shortage of tax revenue. When this began is hard to say, but as early as 1927 the developer of the Armour Heights subdivision northwest of Avenue Road and Wilson Avenue built such a plant.[29]

After 1950, as development pressures increased while Metro and its sewage plan were not yet in place, the practice grew. The 1954 Gore & Storrie report refers to several such plants having recently been built.[30] One was on the East Don River near Lawrence Avenue, where Don Mills Developments Ltd., in an arrangement with North York Township, had built a small treatment plant to serve its vast, path-breaking development. Scarborough Township took another approach. It required developers to pay lot levies to the township to help with the cost of services; when this began is not clear either, but it was referred to in 1954 as an estab-

28. Gore & Storrie, "Report on Water Supply and Sewage Disposal for the Metropolitan Area," 1954, 5 (UAL); Metro Toronto Council Minutes, 1954, WCR #4 (16 Mar. 1954), "Priority List of Sewage Works," 193-95.

29. North York Council Minutes, 2 May, 21 Nov., and 5 Dec., 1927 (CTA); Gore & Storrie, "Toronto and York Planning Board Report on Water Supply and Sewage Disposal for the City of Toronto and Related Areas," September 1949, 91 for Armour Heights plant (UAL).

30. Gore & Storrie, "Report on Water Supply and Sewage Disposal for the Metropolitan Area," 1954, 4, 315 (UAL).

lished practice.[31]

For the new system, although Metro itself was paying for the mains and trunks (anything over 24 inches in diameter), local municipalities still had to build the sub-trunks and neighbourhood pipes, and for financial assistance in this they turned, as they had before, to the developers of land being serviced. When they did they found developers so eager to have local pipes built that they paid for them outright, in cash. Miles of local water and sewer pipes were laid throughout the new areas of Metro Toronto at developers' expense.[32] There is no sign, however, that the developers claimed any ownership of these pipes. They were built, at private expense, to be public property, and were turned over to the city when construction was complete.[33]

Municipalities found developers so eager to have local pipes built that they paid for them outright, in cash. Miles of local water and sewer pipes were laid at developers' expense, and were turned over to the city when construction was complete.

Before long, the new Metro corporation adopted the practice. In January 1955, Metro Works was asked by the Township of North York to allow a private developer, Victoria Developments Ltd., to construct a temporary sewage treatment plant on the East Don River to serve a subdivision northwest of Eglinton and Victoria Park Avenues. (This request was already over a year old; it had been considered by the Metropolitan Toronto Planning Board in October 1953.)[34] Although Metro policy was not to allow any more upstream sewage plants, the committee did consider the request. Scarborough Reeve Oliver Crockford, however, offered an alternative. He suggested that the developer be permitted to build only a low-cost, temporary, timber septic tank, and that he be asked, in addition, to make a financial contribution – calculated, as in Scarborough, on the basis of total length of frontage – toward the cost of the permanent sewage works. This way, money spent would be of more lasting value.

After a brief study, Metro Works followed Crockford's recommendation. Soon after, Farlinger Developments Ltd. was granted similar terms for its Bayview Village subdivision farther up the East Don. North York agreed to collect the charges and pass them on to Metro as contributions towards the cost of the new trunk

31. Metro Toronto Council Minutes, 1954, WCR#4 (16 Mar. 1954), 196-97.

32. Metro Toronto Council Minutes, 1954; several WCRs from late 1954 state details about this: see, for example, Nos. 8, 11, 12, 15, and 16.

33. Horgan interview.

34. Metro Toronto Planning Board Minutes., 6 Oct., 4 Nov., and 1 Dec., 1953 (CTA).

sewer.[35] Metropolitan Toronto had entered the era of development charges. In September 1957, Metro formally announced its "Policy Respecting Collection of Charges from Sub-dividers for Provision of Metropolitan Sewage Treatment Facilities," to apply Metro-wide.[36]

THREE CASE STUDIES • To the critical question of which came first, development or services, there can be no simple answer. It is important to bear in mind that, with a plan in place by 1954 to service the entire Metropolitan area, all land within Metro's borders was, potentially at least, available for urban development. So in a sense the services (or at least *a promise to provide them*) preceded development in all the new urban areas. Yet at the same time, as noted above, Metro was formed at least partly in response to development that had already been proposed. A close look at the early development and servicing of three separate districts illuminates this complex process.

Metro was formed and its services provided at least partly in response to development that had already been proposed.

Case study I • One particularly well-documented area is in western North York Township, northwest of the present-day intersection of Highways 401 and 400. Early in 1954, shortly after Metro's formal creation, North York notified Metro that it required water and sewer in the area to service a large new Eaton's warehouse and printing plant being built on the Barrie Highway south of Sheppard Avenue. Services were also needed throughout the area, they explained, because "other industries will follow at a rapid rate after the T. Eaton Co. plant has been built and [is] in operation."

Metro agreed to provide the services as soon as possible, even though it meant varying somewhat from the Gore & Storrie plan. Instead of waiting for construction of the entire Humber trunk sewer and treatment plant, a multi-year project only just under way, they immediately built a short trunk sewer connecting the area to the old upstream Weston sewage treatment plant, which they enlarged. Metro Works was thus deviating from the plan

35. Metro Toronto Council Minutes, 1955, WCR #3 (8 Mar. 1955), 213-18.

36. Metro Toronto Council Minutes, 1957, WCR #12 (10 Sept. 1957), 1360-61.

both by building the short trunk sewer ahead of schedule and by expanding the upstream plant. The cost of the trunk sewer to the upstream plant, though, would not be wasted, as it would continue in use as a connection to the new Humber Valley trunk sewer once the latter was completed. Water service was also provided promptly. The required water main, running north from a new main on Lawrence Avenue West, was authorized in 1955 and built in 1956.[37] Once these services were in place – in fact while they were being put in place – the area quickly developed.

Case study II • Servicing the Bayview-Leslie-Woodbine area north of Sheppard Avenue was similar, but more complex, and driven more by residential than commercial development (see Figures 5A to 5G). The area was under fairly strong development pressure in the early 1950s, before Metro's creation; a few pockets of "septic tank development" were built, and at least one proposal for a large-scale subdivision had been prepared.[38] The latter, however, could not be permitted without adequate services in place.

Water came without delay, as it often did. North York already had a small well-water treatment plant on the East Don River at Oriole (near Leslie Street), and as development extended east from Willowdale, a line was simply run west along Sheppard Avenue and a new storage tank built at Bayview Avenue. By 1956, the area was also connected to the Metro water system when a line was run from Scarborough into Don Mills (by then already connected to North York's well-water system); this resulted from an agreement between the Townships of Scarborough and North York that predated Metro, but which Metro fulfilled. Water capacity was increased in 1959, when new large mains from the expanded R.C. Harris plant were extended from Pharmacy Avenue to Leslie Street along both Lawrence and York Mills Avenues.[39]

Sewage was a different, and more complex, matter. The arrangements referred to above concerning the East Don Trunk sewer and the origins of development charges form part of this story.

In 1959, new large watermains from the expanded R.C. Harris plant were extended from Pharmacy Avenue to Leslie Street along both Lawrence and York Mills Avenues to serve growth in the Bayview-Leslie-Woodbine area north of Sheppard Avenue.

FIG 5A-G | DETAIL. FOR FULL MAP **CLICK HERE**

37. Metro Toronto Council Minutes, 1954, WCRs #2, 64; # 4, 198-99; and #14, 1100.

38. Aerial photos of 1953 (CTA); Metro Toronto Planning Board Minutes, 6 Oct., 4 Nov., and 1 Dec., 1953.

39. Metro Toronto Annual Reports, maps for 1955, 1956, and 1960; Metro Toronto Council Minutes, 1956, WCR #3, 907-08.

When Victoria Park Developments and Farlinger Developments were given permission to build timber septic tanks for temporary sewage disposal, and thus to begin peopling their subdivisions, Metro agreed to speed up construction of the East Don Trunk (a very low priority in the original 1954 list).[40]

Construction did not actually begin until early 1957, however, because the works department elected first to begin the Coxwell Trunk sewer, into which the East Don Trunk would drain. By this time, industrial and commercial development in the area was well underway. Prompted, perhaps, by Metro's promise to build the sewer, North York Township permitted two major developments in 1957 on land southwest of Sheppard and Leslie – a Canadian Tire warehouse and a York Foods frozen food plant – further adding to the demand for servicing the area. Not until September 1959 was the trunk sewer completed all the way to Bayview Village and the developer's temporary septic tank abandoned.[41] By then the area was under rapid development; Farlinger's septic tank was being used by several other subdivisions, and the North York Planning Department was hearing inquiries from developers "almost daily" concerning land north and east of the newly completed sewer lines.[42]

One further factor in the development of this area was the potential Don Valley Parkway, approved in 1956 for eventual construction along the Woodbine Avenue corridor (the parkway's interchange with highway 401 was built at this time, well before the parkway itself). In 1957, although the expressway was still years away, the big development company, Principal Investments, Ltd., had its seventy-acre parcel northwest of Woodbine and Sheppard Avenues rezoned to commercial use (it would become Fairview Mall), and the entire area along the Woodbine corridor began to be influenced by the proposed expressway. No development actually occurred, however, until sewer service was available and plans for the expressway were further advanced.[43]

In 1957, although the Don Valley Parkway was still years away, the area along the Woodbine corridor began to be influenced by the proposed expressway. No development occurred, however, until sewer service was available and plans for the expressway were further advanced.

40. The 1954 list shows construction scheduled to commence in 1970, but this must be a typographical error; 1960 is probably correct; Metro Toronto Council Minutes, 1954, WCR #4 (16 Mar. 1954), 193-95, "Priority List of Sewage Works."; other applications were submitted in 1955-56, but it was these two, along with the developers' promise to pay development charges, that prompted Metro to advance the construction schedule - Metro Toronto Council Minutes, 1955, WCR # 3, 213-18; Township of York Planning Department, "The North-East Sector: A Report on a Preliminary Study ..." (revised to September 1959), 12-13 (NYC).

41. Metro Toronto Council Minutes, 1957, WCR #2, 256-57; WCR #3, 358-60; WCR #4, 465-68; 1959, WCR #2, 262-66.

42. Township of North York Planning Department, "The North-East Sector: A Report on a Preliminary Study ..." (revised to September 1959), 5 (NYC).

43. Ibid., 7, 13.

Case study III • The Highland Creek area in eastern Scarborough followed a rather different pattern from the two North York cases. Water service was no obstacle to development, as the Township of Scarborough, before Metro's creation, had built water mains along Kingston Road out to its eastern border.[44] The area had no sewage service – all development in the area was on septic tanks – but this had not been seen as an urgent problem. In its 1949 report, Gore & Storrie had recommended that, in the long term, the entire Highland Creek watershed be sewered and drained into a new treatment plant at the mouth of the creek, but these works would not be needed until after 1970. In their 1954 report, however, the engineers recommended immediate construction of the Highland Creek trunk sewer and the treatment plant (with a small initial capacity, and provision for major expansions), and the system was in fact built in this manner in 1956. The main reason for the change was not in the immediate area but in the Malvern district of northern Scarborough, where the federal-provincial land partnership planned to build. Malvern, although fairly remote at this time, was in the Highland Creek watershed, so the Highland Creek sewer and treatment plant were needed to service it.[45]

That is not to say local matters were irrelevant. Some urban development had begun along Kingston Road and in the West Hill district,[46] and Scarborough Reeve Oliver Crockford had been pushing for more.[47] Scarborough Township had already begun collecting development charges for the Highland Creek sewer system. But without the planned Malvern project, Metro might not have advanced the schedule as quickly as it did. The area was just not under as great a development pressure as, say, the Bayview Village area.

This might be a case of a sewer being built ahead of, and thus promoting, development. As a 1954 memo concerning the treatment plant stated, "It is quite apparent that once this plant is under construction the thousands of acres available for development will be proceeded with very rapidly."[48] And indeed they

The Highland Creek area in eastern Scarborough might be a case of a sewer being built ahead of, and thus promoting, development.

44. Metro Toronto Annual Report, 1956, 10.

45. Gore & Storrie, "Toronto and York Planning Board Report on Water Supply and Sewage Disposal for the City of Toronto and Related Areas," September 1949 (UAL), 101; Gore & Storrie, "Report on Water Supply and Sewage Disposal for the Metropolitan Area," 1954, 12 (UAL); in fact, Malvern was not developed for years.

46. Metro Toronto Annual Report, 1955, land use map.

47. Redfern interview.

48. Metro Toronto Council Minutes, 1954, WCR #4, 196-97.

were. The area filled in very quickly. By the time the first branch of the sewer was built in 1956, Scarborough had collected, and passed on to Metro, $750,000 in developers' charges.[49]

DEVELOPMENT AND THE PIPE • These three case studies show just how difficult it is to disentangle development from the provision of sewer and water services during Metro's early years, for the truth is that both were happening at nearly the same time. If there is a pattern in the process, it might be as follows. One major development – perhaps residential, industrial, or institutional – either under way or about to be started, urgently requires servicing, and in the interests of health and safety, trunk lines are run into the area (often necessitating a slight variation from the *details* of the approved plan). Then, once services are provided, or at least imminent, development in the rest of the newly serviced area promptly follows. This pattern shows just how confusing the causal relationships are: development and pipes serve as both cause and effect at the same location.

If there is a pattern in the process, it might be this: a major development, either under way or about to be started, urgently requires servicing, and in the interests of health and safety, trunk lines are run into the area. Then, once services are provided, or are at least imminent, development in the rest of the newly serviced area promptly follows.

The examples illustrate several other important aspects of the work. Clearly the scheme laid out by Gore & Storrie in its 1954 report was serving as a plan. Schedules were modified, and some old works were allowed to remain in use longer than planned, but its report (together with Metro's prioritization and MacLaren's more specific water system plans) was the base against which everything was being considered, and the overall scheme of sewering by natural features rather than political jurisdiction was retained.

The role of private developers is noteworthy as well. Not that they dictated location of services, for there was really nothing to dictate. Neither do they appear, as a rule, to have had undue influence on the timing of the works. Although in some cases, Metro acceded to their requests for reprioritizing – Metro found it especially hard to refuse big developments and major employers – there were also cases of developers being told that their subdivisions would just have to wait.[50]

49. Metro Toronto Council Minutes, 1956, WCR #4, 1081.

50. Township of York Planning Department, "The North-East Sector: A Report on a Preliminary Study ..." (revised to September 1959), 12-13 reports numerous "premature" rejected applications.

The developers' role in financing, however, is unmistakable. While it would be extremely difficult to do an accurate accounting, it seems that perhaps 10% to 20% of the cost of some trunk sewer lines was paid for by developers whose lands received the services. This in turn points to the extraordinary housing market of these years. The charges were almost certainly passed along to the initial home buyers, but there is no sign of this price increase dampening demand.

Perhaps 10% to 20% of the cost of some trunk sewer lines was paid for by developers.

These examples are from the late 1950s, but the pattern continued into the 1960s. Water and sewer lines were further extended in all three of the areas studied above, and the extensions show the same relationship to growth as the original pipes. The Highland Creek sewer was extended north of Highway 401 into Agincourt in 1959 in response to health concerns arising from sudden population increases on land unsuitable for septic tanks, and then further still to the new CPR yards in 1963, with the help of a $50,000 development charge levied on the railway.[51] The East Don Trunk Sewer was extended north to the Metropolitan boundary in response to general development pressure, but especially in response to a request from the Sisters of St. Joseph, who were planning to expand their Bayview Avenue convent.[52] The upper Humber trunk was expanded north and west with major contributions from subdividers in the area.[53]

FIG 6 | DETAIL. FOR FULL MAP **CLICK HERE**

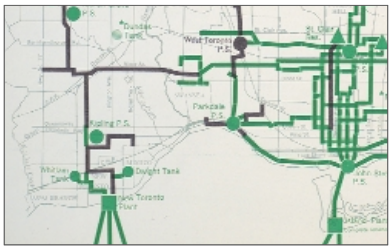


FIG 7 | DETAIL. FOR FULL MAP **CLICK HERE**

FIG 8 | DETAIL. FOR FULL MAP **CLICK HERE**

THE END OF AN ERA • By the late 1960s, with all but a few remote parts of Metropolitan Toronto fully serviced with roads, water supply, and sanitary sewage services, the first phase of the region's postwar infrastructure construction had come to an end (see Figures 6, 7, and 8). And as it did, something of a new era began, with new problems and new priorities.

Now that sanitary sewers were in place, the City of Toronto began to concentrate on a program of separating storm from sanitary sewers in neighbourhoods where combined sewers were still in use. Sewers that received storm runoff from paved surfaces

51. Metro Toronto Council Minutes, 1959, WCR #9, 1490-92; 1963, WCR #1, 214-16.

52. Township of York Planning Department, "The North-East Sector: A Report on a Preliminary Study ..." (revised to September 1959), 10-11, 24-25 (NYC).

53. Metro Toronto Council Minutes, 1964, WCR #6, 846-47.

quickly filled up during heavy rains, and the treatment plants that received the contents of such sewers, unable to handle big volumes, were forced to divert much of the sewage they received into the lake untreated. Excepting a few places with particular problems, storm water drainage had not drawn much attention or money until the mid-1960s, but this now became one of the works department's main concerns.

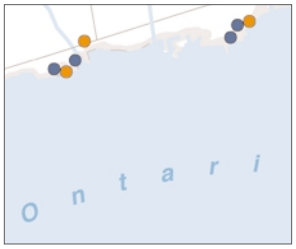
There was also a general shift of priorities, now that the urgent needs for physical infrastructure had been met. While Metro's 1955 ten-year budget plan had allocated 76% of its expenditures to roads, sewage, and waterworks, the 1965 plan allocated only 36% to this category.[54] With words and sentiments entirely unlike those of the 1960s, Metro Chairman Albert M. Campbell declared in 1970 that "the hard services which ... pre-occupied the Metropolitan Council for its first decade and a half, represent only a part of the responsibility of council towards the people of Metropolitan Toronto." It was now time to face the responsibility of "improving the human or social environment of the Metropolitan area."[55]

Priorities shifted in the 1960s. While Metro's 1955 ten-year budget plan had allocated 76% of its expenditures to roads, sewage, and waterworks, the 1965 plan allocated only 36% to this category.

54. Goldenberg, *Royal Commission on Metropolitan Toronto* (1965), 38.

55. Metro Toronto Annual Report, 1970, 2.

III. Beyond Metro Toronto: Peel Country



Outside the borders of Metropolitan Toronto, physical infrastructure received scant attention in the 1950s. Apart from a few established towns along the lakeshore, these regions were largely rural, and the time when they would be anything but was so remote as not to be worth considering. Gore & Storrie's 1949 report on regional water and sewer services made no comment whatsoever on services outside what would become Metro. The few historical records that survive mention a number of municipal waterworks in established towns and villages – some drawing well water and some surface water – and a few small sewage treatment plants, but reveal very little awareness of the state or quality of water resources. Streetsville, for example, had been drawing water from the Credit River since 1912, but only in 1950 had it built a plant to treat the town's sewage – even though it was being discharged into the same river.[56] Nor was there any sense in most of these outlying areas of being part of the Toronto region and sharing its problems. So, unlike the townships that became Metro Toronto, most of these areas felt no need for action to improve their services.

TORONTO TOWNSHIP • The one place where this characterization did not apply is Toronto Township, the southern part of Peel County immediately west of Metro Toronto. Its lakeshore already had a long industrial heritage, and spurred by completion of the Queen Elizabeth Way in 1940, by the heavy demands of war, and by postwar economic expansion, it had become, by the 1950s, an important industrial centre. The Canadian Small Arms factory at Lakeview, built and operated as a crown corporation during the war, now housed Canadian Admiral, probably Canada's first television factory. A little further west at Port Credit, the St. Lawrence Starch Company, in business since early in the century, employed

Gore & Storrie's 1949 report on the state of regional water and sewer services made no comment whatsoever on services outside what would become Metro Toronto.

56. Ontario Water Resources Commission, "Report on the Water Resources Survey of the County of Peel," May 1963, includes a valuable map (UTL-A); Roger Riendeau, *Mississauga: An Illustrated History* (Northridge, Calif.: Windsor Publications, 1985), 89-90; Claire Emery and Barbara Ford, *From Pathway to Skyway: A History of Burlington* (Burlington: Confederation Centennial Committee of Burlington, 1967), 203.

275 workers in 1950. The British-American oil refinery at Clarkson, also built during the war, had recently been expanded and now employed 500 people; nearby, the St. Lawrence Cement company had built a $27-million plant in 1956. There was industrial activity inland, too. A 1958 survey of the Credit River's watershed counted fourteen major industries – metal refiners, dairies, sand and gravel pits, and food processors, among others[57] (see Figure 9).

This industrial growth, together no doubt with Toronto's promised lakeshore expressway, brought a flurry of residential development to the southeastern part of the township in the 1950s and the archetypical postwar Mississauga suburbs quickly began taking shape. Applewood Acres and Orchard Heights were both built in the mid-1950s near the QEW and Dixie Road (both included shopping centres along the expressway that stand to this day). Erin Woodlands was under construction on the east side of the Credit River by 1957, as was Park Royal, south of the QEW near Clarkson.[58] On a far grander scale, Erin Mills Developments had assembled huge tracts west of the Credit River by 1957, as had Bramalea Developments – a group of English capitalists – farther north in Chinguacousy Township east of Brampton.[59]

The QEW served as the main road for this development, and was up to the task, but water and sewer services in the township clearly were not. Streetsville and Port Credit had municipal waterworks and sewage treatment plants, but they had already reached their capacity. The Township had built a substantial water treatment plant at Lakeview in the early 1950s, primarily to serve the growing industrial area around Dixie Road, but the plant was now also providing water for the new subdivisions in the area and was fast reaching its capacity. There was no substantial lake-based sewage plant. A small upstream plant on Etobicoke Creek took much of the sewage from the development in the southeast, and a small new plant at Clarkson was serving developments there. Some of the big industries had their own sewage plants, but effluents from them still carried a heavy load of pollution.[60]

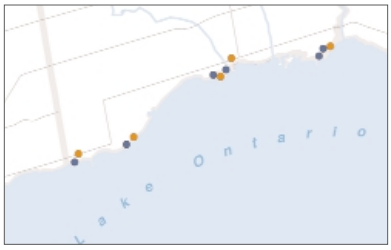


FIG 9 | DETAIL. FOR FULL MAP **CLICK HERE**

Industrial growth, and perhaps the promised lakeshore expressway, brought a flurry of residential development to southeastern Toronto Township (now part of Peel Region) in the 1950s.

57. Roger Riendeau, *Mississauga: An Illustrated History*, 86-89 and 98-101; Verna Mae Weeks, *Lakeview: More Than Just Land* (Verna Mae Weeks, 1990), 65-68 and 133-43, gives a valuable picture of wartime and postwar development; Ontario Water Resources Commission, "Report on Pollution Survey Credit River Watershed," 1958 (MPL).

58. Roger Riendeau, *Mississauga: An Illustrated History*, 98-101.

59. Gore & Storrie, "County of Peel Report on Water and Sewage Facilities and County Roads," November 1961 (UAL); Helga V. Loverseed, *Brampton: An Illustrated History* (Burlington: Windsor Publications, 1987), 161-64; "Bramalea Consolidated Developments Limited Annual Report 1965" (UAL).

60. Roger Riendeau, *Mississauga: An Illustrated History*, 89-90; Ontario Water Resources Commission, "Report on Pollution Survey Credit River Watershed," 1958 (MPL); "Proposed Official Plan of the Metropolitan Toronto Planning Area," 1959, 182 (UAL).

All in all, Toronto Township faced circumstances much like those faced by Metro Toronto: growing industry, strong residential development pressure, and a corresponding need for larger and better services.

THE ONTARIO WATER RESOURCES COMMISSION • The body responsible for addressing such matters in the township was the new Ontario Water Resources Commission, formed in 1955 (more permanently in 1957) by the government of Leslie Frost, largely in response to pressures from Ottawa. Frost had been loath to accept provincial responsibility for water and sewer services – despite advice from his own Department of Health – and had held firm to the belief that such services were strictly municipal. The State of Michigan, however, was threatening legal action against Canada for permitting the discharge of toxic wastes into the St. Clair River at Sarnia – hardly a municipal problem, since the main offender was the former Crown Corporation Petrosar. Under pressure from Prime Minister St. Laurent to take some sort of ameliorative action, Frost and his government relented and created the OWRC to serve as steward of provincial water resources.[61]

The OWRC was initially created just to monitor provincial water quality (it commissioned several important scientific studies in this capacity), but soon it became the conduit for provincial financing of municipal waterworks and sewage treatment plants.[62] In this latter capacity, the OWRC, and the province generally, took on critical roles in the development of services outside Metro.

The first step in expanding Toronto Township's services was, once again, taken by the consulting engineers Gore & Storrie. In 1958, the firm was engaged by a group of large developers with holdings west of the Credit River (Erin Mills Developments Ltd. and three others) to assess the available services and propose a program of improvement. These lands were several kilometres from water and sewer trunks, and stood no chance of being approved for residential subdivisions by the Metropolitan

Although the Ontario Water Resources Commission was initially created to monitor provincial water quality, it soon became the conduit for provincial financing of municipal waterworks and sewage treatment plants.

61. Ontario Water Resources Commission, Annual Report, 1957; Roger Graham, *Old Man Ontario: Leslie M. Frost* (Toronto: University of Toronto Press, 1990), 193-97; Ronald Bordessa and James M. Cameron, "Servicing Growth in the Metropolitan Toronto Region During the Early Years of the Ontario Water Resources Commission: 1956-1968," *Canadian Water Resources Journal*, 5.1 (1980), 2-5.

62. The role as provider of government funds did not become established until 1964; Ontario Water Resources Commission, Annual Report, 1965, (UTL-GP).

Toronto Planning Board until services were in place. Believing that the province, through the newly formed OWRC, would provide the funds, the developers asked Gore & Storrie to determine what was needed. The engineers produced another well-reasoned report proposing a $15 million servicing scheme for the southern part of the county, including the land west of the Credit River. They called for a new lake-water treatment plant and distribution system, an expansion of the Streetsville sewage disposal plant to permit it to handle all sewage upstream from Streetsville, and a large new sewage plant on the lake.[63]

The developers, however, were to be disappointed. Peel County was not Metro Toronto, with its unqualified commitment to urbanization and a newly established means of borrowing capital; and of course in Metro it had been a public body, not a group of developers, that had commissioned the engineers' report. So, not surprisingly, the response to the engineers' report differed too. The OWRC offered no funds for this major servicing project. Nor did it offer to extend services 25 kilometres or so to the imminent Bramalea development.

Bramalea was something of a sore point to a number of public officials at the time, and this fact might have contributed to the province's reluctance to service it. Its land had been assembled just beyond the jurisdiction of the Metropolitan Toronto Planning Board (whose planning authority at that time extended beyond Metro proper) in order, presumably, to avoid the need for board approval of its plans. When the land company came forward seeking provincial government approval (which it needed) for a major development, the board spoke out against it on the grounds of inadequate planning for services.[64] It was well known that well-water supplies in the area were nearing their limits, and that an upstream sewage plant serving a large population would foul the meagre flow of Etobicoke Creek.[65] But the board's opposition had little effect, and after a few years Bramalea went ahead – "unwanted and unplanned for," an author later recalled – by constructing

Despite the opposition of the Metro Toronto Planning Board to the creation of Bramalea, the development went ahead when the developers gained access to a sewage plant built by OWRC on a tributary of the Credit River.

63. Gore & Storrie, "Proposed Water and Sewage Facilities in the South Credit Development Area..." April 1958 (UAL).

64. Metro Toronto Planning Board Minutes, 20 June 1957 (CTA).

65. Gore & Storrie, "Proposed Water and Sewage Facilities in the South Credit Development Area..." April 1958 (UAL); Gore & Storrie, "County of Peel Report on Water and Sewage Facilities and County Roads," Nov. 1961 (UAL).

its own well-water system and gaining access to Brampton's new upstream sewage plant on Fletcher's Creek (a tributary of the Credit), which the OWRC did construct.[66] But no major servicing scheme was offered in Peel at this time, neither to Bramalea nor to the west Credit lands.

SERVICES GRADUALLY IMPROVE • What the province did do for Toronto Township in the late 1950s was construct a huge new sewage treatment plant at Lakeview, on what was called at the time the Long Branch Rifle Range (although it was west of Etobicoke Creek, outside Long Branch proper). This new plant was to serve both western Metro and the rapidly developing township. Both areas were badly in need of improved sewage treatment. South-west Metro was still being served by the old, inadequate Long Branch plant that Gore & Storrie had recommended for replacement in 1954. The urgent need for this plant is reflected in the fact that the OWRC – in its first year of operation, 1956 – began to consider funds for it. The parties involved struck an agreement in early 1958, and the plant was in operation by 1960. In the meantime, some of the trunk sewers proposed earlier by Gore & Storrie for the southeast part of the township were also built, at provincial expense, to feed the new treatment plant.[67] So although the province was not expanding Peel County's services as fast as several developers wished – the OWRC had other parts of the province to think about – it was taking action nonetheless.

The province constructed a huge new sewage treatment plant at Lakeview in the late 1950s, to serve both western Metro and the rapidly developing Toronto Township.

This pattern of gradual enhancement of services continued through the early 1960s,[68] during which time development pressure, and a corresponding demand for increased services, grew stronger than ever. The township's population, which had doubled in the 1940s and again in the 1950s, continued to increase, as did the number of commercial and industrial employers. By 1966, the population of Peel County had reached 172,000 – most of it in the south – and was growing at over 10% per year.[69]

66. Quote from "Mini-Metros: Proposals to Shape Civic Affairs," Bureau of Municipal Research, *Civic Affairs*, Aug. 1969 ; E. Comay, "A Brief to the Royal Commission on Metropolitan Toronto," Apr. 1964, 35 (UAL); Gore & Storrie, "County of Peel Report on Water and Sewage Facilities and County Roads," Nov. 1961 (UAL); Ontario Water Resources Commission, "Report on the Water Resources Survey of the County of Peel," May 1963 (UTL-A); Ontario Water Resources Commission, Annual Reports for 1960 and 1963 (contract no. 58-S-14); Bramalea Consolidated Developments Limited, Annual Report, 1965 (UAL).

67. Metro Toronto Council Minutes, 1956, WCR #2, 419-25; 1958, WCR #2, 250-52; 1965, WCR #5, 728-31; 1969, WCR #6, 789-93; Ontario Water Resources Commission, Annual Reports, 1957, 1960 (UTL-GP).

68. Ontario Water Resources Commission, Annual Reports, 1963, 1965, 1966 (UTL-GP).

69. Roger Riendeau, *Mississauga: An Illustrated History*, 89, 98; population figures from Metropolitan Toronto, *Key Facts*, 1995.

The developers of the West Credit lands, whose projects had been approved by the township through an amendment to the official plan in 1961, were still waiting for services to be put in place.[70] Sheridan Park Research Centre, an initiative of the Ontario Research Foundation, opened in 1964 north of the QEW, and began to attract important industries to its grounds. The population of the Bramalea development had reached 8,200 by 1965, but it had done so by expanding its own small sewage and well-water systems, the limits of which had clearly been reached, and by building, with OWRC funds after all, a small, temporary upstream sewage treatment plant south of the development on Etobicoke Creek[71] (see Figures 10 and 11).

FIG 10 | DETAIL. FOR FULL MAP **CLICK HERE**

FIG 11 | DETAIL. FOR FULL MAP **CLICK HERE**

THE SOUTH PEEL SCHEME • The project that finally met everyone's demands was the province's "South Peel Scheme" – a massive expansion of water and sewer services comparable in some ways to that undertaken by Metro a decade earlier. Initially announced in August 1965, and in more detail in March 1966, it called for $70 million in water and sewer works over several years, together with a takeover of existing municipal facilities by a new regional authority.[72] Both the Lakeview and the Clarkson sewage treatment plants would be expanded; water and sewer trunks would finally be extended to and even beyond Brampton and Bramalea (despite the fact that official plans for the region still did not call for its expansion);[73] and the whole West Credit service scheme would be put in place, with the required trunk lines, reservoirs, and pumping stations. It was the largest project, by far, undertaken through the OWRC in its ten years of existence.[74]

The announcement elated the area's civic leaders and developers; it "opens the way for development of 8,000 acres in the north part of Toronto Township," declared Township Reeve Robert Speck.[75] Such joy quickly subsided, however, for the municipalities to be served found they could not agree to terms and the project was halted. Negotiations dragged on for several years,

The South Peel Scheme, a massive expansion of water and sewer services, bogged down in intermunicipal negotiations, delaying the Erin Mills development project and restricting development in Brampton. When construction finally began in 1970, Mississauga rapidly expanded northwards.

70. *Erin Mills New Town: A Proposal by Don Mills Developments Limited*, 1969 (UAL).

71. Bramalea Consolidated Developments Limited, Annual Report, 1965 (UAL); the "Proposed Official Plan for the Metropolitan Planning Area," 1966 (UAL) shows the proposed West Credit scheme, but no water or sewer lines to Brampton.

72. *Globe and Mail*, 2 Mar. 1966; *Brampton Daily Times*, 21 Dec. 1966; these and subsequent clippings about the South Peel scheme are from Ontario Archives, RG84-9, newspaper clippings, volumes compiled by the General Manager, Ontario Water Resources Commission.

73. "Mini-Metros: Proposals to Shape Civic Affairs," Bureau of Municipal Research, *Civic Affairs*, August 1969, 8.

74. Ontario Water Resources Commission, Annual Reports (UTL-GP).

75. "South Peel Scheme Announced," *Brampton Daily Times*, 21 Dec. 1966.

with very real consequences. The Erin Mills development project was delayed, and the town of Brampton, whose well-water supply was fast being depleted, resorted to restricting water use and refusing new building permits – the latter prompting threats of legal action from developers.[76]

At last an agreement was reached in December 1968. By this time the price had risen to $88 million, but the scheme was the same.[77] The whole project was to be funded by the province, with developers' contributions going to the cost of sub-trunks and local mains, unlike in Metro, where developers also contributed to the cost of the trunk lines.[78] Municipalities being served would be charged by the province on the basis of use, the actual per-unit costs varying, it appears, according to the value of municipal works taken over as well as the cost of extending the services.[79] The following April, plans were announced to begin the huge Erin Mills development – now being carried forward by Markborough Properties Ltd. and Canadian Equity and Development Co. Ltd. The *Globe & Mail* explained the obvious connections: "The two presidents said the decision of the OWRC to install the huge trunk sewer and water mains was an essential ingredient of their plans." [80]

The South Peel scheme was more a program of construction than a single project. Work began in 1970, and continued at a substantial pace all through the decade, and as it did, the city of Mississauga (created from Toronto Township on January 1, 1968) expanded relentlessly north, evolving into a classic late-twentieth-century "edge city." Peel County became the fastest-growing part of the entire Toronto region in the 1970s. Mississauga's expanding urban fabric consisted not only of residential developments but of large industrial employment areas as well – Chrysler, Dupont, and Control Data, among others, opened plants and offices in the northern part of the city. The connection between the services provided by the South Peel scheme and the northward expansion of Mississauga is unmistakable. Development – long impeded by lack of services – was following the pipe.

In April 1969, plans were announced to begin the huge Erin Mills development. The two developers involved stated that the decision of the OWRC to install the new trunk sewers and water mains had been an essential ingredient of their plans.

76. Brampton's 100th Anniversary as an Incorporated Town, 1873-1973 (Town of Brampton, 1973), 197; *Brampton Daily Times*, 26 May 1967.

77. "Peel Water Deal Reached Yesterday," *Globe and Mail*, 18 Dec. 1968.

78. *Erin Mills New Town: A Proposal by Don Mills Developments Limited*, 1969 (UAL); that is not to suggest that developers' contributions were any less important here, for no figures on this are available.

79. *Brampton Daily Times*, 21 Dec. 1966.

80. *Globe and Mail*, 15 April 1969; *Erin Mills New Town: A Proposal by Don Mills Developments Limited*, 1969 (UAL).

Roads, of course, were also essential, perhaps more for factories and offices than for residences. The provincial QEW and Highways 27 (renamed 427) and 401 were all widened and reconstructed by the early 1970s, allowing a vast increase in traffic around the periphery of the region.[81] Hurontario Street had been widened to four lanes in 1963, and the Erin Mills Parkway from the QEW to Highway 401 was started as part of the new development in 1970, permitting more north-south traffic through the area. But the timing of the expansion, as well as the words of the men in charge, suggests that it was pipes, not roads, that were the essential ingredient in Mississauga's expansion.

The South Peel Scheme demonstrated the new role played by the provincial government in infrastructure expansion.

The scheme had an important effect on the overall development of water and sewer services in the region for another reason – it introduced a new player. The provincial government, through the OWRC, would be a part of all future water and sewer development. When Metro Toronto undertook its infrastructure expansion in the 1950s, the situation had been fundamentally different. The Province had recognized the need for new water and sewer services in and around Toronto, but had no intention of paying for such works. Instead, it had created the mega-municipality of Metropolitan Toronto and given it the power to finance such works itself, which Metro's financial health and promising future (and the will of Metro's first Chairman Fred Gardiner) allowed it to do. Such were the political ideas of Premier Leslie Frost and his government. The government of John Robarts was cut from another cloth entirely. Carried along perhaps by the prevailing provincial statism of the 1960, perhaps as well by the powerful non-Toronto forces within his government, and almost certainly by an expanding provincial treasury, Robarts moved the Province where Frost would not have dared to go. The result was a new, pro-development force that had no need to heed the wishes of the politicians and planners of Metro Toronto.[82]

81. "Annual Report of the Ministry of Transportation and Communications," 1972 (UTL-GP).

82. A.K. McDougall, *John P. Robarts: His Life and Government* (Toronto: University of Toronto Press, 1986) 94, 140-41; Lionel D. Feldman, *Ontario 1945-1973: The Municipal Dynamic* (Toronto: Ontario Economic Council, 1974), 24, 42; Ronald Bordessa and James M. Cameron, "Servicing Growth in the Metropolitan Toronto Region During the Early Years of the Ontario Water Resources Commission: 1956-1968," *Canadian Water Resources Journal*, 5.1 (1980).

IV. Beyond Metro Toronto: North and East

North of Toronto, in York County, development pressure of a different sort was building in the 1950s. York had little large-scale commerce and industry, and was not directly affected by the economic boom spurring growth in more developed parts of the region. In the southern part of York, however, particularly along the Yonge Street axis, purely residential development was underway. The area's proximity to Metro Toronto, and its fairly easy access to Highway 401 (completed in the early 1950s), made it attractive to developers and their car-driving customers. Extensive residential development seemed only a matter of time. Despite the absence of industry and jobs, the County felt a need to improve its physical services.

Durham County, however, to the east of Toronto, did not. The area had a good deal of industrial activity – the Town of Ajax had a substantial industrial sector after the war (with water and sewage facilities built for the famous wartime shell plant that had first opened the site), and Oshawa's automotive industry had long given that city a solid economic base – but it was simply not growing, nor was it expected to grow, as rapidly as areas to the north and west. The small-scale municipal services in the lakeside towns sufficed for the time being. A generation later, however, it would become tied to York in its services, so the two counties are best considered together.

YORK COUNTY • York County had a particular problem: it did not border the lake. What had at one time been the county's lakeshore was now Metro Toronto's lakeshore, so the city, in effect, blocked the County's lake access. York's water and sewage systems, therefore, could not be lake-based, like systems everywhere else in the region. Unless it worked out an arrangement with one of

Early plans for York County servicing proposed including the area in Metro's service network, because Metro blocked the County's access to Lake Ontario.

the jurisdictions on the lake, its water would have to come from local wells or rivers and its sewage would have to be disposed of in the county itself, which severely limited development potential. Solving this geographical puzzle was, and still is in some ways, the central theme in servicing York County.

The earliest solution considered was to include the area in Metro's service network. Metro, in the 1950s, had only just been created, so its northern boundary did not reflect any fundamental, permanent division, and the fact that it was Metro's creation that had caused York's problem in the first place was perfectly clear. As the consulting engineer James F. MacLaren put it in 1957, when laying out Metro's first water supply plan, Metro had "a moral obligation ...to furnish water to those townships which the Corporation [i.e., Metro] actually isolates from Lake Ontario," and he recommended designing Metro's water system with this ultimate requirement in mind.[83] The Metropolitan Toronto Planning Board thought along similar lines for sewers: when faced with a request in 1957 to approve residential subdivisions north of Steeles Avenue, it took the position that it would give its approval only if the Metro sewer system were extended north to service the subdivisions, adding that the Commissioner of Works had advised them this was feasible.[84]

But extending services across boundaries was not a simple matter. For one thing, water and sewer trunk lines had not yet been built that far north in the mid-1950s, and likely would not be for a few years. Even if they had been, arbitrary though the boundary might be, Metro council would have been wary of approving expenditures on works beyond its borders.

Extending sewer and water services across Toronto's northern boundary was not a simple matter. For one thing, water and sewer trunk lines had not yet been built that far north. For another, Metro council was not going to approve expenditures on works beyond its borders without careful thought.

NEW UPSTREAM SEWAGE PLANTS • With the Metro option ruled out for the time being, other possibilities had to be considered. The need to expand the water supply system was not pressing – well water would suffice for a few years at least – but sewage treatment had to be addressed immediately. The approval of several

83. James F. MacLaren, "Report on Metropolitan Water Supply," 31 Oct. 1957, 10-11 (UAL).

84. Metro Toronto Council Minutes, 1957, WCR #43, 1280-81; WCR #2, 250-53.

subdivision proposals depended on it. There were really only two options: septic tanks and upstream sewage treatment. Septic tanks, although acceptable in the rural areas, were never seriously considered for urban development in the region because the local soils were not porous enough.[85] The only solution was to permit the municipalities in York County to construct upstream sewage plants.

This was, understandably, not a popular option in Metro Toronto, which was at the time engaged in an expensive program of removing its own upstream plants from the very same rivers. But it was done nonetheless – an imperfect, and clearly temporary, solution. For several years from the late 1950s to the 1960s, small sewage treatment plants serving residential developments were built throughout the region with the financial and technical assistance of the OWRC, and in some cases with money from developers of the subdivisions served. The need to ensure an unusually pure effluent prompted the installation in at least one plant (in Markham Township in 1967) of tertiary treatment – further chemical treatment of the plant's effluent to reduce or remove a particular chemical.[86] The OWRC also worked with the municipalities to expand and improve well-water systems.

In the 1950s and 1960s, small sewage treatment plants were built, with the help of OWRC, in York County to accommodate development.

It is worth noting that although the Metro Toronto Planning Board had never wanted these plants, and did its best to discourage them, it did not actually oppose the developments that made the plants necessary. The Board was more pragmatic than that. It just wanted to ensure that subdivisions were properly designed and serviced. Since the populations served were comparatively small, and the OWRC was there to ensure well-designed plants with up-to-date treatment techniques, the Board accepted the inevitable.[87] (see Figure 11).

FIG 11 | DETAIL. FOR FULL MAP **CLICK HERE**

YORK AND METRO TORONTO • Even while these local services were being built, Metro continued receiving requests from the county's southern townships for extension of its water and sewer services.

85. Metro Toronto Council Minutes, 1957, WCR #2, 250, 252.

86. Ontario Water Resources Commission, Annual Reports, 1957, 1960, 1963 (UTL-GP); Ontario Archives, RG84-9, V.2, Ontario Water Resources Commission, unlabelled clipping, 23 June 1967, "Markham Township Opens Treatment Plant"; "York-Durham Sewage System and the Duffins Creek Water Pollution Control Plant," York Region brochure, 3.

87. Metro Toronto Council Minutes, 1957, WCR #2, 250-53; Ronald Bordessa and James M. Cameron in "Servicing Growth in the Metropolitan Toronto Region" present this, incorrectly in my view, as a power struggle between the Ontario Water Resources Commission and the Metro Toronto Planning Board; my interpretation is based on a reading of the council minutes cited above, the minutes of the MTPB, and an interview with Eli Comay.

Some of these proposals, if technically feasible, Metro allowed. Others it rejected. One interesting pair of requests from Vaughan Township in 1961, both turned down by the MTPB on the grounds that they varied from the draft official plan, shows the variety of service demands created by urban expansion – 100,000 gallons of water per day for a commercial swimming pool at Highways 400 and 7, and water and sewer services for a new private hospital for the treatment of alcohol and drug addiction northeast of Dufferin and Steeles.[88]

Eventually, however, Metro began to accede to these requests. With water supply, this had been the general intention all along. The advice of James F. MacLaren had found its way into the 1959 draft official plan for the region, and then, with more specifics, the 1965 draft as well[89] (see Figure 10). A complete extension of the water supply, however, had to await the new R.L. Clark water treatment plant in Metro's west end, which was not completed until 1968. By this time, however, Metro had constructed one of its own reservoirs north of the municipal boundary – on Kennedy Road in Markham Township – to permit storage at an elevation sufficient to provide pressure for parts of northern Metro.[90] Serving the northern regions with Metro water from this reservoir was therefore feasible by the late 1960s, and a permanent arrangement seemed only a matter of time.

Sewage services were extended as well, once Metro's trunk sewers reached the boundary. In 1961, Metro struck an agreement with Markham Township to allow sewage from the area south of John Street, between Yonge Street and the CNR line, to enter the East Don trunk sewer. And in 1966, after two years of intermittent negotiations with the Village of Woodbridge, Metro agreed to accept village sewage into its recently completed Humber-Thistletown trunk sewer.[91] Unlike the water system, however, the sewage system had not been designed with enough capacity to service north of the city, so these agreements were entered cautiously, and all parties knew they were temporary.

The Ontario government's 1965 announcement of its intention to provide a huge sum of money for the South Peel scheme was swiftly followed by an appeal from the residents of York that the government do the same for them.

FIG 10 | DETAIL. FOR FULL MAP **CLICK HERE**

88. Metro Toronto Council Minutes, 1961, WCR #4, 694-99.

89. Proposed Official Plan for the Metropolitan Toronto Planning Area, 1965; The Official Plan of the Metropolitan Toronto Planning Area, 1959 (both UAL).

90. MacLaren Report 1970, for District Four; Metro Toronto Annual Report, 1967.

91. Metro Toronto Council Minutes, 1961, WCR #5, 891-93; 1964, WCR #8, 1106-07; 1966, WCR #1, 291-96.

GENESIS OF THE YORK-DURHAM SEWER SYSTEM • It might be a law of democratic politics that when a government gives financial aid to one part of its jurisdiction, it will immediately be called upon to do the same elsewhere. So it was that the Ontario government's 1965 announcement of its intention to provide a huge sum of money for the South Peel scheme was swiftly followed by an appeal from the residents of York that the government do the same for them. Ontario was in the hands of an expansive, financially confident government in these years, one that took this request seriously, and it immediately directed the OWRC to study the matter. OWRC staff reported with two major conclusions; neither of them was novel, but both would have far-reaching effects.[92]

First, the OWRC took the position that, since the limits of York County's groundwater resources would soon be reached, the county should look to Metro Toronto for its future permanent water supply. Second, it stated that that the region's watersheds should no longer be debased with upstream sewage plants, even enhanced ones, and that the area should be serviced instead by a large new trunk sewer running east and south, around Metro and through Durham County, to a new lake-based treatment plant east of Metro Toronto (draining sewage, for the first time, out of one watershed into another). The OWRC recommended, in other words, that York County be given permanent lake-based services in two different ways – through Metro for water, and around Metro for sewage. The OWRC then engaged Gore & Storrie to conduct a feasibility and cost study of the long trunk sewer, which the engineers provided in mid-1967, declaring the project expensive but feasible. Two years later – the high cost and financial arrangements caused some delay – the OWRC officially announced that it would construct, at provincial expense, a $62 million sewer system to serve central York and parts of eastern Durham Counties.[93] The York-Durham Sewer System (YDSS) was born.

In 1969, the OWRC announced that it would construct, at provincial expense, a $62 million sewer system to serve central York and parts of eastern Durham Counties.

At this point two important provincial initiatives intruded: the creation of a provincial land use plan for the region, and the

92. This report could not be found, but it is referred to in several of the reports listed below in note 94.

93. Ontario Archives, Ontario Water Resources Commission clippings, *Toronto Telegram*, 18 April 1969; bound Metro Toronto Planning Board memo, "OWRC Report: Central York County Area Water Supply," Item #4, Agenda, 19 Nov. 1969 (UAL); Ontario Ministry of the Environment, "Central York–Pickering Areas: Water and Sewage Systems," Feb. 1974 (UAL); "$127 million program for water, sewerage slated for Pickering," *Globe and Mail*, 17 June 1972.

establishment of regional municipalities all around Metro. Both of these affected the YDSS's progress.

THE TORONTO-CENTRED REGION • The "rise and fall of provincial planning" for the Toronto region is a fascinating turn of events, with relevance to the history of Ontario's politics and its planning.[94] Ultimately, it had little effect on the region's infrastructure, but for a time it certainly looked as if it would.

The Ontario government resolved in the mid-1960s to enter the realm of regional land use planning, and in 1970 produced a plan for the Toronto area called the Toronto-Centred Region (TCR).[95] Following ideas put forward in MTPB's draft plan of 1965, but taking them farther, the TCR plan called for concentrating development east and west of Toronto, along Lake Ontario, rather than to the north, where market forces had been directing it for years. (To relieve heavy growth in the west, and better balance the region's population distribution, eastward expansion was to be especially encouraged.)

The plan also called for a long broad strip of green land, the Parkway Belt, across the northern boundary of urbanized land. North of this belt, in what was termed the "commutershed," urban growth was to be strictly controlled so that, except for the Yonge Street corridor, the area could remain as rural and sparsely populated as possible. Development in these areas, the report explained, would create traffic congestion and require expensive long pipes to service, both of which were undesirable. Confining urban growth to the lakeshore areas, where a transportation corridor already existed and where lake-based services could easily be established, made more sense for everyone. Only much further out, beyond the range of commuting (by 1970 standards), would urban development centres be encouraged.

It was a bold, logical – albeit probably unrealistic – proposal that in the minds of many planners made and still makes good sense, but it met with outrage from those whose land values and

The Toronto-Centred Region plan called for concentrating development east and west of Toronto, rather than to the north, and strictly controlling development in the Parkway Belt to the north of the urbanized area. York Region vigorously opposed the idea, and the plan was eventually abandoned.

94. These words come from N.H. Richardson, "Insubstantial Pageant: the rise and fall of provincial planning in Ontario," *Canadian Public Administration*, 24, 4 (Winter 1981), 563-85.

95. *Design for Development: The Toronto-Centred Region* (Toronto: Queen's Printer, 1970); the mother of them all is the "Metropolitan Toronto and Region Transportation Study," vol. 1 (April 1966) and vol. 2 (Nov. 1967) (UTL-GP).

tax assessments would be lessened by its implementation. York Region's formal response, which proposed levels of growth for York Region much higher than those in the plan, is many times thicker than the plan itself.[96] Within a few years the TCR plan had foundered in the heavy seas of public opposition (although it did remain official policy for some years to come) and the provincial government has never again proposed such coercive development control.[97]

Had the Toronto-Centred Region plan remained in force, the YDSS might never have been built. The desire to avoid the need for such a large and costly sewer had been one of the reasons the Province had resolved to try limiting northward development.[98] But as things turned out, the plan's only effect was to contribute to a general confusion surrounding the YDSS's initial design criteria and to further delay its start. The population projections for York Region in the TCR plan called for a change to the capacity of the sewer system envisioned by Gore & Storrie in its 1967 study, so the engineers were reappointed in 1972 to carry this out. While their redesign was under way, York Region published its own higher projections, prompting some second thoughts.

If the Toronto-Centred Region plan had been implemented, the York-Durham Sewer System might never have been built. Avoiding the need for such a large and costly sewer had been one of the reasons the Province had tried to limit northward development.

Scarcely had the engineers' new report been completed when the federal government announced its intention to build a new airport in North Pickering, increasing population projections for the area served by the proposed system by 200,000. The consulting firm James F. MacLaren Associates was engaged to further revise and refine the plan, and in May 1973 the consultants produced what turned out to be the definitive report on which the system would be based, although their task was complicated by York Region's ongoing objection to the official population figures and the Province's unofficial opposition to the airport.[99]

REGIONAL GOVERNMENT • The Province's move into regional government was another bold step – but this one was not reversed. In the early 1970s, the government of Ontario created a number

96. "Submission by the Regional Municipality of York on the Toronto-Centred Region Concept," March 1972 (private collection), 40, 74, 86; note that the population figures for the TCR were actually produced for the follow-up "Design For Development: A Status Report" (Toronto, Aug. 1971) (UTL-GP).

97. N.H. Richardson, "Insubstantial Pageant: the rise and fall of provincial planning in Ontario," *Canadian Public Administration*, 24, 4 (Winter 1981), 563-85, provides an excellent analysis; see also several insightful pieces on this subject in the special issue of *Plan Canada*, 24, Nos. 3/4, Dec. 1984; A.K. McDougall, *John P. Robarts: His Life and Government*, 233.

98. "Submission by the Regional Municipality of York on the Toronto-Centred Region Concept," March 1972 (private collection), 50.

99. James F. MacLaren, "Report to the Ministry of Environment, Province of Ontario, on Central York/Pickering Water and Sewage Works," May 1973 (UAL); Ontario Ministry of the Environment, "Central York–Pickering Areas: Water and Sewage Systems," Feb. 1974 (UAL).

of regional municipalities – intermediate-level municipal governments (usually coinciding with existing counties) that brought together several towns and townships (and in some cases cities) into a municipal federation.[100] All of the areas around Metro Toronto were affected. The Regional Municipality of York was created in 1971, and the three Regional Municipalities of Peel, Halton, and Durham in 1974. The municipalities within them continued to exist, but they now shared responsibilities with the regional government of which they were a part. This federal arrangement of municipalities was the same model employed when Metro Toronto was created in 1953, and these new entities were occasionally called "mini-Metros."[101]

The Regional Municipality of York was created in 1971 and the three Regional Municipalities of Peel, Halton and Durham in 1974, even though introducing new local planning authorities ran directly counter to the Province's regional planning initiative.

One wonders why the government thought this such a good idea. No doubt it wanted to streamline the delivery of provincial funds to municipalities, and probably also to return a degree of local autonomy to municipalities after years of activist provincial government. Some have said the Province was seeking to prohibit Metro Toronto from annexing territory beyond its borders, something being openly discussed now that development and services were spilling over the metropolitan boundary.[102] With the creation of the regional municipalities, the MTPB's jurisdiction was explicitly pared down to Metro itself. But introducing new local planning authorities ran directly contrary to the Province's *regional* planning initiative, and although the new level of government might have streamlined some processes, it must have complicated others.[103] Many Ontarians still, thirty years later, puzzle over the purpose of these upper-level municipalities.[104]

The creation of this extra level of municipal government had a profound and lasting effect on physical infrastructure in the region. No longer was a single, centralized regional infrastructure system possible. Throughout the 1960s, while the YDSS was being conceived, the notion endured that somehow the Metro Toronto sewer system, like the water system, could be extended to accommodate northern regions. The Metro Works Commissioner at the

100. Lionel D. Feldman, *Ontario 1945-1973: The Municipal Dynamic* (Toronto: Ontario Economic Council, 1974).

101. "Mini-Metros: Proposals to Shape Civic Affairs," Bureau of Municipal Research, *Civic Affairs*, August 1969.

102. Lionel D. Feldman, *Ontario 1945-1973: The Municipal Dynamic* (Toronto: Ontario Economic Council, 1974), 24.

103. A.K. McDougall, *John P. Robarts: His Life and Government* (Toronto: University of Toronto Press, 1986), 209; Metro Toronto Planning Board Minutes, 21 Jan. 1970 (CTA); Metro Toronto was divided over the issue of creating the regional municipalities, and the debate was well covered in the press in 1969 – see OA, Ontario Water Resources Commission scrapbooks, especially *Toronto Daily Star*, 11 Feb. 1969, for an overview, 11 Oct. 1969 for a long article by F.G Gardiner opposing the move, and 20 Mar. 1969 for the Robarts government's opposition to Metro expansion; Darcy McKeough explains the Province's position in "The Regional Municipality of York," *Municipal World*, 80, 7, July 1970, 182-

time, Frank Horgan, recalls considering it, although he never moved beyond informal discussions because the cost of twinning or rebuilding trunk sewers through what were by then Toronto's popular ravine parks seemed prohibitive. Yet the MTPB noted in 1969 that the cost of the YDSS was going to be enormous too, and that servicing through Metro should not be ruled out. Even as late as 1973, the MacLaren report on the system suggested at least considering, where capacity permitted, a permanent sewage connection through Metro for the southern parts of York.

But by this time such an outcome was next to impossible. The newly formed Regional Municipality of York wanted to run its own affairs, and, with the provincial OWRC providing the funds, it could afford to do so. The YDSS, when formally born in December 1974, was an agreement among distinct political entities. So too was the September 1974 deal for Metro to supply water to York and Durham, the terms of which would cause acrimony for years.[105] The province's creation of regional municipalities, in other words, meant that the management of water and sewer systems in the watersheds of the Humber, Don, and Rouge Rivers would be divided among several political jurisdictions – exactly the kind of problem that, a generation earlier, Metro Toronto had been created to alleviate.

The creation of regional municipalities meant that the management of water and sewer systems in the Humber, Don, and Rouge watersheds would be divided among several jurisdictions – exactly the kind of problem that, a generation earlier, Metro Toronto had been created to alleviate.

THE YDSS TAKES SHAPE • The YDSS had been conceived as a solution to York Region's problems, not Durham's, as its original name – the Central York Servicing Scheme – reveals. Not that Durham County lacked development. Durham's 1971 population, in fact, was considerably higher than York's.[106] But without the heavy industry of southern Peel County, and without York's location upstream from another urban jurisdiction, Durham's services were still not problematic. Its urban centres all had their own up-to-date lake-based sewage treatment plants, which could readily accommodate future expansion. The Region had no real need to join York in a new mega-system.[107] But in May 1972, parts of

89; see also Hans Blumenfeld, "Concluding Observations," *Plan Canada*, 24, No. 3/4, Dec. 1984, 166.

104. See the chart of upper- and lower-tier responsibilities in Enid Slack, *Municipal Finance and Governance in the Greater Toronto Area: Can the GTA Meet the Challenges of the 21st Century?* (Neptis Foundation, 2000), 6.

105. Metro Toronto Council Minutes, 1974, WCR #49, "Agreements for Supply of Sewage and Water Services to Province of Ontario," 2381-85; Shrimpton interview; Patterson interview; Horgan interview.

106. Metro Toronto, *Key Facts*, May 1995.

107. *The Pictorial History of Ajax 1941/1972* (nd, np, np), 25, 76, 78, 110; *Oshawa: The Crossing Between the Waters* (Oshawa: Oshawa Public Library, 1978), 156-58, 164-66.

Durham were included in the scheme (largely because of the airport planned for North Pickering) and the Regional Municipality, on being formed in 1974, went along. The allure of generous provincial funding and state-of-the-art facilities won the day.[108] The YDSS, as agreed to in 1974, would serve western Durham Region (Pickering Village, Pickering Township, the Town of Ajax, and the North Pickering development) as well as the southern parts of York Region (see Figure 12).

FIG 12 | DETAIL. FOR FULL MAP **CLICK HERE**

The YDSS had been conceived as a solution to York Region's problems, not Durham's. But in May 1972, parts of Durham were included in the scheme, partly because of the planned new airport in North Pickering, and partly because of the allure of generous provincial funding and state-of-the-art facilities.

Soon after the agreement was reached, the first phases of the work began – designing the Duffins Creek treatment plant and constructing temporary connections from York into Metro to serve until the system's completion. The system took years to build. Its great length – 50 kilometres of large sewer pipe – along with the complex phasing and the decision to build by tunneling rather than cutting and filling (to avoid disturbing the surface environment) made it a management challenge of the first order. By 1980 the basic system was in place. The first sewage entered the Duffins Creek Plant early in the decade, finally lifting the constraints on York Region's development.[109]

The YDSS was financed by the Province, but, as in Peel, the municipalities using it were to pay for its operation, including the cost of servicing its borrowed capital. This had been a troublesome matter from the start. Such an expensive piece of infrastructure for such a small population (only about 166,000) was going to have heavy per capita operating costs – initially estimated at 65 or 70 cents per thousand gallons of treated sewage. The South Peel servicing scheme had cost the Province about the same amount, but it was a water *and* sewage scheme, and it served many more people (nearly 200,000), so sewer user charges for municipalities were correspondingly lower – about 25 cents per thousand gallons.[110] York Region thought this unfair, and asked for a provincial subsidy of the capital costs to bring the charges down to 49 cents.

The province balked at first – one of the reasons for the early

108. Ontario Water Resources Commission, Annual Reports, 1967, 1969 (UTL-GP).

109. Shrimpton interview; "York-Durham Sewage System and the Duffins Creek Water Pollution Control Plant," York Region brochure.

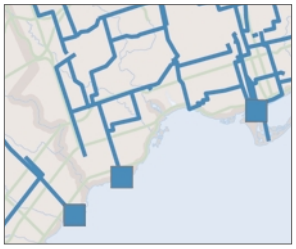
110. "Total Population, Metropolitan Toronto Area Municipalities and Regions, 1951-1994" in Metro Toronto, *Key Facts*, May 1995; "Submission by the Regional Municipality of York on the Toronto-Centred Region Concept," March 1972, 52 (private collection).

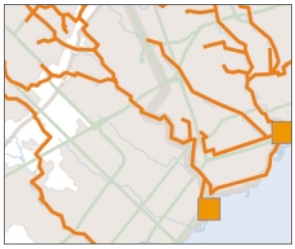
delay – but eventually relented. By the time the project was completed, however, its capital cost had far exceeded original estimates, and to maintain the agreed-upon user cost, the Province had had to forgive many millions in capital (some of it through the Ministry of Housing, which, at that time, was trying to mitigate a serious housing crisis).[111] Although comparing subsidies is notoriously inexact, the YDSS seems to have been built with far greater provincial subsidy, per capita, than any other such system, certainly much greater than the Metro systems of the 1950s and 60s, which received almost no provincial subsidy. It stands as yet another illustration of the well-worn Canadian principle of using government subsidies to overcome physical geography.

The York-Durham Sewer System seems to have been built with far greater provincial subsidy, per capita, than any other such system, certainly much greater than the Metro systems of the 1950s and 60s, which received almost no provincial subsidy.

111. Shrimpton and Patterson interviews.

V. Towards the Present





The York-Durham Sewer System was the last of the big, publicly funded water and sewer mega-projects of the era. With its completion, the pattern established early in the postwar period of servicing through large, unified, lake-based systems was fully in place for most of the region. Halton and eastern Durham had not yet fallen in. They still used small local systems (some of them lake-based) and would continue to do so for several years, since their northern reaches were not yet facing much development pressure.[112] But in Toronto, Peel, and western Durham, the emphasis moved from building to improving and expanding what was already in place. These years, therefore, do not warrant the same depth of analysis as the years when the large systems were conceived and constructed, since major decisions with land use implications were not being made. Nonetheless, several aspects of these decades deserve attention.

POLITICAL REFORM IN METRO TORONTO • In Toronto, the important turn of events in the 1970s was not the building of infrastructure but the appearance of a new political force that opposed it. These years were dominated by a powerful political reform movement centred in the old City of Toronto. It had begun life in the late 1960s as a citizens' movement demanding a voice in major decisions about urban development. The undesirable consequences of expressway construction and urban renewal were there for all to see by this time, and the movement coalesced in direct challenge to those who proposed continuing to inflict such damage on the urban fabric.[113] In 1972, the movement gained political power in the election of a reform-minded council and mayor, David Crombie, and suddenly developers and development were being questioned at every turn. Such strength did the movement gain that one of its most extreme spokesmen, Alderman John Sewell, even became mayor in 1978.[114]

In 1972, with the election of a reform-minded council, suddenly developers and development were being questioned at every turn.

112. Infrastructure Working Group, GTA 2021: *Infrastructure Requirements* (Report to the Office of the Greater Toronto Area), 1992 (IBI Collection).

113. John Sewell, *The Shape of the City: Toronto Struggles With Modern Planning* (Toronto: University of Toronto Press, 1993).

114. James Lemon, *Toronto Since 1918: An Illustrated History* (Toronto: Lorimer, 1985), 151-58.

These reformers were not, strictly speaking, anti-growth, but they were decidedly opposed to expanding the low-density, car-dependent urban form being built outside Toronto, which was, in truth, what most growth was at the time. They favoured a European-style city, to which many of them had been exposed through experience and study, of higher densities, public transit, and vibrant street life, and they found inspiration in the ideas of renegade New York urbanist Jane Jacobs, who was by this time a resident of inner-city Toronto and a colleague of the reformers. They were not alone, as their electoral support clearly shows, but spoke for a growing number of Torontonians questioning ideas that had guided the city's growth for years.

The election of the reform council in Toronto broke the pro-development consensus that had prevailed since the Second World War, and permanently altered Metro Toronto's politics. An anti-growth faction of one kind or another would, from this point on, have to be reckoned with. But, just as important, since the new reformers were rooted in the old City of Toronto, this change also introduced a sharp urban/suburban (or Toronto/Metro) split in municipal politics that would last for more than a generation.

Since the reformers were rooted in the old City of Toronto, this political change introduced a sharp urban/suburban (or Toronto/Metro) split in municipal politics that would last for more than a generation.

REFORMERS AND INFRASTRUCTURE • The movement had little effect on the construction of Metro's water and sewer infrastructure. Most of this had already been built, so there was little work to oppose, and what was being done was not controversial. A third major water treatment facility, later named the F.J. Horgan plant, was added to the system in late 1970s on the site of the old Scarborough filtration plant at the foot of Kennedy Road.[115] Water and sewer services were extended further out into the northern corners of Metro.[116] The old problem of sewer overflows during heavy rainfall was still receiving plenty of attention in the city of Toronto, and its program of separating storm and sanitary sewers, begun in the 1960s, continued through the 1970s. A large new mid-level interceptor pipe from High Park across to the main

115. James F. MacLaren Limited, "Report on Water Supply in Metropolitan Toronto," 1976, 11 (UAL).

116. See, for example, Metro Toronto Council Minutes, 1976, WCR#12, 2241-42.

sewage treatment plant at Ashbridge's Bay was built partly to help remedy this problem.[117] These projects were improving services for existing urban areas, not opening up new land, so they met little opposition from the reformers.

Providing water and sewer services outside of Metro, however, was another matter, and towards this the city reformers were not so favourably inclined. John Sewell, for instance, was reluctant to support the agreement that obliged Metro to supply water to York Region when he was an alderman in 1974, and he was a steady opponent of the YDSS after becoming mayor in 1978.[118] This resistance to further extending physical services was not just an antipathy to suburbanization. The heavy environmental price of sprawl, in agricultural land consumption and greater car dependence, underlay the reformers' position (and their public support) in those environmentally-conscious years as well.

By the mid-1970s, Metro Toronto's population had nearly stopped growing, while the outlying regions were still expanding rapidly.

Another important aspect of this, however, is that by the mid-1970s, Metro Toronto's population had nearly stopped growing. Its population had risen steadily since the Second World War, mostly on the strength of extraordinary growth in Etobicoke, North York, and Scarborough. In the 1960s, after twenty years of expansion, annual population growth rates for Metro still approached 4%. But this growth had now ended. Even in the outer municipalities, growth suddenly weakened in the 1970s as the supply of readily developable land diminished, while in Toronto and York, population was actually falling. It was in the regions beyond Metro that growth was now occurring. Population in the municipality of Etobicoke, in western Metro Toronto, grew at an average annual rate of only 1% from 1971 to 1976, while the growth rate in adjacent Peel Region, just across Etobicoke Creek, was 8.9%.[119] This would have been hard to swallow for any municipal council that had counted, for as long as anyone could remember, on rising assessments from one year to the next, but for those who favoured a more compact urban form, it was especially galling. Metro itself still had developable space, but it was

117. James F. MacLaren Limited, "Report on Water Supply in Metropolitan Toronto," 1976, 1985; R.A. Bremner, "Report on City of Toronto Sewer System," 1970, 1978 (both UAL).

118. Metro Toronto Council Minutes, 1974, WCR #49, 2385.

119. Metro Toronto, *Key Facts*, May 1995; *Report of the Royal Commission on Metropolitan Toronto* (Toronto, 1977), 20.

being overlooked in the rush to expand the outlying areas.[120]

Roads were another bone of contention. Expressways, of course, were anathema to the reformers. Their role in stopping the Spadina Expressway is legendary, but their opposition to the Scarborough Expressway – which disappeared from plans in 1974 – contributed to that project's demise as well.[121] Less well known is the opposition to Metro's plan to expand the capacity of its arterial roads. By the early 1970s, staff in the Metro Department of Roads and Traffic had come to accept that significant expressways were just not going to be built within the borders of Metro Toronto. Believing that something still had to be done to accommodate growing traffic, they developed plans to further expand Metro Roads. These plans met opposition on several fronts, and the Metro Planning Department was called upon in 1976 to review and assess the plans. The Metro planners recommended scaling down the expansions somewhat, but took a position still moderately "pro-road." Even this was too much for the City of Toronto's planning office, and staff there drew up a vehement (and largely successful) rebuttal. The city's planners were not prepared to have their sidewalks encroached upon and their curbside parking banned, all for the purpose of bringing suburbanites and their automobiles to the city centre. Streets might be little more than "traffic sewers" to Metro's engineers, but to the new urbanists they were essential public space.[122] Such was the urban/suburban split in city politics, and infrastructure, especially roads, had become contested terrain.

Not only did Toronto's reform council oppose expressways – particularly the Spadina and Scarborough expressways – it also successfully opposed expanding the capacity of Metro's arterial roads.

INFRASTRUCTURE AND REGIONAL GROWTH • In the regions, despite the views and actions of Toronto's councillors, the story of the 1970s and 1980s is one of a slow but steady expansion of infrastructure to accommodate equally steady urban growth. York and Peel regions had the highest population growth rates in the 1970s and 80s, with the strongest growth coming, interestingly enough, in years coinciding with construction of their large water and

120. City of Toronto Planning and Development Department, memo re "Development in the York-Durham Servicing Area," 19 Nov. 1979 (UAL).

121. James Lemon, *Toronto Since 1918: An Illustrated History* (Toronto: Lorimer, 1985), 151, 156; Metro Toronto Annual Reports, 1973, 24, and 1975, 27.

122. "Metro's Arterial Roads" (agenda item for 20 Feb. 1974 meeting); Metro Toronto Planning Board, "Metro's Arterial Roads: Issues and Areas for Review," Aug. 1976; Metro Toronto Planning Board, "Metro's Arterial Roads: Network and Rights of Way Recommended for Metroplan," Mar. 1977; City of Toronto Planning Board, "Arterial Roads: review of MTPB's Report ..." (all UAL); Andres Duany, Elizabeth Plater-Zyberk, and Jeff Speck, *Suburban Nation: The Rise of Sprawl and the Decline of the American Dream* (New York: North Point Press, 2000), 130.

sewer systems. The completion of the YDSS, in fact, led to rapid growth in York Region. Annual population increases there jumped from just over 4% through the 1960s and 70s to over 8% in the 1980s – higher than in any of the other outlying regions, and much higher than in Metro Toronto. For the most part, though, expansion of both the pipes and urban land use occurred gradually. The YDSS reached its intended extent at Newmarket in the north and Woodbridge in the west, and there it stopped. In Peel the only linear extension beyond Brampton was to Maple in the mid 1980s.[123] As a result, although the urban area was spreading fast, there was little non-contiguous urban development.

Central to this growth in the outlying regions was also an ambitious program of highway construction by the provincial government. After completing the expansion of expressways around Mississauga in the 1970s, the Province turned to constructing Highway 403, as planned, through its centre in the 1980s. It also built the long northward extension of Metro's Don Valley Parkway, Highway 404, along the eastern side of York Region, at a cost of more than $110 million between 1972 and 1989.[124] For these works, of course, unlike sewer and water services, there were no user charges to defray the cost. The notion that users of roads should pay for their operation, let alone their construction, had not yet become politically tenable, presumably because of the widely held belief that everyone benefited from them. This presumption was no longer acceptable to those city dwellers who eschewed long commutes and favoured public transit, but their views, although gaining ground in Metro Toronto, had little currency in provincial politics.

The completion of the York-Durham Sewer System led to rapid growth in York Region in the 1980s. For the most part, however, expansion of both the pipes and urban land use occurred gradually and there was little leapfrog development.

FIG 13 | DETAIL. FOR FULL MAP **CLICK HERE**

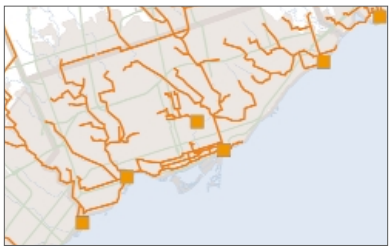


FIG 14 | DETAIL. FOR FULL MAP **CLICK HERE**

PRESENT-DAY CONCERNS • The region entered the 1990s with a water and sewer infrastructure that was adequate, but not appreciably different from what it had been ten or twenty years before (see Figures 13 and 14). And as growth picked up in the second half of the decade, and development pressure increased along

123. Regional Municipality of Peel, Official Plan, Oct. 1988.

124. Ontario Department of Transportation and Communications, Annual Reports (UTL-GP).

the northern urban fringe, planners and politicians began to see that substantial increases in physical infrastructure of all kinds – roads and transit, as well as water and sewer systems – would soon be required.

The need was unmistakable.[125] New developments were being proposed for northern Durham and Halton, all of which were going to require, like in Peel before them, access to lake-based water and sewer services. Development pressure had become so strong, and water and sewer services so limited, that wherever services were provided, development immediately followed; development truly had begun to follow the pipe. The commutershed of the region had grown larger than ever, with significant Toronto-related residential development occurring nearly 100 kilometres away in places such as Guelph and Barrie and beyond; the regional transportation system needed both thorough rethinking and expansion. Plans were emerging for extending the YDSS east and west of the Yonge corridor, in some cases into areas not designated for urban use, raising the possibility, for the first time, of extensive non-contiguous development – true, unmitigated sprawl.[126] The YDSS had reached its limits, and required major increases of capacity, while the Metro water and sewer systems built in the 1950s were reaching both the end of their useful life and the limits of their capacity. All in all, an enormous infrastructure job stood waiting to be tackled, its huge scale and scope comparable to what the Toronto region had faced fifty years earlier. History was repeating itself.

Yet the old solutions would not do. Anti-growth and anti-sprawl ideas born in the early 1970s lived on, meaning that massive extensions of physical services usually elicited sharp protest from an untrusting public, in stark contrast to the consensus on infrastructure building in the Metro years. Opposition to infrastructure was especially strong in areas where a semi-rural way of life had prevailed for generations, and as urbanization moved farther north it intruded into such areas more and more often.

In Durham, Halton and York regions, development pressure in the 1990s was so strong, and water and sewer services were so limited, that wherever services were provided, development immediately followed – development truly had begun to follow the pipe.

125. Infrastructure Working Group, GTA 2021: *Infrastructure Requirements* (Report to the Office of the Greater Toronto Area), 1992 (IBI Collection).

126. Pamela M. Blais, *Inching Toward Sustainability: The Evolving Urban Structure of the GTA* (Toronto: Neptis Foundation, 2000), 9; perhaps with the exception of Bramalea in the 1960s.

Unlike the 1970s, the province was in the hands of an openly non-interventionist government: reluctant to impose planning controls, disinclined to tax for the public good, and wary of public borrowing.[127] The confident, decisive interventions and plans of the Frost and Robarts regimes were a distant memory. Politically, the region was as fragmented as the original metropolitan area had been before Metro's creation, with no single administrative body to develop regional infrastructure plans; nor was there any sign of such a body on the horizon. The region was evidently going to need new solutions to its old problems. Although some were being tried – such as drawing private investment into public works – they were meeting with little success.[128]

Unlike the 1970s, the province in the 1990s was in the hands of an openly non-interventionist government: reluctant to impose planning controls, disinclined to tax for the public good, and wary of public borrowing.

127. Almos Tassonyi, "Financing Municipal Infrastructure in Canada's City-Regions" in *Urban Governance and Finance: A Question of Who Does What,* Paul A.R. Hobson and France St-Hilaire, eds. (Montreal: Institute for Research in Public Policy, 1997), 171-204, covers some of these financial matters.

128. See John Ibbitson, "Harris's SuperBuild a Financial SuperBust," *Globe and Mail*, 1 June 2001.

VI. Observations and Conclusions

The first, and most important, point to explore in concluding this study is the link between urban infrastructure and urban growth. The subject has been broached, and the conclusions suggested, several times, but it deserves a final summary and explanation.

INFRASTRUCTURE AND URBAN GROWTH • First, concerning water and sewer services, urban development in the Toronto region over the last fifty years has not, strictly speaking, "followed the pipe." All of the major sewer and water systems, even the initial YDSS, were built in response to development already under way. As Allan Patterson, Metro's Assistant Commissioner of Works in the 1970s, recalls it, "I never built a water main that wasn't a year late."[129] Of course once the pipes were in place, or in some cases even while they were under construction, additional urban development quickly filled the serviced area – in which case development did follow the pipe in a sense, but only after services were installed to serve an existing need. This distinction between the initial and the follow-up phases might appear to be hairsplitting, but in it lies the key to understanding the pattern of causation. The fact that servicing was usually done in response to existing needs also suggests that the decision to service was not an unconsidered one, but was part of the overall planning and development process. Nor was the decision simply the result of particular landowners or developers seeking to enhance the value of their undeveloped lands; in fact, in the few cases where developers sought services beyond the accepted limits of urbanization, such as the West Credit lands or Bramalea, they met long delays.

The major sewer and water systems in the GTA, even the initial York-Durham Sewer System, were built in response to development already under way. Allan Patterson, Metro's Assistant Commissioner of Waterworks in the 1970s, says, "I never built a water main that wasn't a year late."

Furthermore, the provision of water and sewer services has not, on its own, had the power to prompt development. Since services were usually built in response to need, there are few examples of unused water and sewer capacity, but there are some. The best known is in Durham Region, where a vast sewage capacity, in place since 1980, has gone unused, despite the wishes of provin-

129. Patterson interview.

cial planners who sought to promote Toronto's eastward expansion. Original plans for the YDSS called for the capacity to be about equally shared between York and Durham Regions, but by the mid-1990s York was providing over 80% of the flow into the system.[130] There are several reasons why development did not occur in Durham, but they need not be explored here; the point simply is that the pipes, on their own, were not enough to prompt development.

A lesser-known case is in the Regional Municipality of Haldimand-Norfolk, southwest of Hamilton. As part of a grand scheme to industrialize and urbanize the north shore of Lake Erie in the early 1970s, the Province built a water treatment plant with a large potential capacity. The entire plan, including the new community of Townsend on a site west of the junction of provincial Highways 3 and 6, came to little, and the water treatment plant's capacity remains, to this day, undeveloped and unused.[131] Development in the Toronto Region has occurred, historically, where the market demanded it and water and sewer infrastructure permitted it.

The region's large roads, like its pipes, have generally been built as part of the development process, not ahead of development to non-contiguous areas.

Much the same thing could also be said about roads. This study has not examined roads as closely as pipes, but the connection between them and urban development is undeniable, from the very early years of Metro through to the construction of provincial expressways in the outlying areas in the 1980s. One is tempted to say that roads, especially high-capacity, high-speed roads, are an even stronger determinant of urban growth; there appear to be no major roads in the region that have not attracted further development, although without additional research one can not be categorical about this. It appears, however, that roads have had a more complex effect on land use than have underground pipes: they created a roadside for which certain industrial and commercial land uses were best suited, and these uses then impeded the development of other urban activities. A meaningful analysis of this pattern would seem to be a job for a specialist.

130. Shrimpton interview.

131. Patterson interview.

But it is worth noting that the region's large roads, like its pipes, have generally been built as part of the development process, not ahead of development to non-contiguous areas.

Toronto has also experienced another important phenomenon not dealt with in this study – development following the transit infrastructure. Perhaps more than for any other form of infrastructure, however, circumstances have to be propitious for transit lines to induce development. The minimal development along the eastern end of the city's east-west subway line testifies to this fact. Beyond Toronto, there is little indication of transit infrastructure affecting land use; the so-called "nodes" of development, where they exist at all, tend to be more closely tied to highways than to transit infrastructure. Once again, however, a more thorough study would be needed to draw definitive conclusions.

One final observation can perhaps make a contribution to the current debate in York Region about servicing land on the Oak Ridges Moraine in King Township – is it possible to obtain the environmental advantages of big pipes while at the same time maintain a low-density, semi-rural lifestyle? The historical record reveals, unequivocally, that *where development pressure was strong*, full urbanization has indeed followed the pipe, an observation that will give little comfort to those in rapidly urbanizing areas who want big-pipe services but small-town life.

The historical record reveals, unequivocally, that where development pressure was strong, full urbanization has indeed followed the pipe.

At the same time, however, one must note that such a compromise arrangement has never really been tried. Since big pipes have always been built as part of the overall development process, they have never been laid in areas where intensive urban development was not planned and expected. But such a thing, presumably, could occur. Some council or planning authority could agree to build large-scale services and then refuse to permit further development. If they did, two consequences would undoubtedly follow: high per-capita user charges, and a relentless demand for further development, both of which would make continuation of the development restriction unlikely as long as municipal author-

ities are elected by local property owners. But it is important to recognize that, although big pipes have nearly always been followed by urban development in the Toronto region, it need not be so if ratepayers and municipal authorities are prepared to pay the price.

Have large-capacity water and sewer services prompted too much growth, too soon?

LAND USE AND PIPE CAPACITY • The pipes themselves are one thing, but what of their capacity and its effect? In the early 1970s, when the YDSS was still being conceived, the staff of the Metro Toronto Planning Board astutely observed that an expensive, large-capacity pipe could well become a prescription for accelerating population growth, since per capita charges would be lowered by increasing the population served.[132] Building a pipe with a capacity that will not be reached for thirty or more years obviously makes good financial sense – rebuilding or twinning long trunk sewers is not something municipalities want to do after only ten years – but has this logic prompted *too much* growth, too soon?

This phenomenon was observed and well analyzed by a group of U.S. environmental engineers in the early 1970s. They concluded that, in the U.S. cities they studied, large trunk sewers built into suburban areas had indeed encouraged sprawl, and thus might have harmed the environment as much as helped it, insofar as sprawl is environmentally damaging. The grand population projections on which the sewers had been designed, although intended to ensure that sewers would remain adequate for many years, were in fact turning out to be self-fulfilling.[133] These authors recommended that planners call for smaller pipes, based on more modest population projections, arguing that the engineering consequences would not be as dire as many assumed.[134]

Judging by the sudden and rapid expansion of York Region after the completion of the YDSS, some process of this sort seems to have been at work. Yet one must keep in mind two important points. One is that although the big pipes permitted growth in

132. York Region used this argument in opposition to the low population targets set for it by the Province in the Toronto-Centred Region Plan, claiming that, by limiting population growth in York, the Province was condemning it to years of either subsidized or overpriced services, and that only by removing the population constraints could the Province reduce the need for subsidies; "Submission by the Regional Municipality of York on the Toronto-Centred Region Concept," Mar. 1972 (private collection), 106-11; Metro Toronto Planning Board Minutes, 10 Dec. 1969 (CTA).

133. Clark Binkley et al., *Interceptor Sewers and Urban Sprawl* (Lexington, Mass., Toronto, and London: D.C. Heath, 1975), 82.

134. Richard D. Tabors et al., *Land Use and the Pipe: Planning for Sewage* (Lexington, Mass., and Toronto: D.C. Heath, 1976), 83-85.

the outer regions to eclipse growth in Toronto in the 1970s and 80s, the inner city's population did not decline sharply. The region did not experience the notorious emptying-out of the inner city that many U.S. cities did at the time – whether caused by the pipe or not – so the phenomenon studied by the U.S. engineers was not identical to what occurred in the Toronto region.

Second, one can question whether the pipes dictated the built form in the area they serviced. What most contemporary urbanists find unsatisfactory about growth on the urban fringe is its low density, not the growth per se. Have high-capacity pipes caused low-density growth? Probably not. The main trunk sewer and the treatment plant of the YDSS needed the same capacity whether the million people they served were living on ten or one hundred square kilometres. The built form of the suburbs resulted from other decisions.[135] So all in all, although the large capacity of the YDSS clearly *permitted* rapid growth in York Region, it would be going too far to say that it caused urban sprawl.

Since pipes just permitted rather than caused urban growth, prohibiting their construction has not alleviated growth pressures.

If sewage capacity permits urban expansion, can expansion be controlled by restricting sewage capacity? This has become an appealing tactic for contemporary opponents of urban sprawl, but those who have examined the approach have found it largely unsuccessful. The authors of the U.S. study noted that restricting capacity did not always succeed in channeling development into already-serviced areas, and that it led, in some cases, to greater septic tank use.[136] Some U.S. urbanists have recently argued quite explicitly against such a policy, suggesting that this type of development control prompted "septic-tank sprawl" and, furthermore, that it advanced "income-based segregation," since septic tank developments are suitable only for low-density development on large, costly lots.[137] The historical record in the Toronto region reveals similarly ineffective outcomes. Where and when sewer services were least available – North York in the late 1950s, south Peel in the mid-1960s, and York Region in the mid-1970s – development was by no means successfully controlled. Since

135. See Jane Jacobs, *The Death and Life of Great American Cities*, 310.

136. Richard D. Tabors et al., *Land Use and the Pipe: Planning for Sewage* (Lexington, Mass., and Toronto: D.C. Heath, 1976), 116-18.

137. Andres Duany, Elizabeth Plater-Zyberk, and Jeff Speck, *Suburban Nation: The Rise of Sprawl and the Decline of the American Dream* (New York: North Point Press, 2000), 128.

pipes just permitted rather than caused urban growth, prohibiting their construction has not alleviated growth pressures.

FINANCING INFRASTRUCTURE • The money to build the Toronto region's infrastructure over the last fifty years has come from a variety of sources. Metro Toronto's water and sewer systems were built in the 1950s and 60s largely with capital borrowed in private money markets by Metro itself – an important but often overlooked fact. Land developers contributed to the cost of some sewers, as did the federal and provincial governments beginning in the late 1960s, but the Metro corporation carried the main financial burden. For Metro's roads, the capital costs were shared about equally between Metro and the Province of Ontario. "Equally" might understate the latter's contribution, because the Province built, at the same time and entirely at its own expense, the Highway 401 expressway on what was then the northern outskirts of the city, and contributed to the cost of interchanges with and bridges over that superhighway.[138]

Outside Metro Toronto, beginning in the late 1960s, the Province of Ontario was the main source of funds for infrastructure. Towns and townships had, in some cases, built their own small-scale services at an earlier time, but the consolidation and vast expansion of the systems was done at provincial expense. The regions, however, owned the systems and were required, under various arrangements, to pay the Province the cost of servicing the project's capital.

The Province played an essential, and quite justified, financial role in funding infrastructure developments outside Toronto.

The essential, and probably quite justified, financial role of the Province of Ontario outside Toronto deserves underlining. Though infrastructure was "urban," it was not "municipal" in the sense of being only a local concern. The provision of water, the conveyance and treatment of sewage, and the construction of roads always touched more than a single municipality, and the cost of properly and safely providing these services was far beyond the capacity of individual municipalities and their property tax base. Only by

138. Metro Roads, Biennial Reports, various years (UAL).

drawing upon higher level governments, with their large tax revenues (some of which, of course, came from the region's residents), could such services be financed. Metro Toronto was the only municipality that carried a big share of its infrastructure cost, but Metro was not a true single municipality. It was a federation of smaller municipalities created, by the Province, for the purpose of pooling financial resources.

A FINAL OBSERVATION • One critical, but entirely unexpected, point that emerges from this study is how sharply the years covered can be divided into two periods – before and after the early 1970s. Most of the changes that separate the periods have been mentioned, but they deserve repeating. Placed together, they make a formidable list: the breakdown of political and social consensus favouring growth, the end of Toronto's rapid population increase, the decline of deference toward professional planners and engineers, the rise of heavy social demands on public finances, the formation of regional municipalities with competing interests, the abandonment of regional planning by the Province. All these events and trends took place between the late 1960s and early 1970, leaving behind an entirely new terrain.

Building and managing the region's infrastructure to serve the broad public interest was much easier before, say, 1973 than in the twenty-five years since.

Today, most of these changes are lamented. The "Metro years," as they are called, have come to be viewed as something of a golden age of municipal affairs, and the years that followed, with their fragmented municipal jurisdictions and near absence of overall regional planning, as something quite base. While there might be an element of nostalgia in this view – surely not *all* aspects of those years would be palatable to today's urbanists – it is not hard to justify in the realm of infrastructure construction and management. One need only peruse the complex terms under which sewage is permitted to cross municipal boundaries to be awakened to the embarrassingly large administrative effort needed to work in a politically fragmented environment. The fact is that building and managing the region's infrastructure to serve

the broad public interest was much easier before, say, 1973 than in the twenty-five years since. It is no wonder the region is still operating with infrastructure built in that golden age.

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