File Nos. CI17-01-05956
CI17-01-05957
CI17-01-05958

THE QUEEN'S BENCH
<u>WINNIPEG CENTRE</u>

IN THE MATTER OF: **City of Winnipeg By-law 127/2016, as amended and passed on October 26, 2016, *The City of Winnipeg Charter* S.M. 2002, c. 39 and subsections 92(2) and (9) of the *Constitution Act, 1867***

BETWEEN:

LADCO COMPANY LIMITED.,

applicant,

\- and -

THE CITY OF WINNIPEG,

respondent.

THE QUEEN'S BENCH
<u>WINNIPEG CENTRE</u>

IN THE MATTER OF: **The City of Winnipeg Charter Act, City of Winnipeg By-law 127/2016 and Section 92(2) of the Constitution Act 1867**

BETWEEN:

RIDGEWOOD WEST LAND CORP.,
and SAGE CREEK DEVELOPMENT CORPORATION

applicants,

\- and -

THE CITY OF WINNIPEG,

respondent.

THE QUEEN'S BENCH
WINNIPEG CENTRE

IN THE MATTER OF: **The City of Winnipeg Charter Act, City of Winnipeg By-law 127/2016 and Section 92(2) of the Constitution Act 1867**

BETWEEN:

URBAN DEVELOPMENT INSTITUTE (MANITOBA DIVISION) and MANITOBA HOME BUILDERS' ASSOCIATION INC.,

applicants,

- and –

THE CITY OF WINNIPEG,

respondent.

AFFIDAVIT OF JOHN HUGHES
AFFIRMED THE 13th DAY OF MARCH, 2019

KRISTA L. BORYSKAVICH
Director of Legal Services and City Solicitor
3rd Floor, 185 King Street
Winnipeg, Manitoba R3B 1J1

DEREK M. OLSON
Telephone: 986-2285
Facsimile: 947-9155

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applicants,

- and –

THE CITY OF WINNIPEG,

respondent.

AFFIDAVIT OF JOHN HUGHES

I, JOHN HUGHES, of the City of Toronto, in the Province of Ontario,

MAKE OATH AND SAY AS FOLLOWS:

QUALIFICATIONS

1. I am a founding partner at Hemson Consulting Ltd. **("Hemson")**, and a municipal finance expert. I am a Fellow of the Royal Institution of Chartered Surveyors **("RICS")** and was the Global President of the organization in 2018. RICS is a global professional body that sets and regulates international standards in the valuation, management and development of land, real

estate, construction and infrastructure. It accredits over 130,000 qualified and trainee professionals. My curriculum vitae is attached as **Exhibit "A"**.

2. I have close to 50 years of professional experience in real-estate valuation, property taxation, municipal finance policy, municipal governance, and real estate feasibility studies.

OVERVIEW

3. In July 2016 I was retained by The City of Winnipeg **("Winnipeg" or the "City")** to provide consulting service regarding mechanisms and regulatory fees for financing growth. This assignment **(the "Assignment")** involved an examination of Winnipeg's growth-related costs and revenues, the calculation of potential fees to be utilized in a revised growth financing framework, and the preparation of two reports and presentations.

4. In the course of undertaking the Assignment:

   (a) I attended two in-person meetings in Winnipeg: a kick-off meeting on June 6, 2016 and a Council Education Session on September 1, 2016;

   (b) I led two stakeholder discussion sessions in Winnipeg on July 19, 2016 and August 18, 2016; and

(c) I directed the research and analysis that my firm undertook in order to prepare two reports: the Review of Municipal Growth Financing Mechanisms report **(the "First Report")**, which is attached hereto and marked as **Exhibit "B"**, and the Determination of Regulatory Fees to Finance Growth: Technical Report **(the "Second Report")**, which is attached hereto as **Exhibit "C"**, both dated August 31, 2016.

5. In addition, senior staff at my firm had extensive meetings with City staff, including City Economist Tyler Markowsky, to determine appropriate amounts to be attributed to growth in respect of the costs of the projects listed in the Second Report. I have spoken with these staff members concerning these meetings.

6. I have reviewed seven affidavits:

(a) The Affidavit of Alan Borger, sworn February 27th, 2018 **(the "Borger Affidavit")**;

(b) The Affidavit of Eric Vogan, affirmed November 29th, 2017 **(the "First Vogan Affidavit")**;

(c) The Affidavit of Ken Braun, affirmed April 12th, 2018 **(the "Braun Affidavit")**;

(d) The Affidavit of Michael Carruthers, sworn April 11th, 2018 **(the "Carruthers Affidavit")**;

(e) The Affidavit of Tony Balaz, affirmed April 12th, 2018 **(the "Balaz Affidavit")**;

(f) The Affidavit of Eric Vogan, affirmed December 1st, 2018 **(the "Second Vogan Affidavit")**; and

(g) The Affidavit of Mike Moore, sworn November 28th, 2017 **(the "Moore Affidavit")**

(collectively, the "Affidavits").

HEMSON'S BACKGROUND AND EXPERIENCE

7. Hemson was established in 1983, has offices in Toronto and operates throughout Canada. Hemson provides public policy advice in the areas of municipal finance, development planning, demographic and economic forecasting, and real estate valuation. Hemson's staff includes finance professionals, planners, demographers, real estate specialists and economists.

8. The following lists Hemson's specific areas of expertise regarding municipal finance:

(a) Cost Recovery Fees and Charges;

(b) Utility Rates;

(c) Financial Incentives;

(d) Fiscal Impact Analysis;

(e) Long Range Financial Plans; and

(f) Asset Management Plans.

9. Hemson has completed over 250 growth related infrastructure financing studies for a range of municipalities including many of the largest cities in Canada. The model used to calculate the regulatory fees for Winnipeg is extremely robust and has been subject to extensive judicial scrutiny.

HEMSON'S ROLE IN THE DEVELOPMENT OF WINNIPEG'S IMPACT FEE

10. The First Report examines growth financing mechanisms and contains three main sections:

   1. An overview of Winnipeg's then current context as it relates to growth and funding practices. In particular, it considers the extent to which new development (growth) funds the associated municipal infrastructure servicing requirements, and addresses the question: does growth pay for growth in Winnipeg?

   2. A review of the key guiding principles that underlie the question of who should pay for the costs that arise from growth and a summary of approaches used by Canadian municipalities to allocate the costs of growth among residents.

3. An examination of regulatory fees (also known as legislative charges) as a funding mechanism. The section also provides a comparison of how they are employed by 13 Canadian municipalities to fund city-wide costs associated with development.

11. Importantly, the purpose of the First Report was to provide information to Council regarding the financing of new infrastructure to meet the needs of growth; not to provide recommendations as to which particular approach the City should follow.

12. The Second Report sets out the method, information and analysis that was used to calculate the amount of potential regulatory fees to pay for infrastructure needed to meet the service demands of growth anticipated to occur in Winnipeg up to 2041.

13. In addition to the Introduction, the Second Report contains five main sections:

(a) Section II identifies the growth-related costs for which the regulatory fees are proposed. It also briefly reviews the methodology that was used in the study.

(b) Section III presents a summary of the forecast of residential and non-residential development that was expected to occur within the City over three planning periods: from 2017 to 2026, from 2017 to 2031, and a longer-term planning period from 2017 to 2041.

(c) Section IV summarizes the development-related capital forecast that was developed by the City

(d) Section V summarizes the calculation of applicable regulatory fees for each type of development based on the percentage of various expenditures that could be reasonably attributed to growth.

(e) Section VI provides a discussion of implementation considerations and recommendations, including by-law administration.

While the study framework, process and analysis was undertaken by Hemson, Hemson relied on City staff for population and employment forecasts, development-related capital project information, data concerning the City's infrastructure deficit and similar information.

RESPONSES TO ISSUES RAISED REGARDING THE MUNICIPAL GROWTH FINANCING MECHANISMS REPORT (THE FIRST REPORT)

14. In response to paragraphs 56 to 61 of the Borger Affidavit, Section II of the First Report cited therein should be read as a whole and individual paragraphs should not be read in isolation.

15. The purpose of Section II of the First Report, as stated on page 8 thereof, was to describe "Winnipeg's current growth context including population and household growth trends and forecasts, relevant plans and policies and current development funding practices". Hemson's intent was to provide a factual, high-level synopsis of the City's approach to the provision and financing of municipal services with an emphasis on growth and infrastructure aspects, rather than argue for or against, or recommend, a particular approach.

16. In further response to paragraph 58 of the Borger Affidavit, the First Report points out that there are three costs associated with growth: first round capital infrastructure costs, annual operating costs and costs of periodic infrastructure replacement. By "first round capital infrastructure costs", the First Report refers to all of the initial infrastructure costs required to accommodate new developments, including off-site infrastructure.

17. Section II, Part C.1 of the First Report refers to two meanings of the phrase "growth pays for growth".

18. The first meaning **(the "First Meaning")** describes a broad municipal finance framework and practice under which, as growth occurs, sufficient revenues are raised through utility rates and municipal taxation to pay for the first round capital infrastructure costs, the annual operating costs and the costs of periodic infrastructure replacement without any impact on tax and utility rates. The second and narrower meaning **(the "Second Meaning")** of the term "growth pays for growth" referred to in Section II Part C.1of the First Report is the concept of new development paying for first round capital infrastructure attributable to growth.

19. Prior to implementation of the Impact Fee, growth was not paying for the costs of first round capital infrastructure because fees or charges are not being imposed to defray the costs of off-site infrastructure necessitated by that growth. In other words, growth in Winnipeg was not paying for all the costs associated with growth under the second, narrower meaning of that phrase.

20. In Winnipeg, prior to the implementation of the Impact Fee, as is shown of Page 6 and 7 of the First Report, capital budgets had not kept up with the growth needs of the city. The key point of Section II, Part C.1, of the First Report is that the City's current

financial framework, primarily using property tax and utility fee revenues, did not generate sufficient revenue to pay for the costs associated with growth.

21. In order to remedy this situation, in the absence of a regulatory fee, property tax and utility rates would have to increase, which would affect all rate payers, not just those who benefit from new growth. In other words, growth is not paying for growth because of the City's financing structure and practices. The "infrastructure deficit" is a consequence of this, not the cause.

22. In response to numerous statements in the Affidavits that point to various studies, including a 2005 Hemson Report, that conclude that individual developments are a net benefit to the City, and conclude that growth does in fact pay for growth, it is entirely possible that the costs directly or indirectly attributed to particular developments are lower than the revenue generated by that particular subdivision – so long as property tax revenues are included within that revenue. This is what is referred to in the statement in the 2005 Hemson report (quoted in the Second Vogan Affidavit at paragraph 46) which states: "We estimate that the costs of growth related infrastructure and the additional operating cost associated with projected growth could be more than covered by the additional assessment from new development".

23. The inclusion of property taxes from new developments to argue that individual developments more than pay for the infrastructure costs necessary to accommodate those developments is found in many of the Affidavits. In particular, the First Vogan Affidavit paragraph 127, and Second Vogan Affidavit paragraphs 81 and 85 argue that the taxes paid by higher-value properties in new developments justify and pay for the costs incurred by the City in accommodating these developments.

24. Including property taxes paid by properties within the calculation of the costs and benefits of new development may be a valid policy choice or political strategy. However, several things need to be recognized.

25. Including revenue from property taxes in determining whether new development is beneficial ignores or discounts the fact that there are innumerable costs associated with a functioning city that cannot be reasonably connected to a particular subdivision or neighbourhood. In general, cities in Canada have chosen to have these city-wide costs paid by property taxes imposed on the basis of the value of the property – and this is generally accepted as reasonable and fair. In addition, municipal policy-makers in Canada have overwhelmingly concluded that numerous capital projects and operating expenses should be paid for out of property tax revenue generally rather than recovering the costs through fees. This policy choice can be justified on the rationale

that it better apportions some costs on the basis of an ability to pay. To the extent that property taxes paid by all property owners in a city are expected to contribute to the common good, it is not possible to consider each neighbourhood or subdivision as if it were a separate municipal entity, unconnected to the rest of the city.

26. In addition, it is noteworthy that almost all other cities in Canada have imposed regulatory fees of some sort on new development – whether these are called development cost charges, impact fees, growth fees, or some other name. In doing so, they have drawn the conclusion that it is reasonable that at least some of the infrastructure costs associated with new development should not be paid by city taxpayers generally but should be borne by developers, builders and ultimately residents and businesses who directly benefit from the new development.

27. In further response to paragraph 58 of the Borger Affidavit, it is true that some cities experience infrastructure deficits even though they have regulatory fees in place. There are a number of possible reasons for this, including regulatory fees that are not set at an amount to fully recover the costs associated with growth. In other instances, such deficits represent overdue replacements of existing infrastructure rather than new infrastructure needed to service growth.

28. In further response to paragraph 58 of the Borger Affidavit, Hemson relied on information from City staff regarding capital project details in order to assess the City's need for new infrastructure. The First Report acknowledges that some infrastructure is being built, but that overall it is not keeping up with growth needs.

29. In further response to paragraph 58 of the Borger Affidavit, paragraph 129 of the First Vogan Affidavit and paragraph 10 of the Carruthers Affidavit, while the scope of the Assignment included a review of cost benefit studies conducted by the City, it did not include the review or evaluation of third party studies completed in respect of any specific areas or developments. This is because the purpose of the Assignment was to examine the costs associated with growth to the City as a whole, and not to look at any specific development in isolation. For this reason, not including or evaluating third party studies completed in respect of any specific development does not affect the conclusions of the Reports.

30. In response to paragraph 62 of the Borger Affidavit, Appendix A of the First Report contains a comparison of growth financing mechanisms for 11 municipalities across Canada and 3 municipalities in Manitoba. While all municipalities tend to have some unique features in their funding mechanisms, overall the similarities are far greater than the differences. The structural

characteristics in Winnipeg of growth, urban form and municipal services are similar to other Canadian cities where regulatory fees are being used to pay the costs associated with growth, which justifies comparing Winnipeg to these other cities.

RESPONSES TO ISSUES RAISED REGARDING THE DETERMINATION OF REGULATORY FEES TO FINANCE GROWTH: TECHNICAL REPORT (THE SECOND REPORT)

31. In response to paragraphs 65 to 69 of the Borger Affidavit and 53 to 57 of the First Vogan Affidavit, the Second Report describes calculations which would be used to determine the amount of regulatory fees if the City were to introduce regulatory fees on growth as part of its municipal financing framework.

32. At its most basic, the process of attributing a portion of the cost of an infrastructure project to growth, as described in the Second Report, involves the following steps:

(a) Identify the gross estimated or known costs of a project;

(b) Deduct estimated or known contributions from other governments or private sector (through development agreements or otherwise);

(c) Deduct the portion of the remaining project costs that are ineligible as replacement cost of existing infrastructure; and

(d) Deduct the portion of the remaining project costs that benefits existing (prior) growth;

The result is the portion of the project that can reasonably be attributed to growth in general terms.

33. Although it is simple in theory, this process is complicated in practice in part because attributions of infrastructure costs to growth need to take into account time frames during which growth will occur, the types of development expected and expected rates of usage of different types of development. Senior staff from my firm worked with City staff in applying this approach/model to determine the percentage of the costs of all the projects listed in the Second Report that could reasonably be attributed to new development (i.e. growth).

34. The projects set out in the Second Report involved nine City service areas. Regulatory fees were calculated on a per square metre basis for five categories of development: residential, office, institutional, commercial/retail and industrial. City staff also provided estimates of anticipated Federal and Provincial grants that would reduce the amounts to be paid for by new development as well as information concerning the extent to which the project costs had been or would be paid by developers through development agreements or otherwise.

35. A forecast of population, employment and development anticipated up to 2041 was used in the calculations to apply this model. A forecast of development-related capital projects was also established from information provided by City staff. These projects were grouped into three benefitting periods, 10, 15 and 25 years, to reflect the amount of development each project could service.

36. The approach employed by both City staff and the senior staff from my firm uses the same kind of data and principles used in jurisdictions such as British Columbia, Alberta and Ontario. This includes factors such as the relative proximity of infrastructure projects to areas of new or anticipated growth, the type of new development and its expected use of the new infrastructure project.

37. I note that in the documents attached to the First Vogan Affidavit as examples of superior legislative models for determining the attribution of infrastructure to new developments themselves use terms like "suggestions" and "rules of thumb". There is no single formula that can be used to precisely attribute percentages of the costs of projects to growth but there are principles and guidelines that are widely used in Canada. These principles and guidelines were used by Hemson senior staff and City staff in attributing project costs to growth.

38. The forecasts used in the Second Report are projections and can be mistaken. As noted at page 651 of the Development Cost Charge Best Practice Guide for British Columbia attached as **Exhibit "O"** of the First Vogan Affidavit, "It is acknowledged that the allocation of benefit may be difficult to quantify, especially if projects are being proposed for construction in ten or twenty years." It is for this reason that the Second Report recommends that forecasts should be re-examined and revised as necessary every 3 to 5 years.

39. Having spoken with my senior staff, I am confident that senior staff from my firm, in conducting this work, followed the approach that my firm has developed that is consistent with practices followed in municipalities across Canada and has withstood legal challenges elsewhere.

40. In response to paragraphs 66 to 68 of the Borger Affidavit, if the forecasts which Hemson's analysis relied on prove to be unrealistically high, this will not in fact result in new development paying "more than their fair share of the costs associated with new development or growth". If growth is not as strong as anticipated, the size and number of the infrastructure projects needed to accommodate growth will also be lower. This will reduce the costs associated with growth. However, even if the size and number of infrastructure projects is not reduced

sufficiently, this will not change the amount of the Impact Fee imposed on a particular building. Unless the fee value changes, a slower rate of growth will also reduce the total amount of Impact Fees collected because fewer buildings will be constructed. As a result, the proportionate share of these projects that is paid by revenue from Impact Fees will remain the same. Moreover, as noted earlier, in acknowledgement of the uncertainty in long-run forecasting of both population and capital projects, including their costs, these are commonly revisited and adjusted every 3 to 5 years.

41. In response to paragraphs 70 to 77 of the Borger Affidavit, paragraph 68 of the First Vogan Affidavit and paragraph 54 of the Second Vogan Affidavit, it is appropriate to include in the calculation of the proposed amount of the Impact Fee a percentage of existing infrastructure projects, if these projects have unused capacity that is available to be used by new development. It is also appropriate to include in that calculation projects that extend beyond the City limits so long as the amount attributed to growth is based on the City's share of the costs of the project and the attribution has been made fairly according to the model described elsewhere in my affidavit.

42. In response to paragraph 72 to 74 and 78 and other references in the Borger Affidavit, as well as paragraph 61 and other references in the Moore Affidavit, the regulatory fees proposed in the Second

Report are calculated and intended to be applied on a city-wide basis and not in respect of particular projects or services benefitting specific developments. This is an approach commonly adopted by municipalities across Canada.

43. In response to paragraphs 75 to 77 of the Borger Affidavit and paragraph 86 of the First Vogan Affidavit, the rationale for including sewer and water projects in the calculation of a regulatory fee is that, while a proportion of the benefits from such projects accrue to existing development, new development will also derive benefit and therefore should contribute to the cost.

44. In reply to the First Vogan Affidavit, paragraphs 80 – 87, which points out that a Hemson report for Saskatoon in 2015 commented that Winnipeg could not impose regulatory fees,
I am not a lawyer, and this was not a legal opinion.

45. I make this affidavit *bona fide*.

AFFIRMED BEFORE ME at the City of Toronto this 13th day of March, 2019	)))	
Notary Public in and for the Province of Ontario.		JOHN HUGHES

This is **Exhibit "A"** referred to in the Affidavit of John Hughes sworn before me this 13th day of March, 2019.

____

A Notary Public in and for the Province of Ontario.

JOHN HUGHES

Current Position:	Partner, Hemson Consulting Ltd.
Professional Experience:	49 years
Education:	College of Estate Management, University of London. Qualified as a Chartered Surveyor.
Qualification:	Fellow of the Royal Institution of Chartered Surveyors.

SUMMARY OF POSITIONS HELD AND OTHER ACTIVITIES

Hemson Consulting Ltd.
Founding Partner

Partner-in-charge of the real estate practice. Responsible for managing and undertaking a broad range of assignments including municipal finance and taxation analyses, economic development strategies, municipal management and governance studies, valuations and, market and feasibility studies.
1983 – Present

Currie Cooper & Lybrand
Strategic Planning Group
Manager

Undertaking management consulting assignments involving issues such as investment and lending decisions, debt restructuring and insolvencies, government program reviews, and property tax advice
1979 – 1983

Smith Donkin & Associates
Vice President

Preparation of appraisals of all types of real estate for assessment and other purposes. Presenting appraisal evidence regarding property assessments before various courts and tribunals.
1976 - 1979

Commonwealth Holiday Inns of Canada
Manager
Property Tax & Risk Management Department

Reviewing hotel assessments and negotiating appeal settlements. Preparation and presentation of appraisal evidence regarding property assessments before various courts and tribunals across Canada.
1975 - 1976

Ontario Ministry of Revenue
Manager, Commercial Task Force
Field Operations Branch
Assessment Division

Training field staff. Preparation and presentation of appraisal evidence before the Assessment Review Board and the Ontario Municipal Board.
1972 - 1975

Ontario Department of Municipal Affairs
Standards Officer
Assessment Standards Branch
Assessment Division

Development of valuation methods and processes for mass appraisal purposes.
1970 - 1972

OTHER ACTIVITIES

Royal Institution of Chartered Surveyors
Global President, 2017-2018
Member, Global Governing Council
Chair, RICS Americas

This is **Exhibit "B"** referred to in the

Affidavit of John Hughes sworn

before me this 13th day of March, 2019.

____

A Notary Public in and for the Province of

Ontario.

REVIEW OF MUNICIPAL GROWTH FINANCING MECHANISMS

City of Winnipeg

Report for Council Consideration

HEMSON Consulting Ltd.

August 31, 2016

TABLE OF CONTENTS

I INTRODUCTION

For many years the City of Winnipeg experienced relatively modest rates of growth and was able to absorb the added demands placed on infrastructure and annual operations without the need to change the way in which it funded and financed the additional needs. In the last ten years, the City has been experiencing a period of increasing growth placing greater pressure on the City's infrastructure and resources. With growth expected to continue, the funding of new infrastructure for expanded City services will be a significant challenge. Recognizing this challenge, the City is in the process of examining the costs and revenues associated with growth as well as the potential to introduce new funding mechanisms. To assist the City in this process Hemson was retained to undertake a review of funding and financing principles and practices and to calculate what level of charges would be required in order to pay for off-site infrastructure that would be needed to met the service demands of growth anticipated to occur up to 2041.

This report provides an overview of the City's current context and practices related to development-related funding, as well as a review of key financing mechanisms employed by municipalities across Canada to fund the initial emplacement of development-related costs, and which could be employed to fund the costs of growth in Winnipeg.

The report is organized as follows:

Section II provides an overview of the City's current context as it relates to growth and funding practices. In particular, it considers the extent to which new development-growth funds the associated municipal servicing requirements – does growth pay for growth in Winnipeg.

Section III explores some of the key principles that underlie the question of who should pay for growth. It also examines a variety of development-related capital funding mechanisms that are available to Canadian municipalities.

Section IV presents a closer examination of legislative charges as a funding mechanism, with a comparison of how this mechanism is employed by 13 Canadian municipalities to fund the City-wide costs associated with development. A detailed summary of this review is provided in Appendix A.

Section V concludes the report with a summary of lessons learned, implications for Winnipeg.

A second report addresses the calculation of charges required to pay for off-site infrastructure to meet future growth needs.

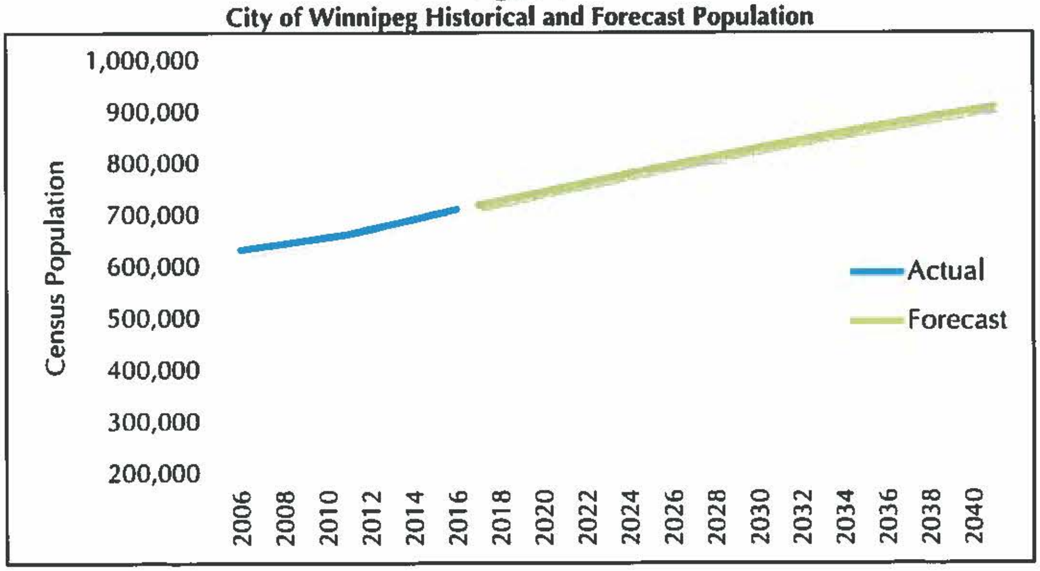
II WINNIPEG'S CURRENT CONTEXT

This section describes Winnipeg's current growth context including population and household growth trends and forecasts, relevant plans and policies, and current development funding practices.

A. WINNIPEG HAS EXPERIENCED SIGNIFICANT GROWTH IN RECENT YEARS

In recent years, the City of Winnipeg has experienced increasing rates of growth. Annual population growth rates have increased from an average of approximately 0.9 per cent between 2006 and 2011 to approximately 1.4 per cent between 2011 and 2016. As demonstrated by Figure 1, population growth is expected to remain relatively strong over the coming decades: the City's Census population of 711,500 in 2016 is anticipated to increase to approximately 910,000 in 2041, representing a total increase of 28 per cent.

Figure 1
City of Winnipeg Historical and Forecast Population

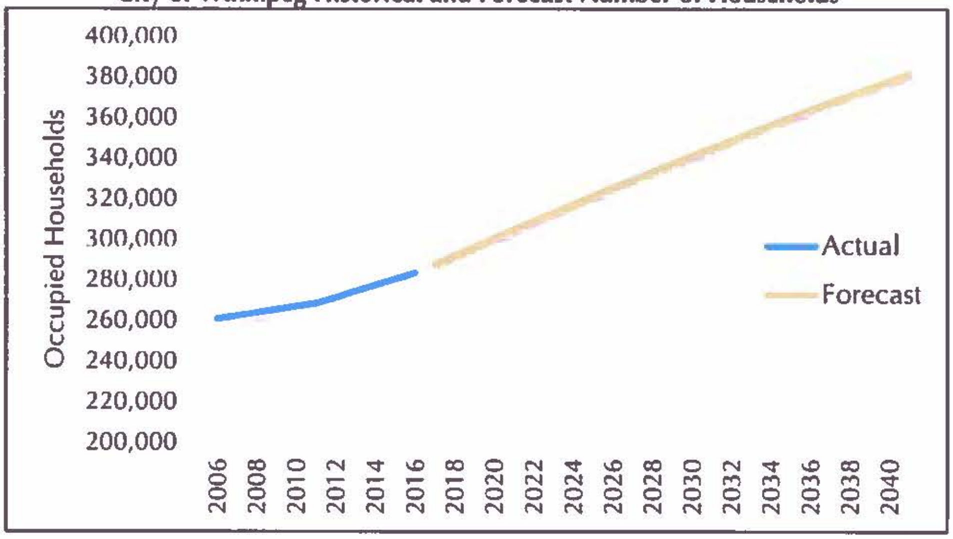


Source: City of Winnipeg Population, Housing, and Economic Forecast, 2016

Figure 2 illustrates how the City's recent growth trends have been reflected in housing development. While annual household growth averaged approximately 0.6 per cent during the mid 2000s, annual growth rates have reached 1.1 per cent in recent years.

In 2016, there was a total of 283,900 occupied households in Winnipeg; this number is expected to grow to 382,200 by 2041, representing a total increase of 35 per cent.

Figure 2
City of Winnipeg Historical and Forecast Number of Households



Source: City of Winnipeg Population, Housing, and Economic Forecast, 2016

Winnipeg's planning policy framework recognizes the need to plan for this growth while supporting sustainability and economic development. *OurWinnipeg*, the City's long-range development plan, is framed by overarching directions that include creating complete communities that are rich in amenities; supporting sustainable transportation with high quality transit, pedestrian, and cycling infrastructure; and protecting the natural environment with sustainable water, wastewater, stormwater management, and solid waste management systems and infrastructure. Implementation of these directions will require significant future capital and operating investment.

B. HOW WINNIPEG PAYS FOR DEVELOPMENT-RELATED SERVICING TODAY

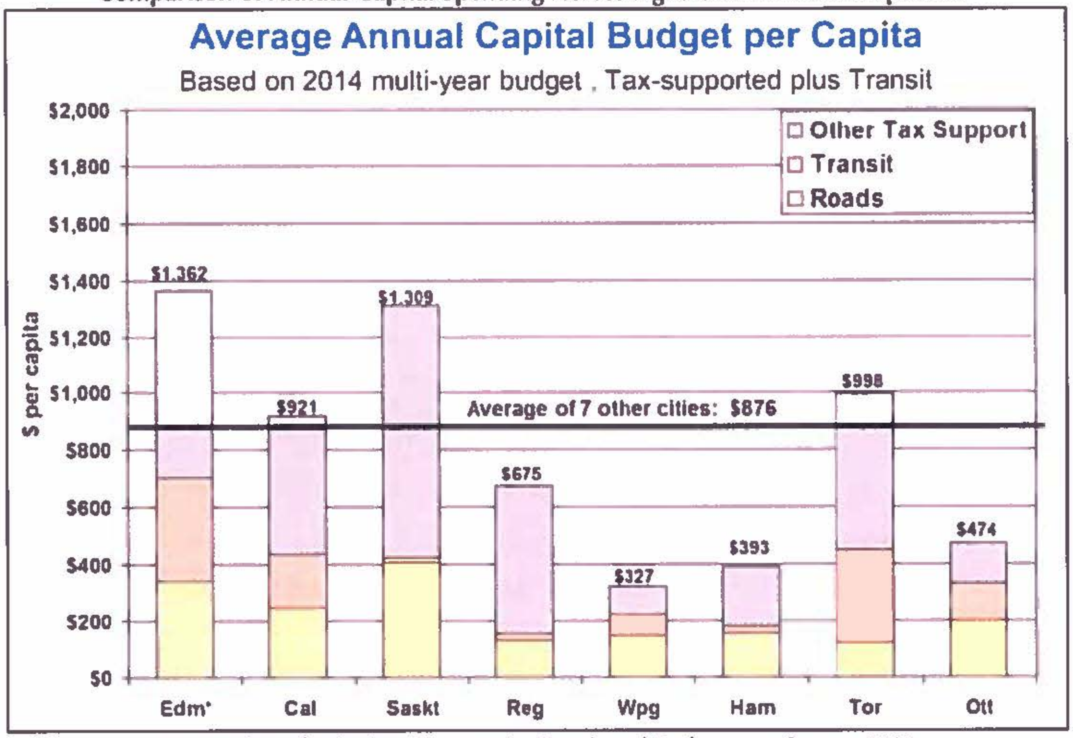
Historically Winnipeg has largely relied on property taxes and utility rates together with Federal and Provincial grants to pay for new infrastructure required to service growth. Additional operating costs and the costs of infrastructure repair and replacement are also paid for with property taxes and utility rates supplemented by fees and charges. However, for a number of years, property tax rates have been constrained and investment in both new and replacement infrastructure has been limited. As a result, service levels have declined and the average condition of the City's infrastructure has deteriorated.

Recently with the significant increase in development activity, the added demands on the City's existing infrastructure have risen leading to further reductions in service levels. As new development is projected to continue at robust levels for an extended period there is a pressing need to invest in new infrastructure to prevent further declines in service levels. Specifically, new and expanded City-wide capital infrastructure, including water, wastewater, stormwater and transportation infrastructure as well as protection and recreational facilities and further capital investment will be required over the coming decades.

When a new development is undertaken, the developer is responsible for the construction of the infrastructure within the development. This includes water distribution, wastewater collection, roads, sidewalks, street lights etc. In addition, through provisions of the development agreement funds must be provided by the developer to pay for boundary roads and intersections. As well, the City charges Trunk Service Rates, which pay for the costs of local land drainage trunk facilities across benefitting properties. Collectively, the infrastructure through these mechanisms is limited to services directly serving the development.

Because the development-related capital funding mechanisms are largely limited to local services, the City has to fund the majority of City-wide infrastructure costs through property taxes and utility rates. Since the late 1990's, because the increase in the City's property tax rate has been far below the rate of inflation, the City's tax revenues have in effect been declining. Partly as consequence of this and as shown in Figure 3, the City of Winnipeg's average annual per capita infrastructure spending is equal to roughly one-third of the average across eight major Canadian cities.

Figure 3
Comparison of Annual Capital Spending Across Eight Canadian Municipalities



Source: City of Winnipeg Community Trends and Performance Report, 2016

Furthermore, in contrast to Winnipeg, other municipalities in Manitoba, and many cities in other provinces, require developers to fully or partly fund the initial or first-round of required off-site or city-wide infrastructure for a broad range of services. This frees up property taxes to fund annual operating costs and long-term capital replacement requirements. Further details regarding capital funding mechanisms are provided within Section III and Appendix A.

In summary, given the City's current capital funding structure and as a result of the constrained flow of property tax revenues, the City has been unable to fully meet its capital funding needs. Consequently, Winnipeg is experiencing a deterioration in its existing infrastructure and a growing City-wide infrastructure deficit. This infrastructure deficit was last estimated at $3.5 billion in 2009, and is expected to reach

$7.4 billion by 2018. Of this, $3.6 billion is related to the need for new development-related infrastructure.[1]

C. FUNDING IMPLICATIONS OF NEW DEVELOPMENT FOR MUNICIPAL SERVICES

As has been noted previously, the City of Winnipeg stands out compared to municipalities both in Manitoba and in other provinces in terms of the way in which it pays for the municipal infrastructure requirements of new development. To a greater or lesser degree most municipalities in Canada, especially large cities, require new development to make up-front payments (in the form of fees and charges) to cover the capital costs of the infrastructure that is needed in order to provide municipal services.

In contrast, with the exception of some boundary road related costs and land drainage facilities, individual developments in Winnipeg do not contribute directly to the capital cost of off-site infrastructure. Such infrastructure is very extensive and includes:

- Roads, bridges and tunnels
- Water and Wastewater plants and distribution and collection systems
- Waste collection facilities
- EMS (Police, Fire and Ambulance) facilities and fleet
- Transit equipment
- Community Facilities
- Libraries including collection
- Central Services including IT requirements

Net of any grants, the City receives the capital cost of infrastructure related to these services are paid for through property taxes or in the case of water and wastewater and waste through utility rates.

To understand the implications of Winnipeg's funding structure and to address the extent to which 'growth pays for growth', it is important to first consider what the term means.

[1] *City of Winnipeg Community Trends and Performance Report, 2016*

1. What Does "Growth Pays for Growth" Mean?

The term "growth pays for growth" has a number of possible meanings in the context of municipal finance. At its broadest it means that over time as a community develops it is able to provide municipal services on a sustainable basis without the need to increase rates and taxes because of growth. In this context, growth can be considered as adding to the financial demands on the City in three ways:

- Costs of 'first-round' capital infrastructure
- Annual operating costs
- Costs of periodic infrastructure replacement

In Winnipeg property taxes and utility rates largely fund all three elements. In practice given the City's constrained revenues, especially from property taxes, 'first-round' infrastructure has not been added at the level required to maintain service levels given the amount of growth that has occurred. Nor has it has not kept pace with replacement needs of the existing infrastructure. For this reason, irrespective of the revenue contribution made by growth, the "growth pays for growth" test is not being met since the required amount of new infrastructure is not being provided.

The other narrower meaning of the term "growth pays for growth" commonly refers to the concept that new development pays directly for 'first-round' infrastructure through fees or charges. This is the approach used widely across Canada but only to very limited extent in Winnipeg. Instead infrastructure required for new development is funded by property taxes and utility rates. Since neither property taxes nor utility rates are determined according to the costs of providing services to individual properties, the cost of growth-related infrastructure is not paid by growth. Instead it is shared across the City with both new and existing properties contributing according to the funding structure. In the case of property taxes, properties of equal value whether new or existing pay the same amount of property taxes. For utility rate based services, charges are volumetric or on a per unit basis and are not differentiated between new and existing development very clearly. Therefore, while growth contributes to the cost of first-round infrastructure it does not pay for it entirely or the same level as in most other cities.

2. How Does New Development Affect City Costs?

As noted above, as new development occurs it requires municipal services. Some service needs can be met without the immediate addition of new infrastructure. This does cause a service level decline as far as the infrastructure component is concerned but may not affect overall performance if the service can be maintained for example through additional staffing. In the long run however additional infrastructure is likely to be needed. For quite some time the City has minimized its investment in new infrastructure especially for services that are funded through property taxes. By underinvesting in 'first-round' infrastructure the City has been able to keep property tax rates low. Had the City kept pace with the real demands created by growth, property tax rates would have to have been higher.

In light of this underinvestment it is plain that the infrastructure requirements of growth are not being paid for fully by growth. Instead most of the impacts of growth are absorbed through service level reductions which affect all City residents and businesses.

Where infrastructure has been added, the costs have mostly been paid for through taxes or rates. As for the City's increased operating costs arising from growth, these have been paid through taxes and utility rates. This is in keeping with practices across Canada.

3. New Development Generates Additional Taxes and Rate Revenue

As growth has occurred in Winnipeg additional revenues have been generated from three principle sources.

- **Property Taxes:** Revenues from property taxes are a function of property values (per the "ad valorem" system). Under this funding system the share of the City's tax funded budget paid by an individual property is determined according to its value. The costs of servicing the same property are not considered and therefore there is no direct linkage between the taxes paid by a new property and the cost of providing services. This is contrary to what has sometimes been suggested. Revenues from new development are not "ring fenced" and thus available to pay for new infrastructure.

  New units tend to have assessed values that are higher than average as they are primarily because they tend to be larger and newer. But while the taxes paid by these units are higher, they are no greater than the taxes on other houses in the City of the same value.

  As such, like all properties in the City they contribute their fair share towards City costs. The point that under Winnipeg's current funding structure 'growth does not pay for growth' can be readily understood by considering the effect that would be felt if the City were to increase spending on first-round infrastructure to meet the needs of new growth. This would necessitate a higher tax rate which would increase taxes on all properties not just on new development. The additional spending would be paid for only in part by growth.

- **Utility Rates:** Revenues generated by new development are based on volumes in the case of water and wastewater by unit for waste. New development therefore pays the same amount as existing units. Rate funded growth-related infrastructure is payed for through the rates. As with items that have been funded through property taxes, these rates have to be higher than would be the case if growth-related projects were directly funded by new development

- **Fees and Charges:** Fees and charges largely cover program operating costs. As such new development contributes proportionately in the same way as existing development. To the extent if any that new infrastructure is paid for through fees and charges a direct charge to new development would better address the objective of making growth pay for growth.

In summary the funding system used is Winnipeg to pay for new infrastructure is largely based on property taxes and utility rates. Using this approach new development enjoys an advantage compared to many municipalities elsewhere. In short, in Winnipeg "growth does not pay for growth" in the way that occurs in most other cities. Because new development does not pay much of the off-site cost of new infrastructure and because tax rates have been kept low, infrastructure investment has been severely constrained resulting in lowered service standards.

D. PREVIOUS FINANCING GROWTH STUDY

In 2005 in response to an accumulating infrastructure deficit and funding challenges, the City previously completed *Financing Infrastructure Related to Land Development*, a growth financing study. At the time of the study, Winnipeg was beginning to see steady population growth following an extended period of slow growth. The study provided the estimated infrastructure costs that would be associated with new development over a 15-year period. It assessed potential financing options and funding scenarios and their impact on property owners and developers. The study recommended that the City consider new growth funding mechanisms, such as development cost charges for new development. New funding mechanisms would be geared toward mitigating the reliance on property taxes for the funding of development-related costs, and thereby making more funds available for annual operations and the renewal of existing infrastructure.

City Council chose not to adopt new growth funding mechanisms, and funding for development-related costs has therefore continued to rely primarily on property taxes and utility rates. However, since that time conditions have changed. Growth rates have accelerated along with long-term population and housing projections. The City has also introduced a range of plans and policies that call for new and sustainable forms of infrastructure, through *OurWinnipeg*, the Transportation Master Plan and the

Transit-Oriented Development Handbook, by way of example. It is in light of these changes, that the City is now re-examining potential options to fund development-related costs.

III KEY GROWTH FUNDING PRINCIPLES AND AVAILABLE MECHANISMS

In considering how to fund development-related infrastructure, a number of key principles guide current practices in Canadian municipalities:

Benefits Received: The benefits received principle states that those who benefit from the services in question should pay for them. This principle provides the underlying rationale for legislative charges. Direct and off-site infrastructure clearly confers direct benefits to the residents or businesses in developing or redeveloping areas.

Economic Efficiency: This principle is concerned with the allocation of resources (taxes and user fees) required to produce or deliver the largest bundle of services that society desires. Theoretically, economic efficiency is achieved when the user fee or tax per unit of output (marginal benefit) equals the extra or marginal cost of the last unit consumed.

Equity or Fairness: This principle is linked to the "benefits" principle in that those who require services should pay for them. The following three issues require attention when considering equity:

- **Service standards** are of critical importance. The initial round of development-related capital infrastructure and facilities should be of roughly equal quality and quantity to that provided across the municipality. It would be inequitable for higher standards to be required in new areas than are generally available in the existing community (recognizing however that new areas may be required to conform to higher health, environmental or other best practice standards than in the past).

- **Inter-generational equity** should be considered. Inequity arises when one generation contributes to costs while another enjoys the benefits.

- **Equity or fairness** does not necessarily imply that all development should pay an equal charge. Various classes or locations of development may require higher or lower initial capital costs for certain services. These differences can be considered in calculating charges, since to do otherwise would result in a cross-subsidization of one development by another.

Accountability or Transparency: Under this principle, the process for determining the amount of a fee, charge or tax should be clear and understandable by all stakeholders. There should also be certainty in the amount of fee, charge or tax and there should be a clear linkage between the source of funding and the expenditure.

Ease of Administration: The need to provide funding mechanisms that can be applied with reasonable time and cost is addressed by this principle. Further, compliance on the part of taxpayers or ratepayers should be relatively simple.

Revenue Security or Reliability: Ensuring that revenues are sufficient to fund services on a reliable basis is critical. Ideally, the revenue should be stable and predictable so that it aligns with financial budgets and funding plans and avoids the risk associated with funding sometimes very sizable capital investments.

Canadian municipalities use a range of approaches to funding the costs of growth. Each of these approaches affect how these costs are allocated among residents. The following presents an overview of some of these funding mechanisms and their performance against the key principles listed above.

1. Legislative Charges for Development-Related Capital

Most municipalities in Canada require developers to provide or pay for on-site infrastructure, and it is assumed that this will continue in the City of Winnipeg. In addition to these on-site costs, many municipalities impose charges to pay for off-site, development-related infrastructure. The terminology for these charges varies across provinces and municipalities (e.g. development charges, development levies, off-site levies, development cost charges, capital levies, infrastructure charges, impact fees). For the purposes of this report, these charges will be referred to broadly as legislative charges.

While Winnipeg does not currently impose legislative charges, certain costs associated with boundary roads, intersections and drainage are recovered as a condition of subdivision approval. The current practice of many Canadian municipalities would be to include some of these items within legislative charge rates.

Legislative charges are generally based on the benefits principle. In simple terms, increases in need for services necessitated by development are estimated and all or a portion of the net capital cost (gross cost less other contributions such as grants or subsidies) of providing the services are recovered through the levy paid by the benefiting development. The capital projects required to provide various services over specified time periods are generally set out in municipal capital budgets or in other long-range financial plans. In addition to planned capital projects, legislative charges may also help to cover capital costs already incurred where the infrastructure serves growth over a long period, such as in the case of water treatment plants.

There is a significant variation in the provincial legislation affecting legislative charges in terms of scope, and in how they are calculated, collected and used by municipalities. For example, charges may be differentiated by land use and location of development, eligible capital costs to be considered in calculating the charge, and accounting considerations. A detailed discussion and comparison of the treatment of legislative charges across a number of Canadian municipalities is included within Section IV and Appendix A.

2. Property Taxes and Utility Rates

Property taxes and utility rates are the most significant revenue sources for most municipalities. As property taxes are calculated based on property values, they are primarily based on ability to pay; however, in a broad sense, property taxes may be viewed as being consistent with the benefits principle if one considers the societal benefits that are conferred by the delivery of municipal services. Nonetheless, property taxes can be problematic when taxpayers do not recognize a clear connection between the amount they pay and the benefits they receive. This can lead to frustration on behalf of taxpayers who feel that they pay for services that they do not benefit from, as well as to the inefficient use of services for which the costs of use are unclear. In contrast, utility rates that are largely based on consumption reflect the benefits principle more directly.

Municipalities have the authority to raise all sums required to provide the full range of municipal services through property taxes and user fees and charges (net of other government grants and subsidies). Therefore, all development-related infrastructure and facility funding could be raised through these sources. However, a number of important considerations require attention:

- Due to limited authority in certain provinces for the range of capital costs that can be funded through legislative charges, property taxes must be used by some municipalities to pay for some development-related costs (e.g. fire, police, and library buildings; vehicles and equipment; and transit services). Additionally, as legislative charge legislation is typically based on the benefits principle, the portions of development-related capital costs that are deemed to be of benefit to the existing community, even for the services for which legislative charges are allowed, will require funding through property taxes or user charges.

- If, instead of legislative charges, property tax and user fees are used to fund development-related capital costs (e.g. water, wastewater, stormwater and roads), additional debt financing is often required. This is because these services generally require "lump" capital investments and must be built early in the development process.

- Finally, because municipalities are generally facing significant funding gaps related to rehabilitation/replacement of existing infrastructure and facilities, significant tax and user charge increases will be required to avoid further deterioration of the existing infrastructure. Adding development-related capital funding requirements to this existing need clearly exacerbates this situation.

While the costs of development-related infrastructure and facilities can be funded through property taxes and utility rates, this approach runs counter to the principle that growth should pay for growth. It adds significant costs to the expenditure base that is paid for by existing ratepayers through tax and utility rates.

3. Comprehensive Development Agreements

As noted above, there are a variety of development-related capital facilities that are generally not covered by legislative charge legislation. In British Columbia, the introduction of s. 176 in the *Local Government Act* provided local governments the authority to enter into agreements for the provision of local infrastructure. Under this authority, the City of Vancouver may enter into Comprehensive Development Agreements (CDAs) in which a developer or group of developers agree to provide amenities for the broader community charges (e.g. social housing, libraries, fire halls, and transit stations) in exchange for development approval. These amenities are over and above those paid for through legislative charges. CDAs are generally limited to large developments that have a significant impact on such facilities. They are negotiated on a case-by-case basis.

The CDA approach helps to address the principle that growth should pay for growth in a comprehensive manner, and can help to ensure that service levels for community amenities would not deteriorate in the face of growth or fall on the existing community through property taxes. However, CDAs are often confidential agreements between municipalities and proponents of development, and as a result can be viewed as against the principles of transparency and equity.

4. Front-End Servicing and Financing Agreements

In the late 1970s, the Regional Municipality of Halton, a rapidly growing municipality in the Greater Toronto Area, would have exceeded provincially allowable debt limits to provide necessary development-related water and wastewater capital through the tax base for large development areas in the Town of Oakville. To address this situation, two steps were taken. First, since this occurred prior to the adoption of Ontario's *Development Charges Act*, development charges were established under the authority of the Ontario *Planning Act* to provide a long-term funding source for this infrastructure. Further, in order to completely avoid the debt financing associated with early provision requirements for water and sewage treatment plants as well as the extension of trunk water mains and wastewater infrastructure to the different development areas, the Region introduced front-end servicing and financing policies that required developers to provide and finance the infrastructure (with appropriate development charge credits given in recognition of the developer provision of the works).

The approach was later incorporated into development charge legislation to provide similar authority to municipalities across Ontario. Generally, front-end financing is limited to water, wastewater, stormwater, and road infrastructure costs. It is noted that an area specific legislative charge regime is most consistent with front-end financing approaches, particularly since flow-through of funds from subsequent benefitting owners is more closely aligned with the specific projects that have been front-ended.

Under this approach, in addition to ensuring that growth pays for growth, the risks related to the pace of development are shifted from the public to the private sector.

5. Density Bonusing

Density bonusing is an arrangement by which a municipality allows a developer to exceed densities set out in zoning bylaws in exchange for the provision of infrastructure or community facilities. This scenario is typically applied in redevelopment or infill situations and is intended to be mutually beneficial: the developer benefits from additional potential productivity of the land in question; the municipality benefits from higher tax revenues resulting from higher property assessment as well as amenities, which in the absence of the arrangement would lead to a deterioration in service levels. Density bonusing is generally used in larger cities such as Toronto and Vancouver.

The potential revenue from density bonusing can be very high during construction booms when developers are willing to pay the bonus. However, in weaker real estate markets, density bonusing can act as a disincentive to development.

6. Directed Tax Revenue

Directed tax revenue approaches provide a funding source for redevelopment, infrastructure and other community improvement projects. Under these schemes, municipalities earmark incremental tax revenues derived from development in specified areas for the purpose of funding municipal capital improvements. Some examples of such approaches are described below.

Community Revitalization Levies (CRLs) are used in the Province of Alberta to overcome budgetary constraints prohibiting much needed revitalization. The incremental tax revenue is taken from private sector developments and used to provide public infrastructure improvements to further enhance the designated area. Over time, these improvements can lead to enhanced land values for the private sector developer, and in turn, additional tax revenues for the municipalities once the CRLs are finished.

Tax Increment Financing (TIF) is a public financing method that uses future incremental gains in taxes to either fund completely or to subsidize current improvements. As the completion of a public project often results in an increase in the property value of surrounding real estate, the incremental increase in tax revenue is earmarked for a period of time to support the public project. TIF arrangements have long been common in U.S. municipalities and are gaining popularity in Canada. The Province of Manitoba introduced the *Community Revitalization and Tax Increment Financing Act* in 2009, and Winnipeg has used TIF to help finance the development of its downtown Sports, Hospitality and Entertainment District.

In Ontario, municipalities can adopt community improvement plans to facilitate the rehabilitation of a designated area through providing a range of financial incentives to landowners. Among the financial incentive options available is a Tax Increment Equivalent Grant program (TIEG) under which property tax incentives can be provided to owners for specified periods when approved projects are undertaken. TIEG amounts can be substantial, but are not without risk. If an initial estimated future tax increment is too high, a municipality could be required to pay out a grant which has a value higher than the increment.

IV COMPARISON OF LEGISLATIVE CHARGES IN CANADIAN MUNICIPALITIES

This section provides a summary of how legislative charges are employed in a number of municipalities across Canada to fund the city-wide costs of growth. Municipalities reviewed include Halifax Regional Municipality, the Cities of Toronto, Ottawa, Hamilton, Regina, Saskatoon, Edmonton, Calgary, Vancouver and Surrey, as well as three of Manitoba's Rural Municipalities: St. Clements, Taché, and East St. Paul. A more detailed comparison of these charges is included within Appendix A.

A. PROVINCIAL LEGISLATION

Legislative charges are imposed by municipalities in most provinces, including British Columbia, Alberta, Saskatchewan, Manitoba, Ontario and Nova Scotia. In most of these provinces, municipal or planning legislation provides the authority to impose legislative charges. Ontario has the most extensive legislation as the only jurisdiction with a separate *Development Charges Act*.

Provincial legislation varies in which capital costs are eligible for recovery through legislative charges. It is typical for eligible costs to include primarily "hard services" such as water, wastewater, stormwater and road infrastructure. Alberta's *Municipal Government Act* allows off-site levies to be imposed only for these hard services. Municipalities in British Columbia and Saskatchewan are permitted to impose levies for park development and recreation facilities in addition to hard services. Only Ontario allows for the inclusion of a complete range of development-related capital costs, with the exception of costs related to general administration buildings, cultural or entertainment facilities, tourism and convention centres, hospitals, waste management facilities and the acquisition of land for parks.

The *Manitoba Planning Act* permits municipalities to establish by-laws which set levies to compensate for capital costs incurred by the subdivision of land. This legislation allows for some flexibility in determining which municipal services would be impacted by subdivision approval, and therefore are eligible for recovery through a such a levy.

B. ELIGIBLE SERVICES

Under the provincial legislation described above, the use of legislative charges is permissive and not mandatory; municipalities do not necessarily impose levies for all of the services that are allowed. For example, the City of Edmonton's Arterial Roadway Assessment represents the City's only mechanism for funding off-site capital costs: a uniform per-hectare charge is imposed across a defined catchment area to fund construction costs associated with arterial roads within that catchment area. Developers in Edmonton also pay charges for sewer and stormwater management, but only to cover the costs to serve the area of development or subdivision.

Halifax Regional Municipality currently collects infrastructure charges for stormwater, streets, and solid waste management costs only, although the *Halifax Municipal Charter* allows for recovery of water, wastewater, transit and transportation, parks and recreation facilities, fire services, and libraries. However, the municipality is currently in the process of reviewing its existing infrastructure charges and is exploring opportunities to incorporate a wider range of capital costs.

The Cities of Toronto, Hamilton, and Ottawa take advantage of Ontario's permissive development charges legislation. Costs are recovered through development charges for a wide range of capital projects, including transit; parkland development and recreational facilities; non-profit housing; social services; child care; and police, fire, and emergency services, among many others.

It is noted that the City of Calgary has recently introduced a new Community Services Charge on greenfield development. These charges, which cover the costs of a range of facilities and transit vehicles, are not enabled as off-site levies under Alberta's *Municipal Government Act*, but resulted from extensive consultation with industry stakeholders. As a condition of the support of key development industry organizations, the City is currently undergoing a process of ongoing monitoring and consultation over the course of the first year of implementation.

C. HOW CHARGES ARE APPLIED

Each municipality faces unique circumstances which dictate whether an area-specific or city-wide charge is applied. For example, the City of Ottawa has a separate charge for development inside of the Greenbelt, outside of the Greenbelt, within serviced rural areas, and within rural areas that do not receive water and wastewater servicing.

A number of other municipalities rely primarily on a city-wide charge, but have calculated separate charges for defined areas with unique servicing needs: These include Halifax's "master planning areas", the Binbrook and Dundas/Waterdown areas in Hamilton, the Anniedale-Tynehead and West Clayton areas in Surrey, and the Village Districts of Lorrette and Landmark in the Rural Municipality of Taché.

There is also variation across the municipalities reviewed in terms of whether charges are uniform or land use specific, and whether the charges apply to lot size, building area, or unit type. The Cities of Regina and Edmonton, and the Rural Municipalities reviewed in Manitoba impose uniform charges across all land uses. Municipalities that impose uniform charges often calculate the charges on a per-hectare or per-lot basis. The majority of the remaining municipalities impose land use specific charges, and typically calculate the charges according to residential unit type or per square metre or foot of gross floor area.

In the Rural Municipality of Taché, a two-tier rate system is applied within the Village Districts of Lorrette and Landmark. As is permitted within Manitoba's *Planning Act*, a charge is imposed for each new lot as a condition of subdivision approval. In the event that the lot is developed into multiple dwelling units, an additional charge is applied per residential equivalent unit.

D. CALCULATION METHODOLOGIES

Generally, legislative charges are calculated using an estimate of eligible capital costs over a certain forecast period and distributing these costs among development that is forecasted over the same time period. In calculating capital costs eligible for recovery through legislative charges, a desired level of service (i.e. quantity and/or quality of service related to the provision of municipal infrastructure on a per capita basis) is considered. Ontario's development charge legislation generally requires that the level of service to be recovered through development charges be limited to the average level of service over the preceding 10 years.

Municipalities in Ontario are additionally required to take into account a number of statutory deductions, such as benefit to existing development; any grants, subsidies, and other recoveries; and a 10 per cent discount for soft services (e.g. parkland development, libraries, recreational facilities). Many municipalities in other provinces undertake a comparatively simplified approach to calculating the charges.

E. RATE COMPARISON

A comparison of legislative charge rates can be found in Appendix A. Rates are highly variable across the municipalities due to the services included in the charge and other unique circumstances and costs which may impact the cost of servicing new development. Note that in the case of residential charges, the rate per single detached dwelling unit is provided where applicable. Many of the municipalities that calculated charges per dwelling unit impose lower charges on alternative dwelling types such as townhouses, row houses, and apartment units.

The majority of the municipalities reviewed adjust their rates on an annual basis according to publicly available, third party inflation data such as Statistics Canada's *Construction Price Statistics.* Some municipalities, including the Cities of Calgary and Surrey, have planned for higher annual increases as they are in the process of phasing in new rates over a period of several years. In particular, the City of Calgary is in the process of introducing new off-site levies within its urban area with the goal of recovering 100 per cent of development-related water and wastewater infrastructure costs by 2018. As a result, significant rate increases are planned for 2017 and 2018.

F. EXEMPTIONS AND DISCOUNTS

Many municipalities use legislative charge exemptions and discounts to incentivize certain types of development, or to promote intensification in certain areas. Generally, lost revenue from non-statutory exemptions and discounts is covered through property taxes and utility rates.

Examples of exemptions and discounts include the following:

- In the City of Toronto, industrial uses are exempt from development charges;
- In the Cities of Hamilton and Ottawa, exemptions or discounts are offered for development on contaminated or "brownfield" sites, and for intensification in downtown neighbourhoods or transit nodes; and
- The City of Calgary has introduced the Density Incentive Program, which caps levy rates within the urban area that reach a density equivalent of 285 or more people and jobs per hectare.

These exemptions and discounts can serve as effective mechanisms to support economic development, sustainability, and efficiencies in capital investment.

V CONCLUSION

A wide range of financial mechanisms are available to Canadian municipalities to help fund the costs associated with growth and development. Depending upon the provision of provincial legislation as well as each community's unique context, these mechanisms are used in a variety of ways. There is a clear opportunity to find an approach that is tailored to Winnipeg through a close examination of nation-wide practices and the City's particular needs.

Unlike many cities in Canada which use charges to pay for first-round infrastructure, including a large number Manitoba's municipalities, Winnipeg is reliant on property taxes and utility rates to fund these costs. This reliance has led to competing funding priorities and a growing infrastructure deficit. A particular issue that relates to the manner in which Winnipeg funds first-round infrastructure is whether "growth pays for growth". Currently it is self evident that growth does not pay for growth since significant amounts of required infrastructure are not being built. However, were the required infrastructure built, growth would only be paying a share of the cost. The City's tax rate would have to increase to account for the added cost and all ratepayers (not just new growth) would contribute. If the City were to have an infrastructure fee, the need for higher tax rates would be moderated by the amount such a fee would generate.

Should the City choose to pursue the introduction of new growth funding mechanisms, it should consider lessons learned from its previous growth study as well as from the experiences of other municipalities.

This report is intended to provide a background understanding of where Winnipeg sits in relation to the funding of growth related infrastructure. It also provides important context with other communities in Manitoba and cities across Canada. A second report provides information regarding potential regulatory fees that could be applied given the City's future growth prospects, infrastructure requirements and conventional fee calculation methods.

APPENDIX A
COMPARISON OF GROWTH FINANCING MECHANISMS IN CANADIAN MUNICIPALITIES

	Municipality				
	Halifax, NS	**Toronto, ON**	**Ottawa, ON**	**Hamilton, ON**	**Regina, SK**
Population	390 096	2 615 060	883 391	519 949	193 100
Governing legislation	Halifax Municipal Charter Section 104(1)	Development Charges Act, 1997 and O.Reg. 82/98	Development Charges Act, 1997 and O.Reg. 82/98	Development Charges Act, 1997 and O.Reg. 82/98	Planning and Development Act, 2007 Section 169 and 172
Municipal Bylaw	Regional Subdivision By-law	Bylaw No. 1347-2013, adopted October 2013	Bylaw 2014-229, adopted June 2014	Bylaw No. 14-153, adopted June 2014	Administration and Calculation of Servicing Agreement Fees and Development Levies policy last reviewed December 2009
Terminology	Infrastructure Charges	Development Charges (DCs)	Development Charges (DCs)	Development Charges (DCs)	Development Levies and Servicing Agreement Fees
Services Accounted for Under Bylaw	Water Wastewater Stormwater Streets Solid Waste Management	Spadina Subway Extension Transit Parks and Recreation Library Subsidized Housing Police Fire Emergency Medical Services Development-Related Studies Civic Improvements Child Care Health Pedestrian Infrastructure Roads and Related Water Sanitary Sewer Storm Water Management	Roads and Related Services Sanitary Sewer (Wastewater) Water Stormwater Drainage Police Emergency Services (Fire) Public Transit Parks Development Recreation Facilities Libraries Child Care Works and Yards Paramedic Service Corporate Studies Affordable Housing Program	Water Wastewater Facilities and Linear Stormwater Drainage and Control Highways Public Works Police Services Fire Protection Services Transit Services Parkland Development Recreation Facilities Library Services Administrative Studies Ambulance Services Long Term Care Health Services Social & Child Services Social Housing Airport Services Parking Services Provincial Offences Act Hamilton Conservation Authority	Water Wastewater Stormwater / Drainage Roads / Transportation Recreation Parks
Do charges apply municipality-wide or based on service areas?	Municipality-wide charges for water, wastewater and solid waste management. Charges for additional services are levied on an area-specific basis for Master Planning areas.	Citywide	Citywide charges for most services. Area-specific charges for four broad areas (inside or outside of the Greenbelt, rural serviced or unserviced) for collector roads, water distribution, sanitary sewer collection, protection, some recreation, library facilities and servicing studies. In specified locations, area-specific charges apply for storm drainage ponds.	Generally Citywide. Charges are uniform within the urban area. Outside of the urban area charges for water, wastewater, and stormwater are determined according to the urban services required or used, while charges for all other services remain uniform. Additional Special Area Charges apply at two locations (Binbrook and Dundas/Waterdown).	Rates apply across the City but are calculated separately for greenfield vs. infill development
Are charges land use specific or uniform across land uses (e.g. residential, commercial, industrial)?	Land use specific	Land use specific	Land use specific	Land use specific	Uniform
Are charges applied to lot size, building area or unit type?	Residential: By unit type Non-residential: Per square foot GFA Area-specific charges: Per acre	Residential: By unit type Non-residential: Per square metre	Residential: By unit type Non-residential: Per square foot GFA	Residential: By unit type Non-residential: Per square foot/metre GFA	Per hectare
Timing of charge	At time of subdivision	At time of building permit	At time of building permit	At time of building permit	Development Levy: At time of building permit Servicing Agreement: At time of subdivision
Calculation methodology	Not specified in legislation. Current charges were levied in accordance with the 2000 Infrastructure Charges Best Practices Guide: 1. Total capital costs of oversized infrastructure less portion of projects that will benefit the Municipality 2. Costs are allocated based on the net land area and average density of the parcel being subdivided based on type of development	As per provincial legislation: 10-year historic average service levels are calculated. Both quantity and quality of service is considered. 10-year capital cost estimate, less legislated reductions: benefit to existing development, existing excess capacity, grants, subsidies, and other recoveries. 10% discount for soft services.	As per provincial legislation: 10-year historic average service levels are calculated. Both quantity and quality of service is considered. 10-year capital cost estimate, less legislated reductions: benefit to existing development, existing excess capacity, grants, subsidies, and other recoveries. 10% discount for soft services.	As per provincial legislation, 10-year historic average service levels are calculated. Both quantity and quality of service is considered. 10-year capital cost estimate, less legislated reductions: benefit to existing development, existing excess capacity, grants, subsidies, and other recoveries. 10% discount for soft services.	A cashflow model is used to calculate Servicing Agreement Fee and Development Levy rates. The following steps are required: 1. Establish inflation rate and interest rates 2. Set the opening Servicing Agreement Fee / Development Levy Reserve Cash Balance 3. Calculate outstanding fees/levies to be collected 4. Establish development projections for infill & greenfield 5. Establish payment schedule for fees/levies 6. Update capital project list 7. Establish share of costs attributed to greenfield and infill growth for each capital project 8. Calculate the share of total capital costs allocated to infill and greenfield development 9. Calculate rates for infill & greenfield based on the cashflow model
Planning periods used	Not specified	10 years and longer term (to 2031) Bylaw to be reviewed every 5 years	10 years and longer term (to 2031) Bylaw to be reviewed every 5 years	10 years and longer term (to 2031) Bylaw to be reviewed every 5 years	25 years Bylaw to be reviewed every 5 years
Amount of charge	Residential: $4 463.38 per single detached unit Non-residential: $2.33 per sq. ft. ($25.08 per sq. m.) Additional charges in Master Planning Areas: Wentworth: $10 893 per acre ($26 916 per ha) Bedford South: $10 883 per acre ($26 918 per ha) Russell Lake: $16 733 per acre ($38 677 per ha) Portland Hills: $7 393 per acre ($18 259 per ha) Bedford West Area 1 4 5 11: $5 486 per acre ($13 556 per ha) Bedford West Area 2 3 7 8 10 12: $9 958 per acre ($24 607 per ha) Bedford West Area 6: $26 968 per acre ($66 642 per ha) Bedford West Area 9: $21 702 per acre ($53 627 per ha) Rates were adopted at different times between 2005 and 2010.	Residential: $34 482 per single/semi-detached unit Non-residential: $175.78 per square metre applied to ground floor only (Current rates effective February 2016)	Residential $22 468 per single/semi-detached unit within the greenbelt $30 752 per single/semi-detached unit outside the greenbelt $20 159 per single/semi-detached unit within rural serviced area $17 733 per single/semi-detached unit within rural unserviced area Non-residential $19.82 per square foot for non-industrial uses ($213.34 per square metre) $8.55 per square foot for industrial uses ($92.03 per square metre) (Current rates effective August 2016)	Total urban area charges Residential: $35 465 per single/semi-detached unit Commercial/Institutional: $18.74 per sq. ft. (204.62 per sq. m.) over 10 000 sq. ft.. 80% of the per sq. ft. charge applies to the first 5 000 sq. ft. (465 sq. m.) and 75% of the charge applies to the second 5 000 sq. ft. (465 sq. m.) Industrial $11.60 per sq. ft. ($124.86 per sq. m.) for development over 10 000 sq. ft. (929 sq. m.) $8.70 per sq. ft. ($93.65 per sq. m.) for development under 10 000 sq. ft. (929 sq. m.) (Rates effective July 6 2016 to July 5 2016)	Greenfield rates $348 000 or $360 000 per hectare (2016 rates)
Indexing provisions	Not specified in the legislation. Current practice of the Region is index only the Bedford West infrastructure charge.	As per provincial legislation, rates may be indexed as prescribed by the Statistics Canada Quarterly Construction Price Statistics.	As per provincial legislation, rates may be indexed as prescribed by the Statistics Canada Quarterly Construction Price Statistics.	As per provincial legislation, rates may be indexed as prescribed by the Statistics Canada Quarterly Construction Price Statistics.	City to commission a report every 2 years estimating the inflationary rate to be used. The rate is used to inflate project costs and to index rates in years between recalculations.
Exemptions and discounts	Statutory exemptions: Crown Land Non-Statutory Exemptions The by-law may provide full or partial exemptions for different uses	Statutory exemptions for industrial additions, residential additions, boards of education. Non-statutory exemptions Non-profit / affordable housing is exempt. Industrial uses are exempt. Other non-residential development charges are applied to ground floor only.	Statutory exemptions for industrial additions, residential additions, boards of education. Non-statutory exemptions Residential development within Central Area exempt. Reductions for apartment dwellings within 500 metres of transit stations if parking restrictions are met. Development on contaminated lands is eligible for exemption through the City's Brownfield Redevelopment Strategy and Community Improvement Plan.	Statutory exemptions for industrial additions, residential additions, boards of education. Non-statutory exemptions Certain uses exempt including affordable housing and agricultural uses. Brownfield sites eligible for exemption for the lesser of environmental remediation costs or development charges otherwise payable. Development within boundaries of the Downtown CIPA eligible for 65% exemption of DCs otherwise payable.	None (previously exempted inner area of the City to promote growth in developed areas)
Comments	HRM is currently in the process of updating their existing infrastructure charges to align with the recently amended Halifax Municipal Charter. Since the introduction of infrastructure charges in 2002, the Region has examined various methodologies and best practices for the implementation of infrastructure charges. The information provided above is subject to change in coming months.		The City is currently undertaking a review of its transit-related DCs.		As of Jan. 1, 2016: New Servicing Agreement Fee and Development Levy in place. To be phased in over 3 years. As per provincial legislation: Servicing Agreement Fees are collected when land is subdivided. Development Levies are collected where development does not involve the subdivision of land.

	Municipality				
	Saskatoon, SK	**Edmonton, AB**	**Calgary, AB**	**Vancouver, BC**	**Surrey, BC**
Population (2011 Census)	222 189	812 201	1 096 833	603 502	468 251
Governing legislation	*Planning and Development Act*, 2007 Section 169 and 172	*Municipal Government Act*, 2000 (Division 6) and Alberta Regulation 48/2004	*Municipal Government Act*, 2000 (Part 17, Division 6) and Alberta Regulation 48/2004	Local Government Act (RSBC 2015), Section 933 Vancouver Charter, SCB 1953, Chapter 55, Part XXIV-A	Local Government Act (RSBC 2015), Section 933
Municipal By-law	2016 Prepaid Servicing Rates (Direct and Off-site), approved November 2015	Bylaw 14380, adopted September 2006	Off-site Levy Bylaw 2M2016, approved January 2016	By-law No. 9755, enacted November 2008	Bylaw No. 18664, came into effect May 2016
Terminology	Development Levies / Off-site levies / Prepaid Service Rates	Permanent Area Contribution (PAC) Arterial Roadway Assessment (ARA)	Off-site levies Community services charge	Development Cost Levies (DCLs)	Development Cost Charges (DCCs)
Services Recovered for under By-law	Water Wastewater Stormwater / Drainage Roads / Transportation Recreation Parks	PAC: Wastewater and Stormwater ARA: Roads	Off-site levies Water Wastewater Stormwater / Drainage Community services charge Facilities (police stations, libraries, recreation, emergency response) Transit (buses)	Engineering Infrastructure Recreation Parks Social and Replacement Housing Childcare Facilities	Water Sewer Stormwater / Drainage Roads (arterial and collector) Parkland Acquisition
Do charges apply municipality-wide or based on service areas?	Citywide	PAC: Based on the area of development or subdivision ARA: By catchment area	Rates apply Citywide and are uniform across the City's Established Area. Rates within the Greenfield Area are specific to each watershed.	Generally Citywide. Additional charges apply to three specific "layered" zones. Six separate area-specific DCL zones are identified, but as of July 2016, five of these zones will be merged into the Citywide rates.	Generally Citywide. Area specific charges apply to the Anniedale-Tynehead and West Clayton areas.
Are charges land use specific or uniform across land uses (e.g. residential, commercial, industrial)?	Land use specific	Uniform	Greenfield Area: Uniform Established Area: Land use specific	Land use specific	Land use specific
Are charges applied to lot size, building area or unit type?	Per front metres for residential lots with area less than 1 000 sq. m., commercial developments greater than 1 000 sq. m., and industrial lots. Per hectare charge for developments outside these parameters.	Per hectare	Greenfield Area: Per hectare Established Area: By residential unit type or non-residential square metre GFA	Residential: Per square metre Non-residential: Per square metre or per building permit	Single family residential: Per lot Multi-family residential and most non-residential: Per square foot Industrial: Per acre
Timing of charge	At time of building permit	Condition of a subdivision or development permit	Greenfield Area: At time of subdivision Established Area: At time of building permit	As a condition of building permit issuance	As a condition of subdivision approval or building permit issuance
Calculation methodology	Not specified	PAC: Each developer required to pay relative share of onsite and offsite sewer and stormwater management costs serving the development area. ARA: Total construction costs of the arterial roads within a catchment are shared proportionately based on the area of the subject lands within the catchment.	Generally, levies are calculated as follows: 1. Determine the projected population growth for a specific timeframe and the land area that will be absorbed by the population growth in that same timeframe. 2. Determine the infrastructure required to service that land area and estimate the infrastructure costs. 3. Determine the benefit allocation for each project attributable to the projected new population, the existing population and the regional population. 4. Determine the levy rate by dividing the estimated infrastructure costs attributable to the future growth by the total hectares required to serve the projected population.	Three approaches to determining level of service: 1. Standards-based 2. Past level of service 3. Plan-based Include one-time capital costs serving new growth (operating costs not included). Costs reduced by contributions from other sources (e.g. grants).	DCC Rates = 10-year infrastructure costs to service growth / 10-year growth projection
Forecast periods used	Rates adjusted annually according to annual capital program	Cost estimates for each catchment area / drainage basin updated annually	10 years	10 years	10 years (as outlined by City's 10-Year Servicing Plan)
Amount of charge	Residential: $1 870.90 per front m Institutional/Commercial/School: $2 201.48 per front m Industrial: $2 308.29 per front m (approved Nov. 2015)	Average ARA rate: $191 170 per hectare Expansion Assessment Charge of $22 367 per hectare added for sanitary trunk servicing (2016 rates)	Greenfield Area: Average off-site levy rate of $356 190 per hectare plus an additional $78 850 per hectare Community Services Charge. Established Area: Off-site levies calculated based on average people per unit / per square metre assumptions. Rates cover water and wastewater services only and are to be phased in from 2016 to 2018. Residential: $2 099 per single detached unit in 2016, to increase to $4 267 in 2018. Commercial: $12.21 per square metre in 2016 to increase to $36.62 in 2018. Industrial: $6.88 per square metre in 2016, to increase to $17.66 in 2018. Community Service Charges do not apply to Established Area. (approved 2016 rates)	Citywide rates Residential units at or below 1.2 FSR and laneway homes: $33.26 per square metre Residential units over 1.2 FSR, commercial and most other uses: $143.27 per square metre Industrial: $57.16 per square metre Daycare, temporary buildings: $10 per building permit (current rates as of September 2015)	Citywide rates Single family residential: Average of $36 906 per lot. Rates vary according to zoning. Commercial: $9.92 per sq. ft. ($106.78 per sq. m.) for the ground floor, plus $5.62 per sq. ft. ($60.49 per sq. m.) for all other floors. Industrial: $79 078 per acre ($195 408 per ha) plus $14.20 per sq. ft. ($152.85 per sq. m.) of non-ground floor GFA. Institutional charges ranging from $2.87 to $6.74 per sq. ft. ($30.89 to $72.55 per sq. m.) for uses including schools, hospitals, and federal and provincial buildings.
Indexing provision	Rates adjusted annually according to annual capital program.	Rates adjusted based on the percentage change in the Edmonton *Non-Residential Construction Price Index*.	Rates adjusted annually using average Statistics Canada construction price index for Calgary for previous four published quarters.	Rates adjusted annually for changes in property and construction inflation using public third-party data.	The City is proposing to increase rates by 10% in 2017 and 2018. Consultation will be held for each rate increase.
Exemptions and discounts	None	None	Density Incentive Program: Levy rate is capped if development within the Established Area reaches density equivalent of 288 or more people and jobs per hectare.	Exemptions for certain uses including social housing and churches. Small residential units of 29 square metres or less are exempt. Central Waterfront Port Lands and False Creek North areas exempt due to alternative funding arrangements in place.	Exemptions for dwelling units under 312 square feet and for non-profit rental housing. Development where the value of work authorized by the permit does not exceed $100,000 for residential or $50,000 for other uses is also exempt. No charge for agricultural uses, except for those falling within the Highway 99 Corridor and Campbell Heights area.
Comments	The City completed a Financing Growth Study in April 2015. According to a staff report, as of March 2016 the City was still in the process of reviewing options to update its development levy policies.	PACs are payments for storm and sanitary trunk sewers, storm water management facilities, and other costs herable drainage improvements within predefined drainage basins (land areas). It is based on the area of development or subdivision. ARAs establish how developers will share the costs of arterial roadway infrastructure. Each development occurring within the catchment is required to pay an assessment based on a per hectare rate under the provisions of the Servicing Agreement.	New bylaw presents a drastic increase in rates for greenfield development from 2015, as well as the introduction of water and wastewater service charges in Established Area. By-law was introduced through extensive consultation with industry stakeholders and received the conditional support of the local NAIOP, UDI, and Canadian Home Builders' Association groups. As a result of agreements with these groups, the City is currently carrying out a work plan for continued industry collaboration and ongoing assessment of the impacts of the new rates through 2016. Alberta's MGA allows for off-site levies to be charged only for water, wastewater, storm/drainage, and roads. The Community Service Charges enacted are not enabled as off-site levies within the MGA, but have been established as accepted industry practice for greenfield development.	The City is currently undertaking a review of its Citywide DCLs.	In 2017 and 2018, it is proposed to increase the DCC rates by approximately 10 percent. Consultation will be held for these subsequent annual rate increases.

	Municipality		
	Rural Municipality of St. Clements, MB	Rural Municipality of Taché, MB	Rural Municipality of East St. Paul, MB
Population (2011 Census)	10,505	10,284	9,046
Governing legislation	Planning Act, 2005 Section 142 and 143	Planning Act, 2005 Section 142 and 143	Planning Act, 2005 Section 142 and 143
Municipal By-law	By-law No. 14-2009, passed December 2009	By-law No. 2-2015, passed December 2015	By-law No. 2013-18, passed January 2014
Terminology	Capital Development Levies	Dedication Fees	Capital Levies
Services Recovered for under By-law	Capital improvements Roads Recreation & Culture Environment (water, sewer)	Capital costs incurred for subdivision* Fees also include municipality's costs to examine and approve a subdivision application Fees within Local Improvement Districts additionally include: Water meters and installation Water hydrant installation Improvements to the public water and/or sewer system *NTD: Will follow up with municipality for more information	Road Rebuilding and Traffic Signalization Water Sewer Environmental health Active transportation Other capital expansions/improvements associated with the subdivision of land
Do charges apply municipality-wide or based on service areas?	Charges apply to all lands but vary based on available servicing (separate charged for areas serviced by sewer and water, sewer only, and non serviced areas)	Generally municipality-wide, with area-specific rates for two Local Improvement Districts	Municipality-wide
Are charges land use specific or uniform across land uses (e.g. residential, commercial industrial)?	Uniform	Uniform	Uniform
Are charges applied to lot size, building area or unit type?	Per new lot	Per new lot	Newly created residential lots: Per new lot Non-residential and multi-residential units: Per residential equivalent unit
Timing of charge	As a condition of subdivision approval	As a condition of subdivision approval	As a condition of subdivision approval
Calculation methodology	Not specified	Not specified	Not specified
[illegible]	Not specified	Not specified	Not specified
Amount of charge	Serviced Sewer and Water: $9,250 per lot Serviced Sewer only: $6,750 per lot Non Serviced: $4,250 per lot (Rates last amended in 2012)	Two-tier dedication fee system applied to Local Improvement Districts: A charge is applied per lot, and in the event that the lot is developed into multiple dwelling units, an additional charge is applied per residential equivalent unit. Village District of Lorette (Local Improvement District #1) $9,500 for an unserviced residential lot $14,000 for a serviced residential lot For multi family units, an additional $13,000 charge per unit is applied. Village District of Landmark (Local Improvement District #3) $10,500 per lot For multi family units, an additional $9,500 charge per unit is applied. Other areas: $7,000 per lot (2016 rates)	Total of $19,200 per newly created residential lot and/or per residential equivalent unit for non-residential and multi-residential developments. (2014 rates)
Indexing provision	Fee schedule may be amended from time to time by resolution of Council.	The 2015 by-law sets annual rate increase amounts to 2018.	Not specified
Exemptions and discounts	None	For lots created within "Rural Residential Clusters" and/or causing the creation of a Cluster (defined as a grouping of 6 or more Rural Residential Lots), the fee is reduced to $7,000 per lot.	None
Comments	Levies collected are split between four established reserve funds: Capital Improvement Reserve Fund, Road Reserve Fund, Recreation & Culture Reserve Fund, and Environment Reserve Fund.	By-law positions these charges under Section 232(2) of the Municipal Act, which states that a Council may establish fees/charges for "services, activities or things provided or done by the Municipality or for the use of property under the ownership, direction, management or control of the Municipality"	Total charge of $19,200 is broken down by reserve: 1. Traffic Signalization Reserve 2. Road Rebuilding Reserve 3. Capital Levy Reserve 4. Water Capital Levy Reserve 5. Sewer Capital Levy Reserve 6. Environmental Health Services Reserve 7. Active Transportation Reserve

This is **Exhibit "C"** referred to in the
Affidavit of John Hughes sworn
before me this 13th day of March, 2019.

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A Notary Public in and for the Province of
Ontario.

DETERMINATION OF REGULATORY FEES TO FINANCE GROWTH: TECHNICAL REPORT

City of Winnipeg

Report for
Council Consideration

HEMSON Consulting Ltd.

August 31, 2016

TABLE OF CONTENTS

APPENDICES

EXECUTIVE SUMMARY

The following summarizes the findings of the City of Winnipeg's 2016 Regulatory Fee Study.

A. STUDY CALCULATES POTENTIAL REGULATORY FEES TO FUND DEVELOPMENT-RELATED COSTS

- The City should consider levying regulatory fees to fund capital projects throughout Winnipeg so that new development pays for its capital requirements and so that new services required by development are provided in a fiscally responsible manner.
- The study was prepared to calculate potential regulatory fees with reference to a forecast of the amount and type of residential and non-residential development anticipated in the City.
- A review of capital projects has been completed, including an analysis of gross expenditures, funding sources and net expenditures incurred or to be incurred by the City to provide for the expected development, including the determination of the development and non-development-related components of the capital projects.
- This report identifies the growth-related net capital costs attributable to development that is forecast to occur in the City of Winnipeg. These costs are apportioned to residential and non-residential development in a manner that reflects the increase in the need for each service.
- All services with development-related costs are included in the analysis. These City services include Parks and Open Spaces, Community Services, Solid Waste, Public Works, Transit, Fire and Paramedic Services, Police, Water, and Wastewater.

B. STUDY CONSISTENT WITH COMMON PRACTICES ACROSS CANADIAN MUNICIPALITIES

- This study provides the rationale and basis for the calculated regulatory fee rates. The methodology considers common practices as explored through the companion report entitled *Review of Municipal Growth Financing Mechanisms*, dated August 31, 2016.

- A City-wide average cost approach is used to calculate regulatory fees for all eligible services. This approach results in uniform charges levied throughout the City. This approach may be reviewed in subsequent regulatory fee studies.

- The calculated charges are the maximum charges the City may adopt. Lower charges may be approved; however, this will require a reduction in the capital plan, or financing from other sources, likely property taxes and utility rates.

C. DEVELOPMENT FORECAST

- A forecast of the amount, type and location of residential and non-residential development anticipated in the City of Winnipeg to 2041 is included in this report.

- A 10-year forecast, from 2017 to 2026 was used in the regulatory fees calculation for Parks and Open Spaces, Community Services, and Solid Waste services. A 15-year forecast, from 2017 to 2031 was used for Public Works projects. A longer term forecast period, from 2017 to 2041 was used for Transit, Fire and Paramedic Services, Police, Water, and Wastewater services.

- The City is forecast to add approximately 42,300 occupied dwelling units in the 10-year planning period from 2017 to 2026. The 15-year period to 2031 will see a total of 61,900 new dwelling units. The longer term planning period to 2041 will see an addition of 98,300 total dwelling units.

- The development forecast for the 10-year planning period from 2017 to 2026 estimates that the City's Census population will grow by approximately 86,400 people, and by about 127,400 to 2031 and 198,500 to 2041.

- Employment in Winnipeg is forecast to grow by approximately 53,300 employees over the next ten years, 75,500 to 2031 and 122,700 to 2041. Of this employment growth, 22.3 per cent is anticipated to be associated with Office growth, 21.9 per cent with Institutional growth, 21.4 per cent with Commercial/Retail growth, and 34.5 per cent with Industrial growth.

- This employment growth is projected to generate about 3.37 million square metres of new, non-residential building space between 2017 and 2026, 4.78 million square metres to 2031, and 7.76 million square metres to 2041. Of this non-residential building space, 9.5 per cent is anticipated to be associated with Major Office growth, 22.5 per cent with Institutional growth, 13.5 per cent with Commercial/Retail growth, and 54.5 per cent with Industrial growth.

- The following is a summary of the projected development in the City:

Growth Forecast	2016 Estimate	Planning Period 2017 - 2026		Planning Period 2017 - 2031		Planning Period 2017 - 2041	
		Growth	Total at 2026	Growth	Total at 2031	Growth	Total at 2041
Residential							
Total Dwellings	283,850	42,278	326,128	61,904	345,754	98,328	382,178
Total Population							
Census	711,494	86,354	797,848	127,378	838,871	198,458	909,952
Population in New Dwellings		*107,740*		*166,159*		*244,757*	
Non-Residential							
Total Employment	398,951	53,324	452,275	75,489	474,440	122,724	521,675
Major Office	*88,819*	*11,871*	*100,690*	*16,806*	105,625	*27,322*	116,141
Institutional	*87,397*	*11,681*	*99,078*	*16,537*	103,934	*26,885*	114,282
Commercial/Retail	*85,207*	*11,389*	*96,596*	*16,123*	101,330	*26,211*	111,418
Industrial	*137,529*	*18,382*	*155,911*	*26,023*	163,551	*42,306*	179,835
Non-Residential Building Space (sq.m.)		3,373,581		4,775,863		7,764,241	

D. DEVELOPMENT-RELATED CAPITAL FORECAST

10-Year Benefitting Period Services

- City staff, in collaboration with Hemson Consulting, has compiled a development-related capital forecast setting out projects that are required to service anticipated development in the City between 2017 and 2026.
- The gross cost of the City's development-related capital forecast for these services amounts to $287.76 million and provides for a wide range of capital projects. Of the $287.76 million, approximately $45.71 million has been identified as eligible for recovery through regulatory fees over the 2017-2026 planning period.
- Details of the capital programs for each service are provided in Appendix B.

15-Year Benefitting Period Services

- A development-related capital forecast has been compiled setting out projects that are required to service anticipated development in the City between 2017 and 2031.
- The gross cost of the City's development-related capital forecast for these services amounts to $3.47 billion and provides for a wide range of infrastructure expansions. Of the $3.47 billion, approximately $647.78 million has been identified as eligible for recovery through regulatory fees over the 2017-2031 planning period.

- Details of the capital programs for each service are provided in Appendix C.

25-Year Benefitting Period Services

- A development-related capital forecast has been prepared setting out projects that are required to service anticipated development in the City between 2017 and 2041.
- The gross cost of the City's development-related capital forecast for these services amounts to $4.37 billion. Of the $4.37 billion, approximately $738.50 million is to be recovered from regulatory fees over the 2017-2041 planning period.
- Details of the capital programs for each service are provided in Appendix C.

E. CALCULATED REGULATORY FEES

- A City-wide cost approach is used to calculate regulatory fees for all eligible services. Uniform residential and non-residential charges are levied throughout the City.
- The fully calculated non-residential charges are recommended to vary by employment category, reflecting the difference in employment densities expected across the four categories and associated differences in demand placed on municipal services.

Calculated Regulatory Fees

Service	Residential Charge Per Square Metre	Office Charge Per Square Metre	Institutional Charge Per Square Metre	Commercial/ Retail Charge Per Square Metre	Industrial Charge Per Square Metre
PARKS AND OPEN SPACES	$1.79	$0.00	$0.00	$0.00	$0.00
COMMUNITY SERVICES	$6.07	$0.00	$0.00	$0.00	$0.00
SOLID WASTE	$0.53	$1.17	$0.48	$0.79	$0.32
PUBLIC WORKS	$56.04	$126.06	$52.36	$85.09	$34.04
TRANSIT	$20.22	$44.53	$18.50	$30.06	$12.02
FIRE & PARAMEDIC SERVICES	$1.85	$4.09	$1.70	$2.76	$1.10
POLICE	$2.09	$4.60	$1.91	$3.11	$1.24
WATER	$4.50	$9.92	$4.12	$6.70	$2.68
WASTEWATER	$16.36	$36.14	$15.01	$24.40	$9.76
TOTAL CHARGE	$109.45	$226.51	$94.08	$152.91	$61.16

I INTRODUCTION

The City of Winnipeg has been undergoing a period of increasing growth over recent years, placing pressure on the City's infrastructure and resources. With growth expected to continue, the funding of new infrastructure for expanded City services will continue to be a challenge. Recognizing this challenge, the City has examined the costs and revenues associated with growth as well as the potential to introduce new funding mechanisms. More specifically, the City wishes to consider implementation of regulatory fees to fund development-related capital projects so that development may be serviced in a fiscally responsible manner.

Many comparable municipalities across Canada impose regulatory fees to pay for off-site, development-related infrastructure. Typically, the charges are determined with reference to a forecast of the amount, type and location of development anticipated in the municipality; as well as a review of capital works in progress and anticipated future capital projects including an analysis of gross expenditures, funding sources, and net expenditures incurred or to be incurred by the municipality to provide for the expected development, including the determination of the development and non-development-related components of the capital projects.

This study presents the results of the review to determine the net capital costs attributable to new development that is forecast to occur in the City of Winnipeg between 2017 and 2041. These development-related net capital costs are apportioned to residential and non-residential development in a manner that reflects the increase in the need for each service.

This report serves as a companion document to the August 31, 2016 report entitled *Review of Municipal Growth Financing Mechanisms*, which explores Winnipeg's context with respect to the funding of development-related costs, and includes a detailed review of regulatory fees and similar mechanisms employed by municipalities across Canada to fund development-related costs.

The remainder of this report sets out the information and analysis upon which the potential regulatory fees are based:

> Section II designates the services for which the regulatory fees are proposed. It also briefly reviews the methodology that has been used in the study.

Section III presents a summary of the forecast of residential and non-residential development expected to occur within the City over three planning periods: from 2017 to 2026, from 2017 to 2031, and a longer-term planning period from 2017 to 2041.

Section IV summarizes the development-related capital forecast that has been developed by various departments.

Section V summarizes the calculation of applicable regulatory fees and the resulting calculated regulatory fees by class and type of development.

Section VI provides a discussion of implementation considerations and recommendations including by-law administration.

II A CITY-WIDE METHODOLOGY ALIGNS DEVELOPMENT-RELATED COSTS AND BENEFITS

This study has been tailored specifically for the City of Winnipeg. The approach to the proposed regulatory fees is focused on providing a reasonable alignment of development-related costs with the development that necessitates them. The study uses a City-wide approach for all services, which is deemed the best approach to align development-related costs and benefits.

A. CITY-WIDE REGULATORY FEES ARE CALCULATED

The City of Winnipeg provides a wide range of services to the community it serves. For all of the services that the City provides, the full range of capital facilities, land, equipment and infrastructure is available throughout the City. A widely accepted method for recovering the development-related capital costs for such services is to apportion them over all new development anticipated in Winnipeg. This approach can be reviewed in subsequent studies.

The following services are included in the City-wide regulatory fee calculation:

- Parks and Open Spaces;
- Community Services;
- Solid Waste;
- Public Works;
- Transit;
- Fire and Paramedic Services;
- Police Services;
- Water; and
- Wastewater.

These services form a reasonable basis upon which to plan and administer the regulatory fees. The resulting regulatory fee for these services is to be imposed against all development anywhere in the City.

B. KEY STEPS IN DETERMINING REGULATORY FEES FOR FUTURE DEVELOPMENT-RELATED PROJECTS

Several key steps are required in calculating regulatory fees for future development-related projects. These are summarized below.

1. Development Forecast

The first step in the methodology requires a development forecast to be prepared for the 10-year study period, 2017 to 2026, the 15-year study period to 2031, and for the 25-year study period to 2041. The development forecast is based on the latest population and employment estimates provided by City staff. The forecast considers the 2011 Census; the most recent year Census data are available.

For the residential portion of the forecast, both the net (or Census) population growth and population growth in new units is estimated. Population growth determines the need for additional facilities and provides the foundation for the development-related capital program.

When calculating the regulatory fee however, the development-related net capital costs are spread over the total additional population that occupy new housing units. This population in new units represents the population from which regulatory fees will be collected.

The non-residential portion of the forecast estimates the gross floor area (GFA) of building space to be developed over the 10-year period, 2017 to 2026, the 15-year period to 2031, and the 25-year period to 2041. Forecasts for growth in four major employment categories were calculated: Office, Institutional, Commercial/Retail, and Industrial. The forecasts of GFA are based on the employment forecasts for the City. Factors for floor space per worker are used to convert the employment forecasts into GFA for the purposes of this study.

2. Development-Related Capital Forecast and Analysis of Net Capital Costs to be Included in the Regulatory fees

A development-related capital forecast has been prepared by the City's departments as part of this study. The forecast identifies development-related projects and their gross and net costs, after allowing for capital grants, subsidies or other contributions. The capital forecast provides another cornerstone upon which regulatory fees are based.

The development-related capital forecast prepared for this study ensures that regulatory fees are only imposed to help pay for projects that have been or are intended to be purchased or built in order to accommodate future anticipated development. For some projects in the development-related capital forecast, a portion of the project may confer benefits to existing residents. These portions of projects and their associated net costs are the funding responsibility of the City from non-regulatory fee sources. The amount of City funding for such shares is also identified as part of the preparation of the capital forecast.

Finally, in certain cases further adjustments are made to attribute portions of the regulatory fee-eligible project costs to prior growth, or to account for excess capacity that is anticipated to serve growth beyond the 10-, 15-, or 25-year study period.

3. Attribution to Types of Development

The next step in the determination of regulatory fees is the allocation of the development-related net capital costs between the residential and non-residential sectors. This is done using apportionments for different services in accordance with the demands placed and the benefits derived.

The apportionment is based on the expected demand for, and use of, the service by sector (e.g. shares of population and employment). The non-residential portion of the capital costs is further apportioned based on the respective shares of forecast employment growth under the four employment categories (Office, Institutional, Commercial/Retail, Industrial).

Each of the residential and non-residential components of the regulatory fee are applied on the basis of gross building space in square metres.

4. Final Adjustment

The final determination of the regulatory fee results from a cash flow analysis to account for the timing of projects and receipt of regulatory fees. Interest earnings or borrowing costs are therefore accounted for in the calculation.

III DEVELOPMENT FORECAST

This section provides the basis for the development forecasts used in calculating the regulatory fees, as well as a summary of the forecast results. A more detailed summary of the forecasts, including tables illustrating historical trends and forecast results is provided in Appendix A.

A. RESIDENTIAL FORECAST

When calculating the regulatory fee, the development-related net capital costs are spread over the total additional population that occupy new housing units. This population in new units represents the population from which regulatory fee will be collected.

Table 1 provides a summary of the residential forecast for two planning periods: a 10-year planning period, from 2017 to 2026; a 15-year planning period, from 2017 to 2031; and over the longer-term from 2017 to 2041. For regulatory fee calculation purposes:

- The 10-year planning period is applicable to Parks and Open Spaces, Community Services, and Solid Waste regulatory fees;
- The 15-year planning period is applicable to Public Works regulatory fees; and
- The longer-term development forecast to 2041 has been utilized in the calculation of Transit, Fire and Paramedic Service, Police Services, Water, and Wastewater regulatory fees.

As shown on Table 1, the City's Census population is expected to increase by about 86,400 people over the next ten years reaching approximately 797,800 by 2026. Over the 15-year period, Census population growth is expected to total 127,400 to reach 838,900 by 2031. Finally, the longer-term Census population is forecast to grow by approximately 198,500 people to 910,000 in 2041.

Over the 10-year planning period from 2017 to 2026, the total number of new residential occupied units will increase by approximately 42,300. This translates to a population growth in new units of 107,700. The population in new units was derived using data from Statistics Canada analysing household sizes in recently constructed

TABLE 1

CITY OF WINNIPEG
SUMMARY OF RESIDENTIAL AND NON-RESIDENTIAL
GROWTH FORECAST

Growth Forecast	2016 Estimate	Planning Period 2017 - 2026		Planning Period 2017 - 2031		Planning Period 2017 - 2041	
		Growth	Total at 2026	Growth	Total at 2031	Growth	Total at 2041
Residential							
Total Dwellings	283,850	42,278	326,128	61,904	345,754	98,328	382,178
Total Population							
Census	711,494	86,354	797,848	127,378	838,871	198,458	909,952
Population In New Dwellings		*107,740*		*156,159*		*244,757*	
Non-Residential							
Total Employment	398,951	53,324	452,275	75,489	474,440	122,724	521,675
Major Office	*88,819*	*11,871*	*100,690*	*16,806*	105,625	*27,322*	116,141
Institutional	*87,397*	*11,681*	*99,078*	*16,537*	103,934	*26,885*	114,282
Commercial/Retail	*85,207*	*11,389*	*96,596*	*16,123*	101,330	*26,211*	111,418
Industrial	*137,529*	*18,382*	*155,911*	*26,023*	163,551	*42,306*	179,835
Non-Residential Building Space (sq.m.)		3,373,581		4,775,863		7,764,241	

units. The forecast has projected growth over the 15-year planning period of 61,900 new units with population residing in the new units at 156,200; and longer-term planning period growth of 98,300 units and 244,800 residents.

To translate the per capita forecast to a residential floor space forecast, an assumption of 48.8 square metres per capita was used. This is based on a sampling of recently constructed dwellings.

B. NON-RESIDENTIAL FORECAST

The non-residential forecast projects an increase of approximately 53,300 employees to 2026, 75,500 to 2031, and 122,700 to 2041, the highest proportion of which is anticipated to be in the Industrial sector. These additional employees will be accommodated in 3.37 million square metres of new non-residential building space to 2026, 4.78 million square metres to 2031, and 7.76 million additional square metres to 2041. The employment numbers above exclude work at home employment since it does not generate any additional floor space.

Table 1 also provides a summary of the non-residential development forecasts used in this analysis.

IV THE DEVELOPMENT-RELATED CAPITAL FORECAST

Based on the development forecasts summarized in Section III and detailed in Appendix A, City staff, in collaboration with the consultants have created a development-related capital forecast setting out those projects that are required to service anticipated development. For Parks and Open Spaces, Community Services, and Solid Waste services, the capital plan covers the 10-year period from 2017 to 2026. The capital plan for Public Works covers the 15-year period from 2017 to 2031. Finally, regulatory fees for Transit, Fire and Paramedic, Police, Water, and Wastewater services are based on development anticipated in the City to 2041.

It is assumed that future capital budgets and forecasts will continue to bring forward the development-related projects contained herein, that are consistent with the development occurring in the City. It is acknowledged that changes to the forecast presented here may occur through the City's normal capital budget process.

A summary of the total development-related capital forecast is presented in Table 2. Further details on the capital plans for each individual service category are available in Appendices B, C, and D.

A. DEVELOPMENT-RELATED CAPITAL FORECAST FOR THE 10-YEAR BENEFITTING PERIOD

The development-related capital forecast for the 10-year benefitting period services (Parks and Open Spaces, Community Services, and Solid Waste) estimates a total gross cost of $287.76 million. Alternative funding sources have been identified in the amount of $74.06 million and account for contributions from other levels of government as well as private partners. Therefore, the net municipal cost of the capital program is reduced to $213.70 million.

The Parks and Open Spaces development-related capital program totals $55.11 million in net municipal costs and accounts for 25.8 per cent of the overall forecast. The program includes major improvements to Kilcona Park and Tyndall Park, as well as hard surfacing for outdoor athletic facilities.

The most significant portion of the development-related capital program is associated with Community Services, amounting to $123.99 million or 58.0 per cent. The

TABLE 2

CITY OF WINNIPEG
SUMMARY OF ALL SERVICES DEVELOPMENT-RELATED CAPITAL PROGRAM
2017-2026

Service	Gross Cost ($000)	Grants/ Subsidies ($000)	Municipal Cost ($000)
1.0 PARKS AND OPEN SPACES	$61,650	$6,540	$55,110
2.0 COMMUNITY SERVICES	$191,512	$67,521	$123,991
3.0 SOLID WASTE	$34,600	$0	$34,600
TOTAL 10-YEAR BENEFITTING PERIOD	**$287,762**	**$74,061**	**$213,701**
4.0 PUBLIC WORKS	$3,471,887	$1,714,532	$1,757,355
TOTAL 15-YEAR BENEFITTING PERIOD	**$3,471,887**	**$1,714,532**	**$1,757,355**
5.0 TRANSIT	$2,615,300	$1,514,841	$1,100,459
6.0 FIRE & PARAMEDIC SERVICES	$35,000	$0	$35,000
7.0 POLICE	$231,178	$2,800	$228,378
8.0 WATER	$310,868	$0	$310,868
9.0 WASTEWATER	$1,177,172	$267,680	$909,492
TOTAL 25-YEAR BENEFITTING PERIOD	**$4,369,518**	**$1,785,321**	**$2,584,197**

program includes development, redevelopment, expansion, or improvement of library and recreation facilities. Most notably, it includes the City's portion of a partnership with the YMCA to construct three new recreation facilities.

Finally, the Solid Waste development-related capital program totals $34.6 million in net municipal costs, or 16.19 per cent of the overall forecast. The program includes cell construction and construction of a new administration building for the Brady Road Resource Management Facility, as well as implementation of a Comprehensive Integrated Waste Management Strategy.

The capital forecast incorporates those projects identified to be related to development anticipated in the next ten years. It is not implied that all of these costs are to be recovered from new development by way of regulatory fees (see the following Section V for the method and determination of net capital costs attributable to development). For example, portions of this capital forecast may relate to providing servicing for replacement of existing capital facilities (e.g. upgrades to existing library facilities).

B. DEVELOPMENT-RELATED CAPITAL FORECAST FOR THE 15-YEAR BENEFITTING PERIOD

The development-related capital forecast for Public Works is anticipated to benefit development occurring over a 15-year period, from 2017 to 2031. The program includes the development of active transportation facilities as well as a number of major road and bridge projects that will help to serve new development areas. The total gross costs for this service are calculated at $3.47 billion. Approximately $1.71 billion is anticipated in grants from other levels of government, leaving $1.76 billion in net municipal costs.

Similar to the capital forecast for the 10-year benefitting period, it is not implied that all costs associated with this capital forecast are to be recovered from new development by way of regulatory fees over the 15-year benefitting period. Portions of this capital forecast may relate to providing servicing for replacement of existing capital facilities, for development which has occurred prior to 2017, or to account for infrastructure that will support new development beyond 2031.

C. DEVELOPMENT-RELATED CAPITAL FORECAST FOR THE 25-YEAR BENEFITTING PERIOD

The 25-year benefitting period services include major Transit, Fire and Paramedic, Police, Water, and Wastewater services. The total gross cost for these services is $4.37 billion. Alternative funding sources have been identified in the amount of $1.79 billion and represent contributions from other levels of government. Therefore, the net municipal cost of the capital program is reduced to approximately $2.58 billion.

The Transit development-related capital program totals $1.10 billion in net municipal costs, or 42.6 per cent of the overall forecast. The program includes construction of six Bus Rapid Transit corridors, annual purchases of additional transit buses due to ridership growth both within the current transit system and the future BRT routes, and the expansion and improvement of mechanical and storage facilities.

The development-related capital program for Fire and Paramedic Services totals $35.00 million, or 1.35 per cent of the overall forecast. It includes construction of four new fire stations and expansions to two existing stations, which will allow for additional capacity to help service intensification in existing neighbourhoods.

The Police development-related capital program totals $228.38 million in net municipal costs, or 8.8 per cent of the overall forecast. The program includes construction of new stations and a new headquarters, along with related technology needs.

The Water development-related capital program amounts to $310.87 million, or 12.0 per cent of the overall forecast. It includes water main extensions and upgrades, a water treatment plant capacity validation initiative, and a new water treatment plant.

Approximately $909.49 million, or 35.2 per cent of the overall forecast, accounts for the Wastewater development-related capital program. The Wastewater program includes expansions and upgrades to three sewage treatment plants and construction of interceptor sewers.

Again, it is not implied that all costs associated with the capital forecast for the 25-year benefitting period are to be recovered through regulatory fees. Portions of this capital forecast may relate to providing servicing for development which has occurred prior to 2017 or for replacement of existing capital facilities.

V CALCULATION OF POTENTIAL REGULATORY FEES

This section summarizes the calculation of regulatory fees for each service category. For all municipal services, the calculation of the "unadjusted" per capita (residential) and per square metre (non-residential) charges is reviewed. Adjustments to these amounts resulting from a cash flow analysis that takes interest earnings and borrowing costs into account are also discussed.

For residential development, the adjusted total per capita amount is converted to a charge per square metre using size assumptions derived from recently constructed units. For non-residential development, the charges are based on gross floor area of building space, and a variable charge by employment category (Office, Institutional, Commercial/Retail, and Industrial) is calculated based on employment density factors.

A. UNADJUSTED REGULATORY FEES CALCULATION FOR 10-YEAR BENEFITTING PERIOD SERVICES

A summary of the calculation for the "unadjusted" residential and non-residential regulatory fees for the 10-year benefitting period services is presented in Table 3. Further details of the calculation for each individual service category are available in Appendix B.

The net capital forecast for these services totals $213.70 million and incorporates those projects identified to be related to development anticipated in the next ten years. However, not all of the capital costs are to be recovered from new development by way of regulatory fees. As shown on Table 3, 65.1 per cent of the net municipal costs, or $139.12 million relates to replacement of existing capital facilities or for shares of projects that provide benefit to the existing population. An additional $28.87 million has been attributed to shares of projects that are expected to serve new residential development which occurred in the City during the 10-year period preceding 2017. These portions of the capital costs will have to be funded from non-regulatory fee revenue sources, which will largely be property taxes for this group of services.

The costs idetified for recovery through regulatory fees for these services total $45.71 million. This amount is allocated between the residential and non-residential sectors to derive the unadjusted regulatory fees. Parks and Open Spaces and Community

TABLE 3

CITY OF WINNIPEG
SUMMARY OF UNADJUSTED RESIDENTIAL AND NON-RESIDENTIAL CHARGES
10-YEAR SERVICES DEVELOPMENT-RELATED CAPITAL PROGRAM

10 Year Growth in New Units	107,740
10 Year Growth in Square Metres	3,373,581

Service	Development-Related Capital Program									
	Gross Cost ($000)	Grants/ Subsidies/ Recoveries ($000)	Replacement & Benefit to Existing ($000)	Prior Growth ($000)	Post 2026 ($000)	Total Costs for Recovery ($000)	Residential Share %	Residential Share ($000)	Non-Res Share %	Non-Res Share ($000)
1.0 PARKS AND OPEN SPACES	$61,650	$6,540	$45,695	$0	$0	$9,415	100%	$9,415	0%	$0
Unadjusted Charge Per Capita								$87.38		
Unadjusted Charge Per Sq.M.										$0.00
2.0 COMMUNITY SERVICES	$191,512	$67,521	$63,174	$28,871	$0	$31,946	100%	$31,945	0%	$0
Unadjusted Charge Per Capita								$296.51		
Unadjusted Charge Per Sq.M.										$0.00
3.0 SOLID WASTE	$34,600	$0	$30,248	$0	$0	$4,352	62%	$2,698	38%	$1,654
Unadjusted Charge Per Capita								$25.05		
Unadjusted Charge Per Sq.M.										$0.49
TOTAL 10-YEAR BENEFITTING PERIOD SERVICES	$287,762.0	$74,060.6	$139,117.0	$28,871.4	$0.0	$45,713.0		$44,059.2		$1,653.8

Services are deemed to benefit residential development only, while Solid Waste services are allocated between both sectors based on shares of population and employment growth. The allocation to the residential sector for Solid Waste services is calculated at 62 per cent, and 38 per cent to the non-residential sector.

Approximately $44.06 million of the regulatory fees eligible capital program for these services is deemed to benefit residential development. This includes $9.41 million for Parks and Open Spaces, $31.95 million for Community Services, and $2.70 for Solid Waste. When these amounts are divided by the 10-year growth in population in new dwelling units (107,740), unadjusted per-capita charges of $87.38 for Parks and Open Spaces, $296.51 for Community Services, and $25.05 for Solid Waste result.

The non-residential regulatory fees eligible capital program includes $1.65 million for Solid Waste services. These unadjusted uniform non-residential charge was calculated by dividing the eligible capital costs by the forecast 10-year increase in non-residential space, which totals 3.37 million square metres. The unadjusted per-square metre charges were calculated at $0.49 for Solid Waste.

The non-residential capital program is further divided by four employment categories. Based on employment forecasts under each category, approximately 22.3 per cent of the non-residential capital program is allocated to Office development, another 21.9 per cent is allocated to Institutional development, 21.4 per cent is allocated to Commercial/Retail development, and 34.5 per cent is allocated to Industrial development. Charges calculated for each of these employment categories are included in Tables 8 through 11. Much of the variation in these charges is due to variations in the forecast growth in new space under each category.

B. UNADJUSTED REGULATORY FEES CALCULATION FOR 15-YEAR BENEFITTING PERIOD SERVICES

Table 4 displays the calculation of the unadjusted rates to cover the Public Works development-related capital projects, which will service development in the City between 2017 and 2031. Further details of the calculation are available in Appendix C.

The net capital forecast for this service totals $1.76 billion; however, not all of the capital costs are to be recovered from new development by way of regulatory fees. Approximately 40.5 per cent of the net municipal costs, or $711.46 million relates to

TABLE 4

CITY OF WINNIPEG
SUMMARY OF UNADJUSTED RESIDENTIAL AND NON-RESIDENTIAL CHARGES
15-YEAR SERVICES DEVELOPMENT-RELATED CAPITAL PROGRAM

2017-2041 Growth in New Units	156,159
2017-2041 Growth in Square Metres	4,775,863

Service	Development-Related Capital Program									
	Gross Cost ($000)	Grants/ Subsidies/ Recoveries ($000)	Replacement & Benefit to Existing ($000)	Prior Growth ($000)	Post 2031 ($000)	Total Costs for Recovery ($000)	Residential Share %	Residential Share ($000)	Non-Res Share %	Non-Res Share ($000)
4.0 PUBLIC WORKS	$3,471,887	$1,714,532	$711,460	$165,611	$232,499	$647,785	62%	$401,626	38%	$246,158
Unadjusted Charge Per Capita								$2,571.91		
Unadjusted Charge Per Sq.M.										$51.54
TOTAL 15-YEAR BENEFITTING PERIOD SERVICES	$3,471,887.1	$1,714,532.0	$711,460.2	$165,611.0	$232,499.4	$647,784.5		$401,626.4		$246,158.1

replacement of existing capital facilities or for shares of projects that provide benefit to the existing community. An additional $165.61 million of the Public Works costs has been allocated to development that occurred during the 10-year period preceding 2017; this includes portions of recently completed projects as well as planned projects that are expected to benefit recent development. Finally, $232.50 million of the capital have been allocated to growth beyond 2031. These portions of capital costs will have to be funded from non-regulatory fee revenue sources, which will largely be property taxes for this service.

The costs eligible for recovery through regulatory fees for Public Works total $647.78 million. This amount is allocated between the residential and non-residential sectors to derive the unadjusted regulatory fees. The allocations of 62 per cent to the residential sector and 38 per cent to the non-residential sector are used for this service as Public Works projects are deemed to benefit both residential and non-residential development.

Approximately $401.63 million of the regulatory fees eligible capital program for Public Works is deemed to benefit residential development. When this amount is divided by the 15-year growth in population in new dwelling units (156,159), an unadjusted per-capita charge of $2,571.91 results.

The non-residential regulatory fees eligible capital program totals $246.16 million. The unadjusted uniform non-residential charge was calculated by dividing the eligible capital costs by the forecast 15-year increase in non-residential space (4.78 million square metres). The unadjusted per-square metre charge was calculated at $51.54.

The non-residential capital program is further divided by four employment categories based on employment forecasts under each category, and distinct charges were then calculated for each of these employment categories based on their unique forecast growth in new space. Calculated charges for Office, Institutional, Commercial/Retail, and Industrial development are summarized in Tables 8 through 11.

C. UNADJUSTED REGULATORY FEES CALCULATION FOR 25-YEAR BENEFITTING PERIOD SERVICES

Table 5 displays the calculation of the unadjusted rates to cover capital projects that will be used to service development in the City between 2017 and 2041. Further details of the calculation for each individual service category are available in Appendix D.

TABLE 5

CITY OF WINNIPEG
SUMMARY OF UNADJUSTED RESIDENTIAL AND NON-RESIDENTIAL CHARGES
25-YEAR SERVICES DEVELOPMENT-RELATED CAPITAL PROGRAM

2017-2041 Growth in New Units	244,757
2017-2041 Growth in Square Metres	7,764,241

Service	Development-Related Capital Program									
	Gross Cost ($000)	Grants/ Subsidies/ Recoveries ($000)	Replacement & Benefit to Existing ($000)	Prior Growth ($000)	Post 2041 ($000)	Total Costs for Recovery ($000)	Residential Share %	Residential Share ($000)	Non-Res Share %	Non-Res Share ($000)
5.0 TRANSIT	$2,615,300	$1,514,841	$703,415	$31,597	$0	$365,447	62%	$226,577	38%	$138,870
Unadjusted Charge Per Capita								$925.72		
Unadjusted Charge Per Sq.M.										$17.89
6.0 FIRE & PARAMEDIC SERVICES	$35,000	$0	$2,500	$808	$0	$31,692	62%	$19,649	38%	$12,043
Unadjusted Charge Per Capita								$80.28		
Unadjusted Charge Per Sq.M.										$1.55
7.0 POLICE	$231,178	$2,800	$186,972	$13,444	$0	$27,961	62%	$17,336	38%	$10,625
Unadjusted Charge Per Capita								$70.83		
Unadjusted Charge Per Sq.M.										$1.37
8.0 WATER	$310,868	$0	$227,969	$22,495	$0	$60,404	62%	$37,450	38%	$22,953
Unadjusted Charge Per Capita								$153.01		
Unadjusted Charge Per Sq.M.										$2.96
9.0 WASTEWATER	$1,177,172	$267,680	$656,075	$419	$0	$252,998	62%	$156,859	38%	$96,139
Unadjusted Charge Per Capita								$640.88		
Unadjusted Charge Per Sq.M.										$12.38
TOTAL 25-YEAR BENEFITTING PERIOD SERVICES	$4,369,518.0	$1,785,321.4	$1,776,930.5	$68,764.6	$0.0	$738,501.6		$457,871.0		$280,630.6

The net capital forecast for these services totals $2.58 billion; however, not all of the capital costs are to be recovered from new development by way of regulatory fees. Approximately 68.8 per cent of the net municipal costs, or $1.78 billion relates to replacement of existing capital facilities or for shares of projects that provide benefit to the existing community. An additional $68.76 million of the capital costs represent portions of recently completed projects or planned projects that are expected to service development that occurred over the 10-year period preceding 2017. These portions of capital costs will have to be funded from non-regulatory fee revenue sources, whether through property taxes or utility rates.

The costs eligible for recovery through regulatory fees for these services total $738.50 million. As all services in this category are deemed to benefit both residential and non-residential development, the eligible costs are allocated at 62 per cent to the residential sector and 38 per cent to the non-residential sector to derive the unadjusted regulatory fees.

Approximately $457.87 million of the regulatory fees eligible capital program for these services is deemed to benefit residential development. This includes $226.58 million for Transit, $19.65 million for Fire and Paramedic Services, $17.34 million for Police, $37.45 million for Water, and $156.86 million for Wastewater.

When these amounts are divided by the 25-year growth in population in new dwelling units (244,757), unadjusted per-capita charges of $925.72 for Transit, $80.28 for Fire and Paramedic Services, $70.83 for Police, $153.01 for Water, and $640.88 for Wastewater result.

The non-residential regulatory fees eligible capital program totals $280.63 million, including $138.87 million for Transit, $12.04 million for Fire and Paramedic Services, $10.62 million for Police, $22.95 million for Water, and $96.14 million for Wastewater. These unadjusted uniform non-residential charges were calculated for each service by dividing the eligible capital costs by the forecast 25-year increase in non-residential space (7.57 million square metres). The unadjusted per-square metre charges were calculated at $17.89 for Transit, $1.55 for Fire and Paramedic Services, $1.37 for Police, $2.96 for Water, and $12.38 for Wastewater.

Once again, the non-residential capital program is further divided by four employment categories based on employment forecasts under each category. Calculated charges for Office, Institutional, Commercial/Retail, and Industrial development are summarized in Tables 8 through 11.

D. ADJUSTED RESIDENTIAL AND NON-RESIDENTIAL REGULATORY FEES

Final adjustments to the "unadjusted" regulatory fee rates are made through a cash flow analysis. The analysis, details of which are included in the appendices, considers the borrowing cost and interest earnings associated with the timing of expenditures and regulatory fee receipts for each service category.

Table 6 summarizes the results of the cash flow adjustments for the residential regulatory fee rates. After the cash flow analysis, the adjusted per capita rate increases for most services, with the exception of slight decreases for the Parks and Open Spaces and Community Services rates. A charge per square metre (total $109.45) was then calculated from the adjusted per capita rate based on an estimate of 48.8 square metres of residential space per capita. Sample charges based on units of 167 square metres and 79 square metres are also provided in Table 6.

Most of the non-residential regulatory fees also experience an increase after cash flow considerations. The adjusted per square metre charges for each service are provided in Tables 7 through 11 including both the calculated uniform non-residential charge and the variable charges for Office, Institutional, Commercial/Retail, and Industrial development. Total regulatory fee rates per square metre have been calculated at $226.51 for Office, $94.08 for Institutional, $152.91 for Commercial/Retail, and $61.16 for Industrial development.

TABLE 6

CITY OF WINNIPEG
CALCULATED REGULATORY FEES
RESIDENTIAL CHARGES BY UNIT TYPE

Service	Unadjusted Charge Per Capita	Adjusted Charge Per Capita	Adjusted Charge Per Square Metre	Sample Residential Charge	
				1,800 sq. ft. (167 sq. m.)	850 sq. ft. (79 sq. m.)
PARKS AND OPEN SPACES	$87.38	$87.26	$1.79	$299.33	$141.35
COMMUNITY SERVICES	$296.51	$296.40	$6.07	$1,015.06	$479.33
SOLID WASTE	$25.05	$25.97	$0.53	$88.63	$41.85
PUBLIC WORKS	$2,571.91	$2,735.87	$56.04	$9,371.32	$4,425.35
TRANSIT	$925.72	$987.01	$20.22	$3,381.30	$1,596.73
FIRE & PARAMEDIC SERVICES	$80.28	$90.43	$1.85	$309.37	$146.09
POLICE	$70.83	$101.92	$2.09	$349.50	$165.04
WATER	$153.01	$219.70	$4.50	$752.52	$355.35
WASTEWATER	$640.88	$798.87	$16.36	$2,735.81	$1,291.91
TOTAL CHARGE	**$4,851.56**	**$5,343.41**	**$109.45**	**$18,302.84**	**$8,643.00**

TABLE 7

CITY OF WINNIPEG
CALCULATED REGULATORY FEES
NON-RESIDENTIAL UNIFORM CHARGES PER SQUARE METRE

Service	Non-Residential Uniform Charge	
	Unadjusted Charge per Square Metre	Adjusted Charge per Square Metre
PARKS AND OPEN SPACES	$0.00	$0.00
COMMUNITY SERVICES	$0.00	$0.00
SOLID WASTE	$0.49	$0.50
PUBLIC WORKS	$51.54	$53.80
TRANSIT	$17.89	$19.00
FIRE & PARAMEDIC SERVICES	$1.55	$1.75
POLICE	$1.37	$1.96
WATER	$2.96	$4.23
WASTEWATER	$12.38	$15.42
TOTAL CHARGE PER SQUARE METRE	**$88.18**	**$96.66**

TABLE 8

CITY OF WINNIPEG
CALCULATED REGULATORY FEES
MAJOR OFFICE CHARGES PER SQUARE METRE

Service	Office Charge	
	Unadjusted Charge per Square Metre	Adjusted Charge per Square Metre
PARKS AND OPEN SPACES	$0.00	$0.00
COMMUNITY SERVICES	$0.00	$0.00
SOLID WASTE	$1.15	$1.17
PUBLIC WORKS	$120.77	$126.06
TRANSIT	$41.91	$44.53
FIRE & PARAMEDIC SERVICES	$3.63	$4.09
POLICE	$3.21	$4.60
WATER	$6.93	$9.92
WASTEWATER	$29.01	$36.14
TOTAL CHARGE PER SQUARE METRE	$206.61	$226.51

TABLE 9

CITY OF WINNIPEG
CALCULATED REGULATORY FEES
INSTITUTIONAL CHARGES PER SQUARE METRE

Service	Institutional Charge	
	Unadjusted Charge per Square Metre	Adjusted Charge per Square Metre
PARKS AND OPEN SPACES	$0.00	$0.00
COMMUNITY SERVICES	$0.00	$0.00
SOLID WASTE	$0.48	$0.48
PUBLIC WORKS	$50.17	$52.36
TRANSIT	$17.41	$18.50
FIRE & PARAMEDIC SERVICES	$1.51	$1.70
POLICE	$1.33	$1.91
WATER	$2.88	$4.12
WASTEWATER	$12.05	$15.01
TOTAL CHARGE PER SQUARE METRE	$85.82	$94.08

TABLE 10

CITY OF WINNIPEG
CALCULATED REGULATORY FEES
COMMERCIAL/RETAIL CHARGES PER SQUARE METRE

Service	Commercial/Retail Charge	
	Unadjusted Charge per Square Metre	Adjusted Charge per Square Metre
PARKS AND OPEN SPACES	$0.00	$0.00
COMMUNITY SERVICES	$0.00	$0.00
SOLID WASTE	$0.78	$0.79
PUBLIC WORKS	$81.52	$85.09
TRANSIT	$28.29	$30.06
FIRE & PARAMEDIC SERVICES	$2.45	$2.76
POLICE	$2.16	$3.11
WATER	$4.68	$6.70
WASTEWATER	$19.58	$24.40
TOTAL CHARGE PER SQUARE METRE	**$139.46**	**$152.91**

TABLE 11

CITY OF WINNIPEG
CALCULATED REGULATORY FEES
INDUSTRIAL CHARGES PER SQUARE METRE

Service	Industrial Charge	
	Unadjusted Charge per Square Metre	Adjusted Charge per Square Metre
PARKS AND OPEN SPACES	$0.00	$0.00
COMMUNITY SERVICES	$0.00	$0.00
SOLID WASTE	$0.31	$0.32
PUBLIC WORKS	$32.61	$34.04
TRANSIT	$11.32	$12.02
FIRE & PARAMEDIC SERVICES	$0.98	$1.10
POLICE	$0.87	$1.24
WATER	$1.87	$2.68
WASTEWATER	$7.83	$9.76
TOTAL CHARGE PER SQUARE METRE	**$55.79**	**$61.16**

VI ADMINISTRATION OF REGULATORY FEES

The following policies and practices should be considered when implementing the regulatory fee. The application of fees in other municipalities is described in more detail in the companion report entitled *Review of Municipal Growth Financing Mechanisms.*

A. SERVICE RESPONSIBILITY

- It is recommended that the City review its development agreement parameters to ensure that any capital projects recovered through a regulatory fee are also not required to be emplaced and funded by developers as condition of planning approval.

- Notwithstanding the above, the City may wish to enter into credit agreements with developers so that a developer receives a credit from a regulatory fee for regulatory fee infrastructure constructed on the municipality's behalf.

B. USE OF FUNDS

- Reserves funds or accounts should be established for each service adopted under a regulatory fee by-law.

- It is recommended that Council adopt the development-related capital forecast included in this study, subject to annual review through the City's normal capital budget process. Projects may be removed, added or substituted as long as they are development-related.

C. TIMING OF PAYMENT

- It is understood that the regulatory fee would be collected at building permit issuance. This is a common collection point in other municipalities.

D. INDEXING OF FEES

- It is recommended that the City establish a by-law policy for the indexing of fees once they are established.

- Indexing is commonly done annually (and in some cases semi-annually) in other communities using construction cost indices.

E. UPDATING OF BY-LAW

- It is recommended that Council update the by-law as needed for changes relating to the application of charges, definitions, exemptions and discounts.

- The regulatory fees may be commonly updated at three to five year intervals or when there are significant changes to the capital plan or development forecast.

F. PUBLIC COMMUNICATION

- It is recommended that City advertise the adoption of the regulatory fee by-law including the applicable fees.

- The regulatory fees and rules should be included within a pamphlet that can be posted on the City's website and made available at Planning, Property and Development offices.

G. DEMOLITION AND CONVERSION CREDITS

- Many municipalities provide credits when one use is converted to another use, assuming approvals are necessary. The credit is typically determined based on a notional charge calculated using the prior land-use relative to the calculated charge of the new land-use. Municipalities do not provide funds to the applicant when the notional existing land use charge exceeds the new land-use charge.

- Similarly, municipalities commonly provide credits when a building is demolished and redeveloped with a new building on the same site. The credit is based on the size and use of the existing building compared to the proposed new dwelling. Demolition credit periods are often in the 2- to 7-year range.

H. DISCOUNTS AND EXEMPTIONS

This section includes examples of exemptions and discounts that Council may wish to consider. Exemptions and discounts result in revenue losses that are typically recovered through tax or utility rates. It is expected that the City may refine its discount and exemption policy over time following the initial adoption of a regulatory fee.

1. Common Land-use Exemptions

- The most common exemptions used across Canada are for government buildings. This may include federal, provincial and municipal buildings, including agencies, boards and commissions; pubic schools; and exemptions for universities and colleges.

- Exemptions for small residential expansions and renovations are also common across Canadian municipalities.

2. Other Land-use Exemptions for Consideration

- Some municipalities target exemptions and/or discounts for non-profit organizations. This may include land uses such as places of worship and affordable housing.

3. Economic Development Incentives

- Some municipalities reduce fees within a defined area to encourage investment. Typically, this may include the downtown area of a community where growth has been slow to occur.

- Some municipalities also choose to reduce charges for industrial development, the rationale being that it is more of a "footloose" sector than residential, office and retail uses, making it thereby more sensitive to fees and charges.

4. Phase-ins

- The phase-in of regulatory fees is commonly advocated by the building industry when significant increases in charges are proposed.

- As with other discounts, phase-ins result in revenue losses that have to be made up through other revenue sources.

APPENDIX A

DEVELOPMENT FORECAST

APPENDIX A

DEVELOPMENT FORECAST

This appendix provides the details of the development forecasts used to prepare the 2016 *Determination of Regulatory Fees to Finance Growth: Technical Report* for the City of Winnipeg. The forecast method and key assumptions are discussed and the results of the forecasts are presented in the following tables:

Historical Development

Table 1	Historical Population, Dwelling Units & Employment
Table 2	Historical Residential Building Completions
Table 3	Historical Households by Period of Construction Showing Household Size
Table 4	Historical Place of Work Employment

Forecast Development

Table 5	Population, Household & Employment Forecast
Table 6	Forecast of Household Growth by Unit Type
Table 7	Forecast of Household Growth and Population in new Households
Table 8	Employment Growth by Category
Table 9	Employment Growth in New Non-Residential Space by Category

A. FORECAST AND KEY ASSUMPTIONS

A 10-year development forecast, from 2017 to 2026, has been used for Parks and Open Spaces, Community Services, and Solid Waste services in the City. A 15-year forecast to 2031 has been used for Public Works projects. For Transit, Fire and Paramedic Services, Police, Water, and Wastewater services, a long-term forecast from 2017 to 2041 has been used.

B. HISTORICAL DEVELOPMENT IN THE CITY

Historical growth and development figures presented in this appendix are based on Statistics Canada Census data, Canada Mortgage and Housing Corporation (CMHC) data and the City's historical development data. A "Census-based" definition of population is used for the purposes of the study. This definition does not include the Census net undercoverage which is typically included in the definition of "total" population commonly used in municipal planning documents. A 10-year historical period of 2006 to 2016 was examined. Since 2011 was the year of the last Census, figures for 2012 to 2016 are estimates.

Table 1 shows that the rate of population growth in the City has increased in recent years. Between 2011 and 2016, Winnipeg's population grew by approximately 7.2 per cent to 711,500, as compared with 4.8 per cent growth over the prior five-year period. Similarly, household growth has accelerated; between 2011 and 2016 the number of occupied households in the City grew by roughly 5.6 per cent to 283,900, up from 2.9 per cent growth between 2006 and 2011.

Historical employment figures are also shown in Table 1 and are based on Statistics Canada place of work data. Place of work data records where people work rather than the place of residence. The employment figures used for regulatory fees calculations includes employees with no fixed work place of work, but excludes work at home employment. Employment growth has increased significantly from 5.0 per cent over the 2006-2011 period to 12.0 per cent over the 2011-2016 period, reaching approximately 399,000 in 2016.

Details on historical housing unit growth in the City are provided in Table 2, Historical Residential Building Completions. This information is sourced from CMHC *Market Information.* Overall, the dominant type of new housing in Winnipeg constructed since 2006 has been single- and semi-detached units which represents 56 per cent of all housing completions from 2006–2015; however, over the past five years, row and apartment units have been constructed at increasing rates and the share of single- and semi-detached units has declined.

Table 3 provides details on historical occupancy patterns in the Winnipeg Census Metropolitan Area. The overall average occupancy level in Winnipeg for single and semi-detached units is 2.79 persons per housing unit (PPU). Occupancy levels for recently constructed units, between 2001 and 2011, are higher than the overall average and are used in the regulatory fees calculation since it better reflects the number of people that are likely to reside in new developments. The average PPU of single and semi-detached units built in the CMA in the period 2001 to 2011 is 3.33. Average PPUs for recently constructed row housing and apartments (excluding duplexes) are 2.31 and 1.74, respectively.

Table 4 summarizes the growth in historical employment by place of work in the City of Winnipeg between 2006 and 2016. The rate of employment growth has been consistent across the four categories assessed in this study (Office, Institutional, Commercial/Retail, and Industrial).

C. FORECAST METHOD AND RESULTS

This section describes the method used to establish the development forecast for the periods of 2017 to 2026, 2017 to 2031, and 2017 to 2041.

Regulatory fees are calculated on a per-capita basis for residential development, which is then translated to a charge per unit of gross floor area (GFA). For the residential forecast, a projection of both the *population growth* as well as the *population in new housing* is necessary:

- The *population growth* determines the need for additional facilities and provides the foundation for the development-related capital program.
- When calculating the regulatory fee, however, the development-related net capital costs are spread over the total additional population that occupies new dwelling units. This *population in new units* represents the population from which regulatory fees will be collected.

Fees are levied on non-residential development as a charge per unit of GFA. The non-residential forecast includes both a projection of employment growth as well as a projection of the floor space associated with employment growth in the City.

1. Residential Forecast

The residential development forecast incorporates anticipated growth in population and occupied dwelling units by type. As detailed in Table 5, the City's Census population is forecast to grow from approximately 711,500 in 2016 to 798,000 in 2026, 838,900 in 2031, and 910,000 in 2041. The 10-year population growth of 86,400 persons represents a 12.1 per cent increase over the existing base, the 15-year population growth of 127,400 represents a 17.9 per cent increase, and the longer-term increase of 198,500 persons to 2041 represents a 27.9 per cent increase.

Over the 10-year planning period from 2017 to 2026, the number of occupied housing units is forecast to increase from 283,900 in 2016 to 326,100 in 2026 and 345,800 in 2031. By 2041, this number is expected to reach 382,200 units. This reflects an average annual increase of approximately 4,300 occupied dwelling units per year from 2017 to 2021 (the first five years), which decreases to approximately 3,500 new units per year toward 2041. The overall 10-year growth represents a 14.9 per cent (42,300 units) increase in occupied dwelling units over the next ten years. The 15-year growth of 61,900 new units represents and increase of 21.8 per cent, while the 25-year growth of 98,300 units represents a 34.6 per cent increase over the existing base in 2016.

A breakdown of anticipated housing in the City by unit type is shown in Table 6. The housing forecast shows that the City's housing market is expected to be increasingly represented by higher density built forms, and by apartments in particular. Over the 10-year period, the type of new housing in the City is forecast to be composed largely of apartment units (45.0 per cent), followed by single and semi-detached units (44.1 per cent), and rows (10.8 per cent). Over the 15-year period to 2031, housing growth is expected to be comprised of 46.5 per cent apartments, 42.3 per cent singles and semis, and 11.2 per cent rows. Housing growth over the 2017-2041 period is represented by 48.5 per cent in apartments, 39.9 per cent singles and semis, and 11.7 per cent rows. These patterns of housing unit growth represent a trend toward higher density housing over time.

Population growth in the new units is estimated by applying the following 2016 PPUs to the housing unit forecast: 3.33 for single and semi-detached units; 2.67 for rows; and 1.76 for apartments. The forecast of population expected to reside in new housing units over the 2017 to 2026 period is 107,700 additional persons. Over the 15-year planning period, 156,200 additional persons are expected to reside in new housing units, and over the 25-year period, 244,800 additional persons are anticipated. This population growth by unit type is shown in Table 7.

The floor space per capita assumption used to calculate the residential space forecast was 48.8 square metres per capita. It is based on the size and occupancy rates of recently constructed units in the City. The floor area assumptions are provided below and exclude basement space.

Singles/Semis:	167 square metres
Rows:	139 square metres
Apartments:	79 square metres

2. Non-Residential Forecast

Table 8 illustrates the forecast total employment growth in the City of Winnipeg by employment category to 2041. Non-residential regulatory fees are calculated on a per unit of gross floor area (GFA) basis. Therefore, a forecast of future non-residential building space has also been developed. As with the residential forecast, the employment and GFA forecasts cover the 10-year period from 2017 to 2026, the 15-year period from 2017 to 2031, and the long-term period from 2017 to 2041.

As detailed in Tables 8 and 9, four categories of employment are distinguished for the purposes of determining non-residential employment and floor space growth:

- **Major Office employment** generally refers to office type employment contained within free standing buildings more than 20,000 net square feet (1,858 m^2).

- **Institutional employment** is public sector employment that primarily serves the residential population, such as education, health care, and local government. The rate of growth in this category is generally linked to the rate of population growth in the City.

- **Commercial/Retail employment**, like Institutional employment, primarily serves the City's residential population and its rate of growth is typically linked to population growth.

- **Industrial employment** refers to employment accommodated primarily in low-rise industrial-type buildings located within the City's business parks and industrial areas, as well as agricultural and primary industries in rural areas.

An assumed floorspace per worker (FSW) for each category is applied to the employment forecast in order to estimate the amount of associated GFA. The following FSW assumptions are used:

Office	27 m^2 per employee
Institutional	65 m^2 per employee
Commercial/Retail	40 m^2 per employee
Industrial	100 m^2 per employee

The non-residential floorspace forecast for the City is summarized in Table 9. The total floorspace growth is forecast at 3.37 million square metres over the 10-year period, 4.78 million square metres over the 15-year period, and 7.76 million square metres over the long-term to 2041. Although the largest component of floorspace growth over the 10-year period relates to Industrial employment (1.84 million square metres or 54.5 per cent) the rate of job growth is expected to remain relatively consistent across all four categories.

APPENDIX A
TABLE 1

CITY OF WINNIPEG
HISTORICAL POPULATION, DWELLING UNITS & EMPLOYMENT

Mid-Year	Census Population	Annual Growth	Occupied Households	Annual Growth	HH Size (PPU)	Employment by Place of Work (1)	Annual Growth	Activity Rate
2006	*633,451*		*261,109*		2.43	*339,450*		53.6%
2007	639,372	5,921	262,620	1,511	2.43	342,760	3,310	53.6%
2008	645,349	5,977	264,140	1,520	2.44	346,102	3,342	53.6%
2009	651,382	6,033	265,669	1,529	2.45	349,477	3,375	53.7%
2010	657,471	6,089	267,207	1,538	2.46	352,884	3,408	53.7%
2011	*663,617*	*6,146*	*268,753*	*1,546*	*2.47*	*356,325*	*3,441*	*53.7%*
2012	672,927	9,310	271,707	2,954	2.48	364,469	8,144	54.2%
2013	682,368	9,441	274,693	2,986	2.48	372,800	8,330	54.6%
2014	691,941	9,573	277,712	3,019	2.49	381,321	8,521	55.1%
2015	701,649	9,708	280,764	3,052	2.50	390,036	8,716	55.6%
2016	*711,494*	*9,845*	*283,850*	3,086	2.51	*398,951*	8,915	56.1%
Growth 2007-2016		78,043		22,741			59,501	

Source: Statistics Canada, 2011
1. Excludes Work at Home

APPENDIX A
TABLE 2

CITY OF WINNIPEG
HISTORICAL RESIDENTIAL BUILDING COMPLETIONS

Year	Completions (New Units By Type)				Completions (Share of New Units By Type)			
	Singles & Semis	Rows	Apartments	Total	Singles & Semis	Rows	Apartments	Total
2006	1,460	69	675	2,204	66%	3%	31%	100%
2007	1,309	77	712	2,098	62%	4%	34%	100%
2008	1,405	75	1,519	2,999	47%	3%	51%	100%
2009	1,240	104	872	2,216	56%	5%	39%	100%
2010	1,448	97	445	1,990	73%	5%	22%	100%
2011	1,498	229	972	2,699	56%	8%	36%	100%
2012	1,581	234	899	2,714	58%	9%	33%	100%
2013	1,882	143	1,235	3,260	58%	4%	38%	100%
2014	1,424	394	1,006	2,824	50%	14%	36%	100%
2015	1,597	380	1,623	3,600	44%	11%	45%	100%
Total	***14,844***	***1,802***	***9,958***	***26,604***	***56%***	***7%***	***37%***	***100%***
Last 10 Years	*1,484*	*180*	*996*	*2,660*	*56%*	*7%*	*37%*	*100%*
Last 5 Years	*1,596*	*276*	*1,147*	*3,019*	*53%*	*9%*	*38%*	*100%*

Source: CMHC

APPENDIX A
TABLE 3

CITY OF WINNIPEG CMA
HISTORICAL HOUSEHOLDS BY PERIOD OF CONSTRUCTION SHOWING HOUSEHOLD SIZE

Dwelling Unit Type	Period of Construction										Period of Construction Summaries		
	Pre 1946	1946-1960	1961-1970	1971-1980	1981-1985	1986-1990	1991-1995	1996-2000	2001-2005	2006-2011	Pre-2001	2001-2011	Total
Singles													
Household Population	49,275	43,740	100,610	59,365	74,490	78,695	23,345	21,940	28,500	34,570	451,460	63,070	514,530
Households	19,165	17,770	40,225	22,140	26,315	25,950	7,395	7,010	8,640	10,195	165,970	18,835	184,805
Household Size	2.57	2.46	2.50	2.68	2.83	3.03	3.16	3.13	3.30	3.39	2.72	3.35	2.78
Semis													
Household Population	1,115	935	2,550	5,955	14,835	2,375	325	390	695	535	28,480	1,230	29,710
Households	400	295	940	2,205	5,035	840	140	205	310	185	10,060	495	10,555
Household Size	2.79	3.17	2.71	2.70	2.95	2.83	2.32	1.90	2.24	2.89	2.83	2.48	2.81
Singles and Semis													
Household Population	50,390	44,675	103,160	65,320	89,325	81,070	23,670	22,330	29,195	35,105	479,940	64,300	544,240
Households	19,565	18,065	41,165	24,345	31,350	26,790	7,535	7,215	8,950	10,380	176,030	19,330	195,360
Household Size	2.58	2.47	2.51	2.68	2.85	3.03	3.14	3.09	3.26	3.38	2.73	3.33	2.79
Rows													
Household Population	475	480	2,700	5,110	7,965	4,115	695	540	450	765	22,080	1,215	23,295
Households	185	170	1,030	1,875	2,950	1,485	260	230	225	300	8,185	525	8,710
Household Size	2.57	2.82	2.62	2.73	2.70	2.77	2.67	2.35	2.00	2.55	2.70	2.31	2.67
Apartments (excl. Duplexes)													
Household Population	9,490	7,715	15,635	25,980	34,290	24,725	4,750	3,410	3,295	6,900	125,995	10,195	136,190
Households	5,750	4,785	9,790	16,735	20,740	14,460	2,890	1,870	1,950	3,895	77,020	5,845	82,865
Household Size	1.65	1.61	1.60	1.55	1.65	1.71	1.64	1.82	1.69	1.77	1.64	1.74	1.64
Duplexes													
Household Population	3,030	1,925	2,425	1,955	890	250	40	60	0	175	10,575	175	10,750
Households	1,340	770	930	815	285	90	10	20	0	60	4,260	60	4,320
Household Size	2.26	2.50	2.61	2.40	3.12	2.78	4.00	3.00	n/a	2.92	2.48	2.92	2.49
Apartments and Duplexes													
Household Population	12,520	9,640	18,060	27,935	35,180	24,975	4,790	3,470	3,295	7,075	136,570	10,370	146,940
Households	7,090	5,555	10,720	17,550	21,025	14,550	2,900	1,890	1,950	3,955	81,280	5,905	87,185
Household Size	1.77	1.74	1.68	1.59	1.67	1.72	1.65	1.84	1.69	1.79	1.68	1.76	1.69
All Units													
Household Population	62,910	54,315	121,220	93,255	124,505	106,045	28,460	25,800	32,490	42,180	616,510	74,670	691,180
Households	26,655	23,620	51,885	41,895	52,375	41,340	10,435	9,105	10,900	14,335	257,310	25,235	282,545
Household Size	2.36	2.30	2.34	2.23	2.38	2.57	2.73	2.83	2.98	2.94	2.40	2.96	2.45

Note: Population and household figures in this table are based on the National Household Survey and may differ from Census figures.
Source: Statistics Canada, 2011 National Household Survey Special Run.

APPENDIX A - TABLE 4
CITY OF WINNIPEG
HISTORICAL PLACE OF WORK EMPLOYMENT

Mid-Year	Major Office	Annual Growth	Institutional	Annual Growth	Commercial/ Retail	Annual Growth	Industrial	Annual Growth	Total For Study	Annual Growth	Work at Home	Annual Growth	Total w/ Work At Home	Annual Growth
2006	75,572		74,362		72,499		117,017		339,450		15,015		354,465	
2007	76,309	737	75,087	725	73,206	707	118,158	1,141	342,760	3,310	14,630	(385)	357,390	2,925
2008	77,053	744	75,819	732	73,920	714	119,310	1,152	346,102	3,342	14,254	(375)	360,358	2,967
2009	77,804	751	76,559	739	74,640	721	120,473	1,163	349,477	3,375	13,889	(366)	363,365	3,009
2010	78,563	759	77,305	746	75,368	728	121,648	1,175	352,884	3,408	13,532	(356)	366,416	3,051
2011	79,329	766	78,059	754	76,103	735	122,834	1,186	356,325	3,441	13,185	(347)	369,510	3,094
2012	81,142	1,813	79,843	1,784	77,842	1,739	125,642	2,808	364,469	8,144	13,486	301	377,956	8,446
2013	82,997	1,855	81,668	1,825	79,622	1,779	128,514	2,872	372,800	8,330	13,795	308	385,594	8,639
2014	84,894	1,897	83,535	1,867	81,442	1,820	131,451	2,937	381,321	8,521	14,110	315	395,431	8,836
2015	86,834	1,940	85,444	1,909	83,303	1,861	134,455	3,005	390,036	8,716	14,432	323	404,469	9,038
2016	88,819	1,985	87,397	1,953	85,207	1,904	137,529	3,073	398,951	8,915	14,762	330	413,714	9,245
Growth 2007-2016		13,247		13,035		12,708		20,512		59,501		(253)		59,249

APPENDIX A
TABLE 5

CITY OF WINNIPEG
POPULATION, HOUSEHOLD & EMPLOYMENT FORECAST

Year	Census Population	Annual Growth	Occupied Households	Annual Growth	Household Size PPU	Employment by POW	Annual Growth	Activity Rate
2011	*663,617*	*6,146*	*268,753*	*1,548*	2.47	*358,325*		53.7%
2012	672,927	9,310	271,707	2,954	2.48	364,469	6,144	54.2%
2013	682,368	9,441	274,693	2,986	2.48	372,800	8,330	54.6%
2014	691,941	9,573	277,712	3,019	2.49	381,321	8,521	55.1%
2015	701,649	9,708	280,764	3,052	2.50	390,036	8,716	55.6%
2016	*711,494*	*9,845*	*283,850*	*3,086*	*2.51*	*398,951*	*8,915*	*56.1%*
2017	719,908	8,414	288,049	4,199	2.50	407,559	8,608	56.6%
2018	728,422	8,514	292,310	4,261	2.49	413,476	5,917	56.8%
2019	737,037	8,615	296,633	4,324	2.48	418,763	5,287	56.8%
2020	745,753	8,717	301,021	4,388	2.48	425,774	7,011	57.1%
2021	*754,573*	*8,820*	*305,474*	*4,453*	*2.47*	*430,907*	*5,132*	*57.1%*
2022	763,036	8,463	309,497	4,023	2.47	435,227	4,320	57.0%
2023	771,594	8,558	313,574	4,076	2.46	439,659	4,432	57.0%
2024	780,248	8,654	317,704	4,130	2.46	444,232	4,573	56.9%
2025	788,999	8,751	321,888	4,184	2.45	448,354	4,122	56.8%
2026	*797,848*	*8,849*	*326,128*	*4,240*	*2.45*	*452,275*	*3,921*	*56.7%*
2027	805,889	8,041	329,962	3,834	2.44	456,414	4,139	56.6%
2028	814,011	8,122	333,841	3,879	2.44	460,589	4,175	56.6%
2029	822,215	8,204	337,766	3,925	2.43	464,830	4,241	56.5%
2030	830,501	8,287	341,737	3,971	2.43	469,867	5,037	56.6%
2031	*838,871*	*8,370*	*345,754*	*4,017*	*2.43*	*474,440*	*4,573*	*56.6%*
2032	846,165	7,293	349,451	3,697	2.42	478,622	4,182	56.6%
2033	853,522	7,357	353,187	3,736	2.42	483,422	4,800	56.6%
2034	860,943	7,421	356,964	3,776	2.41	487,984	4,562	56.7%
2035	868,428	7,485	360,780	3,817	2.41	492,674	4,690	56.7%
2036	*875,978*	*7,550*	*364,638*	*3,858*	*2.40*	*497,357*	*4,683*	*56.8%*
2037	882,670	6,692	368,080	3,442	2.40	502,100	4,743	56.9%
2038	889,413	6,743	371,555	3,475	2.39	506,905	4,804	57.0%
2039	896,207	6,794	375,063	3,508	2.39	511,770	4,866	57.1%
2040	903,054	6,846	378,604	3,541	2.39	516,699	4,929	57.2%
2041	909,952	6,899	382,178	3,574	2.38	521,675	4,976	57.3%
2017-2026		86,354		42,278			53,324	
2017-2031		127,378		61,904			75,489	
2017-2041		198,458		98,328			122,724	

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Source: Hemson Consulting Ltd., 2016

APPENDIX A
TABLE 6

CITY OF WINNIPEG
FORECAST OF HOUSEHOLD GROWTH BY UNIT TYPE

Year	Growth in Households by Unit Type			
	Singles & Semis	Rows	Apartments	Total Dwelling Unit Growth
2017	1,826	460	1,913	4,199
2018	1,877	462	1,922	4,261
2019	1,953	460	1,911	4,324
2020	2,001	463	1,924	4,388
2021	2,019	*472*	*1,962*	*4,453*
2022	1,802	431	1,790	4,023
2023	1,790	443	1,843	4,076
2024	1,786	455	1,889	4,130
2025	1,800	463	1,922	4,184
2026	1,796	*474*	*1,970*	*4,240*
2027	1,568	440	1,827	3,834
2028	1,513	459	1,907	3,879
2029	1,488	473	1,964	3,925
2030	1,474	484	2,012	3,971
2031	1,467	*495*	*2,056*	*4,017*
2032	1,327	460	1,911	3,697
2033	1,347	463	1,926	3,736
2034	1,356	469	1,951	3,776
2035	1,373	474	1,970	3,817
2036	1,395	*478*	*1,985*	*3,858*
2037	1,237	428	1,778	3,442
2038	1,241	433	1,800	3,475
2039	1,245	439	1,824	3,508
2040	1,249	445	1,847	3,541
2041	1,261	*449*	*1,865*	*3,574*
2017-2026	18,650	4,583	19,046	42,278
2017-2031	26,160	6,933	28,811	61,904
2017-2041	39,191	11,470	47,667	98,328

Source: Hemson Consulting Ltd., 2016

APPENDIX A
TABLE 7

CITY OF WINNIPEG
FORECAST OF HOUSEHOLD GROWTH AND POPULATION IN NEW HOUSEHOLDS

Year	Population in New Households *			
	Singles & Semis	Rows	Apartments	Total Occupied Dwellings
2017	6,073	1,231	3,359	10,663
2018	6,243	1,237	3,375	10,855
2019	6,498	1,230	3,356	11,084
2020	6,655	1,238	3,379	11,272
2021	*6,717*	*1,262*	*3,445*	*11,424*
2022	5,995	1,152	3,144	10,291
2023	5,954	1,186	3,236	10,376
2024	5,941	1,216	3,318	10,475
2025	5,986	1,237	3,376	10,599
2026	*5,974*	*1,268*	*3,459*	*10,701*
2027	5,215	1,176	3,208	9,599
2028	5,034	1,227	3,349	9,610
2029	4,949	1,264	3,449	9,662
2030	4,905	1,295	3,534	9,734
2031	*4,881*	*1,323*	*3,610*	*9,814*
2032	4,413	1,230	3,355	8,998
2033	4,480	1,240	3,383	9,103
2034	4,512	1,255	3,426	9,193
2035	4,567	1,268	3,459	9,294
2036	*4,641*	*1,277*	*3,486*	*9,404*
2037	4,115	1,144	3,122	8,381
2038	4,129	1,159	3,162	8,450
2039	4,143	1,174	3,202	8,519
2040	4,154	1,189	3,244	8,587
2041	*4,194*	*1,200*	*3,275*	*8,669*
2017-2026	62,036	12,257	33,447	107,740
2017-2031	87,020	18,542	50,597	156,159
2017-2041	130,368	30,676	83,711	244,757
* Based on PPUs:	3.33	2.67	1.76	

Source: Hemson Consulting Ltd., 2016

APPENDIX A
TABLE 8

CITY OF WINNIPEG
EMPLOYMENT GROWTH BY CATEGORY

Mid-Year	Major Office	Annual Growth	Institutional	Annual Growth	Commercial/ Retail	Annual Growth	Industrial	Annual Growth	Total For Study	Annual Growth	Work at Home	Annual Growth	Total w/ Work At Home	Annual Growth
2016	88,819		87,397		85,207		137,529		398,951		14,762		413,714	
2017	90,735	1,916	89,283	1,886	87,046	1,838	140,496	2,967	407,559	8,608	15,081	319	422,640	8,926
2018	92,052	1,317	90,579	1,296	88,309	1,264	142,536	2,040	413,476	5,917	15,300	219	428,776	6,136
2019	93,229	1,177	91,737	1,158	89,438	1,129	144,358	1,823	418,763	5,287	15,495	196	434,259	5,483
2020	94,790	1,561	93,273	1,536	90,936	1,497	146,775	2,417	425,774	7,011	15,755	259	441,529	7,271
2021	95,933	1,143	94,397	1,124	92,032	1,096	148,544	1,769	430,907	5,132	15,945	190	446,851	5,322
2022	96,895	962	95,344	946	92,955	923	150,034	1,489	435,227	4,320	16,105	160	451,332	4,480
2023	97,881	987	96,315	971	93,901	947	151,562	1,528	439,659	4,432	16,269	164	455,927	4,596
2024	98,900	1,018	97,317	1,002	94,878	977	153,138	1,577	444,232	4,573	16,438	169	460,670	4,743
2025	99,817	918	98,219	903	95,758	880	154,559	1,421	448,354	4,122	16,590	153	464,944	4,274
2026	100,690	873	99,078	859	96,596	837	155,911	1,352	452,275	3,921	16,735	145	469,010	4,066
2027	101,612	921	99,985	907	97,480	884	157,337	1,427	456,414	4,139	16,889	153	473,303	4,292
2028	102,541	929	100,900	915	98,371	892	158,777	1,439	460,589	4,175	17,043	154	477,632	4,329
2029	103,485	944	101,829	929	99,277	906	160,239	1,462	464,830	4,241	17,200	157	482,030	4,398
2030	104,607	1,121	102,932	1,103	100,353	1,076	161,975	1,736	469,867	5,037	17,386	186	487,253	5,224
2031	105,625	1,018	103,934	1,002	101,330	977	163,551	1,576	474,440	4,573	17,556	169	491,995	4,742
2032	106,556	931	104,850	916	102,223	893	164,993	1,442	478,622	4,182	17,710	155	496,332	4,337
2033	107,624	1,069	105,902	1,052	103,248	1,025	166,648	1,655	483,422	4,800	17,888	178	501,310	4,978
2034	108,640	1,016	106,901	999	104,223	974	168,221	1,573	487,984	4,562	18,057	169	506,041	4,731
2035	109,684	1,044	107,928	1,027	105,224	1,002	169,837	1,617	492,674	4,690	18,230	174	510,904	4,863
2036	110,727	1,043	108,954	1,026	106,224	1,000	171,452	1,614	497,357	4,683	18,404	173	515,761	4,857
2037	111,783	1,056	109,993	1,039	107,237	1,013	173,087	1,635	502,100	4,743	18,579	176	520,680	4,919
2038	112,852	1,070	111,046	1,052	108,263	1,026	174,743	1,656	506,905	4,804	18,757	178	525,661	4,982
2039	113,936	1,083	112,112	1,066	109,303	1,039	176,420	1,677	511,770	4,866	18,937	180	530,707	5,046
2040	115,033	1,097	113,192	1,080	110,355	1,053	178,119	1,699	516,699	4,929	19,119	182	535,818	5,111
2041	116,141	1,108	114,282	1,090	111,418	1,063	179,835	1,715	521,675	4,976	19,303	184	540,978	5,160
2017-2026		11,871		11,681		11,389		18,382		53,324		1,973		55,297
2017-2031		16,806		16,537		16,123		26,023		75,489		2,793		78,282
2017-2041		27,322		26,885		26,211		42,306		122,724		4,541		127,265

Source: Hemson Consulting Ltd., 2016

APPENDIX A
TABLE 9

CITY OF WINNIPEG
EMPLOYMENT GROWTH IN NEW NON-RESIDENTIAL SPACE BY CATEGORY

	Major Office		Institutional		Commercial/Retail		Industrial		Total	
Density m^2 per empl.		27		65		40		100		
Year	Employment Growth	Growth in New Space (m^2)	Employment Growth	Growth in New Space (m^2)	Employment Growth	Growth in New Space (m^2)	Employment Growth	Growth in New Space (m^2)	Employment Growth	Growth in New Space (m^2)
2017	1,916	51,743	1,886	122,572	1,838	73,539	2,967	296,738	8,608	544,591
2018	1,317	35,567	1,296	84,253	1,264	50,549	2,040	203,971	5,917	374,340
2019	1,177	31,780	1,158	75,284	1,129	45,168	1,823	182,257	5,287	334,489
2020	1,561	42,145	1,536	99,835	1,497	59,898	2,417	241,695	7,011	443,572
2021	*1,143*	*30,851*	*1,124*	*73,081*	*1,096*	*43,846*	*1,769*	*176,925*	*5,132*	*324,704*
2022	962	25,970	946	61,520	923	36,910	1,489	148,937	4,320	273,338
2023	987	26,639	971	63,104	947	37,860	1,528	152,772	4,432	280,376
2024	1,018	27,491	1,002	65,123	977	39,071	1,577	157,658	4,573	289,343
2025	918	24,776	903	58,690	880	35,212	1,421	142,085	4,122	260,763
2026	*873*	*23,569*	*859*	*55,832*	*837*	*33,498*	*1,352*	*135,167*	*3,921*	*248,066*
2027	921	24,879	907	58,936	884	35,360	1,427	142,681	4,139	261,856
2028	929	25,094	915	59,444	892	35,664	1,439	143,911	4,175	264,113
2029	944	25,493	929	60,389	906	36,231	1,462	146,198	4,241	268,312
2030	1,121	30,279	1,103	71,727	1,076	43,034	1,736	173,647	5,037	318,688
2031	*1,018*	*27,488*	*1,002*	*65,116*	*977*	*39,067*	*1,576*	*157,642*	*4,573*	*289,313*
2032	931	25,138	916	59,550	893	35,728	1,442	144,166	4,182	264,582
2033	1,069	28,854	1,052	68,352	1,025	41,009	1,655	165,476	4,800	303,692
2034	1,016	27,423	999	64,962	974	38,975	1,573	157,268	4,562	288,627
2035	1,044	28,189	1,027	66,777	1,002	40,064	1,617	161,663	4,690	296,694
2036	*1,043*	*28,151*	*1,026*	*66,686*	*1,000*	*40,009*	*1,614*	*161,443*	*4,683*	*296,289*
2037	1,056	28,512	1,039	67,541	1,013	40,522	1,635	163,512	4,743	300,087
2038	1,070	28,878	1,052	68,409	1,026	41,043	1,656	165,613	4,804	303,942
2039	1,083	29,249	1,066	69,287	1,039	41,570	1,677	167,739	4,866	307,845
2040	1,097	29,626	1,080	70,179	1,053	42,105	1,699	169,899	4,929	311,809
2041	*1,108*	*29,911*	*1,090*	*70,855*	*1,063*	*42,511*	*1,715*	*171,536*	*4,976*	*314,812*
2017-2026	11,871	320,530	11,681	759,295	11,389	455,551	18,382	1,838,205	53,324	3,373,581
2017-2031	16,806	453,764	16,537	1,074,908	16,123	644,907	26,023	2,602,284	75,489	4,775,863
2017-2041	27,322	737,695	26,885	1,747,505	26,211	1,048,442	42,306	4,230,589	122,724	7,764,241

Source: Hemson Consulting Ltd., 2016

APPENDIX B

10-YEAR BENEFITTING PERIOD SERVICES TECHNICAL APPENDIX

APPENDIX B

10-YEAR BENEFITTING PERIOD SERVICES TECHNICAL APPENDIX

This appendix provides the detailed analysis undertaken to establish the regulatory fee rates for each of the services for the 10-year benefitting period provided by the City of Winnipeg. Three services have been analysed as part of this study:

Appendix B.1 Parks and Open Spaces

Appendix B.2 Community Services

Appendix B.3 Solid Waste

Every sub-section contains a set of two tables. The tables provide the background data and analysis undertaken to arrive at the calculated regulatory fee rates for that particular service. An overview of the content and purpose of each of the tables is given below.

TABLE 1 2017 – 2026 DEVELOPMENT-RELATED CAPITAL PROGRAM AND CALCULATION OF THE "UNADJUSTED" REGULATORY FEES

Based on the development forecasts presented in Appendix A, City staff in collaboration with consultants, have created a growth-related capital forecast that sets out the projects required to service anticipated development for the 10-year period from 2017–2026.

To determine the share of the costs for recovery through regulatory fees, the project costs are reduced by any anticipated grants, subsidies or other recoveries, "replacement" shares and benefit to existing shares, and shares allocated to recent development in the City.

A replacement share represents the portion of a capital project that will benefit the existing community. It could for example, represent a portion of a new facility that will, at least in part, replace a facility that is demolished, redeployed or will otherwise not be available to serve its former function. The replacement share of the capital program is not deemed to be development-related and is therefore removed from the regulatory fee calculation. The capital cost for replacement will require funding from non-regulatory fee sources, typically property taxes or user fees.

Further, in certain cases a portion of costs has been allocated to "prior growth". This account for portions of projects which are deemed to benefit recent development which occurred in the City during the 10-year period preceding 2017. Again, these costs will require funding from non-regulatory fee sources.

The capital program less any replacement shares or benefit to existing shares and prior growth shares yields the development-related costs that may be included in the regulatory fee calculation for recovery against growth over the forecast period from 2017 to 2026.

Calculation of the Unadjusted Regulatory Fee Rates

The section below the capital program displays the calculation of the "unadjusted" regulatory fee rates. The term "unadjusted" regulatory fee is used to distinguish the charge that is calculated prior to cash flow financing considerations. The cash flow analysis is shown in Table 2.

The first step in determining the unadjusted regulatory fee rate is to allocate the development-related net capital cost between the residential and non-residential sectors. For Community Services and Parks and Open Spaces, the development-related costs have been allocated entirely to the residential sector, as the need for these services is driven by residential development. For Solid Waste, the development-related costs have been apportioned as 62 per cent residential and 38 per cent non-residential. This apportionment is based on the anticipated shares of population and employment growth over the 10-year forecast period.

The 38 per cent non-residential apportionment of the development-related net capital cost has been further broken down into four employment category apportionments based on anticipated shares of employment growth in each sector. The result is an apportionment of 22.3 per cent Office, 21.9 per cent Institutional, 21.4 per cent Commercial/Retail, and 34.5 per cent Industrial.

The next step in calculating regulatory fee rates is to divide the residential share of the 2017-2026 costs by the forecast population growth in new dwelling units. This gives the unadjusted residential regulatory fee per capita. The non-residential development-related net capital costs are divided by the forecasted increase in non-residential gross floor area (GFA). This yields a charge per square metre of new non-residential development, and has been repeated for each of the four employment categories.

TABLE 2 CASH FLOW ANALYSIS

A cash flow analysis is also undertaken to account for the timing of projects and receipt of regulatory fees. Interest earnings or borrowing costs are accounted for in the calculation. Based on the development forecast, the analysis calculates the regulatory fee rate required to finance the net development-related capital spending plan, including provisions for any borrowing costs or interest earnings on the reserve funds. The cash flow analysis is designed so that the closing cash balance at the end of the planning period is as close to nil as possible.

In order to determine appropriate regulatory fee rates reflecting borrowing and earnings necessary to support the net development-related funding requirement, assumptions are used for the inflation rate and interest rate. An inflation rate of 2.0 per cent is used for the funding requirements, an interest rate of 5.5 per cent is used for borrowing on the funds and an interest rate of 3.5 per cent is applied to positive balances.

Table 2 displays the results of the cash flow analysis and provides the adjusted or final per capita residential and per square metre (of GFA) non-residential regulatory fees. Additional cash flow analyses separate the uniform non-residential charge into adjusted charges for Office, Institutional, Commercial/Retail, and Industrial development.

APPENDIX B.1

PARKS AND OPEN SPACES

APPENDIX B.1

PARKS AND OPEN SPACES

Parks and Open Spaces are managed through the City of Winnipeg's Public Works department and include the City's network of parks, trails, and athletic fields.

TABLE 1 2017–2026 DEVELOPMENT-RELATED CAPITAL PROGRAM AND CALCULATION OF THE "UNADJUSTED" REGULATORY FEES

As shown in Table 1, the 2017-2026 development-related gross cost for Parks and Open Spaces is approximately $61.65 million. The capital program relates to major improvements to Kilcona Park and Tyndall Park as well as hard surfacing for outdoor athletic facilities.

As these projects are partially related to improvements to existing infrastructure, a large proportion of "benefit to existing" shares have been deducted. Benefit to existing shares have been calculated at 88 per cent for most projects, which represents the share of Winnipeg's 2016 population relative to the anticipated 2026 population. A lower benefit to existing share of 70 per cent was used for the Tyndall Park project, which is expected to serve new growth to a greater extent.

The remaining regulatory fee share totals $9.41 million, all of which is to be recovered over the 10-year planning period under review. This amount is apportioned 100 per cent to residential development. The resulting unadjusted residential charge for Parks and Open Space is $87.38 per capita.

TABLE 2 CASH FLOW ANALYSIS

The cash-flow analysis is displayed in Table 2 and considers the timing of the regulatory fees revenues to determine the adjusted rates. After cash flow considerations, the residential charge decreases slightly to $87.26 per capita.

PARKS AND OPEN SPACES
SUMMARY

2017-2026 Development-Related Capital Program		Unadjusted Charge		Adjusted Charge		Adjusted Charges			
						Office	Institutional	Commercial	Industrial
Total	Net Recoverable	$/capita	$/sq.m	$/capita	$/sq.m	$/sq.m	$/sq.m	$/sq.m	$/sq.m
$61,650,000	$9,414,618	$87.38	$0.00	$87.26	$0.00	$0.00	$0.00	$0.00	$0.00

APPENDIX B.1
TABLE 1

CITY OF WINNIPEG
DEVELOPMENT-RELATED CAPITAL PROGRAM

Service	Proj Rows	Timing	Gross Project Cost	Grants/ Subsidies/ Other Recoveries	Net Municipal Cost	Ineligible Costs Replacement & BTE	Development Related Costs	Costs for Recovery: Prior Growth	Costs for Recovery: 2017-2026	Costs for Recovery: Post 2026
1.0 PARKS AND OPEN SPACES										
	1.1.1 Kilcona Park Master Plan	2021	$ 2,350,000	$ -	$ 2,350,000	$ 2,064,779	$ 285,221	$ -	$ 285,221	$ -
	1.1.2 Kilcona Park	2023	$ 30,000,000	$ -	$ 30,000,000	$ 26,358,883	$ 3,641,117	$ -	$ 3,641,117	$ -
	1.1.3 Hard Surfacing - Tennis, Basketball	various	$ 7,500,000	$ -	$ 7,500,000	$ 6,589,721	$ 910,279	$ -	$ 910,279	$ -
	1.1.4 Tyndall Park	various	$ 21,800,000	$ 6,540,000	$ 15,260,000	$ 10,682,000	$ 4,578,000	$ -	$ 4,578,000	$ -
TOTAL PARKS AND OPEN SPACES			$ 61,650,000	$ 6,540,000	$ 55,110,000	$ 45,695,382	$ 9,414,618	$ -	$ 9,414,618	$ -

Residential Calculation		
Residential Share of Development-Related Costs	100%	$9,414,618
10 Year Population Growth in New Housing Units		107,740
Unadjusted Per Unit Charge		$87.38
Non-Residential Calculation		
Non-Residential Share of Development-Related Costs	0%	$0
10 Year Growth in Square Metres		3,373,581
Unadjusted Per Square Metre Charge		$0.00
Non-Residential Allocation		
10 Year Growth in Square Metres: Major Office		320,530
10 Year Growth in Square Metres: Institutional		759,295
10 Year Growth in Square Metres: Commercial/Retail		455,551
10 Year Growth in Square Metres: Industrial		1,838,205
Office Per Square Metre Charge (Unadjusted)	22.3%	$0.00
Institutional Per Square Metre Charge (Unadjusted)	21.9%	$0.00
Commercial/Retail Per Square Metre Charge (Unadjusted)	21.4%	$0.00
Industrial Per Square Metre Charge (Unadjusted)	34.5%	$0.00

APPENDIX B.1
TABLE 2

CITY OF WINNIPEG
CASHFLOW AND DETERMINATION OF REGULATORY FEE
PARKS AND OPEN SPACES
RESIDENTIAL CHARGE
(in $000)

PARKS AND OPEN SPACES	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	TOTAL
OPENING CASH BALANCE	$0.0	$388.3	$815.3	$1,286.6	$1,801.1	$2,043.3	$2,507.1	($1,205.9)	($845.4)	($443.6)	
2017-2026 RESIDENTIAL FUNDING REQUIREMENTS											
- Parks And Open Spaces: Non Inflated	$548.8	$548.8	$548.8	$548.8	$834.0	$548.8	$4,189.9	$548.8	$548.8	$548.8	$9,414.6
- Parks And Open Spaces: Inflated	$548.8	$559.8	$571.0	$582.4	$902.8	$606.0	$4,718.6	$830.4	$843.0	$855.9	$10,418.7
NEW RESIDENTIAL DEVELOPMENT											
- Population in New Units	10,663	10,855	11,084	11,272	11,424	10,291	10,376	10,475	10,599	10,701	107,740
REVENUE											
- Charge Receipts: Inflated	$930.4	$966.1	$1,006.2	$1,043.7	$1,079.0	$991.4	$1,019.6	$1,049.9	$1,083.6	$1.115.9	$10,285.8
INTEREST											
- Interest on Opening Balance	$0.0	$13.6	$28.5	$45.0	$63.0	$71.5	$87.7	($66.3)	($46.5)	($24.4)	$172.2
- Interest on In-year Transactions	$6.7	$7.1	$7.6	$8.1	$3.1	$6.7	($101.7)	$7.3	$7.7	$8.0	($39.3)
TOTAL REVENUE	$937.1	$986.8	$1,042.4	$1,096.9	$1,145.1	$1,069.7	$1,005.6	$990.9	$1,044.8	$1,099.5	$10,418.7
CLOSING CASH BALANCE	$388.3	$815.3	$1,286.6	$1,801.1	$2,043.3	$2,507.1	($1,205.9)	($845.4)	($443.6)	($0.0)	

Adjusted Charge Per Capita	$87.26

Allocation of Capital Program	
Residential Sector	100%
Non-Residential Sector	0%
Rates for 2016	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

APPENDIX B.2

COMMUNITY SERVICES

APPENDIX B.2

COMMUNITY SERVICES

Winnipeg's Community Services department manages a variety of recreational facilities and libraries.

TABLE 1 2017–2026 DEVELOPMENT-RELATED CAPITAL PROGRAM & CALCULATION OF THE "UNADJUSTED" REGULATORY FEES

The development-related capital program for Community Services totals $191.51 million. It includes several large improvements, expansions, and construction projects associated with Winnipeg's libraries and recreation facilities.

Of these costs, a total of $67.52 million is anticipated to be funded through external sources, including grants from other levels of government as well as a financial partnership with the YMCA to construct three new recreation facilities. A total benefit to existing share of $63.17 million has been identified. Benefit to existing shares for individual projects range from 20 to 80 per cent depending on whether the project represents an entirely new facility or an expansion to an existing facility, and whether it is to be located within a modest or fast growing neighbourhood. Finally, for each of these projects a share of the costs has been allocated to prior growth over the past 10 years; this amount totals roughly $28.87 million.

The share for recovery through regulatory fees in the 2017 to 2026 period totals approximately $31.95 million. This development-related net capital cost is allocated entirely to residential development and is divided by the 10-year growth in population in new dwelling units (107,700) to derive an unadjusted charge of $296.51 per capita.

TABLE 2 CASH FLOW ANALYSIS

After cash flow consideration, the residential calculated charge decreases slightly to $296.40 per capita. The following table summarizes the calculation of the Community Services charge:

COMMUNITY SERVICES SUMMARY									
2017-2026 Development-Related Capital Program		Unadjusted Charge		Adjusted Charge		Adjusted Charges			
						Office	Institutional	Commercial	Industrial
Total	Net Recoverable	$/capita	$/sq.m	$/capita	$/sq.m	$/sq.m	$/sq.m	$/sq.m	$/sq.m
$191,512,000	$31,946,218	$296.51	$0.00	$296.40	$0.00	$0.00	$0.00	$0.00	$0.00

APPENDIX B.2
TABLE 1

CITY OF WINNIPEG
DEVELOPMENT-RELATED CAPITAL PROGRAM

Service	Project Description	Timing	Gross Project Cost	Grants/ Subsidies/ Other Recoveries	Net Municipal Cost	Ineligible Costs Replacement & BTE	Development Related Costs	Costs for Recovery: Prior Growth	Costs for Recovery: 2017-2026	Costs for Recovery: Post 2026
2.0 COMMUNITY SERVICES										
2.1 Libraries										
2.1.1	South Winnipeg Library (formally referred to as Waverly West Library)	various	$ 11,849,000	$ -	$ 11,849,000	$ 9,479,200	$ 2,369,800	$ 1,124,993	$ 1,244,807	$ -
2.1.2	South East Library (formally known Sage Creek)	various	$ 13,078,000	$ -	$ 13,078,000	$ 10,462,400	$ 2,615,600	$ 1,241,680	$ 1,373,920	$ -
2.1.3	Transcona Library	various	$ 8,183,000	$ -	$ 8,183,000	$ 4,091,500	$ 4,091,500	$ 1,942,320	$ 2,149,180	$ -
	Subtotal Libraries		$ 33,110,000	$ -	$ 33,110,000	$ 24,033,100	$ 9,076,900	$ 4,308,994	$ 4,767,906	$ -
2.2 Recreation										
2.2.1	YMCA (three facilities incl. pools)	various	$ 100,000,000	$ 50,000,000	$ 50,000,000	$ 25,000,000	$ 25,000,000	$ 11,868,021	$ 13,131,979	$ -
2.2.2	Maples CC	various	$ 21,200,000	$ 6,360,000	$ 14,840,000	$ 7,420,000	$ 7,420,000	$ 3,522,429	$ 3,897,571	$ -
2.2.3	South Winnipeg Recreation Centre	various	$ 30,000,000	$ 9,000,000	$ 21,000,000	$ 4,200,000	$ 16,800,000	$ 7,975,310	$ 8,824,690	$ -
2.2.4	Transcona Pool	various	$ 7,202,000	$ 2,160,600	$ 5,041,400	$ 2,520,700	$ 2,520,700	$ 1,196,629	$ 1,324,071	$ -
	Subtotal Recreation		$ 158,402,000	$ 67,520,600	$ 90,881,400	$ 39,140,700	$ 51,740,700	$ 24,562,388	$ 27,178,312	$ -
TOTAL COMMUNITY SERVICES			$ 191,512,000	$ 67,520,600	$ 123,991,400	$ 63,173,800	$ 60,817,600	$ 28,871,382	$ 31,946,218	$ -

Residential Calculation		
Residential Share of Development-Related Costs	100%	$31,946,218
10 Year Population Growth in New Housing Units		107,740
Unadjusted Per Unit Charge		$296.51
Non-Residential Calculation		
Non-Residential Share of Development-Related Costs	0%	$0
10 Year Growth in Square Metres		3,373,581
Unadjusted Per Square Metre Charge		$0.00
Non-Residential Allocation		
10 Year Growth in Square Metres: Major Office		320,530
10 Year Growth in Square Metres: Institutional		759,295
10 Year Growth in Square Metres: Commercial/Retail		455,551
10 Year Growth in Square Metres: Industrial		1,838,205
Office Per Square Metre Charge (Unadjusted)	22.3%	$0.00
Institutional Per Square Metre Charge (Unadjusted)	21.9%	$0.00
Commercial/Retail Per Square Metre Charge (Unadjusted)	21.4%	$0.00
Industrial Per Square Metre Charge (Unadjusted)	34.5%	$0.00

APPENDIX B.2
TABLE 2

CITY OF WINNIPEG
CASHFLOW AND DETERMINATION OF REGULATORY FEE
COMMUNITY SERVICES
RESIDENTIAL CHARGE
(in $000)

COMMUNITY SERVICES	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	TOTAL
OPENING CASH BALANCE	$0.0	($35.1)	($13.4)	$81.8	$242.8	$462.1	$314.4	$187.5	$88.0	$27.1	
2017-2026 RESIDENTIAL FUNDING REQUIREMENTS											
- Community Services: Non Inflated	$3,194.6	$3,194.6	$3,194.6	$3,194.6	$3,194.6	$3,194.6	$3,194.6	$3,194.6	$3,194.6	$3,194.6	$31,946.2
- Community Services: Inflated	$3,194.6	$3,258.5	$3,323.7	$3,390.2	$3,458.0	$3,527.1	$3,597.7	$3,669.6	$3,743.0	$3,817.9	$34,980.2
NEW RESIDENTIAL DEVELOPMENT											
- Population in New Units	10,663	10,855	11,084	11,272	11,424	10,291	10,376	10,475	10,599	10,701	107,740
REVENUE											
- Charge Receipts: Inflated	$3,160.5	$3,281.7	$3,418.0	$3,545.5	$3,665.2	$3,367.7	$3,463.4	$3,566.4	$3,680.8	$3,790.5	$34,939.7
INTEREST											
- Interest on Opening Balance	$0.0	($1.9)	($0.7)	$2.9	$8.5	$16.2	$11.0	$6.6	$3.1	$0.9	$46.5
- Interest on In-year Transactions	($0.9)	$0.4	$1.7	$2.7	$3.6	($4.4)	($3.7)	($2.8)	($1.7)	($0.8)	($5.9)
TOTAL REVENUE	$3,159.5	$3,280.2	$3,418.9	$3,551.1	$3,677.3	$3,379.5	$3,470.7	$3,570.1	$3,682.2	$3,790.7	$34,980.2
CLOSING CASH BALANCE	($35.1)	($13.4)	$81.8	$242.8	$462.1	$314.4	$187.5	$88.0	$27.1	$0.0	

Adjusted Charge Per Capita	$296.40

Allocation of Capital Program	
Residential Sector	100%
Non-Residential Sector	0%
Rates for 2016	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

APPENDIX B.3

SOLID WASTE

APPENDIX B.3

SOLID WASTE

Solid Waste services are managed through the City's Water and Waste Department.

TABLE 1 2017–2026 DEVELOPMENT-RELATED CAPITAL PROGRAM & CALCULATION OF THE "UNADJUSTED" REGULATORY FEES

The development-related capital program for Solid Waste services totals $34.60 million. This primarily accounts for costs associated with cell construction at the Brady Road Resource Management Facility, in addition to a new administrative building. An amount is also included for implementation of the City's Comprehensive Integrated Waste Management Strategy.

Benefit to existing shares have been calculated at 87 per cent for all items, or the share of Winnipeg's present population and employment relative to it's anticipated 2026 population and employment. This amount totals $30.25 million.

The remaining total of $4.35 million is allocated 62 per cent to residential development ($2.70 million) and 38 per cent to non-residential development ($1.65 million). The residential share of the net development-related capital cost is divided by the 10-year growth in population in new dwelling units to derive an unadjusted charge of $25.05 per capita. The non-residential share of the net growth related capital cost is further allocated to each employment sector according to relative employment growth forecasts, and divided by the 10-year forecast growth in floor space by sector, resulting in unadjusted charges of $1.15 per square metre for Office, $0.48 per square metre for Institutional, $0.78 per square metre for Commercial/Retail, and $0.31 per square metre for Industrial development.

TABLE 2 CASH FLOW ANALYSIS

After cash flow consideration, the residential and non-residential calculated charges increase slightly, as indicated in the following table.

SOLID WASTE SUMMARY									
2017-2026 Development-Related Capital Program		Unadjusted Charge		Adjusted Charge		Adjusted Charges			
						Office	Institutional	Commercial	Industrial
Total	Net Recoverable	$/capita	$/sq.m	$/capita	$/sq.m	$/sq.m	$/sq.m	$/sq.m	$/sq.m
$34,600,000	$4,352,187	$25.05	$0.49	$25.97	$0.50	$1.17	$0.48	$0.79	$0.32

APPENDIX B.3
TABLE 1

CITY OF WINNIPEG
DEVELOPMENT-RELATED CAPITAL PROGRAM

Service	Project Description	Timing	Gross Project Cost	Grants/ Subsidies/ Other Recoveries	Net Municipal Cost	Ineligible Costs Replacement & BTE	Development Related Costs	Costs for Recovery: Prior Growth	Costs for Recovery: 2017-2026	Costs for Recovery: Post 2026
3.0 SOLID WASTE										
3.1.1	Brady Road Resource Management Facility - Administration Building	2017	$ 2,500,000	$ -	$ 2,500,000	$ 2,185,536	$ 314,464	$ -	$ 314,464	$ -
3.1.2	Brady Road Resource Management Facility - Cell Construction - Phase 1	2017	$ 2,100,000	$ -	$ 2,100,000	$ 1,835,850	$ 264,150	$ -	$ 264,150	$ -
3.1.3	Brady Road Resource Management Facility - Cell Construction - Phase 1	2018	$ 2,200,000	$ -	$ 2,200,000	$ 1,923,271	$ 276,729	$ -	$ 276,729	$ -
3.1.4	Brady Road Resource Management Facility - Cell Construction - Phase 1	2019	$ 2,300,000	$ -	$ 2,300,000	$ 2,010,693	$ 289,307	$ -	$ 289,307	$ -
3.1.5	Brady Road Resource Management Facility - Cell Construction - Phase 2	2019	$ 600,000	$ -	$ 600,000	$ 524,529	$ 75,471	$ -	$ 75,471	$ -
3.1.6	Brady Road Resource Management Facility - Cell Construction - Phase 2	2020	$ 3,850,000	$ -	$ 3,850,000	$ 3,365,725	$ 484,275	$ -	$ 484,275	$ -
3.1.7	Brady Road Resource Management Facility - Cell Construction - Phase 2	2021	$ 2,950,000	$ -	$ 2,950,000	$ 2,578,932	$ 371,068	$ -	$ 371,068	$ -
3.1.8	Brady Road Resource Management Facility - Cell Construction - Phase 2	2022	$ 3,100,000	$ -	$ 3,100,000	$ 2,710,064	$ 389,936	$ -	$ 389,936	$ -
3.1.9	Brady Road Resource Management Facility - Cell Construction - Phase 2	2023	$ 3,250,000	$ -	$ 3,250,000	$ 2,841,196	$ 408,804	$ -	$ 408,804	$ -
3.1.10	Brady Road Resource Management Facility - Cell Construction - Phase 2	2024	$ 3,400,000	$ -	$ 3,400,000	$ 2,972,328	$ 427,672	$ -	$ 427,672	$ -
3.1.11	Brady Road Resource Management Facility - Cell Construction - Phase 2	2025	$ 3,600,000	$ -	$ 3,600,000	$ 3,147,171	$ 452,829	$ -	$ 452,829	$ -
3.1.12	Brady Road Resource Management Facility - Cell Construction - Phase 2	2026	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
3.1.13	Comprehensive Integrated Waste Management Strategy (CIWMS) - 4R Winnip	2017	$ 4,750,000	$ -	$ 4,750,000	$ 4,152,518	$ 597,482	$ -	$ 597,482	$ -
	TOTAL SOLID WASTE		$ 34,600,000	$ -	$ 34,600,000	$ 30,247,813	$ 4,352,187	$ -	$ 4,352,187	$ -

Residential Calculation		
Residential Share of Development-Related Costs	62%	$2,698,356
10 Year Population Growth in New Housing Units		107,740
Unadjusted Per Unit Charge		$25.05
Non-Residential Calculation		
Non-Residential Share of Development-Related Costs	38%	$1,653,831
10 Year Growth in Square Metres		3,373,581
Unadjusted Per Square Metre Charge		$0.49
Non-Residential Allocation		
10 Year Growth in Square Metres: Major Office		320,530
10 Year Growth in Square Metres: Institutional		759,295
10 Year Growth in Square Metres: Commercial/Retail		455,551
10 Year Growth in Square Metres: Industrial		1,638,205
Office Per Square Metre Charge (Unadjusted)	22.3%	$1.15
Institutional Per Square Metre Charge (Unadjusted)	21.9%	$0.48
Commercial/Retail Per Square Metre Charge (Unadjusted)	21.4%	$0.78
Industrial Per Square Metre Charge (Unadjusted)	34.5%	$0.31

APPENDIX B.3
TABLE 2 - PAGE 1

CITY OF WINNIPEG
CASHFLOW AND DETERMINATION OF REGULATORY FEE
SOLID WASTE
RESIDENTIAL CHARGE
(in $000)

SOLID WASTE	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	TOTAL
OPENING CASH BALANCE	$0.00	($464.69)	($375.73)	($331.08)	($357.47)	($303.75)	($291.80)	($289.50)	($297.37)	($320.33)	
2017-2026 RESIDENTIAL FUNDING REQUIREMENTS											
- Solid Waste: Non Inflated	$729.2	$171.6	$226.2	$300.3	$230.1	$241.8	$253.5	$265.2	$280.8	$0.0	$2,698.4
- Solid Waste: Inflated	$729.2	$175.0	$235.3	$318.6	$249.0	$266.9	$285.4	$304.6	$328.9	$0.0	$2,893.0
NEW RESIDENTIAL DEVELOPMENT											
- Population in New Units	10,663	10,855	11,084	11,272	11,424	10,291	10,376	10,475	10,599	10,701	107,740
REVENUE											
- Charge Receipts: Inflated	$276.9	$287.6	$299.5	$310.7	$321.1	$295.1	$303.5	$312.5	$322.5	$332.1	$3,061.5
INTEREST											
- Interest on Opening Balance	$0.0	($25.6)	($20.7)	($18.2)	($19.7)	($16.7)	($16.0)	($15.9)	($16.4)	($17.6)	($166.7)
- Interest on In-year Transactions	($12.4)	$2.0	$1.1	($0.2)	$1.3	$0.5	$0.3	$0.1	($0.2)	$5.8	($1.7)
TOTAL REVENUE	$264.5	$264.0	$279.9	$292.2	$302.8	$278.9	$287.7	$296.7	$306.0	$320.3	$2,893.0
CLOSING CASH BALANCE	($464.7)	($375.7)	($331.1)	($357.5)	($303.7)	($291.8)	($289.5)	($297.4)	($320.3)	$0.0	

Adjusted Charge Per Capita	$25.97

Allocation of Capital Program	
Residential Sector	62%
Non-Residential Sector	38%
Rates for 2016	
Inflation Rate:	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

APPENDIX B.3
TABLE 2 - PAGE 2

CITY OF WINNIPEG
CASHFLOW AND DETERMINATION OF REGULATORY FEE
SOLID WASTE
OFFICE CHARGE
(In $000)

SOLID WASTE	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	TOTAL
OPENING CASH BALANCE	$0.00	($40.17)	($23.58)	($18.27)	($10.39)	($5.87)	($9.23)	($13.77)	($19.35)	($31.71)	
2017-2026 MAJOR OFFICE FUNDING REQUIREMENTS											
- Solid Waste: Non Inflated	$99.5	$23.4	$30.9	$41.0	$31.4	$33.0	$34.6	$36.2	$38.3	$0.0	$368.2
- Solid Waste: Inflated	$99.5	$23.9	$32.1	$43.5	$34.0	$36.4	$38.9	$41.6	$44.9	$0.0	$394.8
NEW MAJOR OFFICE DEVELOPMENT											
- Growth in Square Metres	51,743	35,567	31,760	42,145	30,851	25,970	26,639	27,491	24,776	23,569	320,530
REVENUE											
- Charge Receipts: Inflated	$60.4	$42.4	$38.6	$52.2	$39.0	$33.5	$35.0	$36.9	$33.9	$32.9	$404.7
INTEREST											
- Interest on Opening Balance	$0.0	($2.2)	($1.3)	($1.0)	($0.6)	($0.3)	($0.5)	($0.8)	($1.1)	($1.7)	($9.5)
- Interest on In-year Transactions	($1.1)	$0.3	$0.1	$0.2	$0.1	($0.1)	($0.1)	($0.1)	($0.3)	$0.6	($0.4)
TOTAL REVENUE	$59.3	$40.5	$37.4	$51.4	$38.5	$33.1	$34.4	$36.0	$32.5	$31.7	$394.8
CLOSING CASH BALANCE	($40.2)	($23.6)	($18.3)	($10.4)	($5.9)	($9.2)	($13.8)	($19.3)	($31.7)	$0.0	

Adjusted Charge Per Square Metre	$1.17

Allocation of Capital Program	
Residential Sector	62%
Non-Residential Sector	38%
Rates for 2016	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

Non-res Split:	
Office	22%
Institutional	22%
Commercial/R	21%
Industrial	34%

APPENDIX B.3
TABLE 2 - PAGE 3

CITY OF WINNIPEG
CASHFLOW AND DETERMINATION OF REGULATORY FEE
SOLID WASTE
INSTITUTIONAL CHARGE
(In $000)

SOLID WASTE	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	TOTAL
OPENING CASH BALANCE	$0.00	($39.53)	($23.21)	($17.98)	($10.23)	($5.78)	($9.08)	($13.55)	($19.04)	($31.21)	
2017-2026 INSTITUTIONAL FUNDING REQUIREMENTS											
- Solid Waste: Non Inflated	$97.9	$23.0	$30.4	$40.3	$30.9	$32.5	$34.0	$35.6	$37.7	$0.0	$362.3
- Solid Waste: Inflated	$97.9	$23.5	$31.6	$42.8	$33.4	$35.8	$38.3	$40.9	$44.2	$0.0	$388.4
NEW INSTITUTIONAL DEVELOPMENT											
- Growth in Square Metres	122,572	84,253	75,284	99,835	73,081	61,520	63,104	65,123	58,690	55,832	759,295
REVENUE											
- Charge Receipts: Inflated	$59.4	$41.7	$38.0	$51.4	$38.4	$32.9	$34.5	$36.3	$33.3	$32.4	$398.2
INTEREST											
- Interest on Opening Balance	$0.0	($2.2)	($1.3)	($1.0)	($0.6)	($0.3)	($0.5)	($0.7)	($1.0)	($1.7)	($9.3)
- Interest on In-year Transactions	($1.1)	$0.3	$0.1	$0.2	$0.1	($0.1)	($0.1)	($0.1)	($0.3)	$0.6	($0.4)
TOTAL REVENUE	$58.4	$39.8	$36.8	$50.5	$37.9	$32.5	$33.9	$35.4	$32.0	$31.2	$388.4
CLOSING CASH BALANCE	($39.5)	($23.2)	($18.0)	($10.2)	($5.8)	($9.1)	($13.5)	($19.0)	($31.2)	$0.0	

Adjusted Charge Per Square Metre	$0.48

Allocation of Capital Program	
Residential Sector	62%
Non-Residential Sector	38%
Rates for 2016	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

Non-res Split:	
Office	22%
Institutional	22%
Commercial/R	21%
Industrial	34%

APPENDIX B.3
TABLE 2 - PAGE 4

CITY OF WINNIPEG
CASHFLOW AND DETERMINATION OF REGULATORY FEE
SOLID WASTE
COMMERCIAL/RETAIL CHARGE
(In $000)

SOLID WASTE	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	TOTAL
OPENING CASH BALANCE	$0.00	($38.54)	($22.62)	($17.53)	($9.97)	($5.63)	($8.85)	($13.21)	($18.56)	($30.42)	
2017-2026 INSTITUTIONAL FUNDING REQUIREMENTS											
- Solid Waste: Non Inflated	$95.5	$22.5	$29.6	$39.3	$30.1	$31.6	$33.2	$34.7	$36.8	$0.0	$353.2
- Solid Waste: Inflated	$95.5	$22.9	$30.8	$41.7	$32.6	$34.9	$37.4	$39.9	$43.1	$0.0	$378.7
NEW COMMERCIAL DEVELOPMENT											
- Growth in Square Metres	73,539	50,549	45,168	59,898	43,846	36,910	37,860	39,071	35,212	33,498	455,551
REVENUE											
- Charge Receipts: Inflated	$57.9	$40.6	$37.0	$50.1	$37.4	$32.1	$33.6	$35.4	$32.5	$31.5	$388.2
INTEREST											
- Interest on Opening Balance	$0.0	($2.1)	($1.2)	($1.0)	($0.5)	($0.3)	($0.5)	($0.7)	($1.0)	($1.7)	($9.1)
- Interest on In-year Transactions	($1.0)	$0.3	$0.1	$0.1	$0.1	($0.1)	($0.1)	($0.1)	($0.3)	$0.6	($0.4)
TOTAL REVENUE	$56.9	$38.8	$35.9	$49.3	$36.9	$31.7	$33.0	$34.5	$31.2	$30.4	$378.7
CLOSING CASH BALANCE	($38.5)	($22.6)	($17.5)	($10.0)	($5.6)	($8.9)	($13.2)	($18.6)	($30.4)	($0.0)	

Adjusted Charge Per Square Metre	$0.79

Allocation of Capital Program	
Residential Sector	62%
Non-Residential Sector	38%
Rates for 2016	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

Non-res Split:	
Office	22%
Institutional	22%
Commercial/R	21%
Industrial	34%

APPENDIX B.3
TABLE 2 - PAGE 5

CITY OF WINNIPEG
CASHFLOW AND DETERMINATION OF REGULATORY FEE
SOLID WASTE
INDUSTRIAL CHARGE
(In $000)

SOLID WASTE	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	TOTAL
OPENING CASH BALANCE	$0.00	($62.20)	($36.52)	($28.30)	($16.09)	($9.09)	($14.29)	($21.32)	($29.96)	($49.11)	
2017-2026 INSTITUTIONAL FUNDING REQUIREMENTS											
- Solid Waste: Non Inflated	$154.1	$36.3	$47.8	$63.4	$48.6	$51.1	$53.6	$56.0	$59.3	$0.0	$570.1
- Solid Waste: Inflated	$154.1	$37.0	$49.7	$67.3	$52.6	$56.4	$60.3	$64.4	$69.5	$0.0	$611.2
NEW INDUSTRIAL DEVELOPMENT											
- Growth in Square Metres	296,738	203,971	182,257	241,695	176,925	148,937	152,772	157,658	142,085	135,167	1,838,205
REVENUE											
- Charge Receipts: Inflated	$93.5	$65.6	$59.8	$80.8	$60.4	$51.8	$54.2	$57.1	$52.5	$50.9	$626.6
INTEREST											
- Interest on Opening Balance	$0.0	($3.4)	($2.0)	($1.6)	($0.9)	($0.5)	($0.8)	($1.2)	($1.6)	($2.7)	($14.7)
- Interest on In-year Transactions	($1.7)	$0.5	$0.2	$0.2	$0.1	($0.1)	($0.2)	($0.2)	($0.5)	$0.9	($0.7)
TOTAL REVENUE	$91.9	$62.7	$57.9	$79.5	$59.6	$51.2	$53.3	$55.7	$50.4	$49.1	$611.2
CLOSING CASH BALANCE	($62.2)	($36.5)	($28.3)	($16.1)	($9.1)	($14.3)	($21.3)	($30.0)	($49.1)	$0.0	

Adjusted Charge Per Square Metre	$0.32

Allocation of Capital Program	
Residential Sector	62%
Non-Residential Sector	38%
Rates for 2016	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

Non-res Split:	
Office	22%
Institutional	22%
Commercial/R	21%
Industrial	34%

APPENDIX C

15-YEAR BENEFITTING PERIOD SERVICES

TECHNICAL APPENDIX

APPENDIX C

15-YEAR BENEFITTING PERIOD SERVICES TECHNICAL APPENDIX

This appendix provides the detailed analysis undertaken to establish the regulatory fee rates for Public Works services, which is anticipated to benefit development over the 15-year period between 2017 and 2031. The City's Public Works department manages a range of transportation-related projects including active transportation facilities, roads, and bridges.

This appendix contains a set of two tables. The tables provide the background data and analysis undertaken to arrive at the calculated regulatory fee rates, as described below.

TABLE 1 2017 – 2031 DEVELOPMENT-RELATED CAPITAL PROGRAM AND CALCULATION OF THE "UNADJUSTED" REGULATORY FEES

Based on the development forecasts presented in Appendix A, City staff in collaboration with consultants, have created a growth-related capital forecast for Public Works that sets out the projects required to service anticipated development over the 15-year period from 2017–2031. Most of the major projects in the capital program are identified in the City's Transportation Master Plan, which is also based on growth to 2031. The gross cost of the program totals approximately $3.47 billion. This include a number of planned major road and bridge rehabilitations, widenings, grade separations, and extensions, as well as construction of pedestrian and cycling paths.

To determine the regulatory fee share of the program, the project costs are reduced by any anticipated grants, subsidies or other recoveries. These amounts total $1.71 billion.

Other deductions include benefit to existing shares. Many of these shared have been identified by City staff as the portion of each project which represents improvements to existing infrastructure. Some projects involve both a road widening and reconstruction, in which case the cost of reconstructing existing lanes is estimated and identified as a benefit to existing share. These reconstruction costs have been estimated by City staff at $1.97 million per lane kilometre. Benefit to existing shares for this service total $711.46 million.

Some projects included with the development related program have been recently completed, while several planned projects are anticipated to benefit development that occurred in the City over the 10-year period preceding 2017. These amounts have been deducted as "prior growth" shares, and total $165.11 million for this service.

Finally, several large-scale and long-term road and bridge projects are included that are anticipated to benefit development that occurs beyond 2031. These "post-2031" benefits have been deducted based on population and employment shares between periods.

The remaining development-related costs for recovery between 2017 and 2031 total $647.78 million.

Calculation of the Unadjusted Regulatory Fee Rates

The $647.78 in costs for recovery through regulatory fees is allocated among new residential and non-residential development to result in "unadjusted" regulatory fee rates. The term "unadjusted" regulatory fee is used to distinguish the charge that is calculated prior to cash flow financing considerations. The cash flow analysis is shown in Table 2.

The first step in determining the unadjusted regulatory fee rate is to allocate the development-related net capital cost between the residential and non-residential sectors. In the case of Public Works services, development-related costs have been apportioned as 62 per cent residential ($401.63 million) and 38 per cent non-residential ($246.16 million). This apportionment is based on the anticipated shares of population and employment growth over the 15-year forecast period.

The 38 per cent non-residential apportionment of the development-related net capital cost has been further broken down into four employment category apportionments based on anticipated shares of employment growth in each sector. The result is an apportionment of 22.3 per cent Office, 21.9 per cent Institutional, 21.4 per cent Commercial/Retail, and 34.5 per cent Industrial.

Next, the residential share of the costs for recovery is divided by the forecast population growth in new dwelling units from 2017 to 2031 of approximately 156,200. This gives the unadjusted residential regulatory fee of $2,571.91 per capita.

The non-residential development-related net capital costs are divided by the forecasted increase in non-residential gross floor area (GFA): approximately 453,800 square metres for Office, 1.75 million square metres for Institutional, 644,900 million square metres for Commercial/Retail, and 2.60 million square metres for Industrial development. This yields an unadjusted charge per square metre of new development for each employment category: $120.77 per square metre for Office, $50.17 per square metre for Institutional, $81.52 per square metre for Commercial/Retail, and $32.61 per square metre for Industrial development.

TABLE 2 CASH FLOW ANALYSIS

A cash flow analysis is also undertaken to account for the timing of projects and receipt of regulatory fees. Interest earnings or borrowing costs are accounted for in the calculation. Based on the development forecast, the analysis calculates the regulatory fee rate required to finance the net development-related capital spending plan, including provisions for any borrowing costs or interest earnings on the reserve funds. An inflation rate assumption of 2.0 per cent is used for the funding requirements, an interest rate of 5.5 per cent is used for borrowing on the funds and an interest rate of 3.5 per cent is applied to positive balances.

The cash flow analysis is designed so that the closing cash balance at the end of the planning period is as close to nil as possible. Table 2 displays the results of the cash flow analysis. The adjusted or final per capita residential and per square metre (of GFA) non-residential regulatory fees are summarized below:

PUBLIC WORKS SUMMARY									
2017-2031 Development-Related Capital Program		Unadjusted Charge		Adjusted Charge		Adjusted Charges			
						Office	Institutional	Commercial	Industrial
Total	Net Recoverable	$/capita	$/sq.m	$/capita	$/sq.m	$/sq.m	$/sq.m	$/sq.m	$/sq.m
$3,471,887,115	$647,784,514	$2,571.91	$51.54	$2,735.87	$53.80	$126.06	$52.36	$85.09	$34.04

APPENDIX C
TABLE 1 - PAGE 1

CITY OF WINNIPEG
DEVELOPMENT-RELATED CAPITAL PROGRAM

Service	Project Description	Timing	Gross Project Cost	Grants/ Subsidies/ Other Recoveries	Net Municipal Cost	Ineligible Costs Replacement & BTE (1)	Development Related Costs	Costs for Recovery: Prior Growth	Costs for Recovery: 2017-2031	Costs for Recovery: Post 2031
4.0	PUBLIC WORKS									
4.1	Active Transportation Facilities									
4.1.1	Pedestrian/Bicycle paths (past project)	2017	$ 20,400,000	$ 13,600,000	$ 6,800,000	$ 4,533,333	$ 2,266,667	$ 915,855	$ 1,350,812	$ -
4.1.2	Pedestrian/Bicycle paths (future projects)	Various	$ 330,000,000	$ 66,000,000	$ 264,000,000	$ 176,000,000	$ 88,000,000	$ -	$ 55,582,870	$ 32,417,130
	Subtotal Active Transportation Facilities		$ 350,400,000	$ 79,600,000	$ 270,800,000	$ 180,533,333	$ 90,266,667	$ 915,855	$ 56,933,682	$ 32,417,130
4.2	Studies									
4.2.1	Transportation Master Plan	Various	$ 3,750,000	$ -	$ 3,750,000	$ 1,875,000	$ 1,875,000	$ -	$ 1,875,000	$ -
	Subtotal Studies		$ 3,750,000	$ -	$ 3,750,000	$ 1,875,000	$ 1,875,000	$ -	$ 1,875,000	$ -
4.3	Major Projects									
4.3.1	Public Works East Yard (past project)	2017	$ 49,400,000	$ -	$ 49,400,000	$ 32,115,334	$ 17,284,666	$ 6,983,933	$ 10,300,734	$ -
4.3.2	Chief Peguis Trail (1st section) (P3) (past project)	2017	$ 108,500,000	$ 31,300,000	$ 77,200,000	$ 23,160,000	$ 54,040,000	$ 21,835,060	$ 32,204,940	$ -
4.3.3	Disraeli Bridge (P3) (past project)	2017	$ 195,000,000	$ -	$ 195,000,000	$ 126,771,054	$ 68,228,946	$ 27,568,155	$ 40,660,791	$ -
4.3.4	Waverley Underpass (past project)	2017	$ 155,000,000	$ 91,800,000	$ 63,200,000	$ 41,086,824	$ 22,113,176	$ 8,934,910	$ 13,178,267	$ -
4.3.5	Pembina Underpass (past project)	2017	$ 90,000,000	$ 58,200,000	$ 31,800,000	$ 20,673,433	$ 11,126,567	$ 4,495,730	$ 6,630,837	$ -
4.3.6	Plessis Road Underpass (past project)	2017	$ 87,500,000	$ 57,500,000	$ 30,000,000	$ 15,000,000	$ 15,000,000	$ 6,060,805	$ 8,939,195	$ -
4.3.7	Waverley West Roads & Bridge (past project)	2017	$ 70,700,000	$ 33,200,000	$ 37,500,000	$ 11,250,000	$ 26,250,000	$ 10,606,408	$ 15,643,592	$ -
4.3.8	Land Acquisition - Transportation Right of Way	Various	$ 3,000,000	$ -	$ 3,000,000	$ -	$ 3,000,000	$ -	$ 3,000,000	$ -
4.3.9	Henderson Highway North of Gilmore to City Limit	2018	$ 700,000	$ -	$ 700,000	$ 350,000	$ 350,000	$ 141,419	$ 208,581	$ -

APPENDIX C
TABLE 1 - PAGE 2

CITY OF WINNIPEG
DEVELOPMENT-RELATED CAPITAL PROGRAM

Service	Project Description	Timing	Gross Project Cost	Grants/ Subsidies/ Other Recoveries	Net Municipal Cost	Ineligible Costs Replacement & BTE (1)	Development Related Costs	Costs for Recovery: Prior Growth	Costs for Recovery: 2017-2031	Costs for Recovery: Post 2031
4.3 Major Projects (continued)										
4.3.10	Marion U/P, Widening & Realignment	2019	$ 88,383,760	$ -	$ 88,383,760	$ 58,158,771	$ 30,224,989	$ 12,212,517	$ 18,012,472	$ -
4.3.11	Kenaston (Ness to Taylor): Bridge and Approach	2019	$ 38,872,692	$ 23,323,615	$ 15,549,077	$ 10,366,051	$ 5,183,026	$ 2,094,220	$ 3,088,805	$ -
4.3.12	Kenaston (Ness to Taylor), Road	2019	$ 259,151,280	$ 155,490,768	$ 103,660,512	$ 30,747,600	$ 72,912,912	$ 29,450,729	$ 43,452,183	$ -
4.3.13	St James Bridge South Bound	2020	$ 49,362,148	$ 29,617,289	$ 19,744,859	$ 14,808,645	$ 4,936,215	$ 1,994,496	$ 2,941,719	$ -
4.3.14	Louise Bridge	2020	$ 123,405,371	$ 74,043,223	$ 49,362,148	$ 24,681,074	$ 24,681,074	$ 9,972,478	$ 14,708,596	$ -
4.3.15	Arlington Bridge or alternative	2020	$ 246,810,742	$ 148,086,445	$ 98,724,297	$ 65,816,198	$ 32,908,099	$ 13,296,638	$ 19,611,461	$ -
4.3.16	St Mary's Widening (St Anne to Marion)	2021	$ 78,352,817	$ 47,011,570	$ 31,341,047	$ 18,921,600	$ 12,419,447	$ 5,018,123	$ 7,401,324	$ -
4.3.17	Osborne Underpass - widening	2023	$ 66,804,045	$ 40,082,427	$ 26,721,618	$ 21,377,294	$ 5,344,324	$ 2,159,393	$ 3,184,930	$ -
4.3.18	Fermor (Lagimodiere to Plessis)	2024	$ 50,929,201	$ 30,557,520	$ 20,371,680	$ 15,768,000	$ 4,603,680	$ 1,860,134	$ 2,743,546	$ -
4.3.19	Chief Peguis Trail (Main to Route 90)	2019	$ 380,952,381	$ 228,571,429	$ 152,380,952	$ -	$ 152,380,952	$ -	$ 96,247,395	$ 56,133,558
4.3.20	Clement Parkway (Grant to Wilkes)	2021	$ 129,233,459	$ 77,540,076	$ 51,693,384	$ -	$ 51,693,384	$ -	$ 32,650,757	$ 19,042,625
4.3.21	Bishop Grandin (Lagimodiere to Fermor)	2025	$ 102,102,525	$ 61,261,515	$ 40,841,010	$ -	$ 40,841,010	$ -	$ 25,796,143	$ 15,044,867
4.3.22	Schreyer Parkway (Plessis to Peguis)	2025	$ 76,576,894	$ 45,946,136	$ 30,630,758	$ -	$ 30,630,758	$ -	$ 19,347,107	$ 11,283,650
4.3.23	Bishop Grandin (Kenaston to McGillivray)	2026	$ 122,000,000	$ 73,200,000	$ 48,800,000	$ -	$ 48,800,000	$ -	$ 30,823,228	$ 17,976,772
4.3.24	Clement Parkway (McGillivray to Wilkes)	2027	$ 122,000,000	$ 73,200,000	$ 48,800,000	$ -	$ 48,800,000	$ -	$ 30,823,228	$ 17,976,772
4.3.25	Silver (Rt 90 to Sturgeon)	2028	$ 109,000,000	$ 65,400,000	$ 43,600,000	$ -	$ 43,600,000	$ -	$ 27,538,786	$ 16,061,214
4.3.26	Chief Peguis Trail (Schreyer Parkway to 101)	2029	$ 134,000,000	$ 80,400,000	$ 53,600,000	$ -	$ 53,600,000	$ -	$ 33,855,021	$ 19,744,979
4.3.27	Hwy 6 extension	2030	$ 182,000,000	$ 109,200,000	$ 72,800,000	$ -	$ 72,800,000	$ -	$ 45,982,193	$ 26,817,807
	Subtotal Major Projects (continued)		$ 2,357,837,115	$ 1,362,832,913	$ 995,005,102	$ 259,645,233	$ 736,359,869	$ 78,058,728	$ 458,208,895	$ 200,092,246
TOTAL PUBLIC WORKS			$ 3,471,887,115	$ 1,714,532,013	$ 1,757,355,102	$ 711,460,210	$ 1,045,894,892	$ 165,611,083	$ 647,784,514	$ 232,499,375

Note 1: Cost of road reconstruction based on $1.971 million per lane km

Residential Calculation		
Residential Share of Development-Related Costs	62%	$401,626,398
15 Year Population Growth in New Housing Units		156,159
Unadjusted Per Unit Charge		$2,571.91
Non-Residential Calculation		
Non-Residential Share of Development-Related Costs	38%	$246,158,115
15 Year Growth in Square Metres		4,775,863
Unadjusted Per Square Metre Charge		$51.54
Non-Residential Allocation		
15 Year Growth in Square Metres: Major Office		453,764
15 Year Growth in Square Metres: Institutional		1,074,908
15 Year Growth in Square Metres: Commercial/Retail		644,907
15 Year Growth in Square Metres: Industrial		2,602,284
Office Per Square Metre Charge (Unadjusted)	22.3%	$120.77
Institutional Per Square Metre Charge (Unadjusted)	21.9%	$50.17
Commercial/Retail Per Square Metre Charge (Unadjusted)	21.4%	$81.52
Industrial Per Square Metre Charge (Unadjusted)	34.5%	$32.81

APPENDIX C
TABLE 2 - PAGE 1

CITY OF WINNIPEG
CASHFLOW AND DETERMINATION OF REGULATORY FEE
PUBLIC WORKS
RESIDENTIAL CHARGE
(in $000)

PUBLIC WORKS	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	TOTAL
OPENING CASH BALANCE	$0.0	($54,714.4)	($29,629.5)	($108,090.1)	($108,379.7)	($110,019.5)	($87,248.7)	($64,645.3)	($39,614.2)	($43,587.1)	($38,661.0)	($32,907.0)	($26,218.8)	($23,858.5)	($30,988.4)	
2017-2041 RESIDENTIAL FUNDING REQUIREMENTS																
- Public Works: Non Inflated	$82,422.6	$2,628.2	$102,195.5	$25,601.2	$27,331.2	$2,498.9	$4,473.6	$4,199.9	$30,487.7	$21,609.3	$21,609.3	$19,573.0	$23,489.0	$31,007.9	$2,498.9	$401,626.4
- Public Works: Inflated	$82,422.6	$2,680.8	$106,324.2	$27,168.2	$29,584.2	$2,759.0	$5,038.0	$4,824.4	$35,721.2	$25,825.1	$26,341.6	$24,336.5	$29,769.8	$40,112.0	$3,297.3	$446,225.0
NEW RESIDENTIAL DEVELOPMENT																
- Population in New Units	10,663	10,855	11,064	11,272	11,424	10,291	10,376	10,475	10,599	10,701	9,599	9,610	9,662	9,734	9,814	156,159
REVENUE																
- Charge Receipts: Inflated	$29,172.6	$30,291.6	$31,549.5	$32,726.3	$33,831.0	$31,085.2	$31,968.8	$32,919.3	$33,975.2	$34,988.2	$32,012.8	$32,890.4	$33,524.7	$34,450.0	$35,427.6	$490,813.3
INTEREST																
- Interest on Opening Balance	$0.0	($3,009.3)	($1,629.6)	($5,945.0)	($5,960.9)	($6,051.1)	($4,798.7)	($3,555.5)	($2,178.8)	($2,397.3)	($2,016.4)	($1,809.9)	($1,441.9)	($1,312.2)	($1,704.4)	($43,810.8)
- Interest on In-year Transactions	($1,464.4)	$483.2	($2,056.3)	$97.3	$74.3	$495.7	$471.3	$491.7	($48.0)	$160.4	$99.2	$146.2	$85.4	($155.7)	$562.3	($577.5)
TOTAL REVENUE	$27,708.2	$27,765.7	$27,863.6	$26,878.6	$27,944.4	$25,529.8	$27,641.4	$29,855.5	$31,748.4	$32,751.2	$30,095.6	$31,026.7	$32,168.1	$32,982.1	$34,285.7	$446,225.0
CLOSING CASH BALANCE	($54,714.4)	($29,629.5)	($108,090.1)	($108,379.7)	($110,019.5)	($87,248.7)	($64,645.3)	($39,614.2)	($43,587.1)	($38,661.0)	($32,907.0)	($26,218.8)	($23,858.5)	($30,988.4)	($0.0)	

Adjusted Charge Per Capita	$2,735.87

Allocation of Capital Program	
Residential Sector	62%
Non-Residential Sector	38%
Rates for 2018	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

APPENDIX C
TABLE 2 - PAGE 2

CITY OF WINNIPEG
CASHFLOW AND DETERMINATION OF REGULATORY FEE
PUBLIC WORKS
OFFICE CHARGE
(in $000)

PUBLIC WORKS	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	TOTAL
OPENING CASH BALANCE	$0.0	($4,854.0)	($840.1)	($11,510.7)	($10,179.3)	($10,563.4)	($7,849.7)	($5,133.0)	($2,034.8)	($3,395.1)	($3,554.5)	($3,517.3)	($3,087.7)	($3,246.6)	($3,975.7)	
2017-2041 MAJOR OFFICE FUNDING REQUIREMENTS																
- Public Works: Non Inflated	$11,246.6	$358.6	$13,944.7	$3,493.3	$3,729.4	$341.0	$610.4	$573.1	$4,160.1	$2,948.8	$2,948.8	$2,679.7	$3,205.1	$4,231.1	$341.0	$54,802.3
- Public Works: Inflated	$11,248.8	$365.8	$14,508.0	$3,707.1	$4,036.8	$376.5	$687.4	$858.3	$4,874.2	$3,523.9	$3,584.3	$3,320.7	$4,064.8	$5,473.3	$449.9	$60,887.8
NEW MAJOR OFFICE DEVELOPMENT																
- Growth in Square Metres	51,743	35,567	31,780	42,145	30,851	25,970	26,639	27,491	24,776	23,565	24,879	25,094	25,493	30,279	27,468	453,764
REVENUE																
- Charge Receipts: Inflated	$6,522.5	$4,573.1	$4,168.0	$5,637.8	$4,209.5	$3,614.5	$3,781.7	$3,980.7	$3,659.3	$3,550.7	$3,823.0	$3,933.1	$4,075.6	$4,937.6	$4,572.1	$65,039.1
INTEREST																
- Interest on Opening Balance	$0.0	($267.0)	($46.2)	($633.1)	($559.9)	($581.0)	($431.7)	($282.3)	($111.9)	($186.7)	($195.5)	($193.5)	($169.8)	($178.6)	($218.7)	($4,056.8)
- Interest on In-year Transactions	($129.9)	$73.8	($284.4)	$33.8	$3.0	$56.7	$54.1	$58.1	($33.4)	$0.5	$4.0	$10.7	$3.2	($14.7)	$72.1	($95.5)
TOTAL REVENUE	$6,392.6	$4,379.8	$3,837.4	$5,038.5	$3,652.7	$3,090.2	$3,404.1	$3,756.5	$3,513.9	$3,384.4	$3,631.5	$3,750.4	$3,905.9	$4,744.3	$4,425.8	$60,887.8
CLOSING CASH BALANCE	($4,854.0)	($840.1)	($11,510.7)	($10,179.3)	($10,563.4)	($7,849.7)	($5,133.0)	($2,034.8)	($3,395.1)	($3,554.5)	($3,517.3)	($3,087.7)	($3,246.6)	($3,975.7)	$0.0	

Adjusted Charge Per Square Metre	$126.06

Allocation of Capital Program	
Residential Sector	62%
Non-Residential Sector	38%
Rates for 2016	
Inflation Rate	3.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

Non-res Split:	
Office	22%
Institutional	22%
Commercial/R	21%
Industrial	34%

APPENDIX C
TABLE 2 - PAGE 3

CITY OF WINNIPEG
CASHFLOW AND DETERMINATION OF REGULATORY FEE
PUBLIC WORKS
INSTITUTIONAL CHARGE
(in $000)

PUBLIC WORKS	2017	2018	2019	2020	2021	2022	2023	2024
OPENING CASH BALANCE	$0.0	($4,776.3)	($826.6)	($11,326.4)	($10,016.3)	($10,394.3)	($7,724.1)	($5,050.9)
2017-2041 MAJOR OFFICE FUNDING REQUIREMENTS								
- Public Works: Non Inflated	$11,066.6	$352.9	$13,721.4	$3,437.4	$3,969.7	$335.5	$600.7	$583.9
- Public Works: Inflated	$11,066.6	$359.9	$14,275.8	$3,647.8	$3,972.2	$370.4	$676.4	$647.8
NEW INSTITUTIONAL DEVELOPMENT								
- Growth in Square Metres	122,572	84,253	75,284	99,835	73,081	61,520	63,104	65,123
REVENUE								
- Charge Receipts: Inflated	$6,416.1	$4,499.9	$4,101.3	$5,547.8	$4,142.1	$3,556.8	$3,721.2	$3,917.0
INTEREST								
- Interest on Opening Balance	$0.0	($262.7)	($45.5)	($623.0)	($550.9)	($571.7)	($424.8)	($277.8)
- Interest on In-year Transactions	($127.8)	$72.4	($279.8)	$33.2	$3.0	$55.8	$53.3	$57.2
TOTAL REVENUE	$6,290.3	$4,309.7	$3,776.0	$4,957.8	$3,594.2	$3,040.7	$3,349.6	$3,696.4
CLOSING CASH BALANCE	($4,776.3)	($826.6)	($11,326.4)	($10,016.3)	($10,394.3)	($7,724.1)	($5,050.9)	($2,002.2)

PUBLIC WORKS	2025	2026	2027	2028	2029	2030	2031	TOTAL
OPENING CASH BALANCE	($2,002.2)	($3,340.7)	($3,497.6)	($3,461.0)	($3,038.3)	($3,194.6)	($3,912.0)	
2017-2041 MAJOR OFFICE FUNDING REQUIREMENTS								
- Public Works: Non Inflated	$4,093.5	$2,901.4	$2,901.4	$2,628.0	$3,153.8	$4,163.3	$335.5	$53,925.1
- Public Works: Inflated	$4,796.2	$3,467.5	$3,536.8	$3,267.6	$3,999.8	$5,385.7	$442.7	$59,913.2
NEW INSTITUTIONAL DEVELOPMENT								
- Growth in Square Metres	58,690	55,832	58,936	59,444	60,389	71,727	65,116	1,074,906
REVENUE								
- Charge Receipts: Inflated	$3,600.7	$3,493.9	$3,761.8	$3,870.2	$4,010.3	$4,858.5	$4,498.9	$63,998.0
INTEREST								
- Interest on Opening Balance	($110.1)	($183.7)	($192.4)	($190.4)	($167.1)	($175.7)	($215.2)	($3,990.8)
- Interest on In-year Transactions	($32.9)	$0.5	$3.9	$10.5	$0.2	($14.5)	$71.0	($94.0)
TOTAL REVENUE	$3,457.7	$3,310.6	$3,573.4	$3,690.3	$3,843.4	$4,668.3	$4,354.7	$59,913.2
CLOSING CASH BALANCE	($3,340.7)	($3,497.6)	($3,461.0)	($3,038.3)	($3,194.6)	($3,912.0)	$0.0	

Adjusted Charge Per Square Metre	$52.26

Allocation of Capital Program	
Residential Sector	62%
Non-Residential Sector	38%
Rates for 2016	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

Non-res Split:	
Office	22%
Institutional	22%
Commercial/R	21%
Industrial	34%

APPENDIX C
TABLE 2 - PAGE 4

CITY OF WINNIPEG
CASHFLOW AND DETERMINATION OF REGULATORY FEE
PUBLIC WORKS
COMMERCIAL/RETAIL CHARGE
(in $000)

PUBLIC WORKS	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	TOTAL
OPENING CASH BALANCE	$0.0	($4,656.7)	($805.9)	($11,042.6)	($9,765.4)	($10,133.9)	($7,530.5)	($4,924.3)	($1,952.1)	($3,257.0)	($3,410.0)	($3,374.3)	($2,962.1)	($3,114.6)	($3,814.0)	
2017-2041 MAJOR OFFICE FUNDING REQUIREMENTS																
- Public Works: Non Inflated	$10,789.3	$344.0	$13,377.6	$3,351.3	$3,577.7	$327.1	$585.6	$549.8	$3,990.9	$2,828.7	$2,828.7	$2,562.1	$3,074.8	$4,059.0	$327.1	$52,573.9
- Public Works: Inflated	$10,789.3	$350.9	$13,918.1	$3,558.4	$3,872.6	$361.2	$659.5	$631.5	$4,676.0	$3,380.6	$3,448.2	$3,185.7	$3,899.6	$5,250.8	$431.6	$58,411.9
NEW COMMERCIAL DEVELOPMENT																
- Growth in Square Metres	73,539	50,549	45,168	53,838	43,848	36,910	37,860	39,071	35,212	33,498	35,360	35,664	36,231	43,034	39,067	644,907
REVENUE																
- Charge Receipts: Inflated	$6,257.3	$4,387.2	$3,998.5	$5,408.5	$4,038.3	$3,467.5	$3,627.9	$3,818.6	$3,510.5	$3,406.3	$3,667.6	$3,773.2	$3,909.8	$4,736.8	$4,386.2	$62,394.4
INTEREST																
- Interest on Opening Balance	$0.0	($256.1)	($44.3)	($607.3)	($537.1)	($557.4)	($414.2)	($270.8)	($107.4)	($179.1)	($187.5)	($185.6)	($162.9)	($171.3)	($209.8)	($3,890.9)
- Interest on In-year Transactions	($124.6)	$70.6	($272.8)	$32.4	$2.9	$54.4	$51.9	$55.8	($32.1)	$0.5	$3.8	$10.3	$0.2	($14.1)	$69.2	($91.6)
TOTAL REVENUE	$6,132.7	$4,201.7	$3,681.4	$4,833.6	$3,504.2	$2,964.5	$3,265.7	$3,603.8	$3,371.0	$3,227.6	$3,483.9	$3,597.9	$3,747.1	$4,551.3	$4,245.6	$58,411.9
CLOSING CASH BALANCE	($4,656.7)	($805.9)	($11,042.6)	($9,765.4)	($10,133.9)	($7,530.5)	($4,924.3)	($1,952.1)	($3,257.0)	($3,410.0)	($3,374.3)	($2,962.1)	($3,114.6)	($3,814.0)	$0.0	

Adjusted Charge Per Square Metre	$85.00

Allocation of Capital Program	
Residential Sector	62%
Non-Residential Sector	38%
Rates for 2016	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

Non-res Split:	
Office	22%
Institutional	22%
Commercial/R	21%
Industrial	34%

APPENDIX C
TABLE 2 - PAGE 5

CITY OF WINNIPEG
CASHFLOW AND DETERMINATION OF REGULATORY FEE
PUBLIC WORKS
INDUSTRIAL CHARGE
(in $000)

PUBLIC WORKS	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	TOTAL
OPENING CASH BALANCE	$0.0	($7,516.1)	($1,300.8)	($17,823.3)	($15,761.8)	($16,356.6)	($12,154.6)	($7,948.1)	($3,150.8)	($5,257.0)	($5,503.9)	($5,446.3)	($4,781.0)	($5,027.1)	($6,156.0)	
2017-2041 MAJOR OFFICE FUNDING REQUIREMENTS																
- Public Works: Non Inflated	$17,414.5	$555.3	$21,592.2	$5,409.1	$5,774.6	$528.0	$945.2	$887.4	$6,441.5	$4,565.7	$4,565.7	$4,135.4	$4,962.8	$6,551.4	$528.0	$84,858.9
- Public Works: Inflated	$17,414.5	$566.4	$22,464.5	$5,740.2	$6,250.6	$582.9	$1,064.4	$1,019.3	$7,547.3	$5,456.4	$5,565.5	$5,141.5	$6,294.1	$8,475.0	$696.7	$94,279.9
NEW INDUSTRIAL DEVELOPMENT																
- Growth in Square Metres	296,738	203,971	182,257	241,695	178,925	148,937	152,772	157,658	142,085	135,157	142,681	143,811	146,198	173,647	157,642	2,602,284
REVENUE																
- Charge Receipts: Inflated	$10,099.6	$7,081.1	$6,453.8	$8,729.7	$6,518.1	$5,596.7	$5,855.6	$6,163.6	$5,566.1	$5,498.0	$5,919.7	$6,090.1	$6,310.7	$7,645.4	$7,079.5	$100,707.8
INTEREST																
- Interest on Opening Balance	$0.0	($413.4)	($71.5)	($980.3)	($866.9)	($899.6)	($668.5)	($437.1)	($173.3)	($289.1)	($302.7)	($299.5)	($263.0)	($276.5)	($338.6)	($6,280.1)
- Interest on In-year Transactions	($201.2)	$114.0	($440.3)	$52.3	$4.7	$87.7	$83.8	$90.0	($51.7)	$0.7	$6.2	$16.6	$0.3	($22.8)	$111.7	($147.9)
TOTAL REVENUE	$9,898.4	$6,781.7	$5,942.0	$7,801.7	$5,655.9	$4,784.9	$5,271.0	$5,816.7	$5,441.0	$5,209.6	$5,623.2	$5,807.2	$6,048.0	$7,346.1	$6,852.6	$94,279.9
CLOSING CASH BALANCE	($7,516.1)	($1,300.8)	($17,823.3)	($15,761.8)	($16,356.6)	($12,154.6)	($7,948.1)	($3,150.8)	($5,257.0)	($5,503.9)	($5,446.3)	($4,781.0)	($5,027.1)	($6,156.0)	$0.0	

Adjusted Charge Per Square Metre	$34.04

Allocation of Capital Program	
Residential Sector	62%
Non-Residential Sector	38%
Rates for 2016	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

Non-res Split:	
Office	22%
Institutional	22%
Commercial/R	21%
Industrial	34%

APPENDIX D

25-YEAR BENEFITTING PERIOD SERVICES

TECHNICAL APPENDIX

APPENDIX D

25-YEAR BENEFITTING PERIOD SERVICES TECHNICAL APPENDIX

This appendix provides the detailed analysis undertaken to establish the regulatory fee rates for each of the services for the 25-year benefitting period provided by the City of Winnipeg. Five services have been analysed as part of this benefiting period:

Appendix D.1 Transit

Appendix D.2 Fire & Paramedic Services

Appendix D.3 Police

Appendix D.4 Water

Appendix D.5 Wastewater

Every sub-section contains a set of two tables. The tables provide the background data and analysis undertaken to arrive at the calculated regulatory fee rates for that particular service. An overview of the content and purpose of each of the tables is given below.

TABLE 1 2017 – 2041 DEVELOPMENT-RELATED CAPITAL PROGRAM AND CALCULATION OF THE "UNADJUSTED" REGULATORY FEES

Based on the development forecasts presented in Appendix A, City staff in collaboration with consultants, have created a growth-related capital forecast that sets out the projects required to service anticipated development over the 25-year period from 2017–2041.

To determine the share of the program to be recovered through regulatory fees, the project costs are reduced by any anticipated grants, subsidies or other recoveries, as well as "replacement" shares and benefit to existing shares. Further, in certain cases a portion of costs has been allocated to "prior growth" to account for portions of projects which are deemed to benefit recent development which occurred in the City during the 10-year period preceding 2017.

The capital program less grants and other funding sources, any replacement shares or benefit to existing shares, and prior growth shares yields the development-related costs that may be included in the regulatory fee calculation for recovery against growth over the forecast period from 2017 to 2041.

Calculation of the Unadjusted Regulatory Fee Rates

The section below the capital program displays the calculation of the "unadjusted" regulatory fee rates. The term "unadjusted" regulatory fee is used to distinguish the charge that is calculated prior to cash flow financing considerations. The cash flow analysis is shown in Table 2.

The first step in determining the unadjusted regulatory fee rate is to allocate the development-related net capital cost between the residential and non-residential sectors. For all 25-year benefitting period services, the development-related costs have been apportioned as 62 per cent residential and 38 per cent non-residential. This apportionment is based on the anticipated shares of population and employment growth over the 25-year forecast period. The 38 per cent non-residential apportionment of the development-related net capital cost has been further broken down into four employment category apportionments based on anticipated shares of employment growth in each sector. The result is an apportionment of 22.3 per cent Office, 21.9 per cent Institutional, 21.4 per cent Commercial/Retail, and 34.5 per cent Industrial.

Next, the residential share of the costs is divided by the forecast population growth in new dwelling units from 2017 to 2041 of approximately 244,800. This gives the unadjusted residential regulatory fee per capita.

The non-residential development-related net capital costs are divided by the forecast increase in non-residential gross floor area (GFA): approximately 737,700 square metres for Office, 1.75 million square metres for Institutional, 1.05 square metres for Commercial/Retail, and 4.23 million square metres for Industrial development. This yields a charge per square metre of new development for each employment category.

TABLE 2 CASH FLOW ANALYSIS

A cash flow analysis is also undertaken to account for the timing of projects and receipt of regulatory fees. Interest earnings or borrowing costs are accounted for in the calculation. Based on the development forecast, the analysis calculates the regulatory fee rate required to finance the net development-related capital spending plan, including provisions for any borrowing costs or interest earnings on the reserve funds.

An inflation rate assumption of 2.0 per cent is used for the funding requirements, an interest rate of 5.5 per cent is used for borrowing on the funds and an interest rate of 3.5 per cent is applied to positive balances.

The cash flow analysis is designed so that the closing cash balance at the end of the planning period is as close to nil as possible. Table 2 displays the results of the cash flow analysis and provides the adjusted or final per capita residential and per square metre (of GFA) non-residential regulatory fees.

APPENDIX D.1

TRANSIT

APPENDIX D.1

TRANSIT

Winnipeg Transit provides public transit-services City-wide, and manages major rapid transit projects as well as the fleet of transit buses and inventory of mechanical and storage facilities.

TABLE 1 2017–2041 DEVELOPMENT-RELATED CAPITAL PROGRAM AND CALCULATION OF THE "UNADJUSTED" REGULATORY FEES

The development-related capital program for Transit services totals $2.62 billion. This includes construction activity associated with six major new bus rapid transit corridors, the purchasing of additional transit buses, and the expansion of a mechanical and storage facility.

A large proportion of this capital program is anticipated to be funded through grants form other levels of government, at $1.51 billion.

The benefit to existing shares for projects under this service are based on the shares of present and forecast 2041 population and employment. This amounts to a total of $703.41 million. It is noted that this represents a conservative approach to the calculation of costs for recovery through regulatory fees. It is recommended that as information becomes available, the benefit to existing shares be updated to account for transit ridership projections for the existing population in comparison with ridership projections due to growth.

Finally, the Southwest BRT corridor represents a recent project undertaken by the City. To account for this, a "prior growth" share has been assigned representing costs allocated to recent development over the previous 10 years. This amount totals $31.60 million.

Costs for recovery through regulatory fees total $365.45 million. After residential and non-residential apportionments, unadjusted charges are calculated at $925.72 per capita for residential development, $41.91 per square metre for Office, $17.41 per square metre for Institutional, $28.29 per square metre for Commercial/Retail, and $11.32 per square metre for Industrial development.

TABLE 2 CASH FLOW ANALYSIS

After cash flow considerations, both the residential and non-residential charges increase as shown in the following table:

TRANSIT SUMMARY									
2017-2041 Development-Related Capital Program		Unadjusted Charge		Adjusted Charge		Adjusted Charges			
						Office	Institutional	Commercial	Industrial
Total	Net Recoverable	$/capita	$/sq.m	$/capita	$/sq.m	$/sq.m	$/sq.m	$/sq.m	$/sq.m
$2,615,300,000	$365,446,506	$925.72	$17.89	$987.01	$19.00	$44.53	$18.50	$30.06	$12.02

APPENDIX D.1
TABLE 1

CITY OF WINNIPEG
DEVELOPMENT-RELATED CAPITAL PROGRAM

Service	Project Description	Timing	Gross Project Cost	Grants/ Subsidies/ Other Recoveries	Net Municipal Cost	Ineligible Costs Replacement & BTE	Development Related Costs	Costs for Recovery: Prior Growth	Costs for Recovery: 2017-2041	Costs for Recovery: Post 2041
5.0 TRANSIT										
5.1.1	BRT - Southwest Corridor 1st leg (past project)	2017	$ 135,800,000	$ 45,500,000	$ 90,300,000	$ 47,723,227	$ 42,576,773	$ 12,766,177	$ 29,810,596	$ -
5.1.2	BRT - Southwest Corridor 2nd leg (past project)	2017	$ 377,000,000	$ 243,800,000	$ 133,200,000	$ 70,395,724	$ 62,804,276	$ 18,831,171	$ 43,973,105	$ -
5.1.3	BRT - East Corridor	2021	$ 425,000,000	$ 255,000,000	$ 170,000,000	$ 120,829,636	$ 49,170,364	$ -	$ 49,170,364	$ -
5.1.4	BRT - West Corridor	2023	$ 326,000,000	$ 195,600,000	$ 130,400,000	$ 92,683,439	$ 37,716,561	$ -	$ 37,716,561	$ -
5.1.5	BRT - North Corridor	2030	$ 166,000,000	$ 99,600,000	$ 66,400,000	$ 47,194,634	$ 19,205,366	$ -	$ 19,205,366	$ -
5.1.6	BRT - Northeast Corridor	2034	$ 485,000,000	$ 291,000,000	$ 194,000,000	$ 137,887,938	$ 56,112,062	$ -	$ 56,112,062	$ -
5.1.7	BRT - Southeast Corridor	2038	$ 485,000,000	$ 291,000,000	$ 194,000,000	$ 137,887,938	$ 56,112,062	$ -	$ 56,112,062	$ -
5.1.8	Garages - Exp of Mech & Storage at Ft Rouge, New at North	2023	$ 100,000,000	$ 60,000,000	$ 40,000,000	$ 28,430,503	$ 11,569,497	$ -	$ 11,569,497	$ -
5.1.9	Additional Transit Buses - Current transit system	Various	$ 82,500,000	$ 29,017,241	$ 53,482,759	$ -	$ 53,482,759	$ -	$ 53,482,759	$ -
5.1.10	Additional Transit Buses - Future BRT routes	Various	$ 33,000,000	$ 4,324,138	$ 28,675,862	$ 20,381,729	$ 8,294,133	$ -	$ 8,294,133	$ -
TOTAL TRANSIT			$ 2,615,300,000	$ 1,514,841,379	$ 1,100,458,621	$ 703,414,768	$ 397,043,853	$ 31,597,347	$ 365,446,506	$ -

Residential Calculation		
Residential Share of Development-Related Costs	62%	$226,576,834
25 Year Population Growth in New Housing Units		244,757
Unadjusted Per Unit Charge		$925.72
Non-Residential Calculation		
Non-Residential Share of Development-Related Costs	38%	$138,869,672
25 Year Growth in Square Metres		7,764,241
Unadjusted Per Square Metre Charge		$17.89
Non-Residential Allocation		
25 Year Growth in Square Metres: Major Office		737,695
25 Year Growth in Square Metres: Institutional		1,747,505
25 Year Growth in Square Metres: Commercial/Retail		1,048,442
25 Year Growth in Square Metres: Industrial		4,230,599
Office Per Square Metre Charge (Unadjusted)	22.3%	$41.91
Institutional Per Square Metre Charge (Unadjusted)	21.9%	$17.41
Commercial/Retail Per Square Metre Charge (Unadjusted)	21.4%	$28.29
Industrial Per Square Metre Charge (Unadjusted)	34.5%	$11.32

APPENDIX D.1
TABLE 2 - PAGE 1

CITY OF WINNIPEG
CASHFLOW AND DETERMINATION OF REGULATORY FEE
TRANSIT
RESIDENTIAL CHARGE
(in $000)

TRANSIT	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
OPENING CASH BALANCE	$0.0	($37,764.2)	($30,311.8)	($22,019.7)	($12,871.9)	($36,649.2)	($28,975.3)	($55,850.3)	($48,628.7)	($40,658.2)	($31,914.0)	($23,918.3)	($15,066.6)
2017-2041 RESIDENTIAL FUNDING REQUIREMENTS													
- Transit: Non Inflated	$47,278.0	$1,532.1	$1,532.1	$1,532.1	$32,017.7	$1,532.1	$32,089.4	$1,532.1	$1,532.1	$1,532.1	$1,532.1	$1,532.1	$1,532.1
- Transit: Inflated	$47,278.0	$1,562.7	$1,594.0	$1,625.8	$34,657.0	$1,691.5	$36,137.9	$1,759.9	$1,795.1	$1,831.0	$1,867.6	$1,904.9	$1,943.0
NEW RESIDENTIAL DEVELOPMENT													
- Population in New Units	10,663	10,855	11,084	11,272	11,424	10,291	10,376	10,475	10,599	10,701	9,599	9,610	9,662
REVENUE													
- Charge Receipts: Inflated	$10,524.5	$10,928.2	$11,382.0	$11,806.5	$12,205.0	$11,214.5	$11,533.2	$11,876.2	$12,257.1	$12,622.5	$11,549.1	$11,793.6	$12,094.5
INTEREST													
- Interest on Opening Balance	$0.0	($2,077.0)	($1,667.1)	($1,211.1)	($708.0)	($2,015.7)	($1,593.6)	($3,071.8)	($2,674.6)	($2,236.2)	($1,755.3)	($1,310.0)	($828.7)
- Interest on In-year Transactions	($1,010.7)	$163.9	$171.3	$178.2	($617.4)	$166.7	($676.6)	$177.0	$183.1	$188.9	$169.4	$173.1	$177.7
TOTAL REVENUE	$9,513.7	$9,015.1	$9,886.1	$10,773.6	$10,879.7	$9,365.4	$9,263.0	$8,981.4	$9,765.6	$10,575.2	$9,963.3	$10,656.8	$11,443.5
CLOSING CASH BALANCE	($37,764.2)	($30,311.8)	($22,019.7)	($12,871.9)	($36,649.2)	($28,975.3)	($55,850.3)	($48,628.7)	($40,658.2)	($31,914.0)	($23,818.3)	($15,066.6)	($5,566.1)

TRANSIT	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	TOTAL
OPENING CASH BALANCE	($5,566.1)	($10,965.4)	($820.7)	$9,409.1	$20,148.4	($18,349.4)	($8,254.1)	$2,779.4	$13,067.3	($30,052.0)	($20,888.3)	($10,898.6)	
2017-2041 RESIDENTIAL FUNDING REQUIREMENTS													
- Transit: Non Inflated	$13,439.4	$1,532.1	$1,532.1	$1,532.1	$36,321.5	$1,532.1	$1,532.1	$1,532.1	$36,321.5	$1,532.1	$1,532.1	$1,532.1	$228,878.8
- Transit: Inflated	$17,385.3	$2,021.5	$2,062.0	$2,103.2	$50,858.9	$2,188.2	$2,231.9	$2,276.6	$55,051.3	$2,368.5	$2,415.9	$2,464.2	$279,075.9
NEW RESIDENTIAL DEVELOPMENT													
- Population in New Units	9,734	9,814	8,998	9,103	9,193	9,294	9,404	8,381	8,450	8,519	8,587	8,669	244,767
REVENUE													
- Charge Receipts: Inflated	$12,428.4	$12,781.1	$11,952.8	$12,334.1	$12,705.2	$13,101.7	$13,521.9	$12,291.9	$12,641.0	$12,999.1	$13,364.9	$13,762.4	$306,671.3
INTEREST													
- Interest on Opening Balance	($306.1)	($603.1)	($34.1)	$329.3	$705.2	($1,009.2)	($454.0)	$97.3	$457.4	($1,652.9)	($1,148.9)	($599.3)	($26,367.5)
- Interest on In-year Transactions	($136.3)	$188.3	$173.1	$179.0	($1,049.2)	$191.0	$197.6	$175.3	($1,166.3)	$186.0	$191.6	$197.7	($1,227.8)
TOTAL REVENUE	$11,985.9	$12,366.3	$12,091.7	$12,842.5	$12,361.1	$12,283.4	$13,265.5	$12,564.5	$11,932.1	$11,532.3	$12,407.7	$13,360.8	$279,075.9
CLOSING CASH BALANCE	($10,965.4)	($820.7)	$9,409.1	$20,148.4	($18,349.4)	($8,254.1)	$2,779.4	$13,067.3	($30,052.0)	($20,888.3)	($10,898.6)	($0.0)	

Adjusted Charge Per Capita	$997.01

Allocation of Capital Program	
Residential Sector	62%
Non-Residential Sector	38%
Rates for 2016	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

APPENDIX D.1
TABLE 2 - PAGE 2

CITY OF WINNIPEG
CASHFLOW AND DETERMINATION OF REGULATORY FEE
TRANSIT
OFFICE CHARGE
(in $000)

TRANSIT	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
OPENING CASH BALANCE	$0.0	($4,261.2)	($3,068.9)	($1,961.0)	($268.3)	($3,814.3)	($2,748.8)	($6,594.1)	($5,770.4)	($5,021.9)	($4,276.1)	($3,398.6)	($2,434.2)
2017-2041 MAJOR OFFICE FUNDING REQUIREMENTS													
- Transit: Non Inflated	$8,451.1	$209.1	$209.1	$209.1	$4,368.8	$209.1	$4,378.6	$209.1	$209.1	$209.1	$209.1	$209.1	$209.1
- Transit: Inflated	$8,451.1	$213.2	$217.5	$221.8	$4,729.0	$230.8	$4,931.0	$240.1	$244.9	$249.8	$254.8	$259.9	$265.1
NEW MAJOR OFFICE DEVELOPMENT													
- Growth in Square Metres	51,743	35,567	31,780	42,145	30,851	25,970	26,639	27,491	24,776	23,569	24,879	25,094	25,493
REVENUE													
- Charge Receipts: Inflated	$2,303.9	$1,615.4	$1,472.3	$1,991.4	$1,486.9	$1,276.7	$1,335.8	$1,408.1	$1,292.6	$1,254.2	$1,350.4	$1,389.3	$1,439.6
INTEREST													
- Interest on Opening Balance	$0.0	($234.4)	($168.8)	($107.9)	($14.8)	($188.8)	($151.2)	($362.7)	($317.4)	($276.2)	($235.2)	($186.9)	($133.9)
- Interest on In-year Transactions	($114.0)	$24.5	$22.0	$31.0	($89.2)	$18.3	($98.9)	$20.4	$18.3	$17.6	$19.2	$19.8	$20.6
TOTAL REVENUE	$2,189.9	$1,405.5	$1,325.4	$1,914.5	$1,383.0	$1,096.3	$1,085.7	$1,063.8	$993.5	$995.6	$1,134.4	$1,222.2	$1,326.3
CLOSING CASH BALANCE	($4,261.2)	($3,068.9)	($1,961.0)	($268.3)	($3,814.3)	($2,748.8)	($6,594.1)	($5,770.4)	($5,021.9)	($4,276.1)	($3,398.6)	($2,434.2)	($1,373.1)

TRANSIT	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	TOTAL
OPENING CASH BALANCE	($1,373.1)	($2,094.0)	($846.6)	$353.4	$1,868.4	($3,440.0)	($2,108.9)	($676.8)	$889.4	($4,785.3)	($3,339.2)	($1,741.7)	
2017-2041 MAJOR OFFICE FUNDING REQUIREMENTS													
- Transit: Non Inflated	$1,833.8	$209.1	$209.1	$209.1	$4,956.1	$209.1	$209.1	$209.1	$4,956.1	$209.1	$209.1	$209.1	$30,916.5
- Transit: Inflated	$2,372.2	$275.8	$281.4	$287.0	$6,939.7	$298.6	$304.5	$310.6	$7,511.8	$323.2	$329.7	$336.2	$38,080.2
NEW MAJOR OFFICE DEVELOPMENT													
- Growth in Square Metres	30,279	27,488	25,138	28,654	27,423	28,189	28,151	28,512	28,878	29,249	29,626	29,911	737,895
REVENUE													
- Charge Receipts: Inflated	$1,744.1	$1,615.0	$1,506.5	$1,763.8	$1,709.8	$1,782.7	$1,826.1	$1,886.5	$1,948.9	$2,013.4	$2,080.1	$2,142.2	$41,643.7
INTEREST													
- Interest on Opening Balance	($75.5)	($115.2)	($46.6)	$12.4	$65.4	($189.2)	($116.0)	($37.2)	$31.1	($263.7)	($183.7)	($95.8)	($3,401.8)
- Interest on In-year Transactions	($17.3)	$23.4	$21.4	$25.8	($143.8)	$26.1	$26.6	$27.6	($153.0)	$29.8	$30.6	$31.6	($161.7)
TOTAL REVENUE	$1,651.3	$1,523.3	$1,481.4	$1,802.0	$1,631.4	$1,629.7	$1,736.7	$1,876.8	$1,827.1	$1,779.3	$1,927.1	$2,078.0	$38,080.2
CLOSING CASH BALANCE	($2,094.0)	($846.6)	$353.4	$1,868.4	($3,440.0)	($2,108.9)	($676.8)	$889.4	($4,785.3)	($3,339.2)	($1,741.7)	($0.0)	

Adjusted Charge Per Square Metre	$44.53

Allocation of Capital Program	
Residential Sector	62%
Non-Residential Sector	38%
Rates for 2016	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

Non-res Split:	
Office	22%
Institutional	22%
Commercial/R	21%
Industrial	34%

APPENDIX D.1
TABLE 2 - PAGE 3

CITY OF WINNIPEG
CASHFLOW AND DETERMINATION OF REGULATORY FEE
TRANSIT
INSTITUTIONAL CHARGE
(in $000)

TRANSIT	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
OPENING CASH BALANCE	$0.0	($4,193.0)	($3,019.8)	($1,929.6)	($264.0)	($3,556.4)	($2,704.8)	($6,488.6)	($5,678.1)	($4,941.5)	($4,207.7)	($3,342.2)	($2,395.3)
2017-2041 MAJOR OFFICE FUNDING REQUIREMENTS													
- Transit: Non Inflated	$6,347.9	$205.7	$205.7	$205.7	$4,298.9	$205.7	$4,308.5	$205.7	$205.7	$205.7	$205.7	$205.7	$205.7
- Transit: Inflated	$6,347.9	$209.8	$214.0	$218.3	$4,653.3	$227.1	$4,852.1	$238.3	$241.0	$245.8	$250.8	$255.8	$260.9
NEW INSTITUTIONAL DEVELOPMENT													
- Growth in Square Metres	122,572	84,253	78,284	99,835	73,081	61,520	63,104	65,123	58,690	55,832	58,936	59,444	60,389
REVENUE													
- Charge Receipts: Inflated	$2,267.1	$1,589.5	$1,448.7	$1,959.6	$1,463.1	$1,256.3	$1,314.4	$1,383.6	$1,271.9	$1,234.1	$1,328.8	$1,367.1	$1,416.8
INTEREST													
- Interest on Opening Balance	$0.0	($230.6)	($166.1)	($106.1)	($14.5)	($195.6)	($148.8)	($356.9)	($312.3)	($271.8)	($231.4)	($183.8)	($131.7)
- Interest on In-year Transactions	($112.2)	$24.1	$21.6	$30.5	($87.7)	$18.0	($97.3)	$20.1	$18.0	$17.3	$18.9	$19.4	$20.2
TOTAL REVENUE	$2,154.9	$1,383.0	$1,304.2	$1,883.9	$1,360.9	$1,078.7	$1,068.4	$1,046.8	$977.6	$979.6	$1,116.2	$1,202.7	$1,305.0
CLOSING CASH BALANCE	($4,193.0)	($3,019.8)	($1,929.6)	($264.0)	($3,556.4)	($2,704.8)	($6,488.6)	($5,678.1)	($4,941.5)	($4,207.7)	($3,342.2)	($2,395.3)	($1,351.1)

TRANSIT	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	TOTAL
OPENING CASH BALANCE	($1,351.1)	($2,060.5)	($833.1)	$347.7	$1,838.5	($3,385.0)	($2,075.2)	($865.9)	$875.2	($4,718.5)	($3,285.8)	($1,713.9)	
2017-2041 MAJOR OFFICE FUNDING REQUIREMENTS													
- Transit: Non Inflated	$1,804.5	$205.7	$205.7	$205.7	$4,876.8	$205.7	$205.7	$205.7	$4,876.8	$205.7	$205.7	$205.7	$30,421.7
- Transit: Inflated	$2,334.3	$271.4	$276.9	$282.4	$6,828.7	$293.8	$299.7	$305.7	$7,391.6	$318.0	$324.4	$330.9	$37,470.6
NEW INSTITUTIONAL DEVELOPMENT													
- Growth in Square Metres	71,727	65,118	59,550	68,352	64,962	66,777	66,688	67,541	68,409	69,287	70,179	70,855	1,747,805
REVENUE													
- Charge Receipts: Inflated	$1,716.2	$1,589.1	$1,482.4	$1,735.5	$1,682.4	$1,764.0	$1,796.9	$1,858.3	$1,917.7	$1,981.2	$2,046.9	$2,107.9	$40,977.1
INTEREST													
- Interest on Opening Balance	($74.3)	($113.3)	($45.8)	$12.2	$64.3	($186.2)	($114.1)	($36.6)	$30.6	($259.5)	($180.7)	($94.3)	($3,347.4)
- Interest on In-year Transactions	($17.0)	$23.1	$21.1	$25.4	($141.5)	$25.7	$26.2	$27.1	($150.5)	$29.1	$30.1	$31.1	($159.1)
TOTAL REVENUE	$1,624.9	$1,498.9	$1,457.6	$1,773.1	$1,605.2	$1,603.6	$1,708.9	$1,848.8	$1,797.8	$1,750.8	$1,896.3	$2,044.7	$37,470.6
CLOSING CASH BALANCE	($2,060.5)	($833.1)	$347.7	$1,838.5	($3,385.0)	($2,075.2)	($865.9)	$875.2	($4,718.5)	($3,285.8)	($1,713.9)	$0.0	

Adjusted Charge Per Square Metre	$18.50

Allocation of Capital Program	
Residential Sector	62%
Non-Residential Sector	38%
Rates for 2016	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

Non-res Split:	
Office	22%
Institutional	22%
Commercial/R	21%
Industrial	34%

APPENDIX D.1
TABLE 2 - PAGE 4

CITY OF WINNIPEG
CASHFLOW AND DETERMINATION OF REGULATORY FEE
TRANSIT
COMMERCIAL/RETAIL CHARGE
(in $000)

TRANSIT	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
OPENING CASH BALANCE	$0.0	($4,088.0)	($2,944.1)	($1,881.3)	($257.4)	($3,467.3)	($2,637.0)	($6,326.0)	($5,535.8)	($4,817.7)	($4,102.2)	($3,258.4)	($2,335.3)
2017-2041 MAJOR OFFICE FUNDING REQUIREMENTS													
- Transit: Non Inflated	$6,188.8	$200.6	$200.6	$200.6	$4,191.2	$200.6	$4,200.6	$200.6	$200.6	$200.6	$200.6	$200.6	$200.6
- Transit: Inflated	$6,188.8	$204.6	$208.7	$212.8	$4,536.7	$221.4	$4,730.5	$230.4	$235.0	$239.7	$244.5	$249.4	$254.3
NEW COMMERCIAL DEVELOPMENT													
- Growth in Square Metres	73,539	50,549	45,168	59,898	43,846	36,910	37,860	39,071	35,212	33,498	35,360	35,664	36,231
REVENUE													
- Charge Receipts: Inflated	$2,210.3	$1,549.7	$1,412.4	$1,910.5	$1,428.5	$1,224.8	$1,281.5	$1,348.9	$1,240.0	$1,203.2	$1,295.5	$1,332.8	$1,381.1
INTEREST													
- Interest on Opening Balance	$0.0	($224.8)	($161.9)	($103.5)	($14.2)	($190.7)	($145.0)	($347.9)	($304.5)	($265.0)	($225.6)	($179.2)	($128.4)
- Interest on In-year Transactions	($109.4)	$23.5	$21.1	$29.7	($85.5)	$17.6	($94.8)	$19.6	$17.6	$18.9	$18.4	$19.0	$19.7
TOTAL REVENUE	$2,100.8	$1,348.4	$1,271.5	$1,836.7	$1,328.8	$1,051.7	$1,041.6	$1,020.6	$953.1	$955.1	$1,088.3	$1,172.5	$1,272.3
CLOSING CASH BALANCE	($4,088.0)	($2,944.1)	($1,881.3)	($257.4)	($3,467.3)	($2,637.0)	($6,326.0)	($5,535.8)	($4,817.7)	($4,102.2)	($3,258.4)	($2,335.3)	($1,317.3)

TRANSIT	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	TOTAL
OPENING CASH BALANCE	($1,317.3)	($2,008.9)	($812.2)	$339.0	$1,792.4	($3,300.1)	($2,023.2)	($649.2)	$853.3	($4,600.3)	($3,203.4)	($1,670.9)	
2017-2041 MAJOR OFFICE FUNDING REQUIREMENTS													
- Transit: Non Inflated	$1,759.2	$200.6	$200.6	$200.6	$4,754.6	$200.6	$200.6	$200.6	$4,754.6	$200.6	$200.6	$200.6	$29,659.5
- Transit: Inflated	$2,275.8	$264.6	$269.9	$275.3	$6,657.6	$288.4	$292.2	$298.0	$7,296.4	$310.0	$316.2	$322.6	$36,531.7
NEW COMMERCIAL DEVELOPMENT													
- Growth in Square Metres	43,834	39,067	35,728	41,009	38,975	40,064	40,009	40,522	41,043	41,570	42,105	42,511	1,048,442
REVENUE													
- Charge Receipts: Inflated	$1,673.2	$1,549.3	$1,445.2	$1,692.0	$1,640.3	$1,719.8	$1,751.6	$1,809.8	$1,859.7	$1,931.6	$1,995.6	$2,055.1	$39,950.3
INTEREST													
- Interest on Opening Balance	($72.4)	($110.5)	($44.7)	$11.9	$62.7	($181.5)	($111.3)	($35.7)	$29.9	($253.0)	($176.2)	($91.9)	($3,263.6)
- Interest on In-year Transactions	($16.6)	$22.5	$20.6	$24.8	($138.0)	$25.1	$25.5	$26.5	($146.8)	$28.4	$29.4	$30.3	($158.1)
TOTAL REVENUE	$1,584.2	$1,461.3	$1,421.1	$1,728.7	$1,565.0	$1,563.4	$1,666.1	$1,800.5	$1,752.8	$1,706.9	$1,848.8	$1,993.5	$36,531.7
CLOSING CASH BALANCE	($2,008.9)	($812.2)	$339.0	$1,792.4	($3,300.1)	($2,023.2)	($649.2)	$853.3	($4,600.3)	($3,203.4)	($1,670.9)	$0.0	

Adjusted Charge Per Square Metre	$30.06

Allocation of Capital Program	
Residential Sector	62%
Non-Residential Sector	38%
Rates for 2016	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

Non-res Split:	
Office	22%
Institutional	22%
Commercial/R	21%
Industrial	34%

APPENDIX D.1
TABLE 2 - PAGE 5

CITY OF WINNIPEG
CASHFLOW AND DETERMINATION OF REGULATORY FEE
TRANSIT
INDUSTRIAL CHARGE
(in $000)

TRANSIT	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
OPENING CASH BALANCE	$0.0	($6,598.2)	($4,752.0)	($3,036.5)	($415.5)	($5,596.4)	($4,256.3)	($10,210.5)	($8,935.1)	($7,775.9)	($6,621.2)	($5,259.3)	($3,769.2)
2017-2041 MAJOR OFFICE FUNDING REQUIREMENTS													
- Transit: Non Inflated	$9,989.0	$323.7	$323.7	$323.7	$6,764.8	$323.7	$6,780.0	$323.7	$323.7	$323.7	$323.7	$323.7	$323.7
- Transit: Inflated	$9,989.0	$330.2	$336.8	$343.5	$7,322.4	$357.4	$7,635.3	$371.8	$379.3	$386.9	$394.8	$402.5	$410.5
NEW INDUSTRIAL DEVELOPMENT													
- Growth in Square Metres	296,738	203,971	182,257	241,895	176,925	148,937	152,772	157,658	142,065	135,167	142,681	143,911	146,198
REVENUE													
- Charge Receipts: Inflated	$3,567.5	$2,501.2	$2,279.7	$3,083.6	$2,302.4	$1,976.9	$2,068.4	$2,177.2	$2,001.4	$1,942.0	$2,091.0	$2,151.2	$2,229.1
INTEREST													
- Interest on Opening Balance	$0.0	($362.9)	($261.4)	($167.0)	($22.8)	($307.8)	($234.1)	($561.6)	($491.4)	($427.7)	($364.2)	($289.3)	($207.3)
- Interest on In-year Transactions	($176.6)	$38.0	$34.0	$48.0	($138.1)	$28.3	($153.1)	$31.6	$28.4	$27.2	$29.7	$30.6	$31.8
TOTAL REVENUE	$3,390.9	$2,176.3	$2,052.3	$2,964.5	$2,141.5	$1,697.5	$1,681.2	$1,647.2	$1,538.4	$1,541.6	$1,756.5	$1,892.5	$2,053.6
CLOSING CASH BALANCE	($6,598.2)	($4,752.0)	($3,036.5)	($415.5)	($5,596.4)	($4,256.3)	($10,210.5)	($8,935.1)	($7,775.9)	($6,621.2)	($5,259.3)	($3,769.2)	($2,128.1)

TRANSIT	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	TOTAL
OPENING CASH BALANCE	($2,126.1)	($3,242.4)	($1,310.9)	$547.2	$2,893.0	($5,326.6)	($3,265.5)	($1,047.9)	$1,377.2	($7,425.1)	($5,170.5)	($2,697.0)	
2017-2041 MAJOR OFFICE FUNDING REQUIREMENTS													
- Transit: Non Inflated	$2,839.5	$323.7	$323.7	$323.7	$7,674.1	$323.7	$323.7	$323.7	$7,674.1	$323.7	$323.7	$323.7	$47,871.9
- Transit: Inflated	$3,673.2	$427.1	$435.7	$444.4	$10,745.6	$462.3	$471.6	$481.0	$11,631.4	$500.4	$510.4	$520.7	$58,964.1
NEW INDUSTRIAL DEVELOPMENT													
- Growth in Square Metres	173,647	157,642	144,166	165,476	157,268	161,663	161,443	163,512	165,613	167,739	169,899	171,536	4,230,599
REVENUE													
- Charge Receipts: Inflated	$2,700.6	$2,500.7	$2,332.7	$2,731.0	$2,647.5	$2,775.9	$2,827.5	$2,921.1	$3,017.8	$3,117.6	$3,220.9	$3,317.0	$64,481.9
INTEREST													
- Interest on Opening Balance	($116.9)	($178.3)	($72.1)	$19.2	$101.3	($293.0)	($179.6)	($57.6)	$48.2	($408.4)	($284.4)	($148.3)	($5,267.5)
- Interest on In-year Transactions	($26.7)	$36.3	$33.2	$40.0	($222.7)	$40.5	$41.2	$42.7	($236.9)	$45.8	$47.4	$48.9	($250.4)
TOTAL REVENUE	$2,556.9	$2,358.6	$2,293.8	$2,790.2	$2,526.0	$2,523.4	$2,689.2	$2,906.1	$2,529.1	$2,755.1	$2,984.0	$3,217.6	$58,964.1
CLOSING CASH BALANCE	($3,242.4)	($1,310.9)	$547.2	$2,893.0	($5,326.8)	($3,265.5)	($1,047.9)	$1,377.2	($7,425.1)	($5,170.5)	($2,697.0)	$0.0	

Adjusted Charge Per Square Metre	$12.02

Allocation of Capital Program	
Residential Sector	62%
Non-Residential Sector	38%
Rates for 2016	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

Non-res Split:	
Office	22%
Institutional	22%
Commercial/R	21%
Industrial	34%

APPENDIX D.2

FIRE & PARAMEDIC SERVICES

APPENDIX D.2

FIRE & PARAMEDIC SERVICES

Winnipeg Fire Paramedic Service is responsible for the provision of fire prevention and suppression, inspections, public education, and emergency response services.

TABLE 1 2017–2041 DEVELOPMENT-RELATED CAPITAL PROGRAM AND CALCULATION OF THE "UNADJUSTED" REGULATORY FEES

The development-related capital program for Fire and Paramedic Services totals $35.00 million. This includes construction of new stations and expansions to two existing stations.

No grants or other funding sources have been identified for these projects. With the exception of a 50 per cent benefit to existing share for the Sage Creek project ($2.50 million), no amounts have been allocated to benefit to existing as the new and expanded stations are intended to extend Fire and Paramedic Services to future neighbourhoods. Since the Sage Creek project was recently undertaken by the City, and additional share, reflecting 10 years of prior growth, has been deducted from the costs associated with Sage Creek ($808,300).

The remaining costs for recovery total $31.69 million. After residential and non-residential apportionments, unadjusted charges are calculated at $80.28 per capita for residential development, $3.63 per square metre for Office, $1.51 per square metre for Institutional, $2.45 per square metre for Commercial/Retail, and $0.98 per square metre for Industrial development.

TABLE 2 CASH FLOW ANALYSIS

After cash flow considerations, both the residential and non-residential charges increase as shown in the following table:

FIRE & PARAMEDIC SERVICES SUMMARY										
2017-2041 Development-Related Capital Program		Unadjusted Charge		Adjusted Charge		Adjusted Charges				
						Office	Institutional	Commercial	Industrial
Total	Net Recoverable	$/capita	$/sq.m	$/capita	$/sq.m	$/sq.m	$/sq.m	$/sq.m	$/sq.m
$35,000,000	$31,691,674	$80.28	$1.55	$90.43	$1.75	$4.09	$1.70	$2.76	$1.10

APPENDIX D.2
TABLE 1

CITY OF WINNIPEG
DEVELOPMENT-RELATED CAPITAL PROGRAM

Service	Project Description	Timing	Gross Project Cost	Grants/ Subsidies/ Other Recoveries	Net Municipal Cost	Ineligible Costs Replacement & BTE	Development Related Costs	Costs for Recovery: Prior Growth	Costs for Recovery: 2017-2041	Costs for Recovery: Post 2041
6.0 FIRE & PARAMEDIC SERVICES										
6.1.1	Sage Creek (past project)	2017	$ 5,000,000	$ -	$ 5,000,000	$ 2,500,000	$ 2,500,000	$ 808,326	$ 1,691,674	$ -
6.1.2	Waverly West Fire Station	2019	$ 8,000,000	$ -	$ 8,000,000	$ -	$ 8,000,000	$ -	$ 8,000,000	$ -
6.1.3	North Fire Station	2023	$ 8,000,000	$ -	$ 8,000,000	$ -	$ 8,000,000	$ -	$ 8,000,000	$ -
6.1.4	Station 1 Expansion	2021	$ 3,000,000	$ -	$ 3,000,000	$ -	$ 3,000,000	$ -	$ 3,000,000	$ -
6.1.5	West Station	2032	$ 8,000,000	$ -	$ 8,000,000	$ -	$ 8,000,000	$ -	$ 8,000,000	$ -
6.1.6	Station 2 Expansion	2034	$ 3,000,000	$ -	$ 3,000,000	$ -	$ 3,000,000	$ -	$ 3,000,000	$ -
TOTAL FIRE & PARAMEDIC SERVICES			$ 35,000,000	$ -	$ 35,000,000	$ 2,500,000	$ 32,500,000	$ 808,326	$ 31,691,674	$ -

Residential Calculation		
Residential Share of Development-Related Costs	62%	$19,648,838
25 Year Population Growth in New Housing Units		244,757
Unadjusted Per Unit Charge		$80.28
Non-Residential Calculation		
Non-Residential Share of Development-Related Costs	38%	$12,042,836
25 Year Growth in Square Metres		7,764,241
Unadjusted Per Square Metre Charge		$1.55
Non-Residential Allocation		
25 Year Growth in Square Metres: Major Office		737,695
25 Year Growth in Square Metres: Institutional		1,747,505
25 Year Growth in Square Metres: Commercial/Retail		1,048,442
25 Year Growth in Square Metres: Industrial		4,230,599
Office Per Square Metre Charge (Unadjusted)	22.3%	$3.63
Institutional Per Square Metre Charge (Unadjusted)	21.9%	$1.51
Commercial/Retail Per Square Metre Charge (Unadjusted)	21.4%	$2.45
Industrial Per Square Metre Charge (Unadjusted)	34.5%	$0.98

APPENDIX D.2
TABLE 2 - PAGE 1

CITY OF WINNIPEG
CASHFLOW AND DETERMINATION OF REGULATORY FEE
FIRE & PARAMEDIC SERVICES
RESIDENTIAL CHARGE
(in $000)

FIRE & PARAMEDIC SERVICES	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
OPENING CASH BALANCE	$0.00	($86.94)	$927.02	($3,271.4)	($2,350.68)	($3,399.71)	($2,541.28)	($7,334.72)	($6,631.02)	($5,853.11)	($4,998.35)	($4,196.65)	($3,328.06)
2017-2041 RESIDENTIAL FUNDING REQUIREMENTS													
- Fire & Paramedic Services: Non Inflated	$1,048.8	$0.0	$4,960.0	$0.0	$1,860.0	$0.0	$4,960.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
- Fire & Paramedic Services: Inflated	$1,048.8	$0.0	$5,160.4	$0.0	$2,013.3	$0.0	$5,585.8	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
NEW RESIDENTIAL DEVELOPMENT													
- Population in New Units	10,663	10,855	11,064	11,272	11,424	10,291	10,376	10,475	10,599	10,701	9,599	9,610	9,662
REVENUE													
- Charge Receipts: Inflated	$964.2	$1,001.2	$1,042.8	$1,081.7	$1,118.2	$1,027.4	$1,056.8	$1,088.1	$1,123.0	$1,158.4	$1,058.1	$1,080.5	$1,108.1
INTEREST													
- Interest on Opening Balance	$0.0	($4.8)	$32.4	($179.9)	($129.3)	($187.0)	($139.8)	($403.4)	($364.7)	($321.9)	($274.9)	($230.8)	($183.0)
- Interest on In-year Transactions	($2.3)	$17.5	($113.2)	$18.9	($24.6)	$18.0	($124.6)	$19.0	$19.7	$20.2	$18.5	$18.9	$19.4
TOTAL REVENUE	$961.9	$1,014.0	$962.0	$920.7	$964.3	$858.4	$792.3	$703.7	$777.9	$854.8	$801.7	$868.6	$944.4
CLOSING CASH BALANCE	($86.9)	$927.0	($3,271.4)	($2,350.7)	($3,399.7)	($2,541.3)	($7,334.7)	($6,631.0)	($5,853.1)	($4,998.4)	($4,196.6)	($3,328.1)	($2,383.6)

FIRE & PARAMEDIC SERVICES	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	TOTAL
OPENING CASH BALANCE	($2,383.64)	($1,356.15)	($239.28)	($5,986.32)	($5,165.78)	($6,929.94)	($6,089.74)	($5,164.16)	($4,302.32)	($3,360.55)	($2,333.60)	($1,216.06)	
2017-2041 RESIDENTIAL FUNDING REQUIREMENTS													
- Fire & Paramedic Services: Non Inflated	$0.0	$0.0	$4,960.0	$0.0	$1,860.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$19,648.8
- Fire & Paramedic Services: Inflated	$0.0	$0.0	$6,675.5	$0.0	$2,604.4	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$23,088.3
NEW RESIDENTIAL DEVELOPMENT													
- Population in New Units	9,734	9,814	8,998	9,103	9,193	9,294	9,404	8,381	8,450	8,519	8,587	8,669	244,757
REVENUE													
- Charge Receipts: Inflated	$1,138.7	$1,171.0	$1,095.1	$1,130.0	$1,164.0	$1,230.3	$1,238.8	$1,126.2	$1,158.1	$1,190.9	$1,224.5	$1,260.9	$28,004.8
INTEREST													
- Interest on Opening Balance	($131.1)	($74.6)	($13.2)	($329.2)	($284.1)	($381.1)	($334.9)	($284.0)	($236.6)	($184.8)	($128.3)	($66.9)	($4,836.1)
- Interest on In-year Transactions	$19.9	$23.5	($153.5)	$19.6	($39.6)	$21.0	$21.7	$19.7	$20.3	$20.8	$21.4	$22.1	($80.4)
TOTAL REVENUE	$1,027.5	$1,116.9	$928.5	$820.5	$843.3	$840.2	$925.6	$861.8	$941.8	$1,027.0	$1,117.5	$1,216.1	$23,088.3
CLOSING CASH BALANCE	($1,356.2)	($239.3)	($5,986.3)	($5,165.8)	($6,929.9)	($6,089.7)	($5,164.2)	($4,302.3)	($3,360.5)	($2,333.6)	($1,216.1)	$0.0	

Adjusted Charge Per Capita	$90.43

Allocation of Capital Program	
Residential Sector	62%
Non-Residential Sector	38%
Rates for 2016	
Inflation Rate:	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

APPENDIX D.2
TABLE 2 - PAGE 2

CITY OF WINNIPEG
CASHFLOW AND DETERMINATION OF REGULATORY FEE
FIRE & PARAMEDIC SERVICES
OFFICE CHARGE
(in $000)

FIRE & PARAMEDIC SERVICES	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
OPENING CASH BALANCE	$0.00	$69.76	$223.21	($353.49)	($188.77)	($338.94)	($238.23)	($908.37)	($826.89)	($751.53)	($675.62)	($588.53)	($488.92)
2017-2041 MAJOR OFFICE FUNDING REQUIREMENTS													
- Fire & Paramedic Services: Non Inflated	$143.1	$0.0	$676.8	$0.0	$253.8	$0.0	$676.8	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
- Fire & Paramedic Services: Inflated	$143.1	$0.0	$704.1	$0.0	$274.7	$0.0	$762.2	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
NEW MAJOR OFFICE DEVELOPMENT													
- Growth in Square Metres	51,743	35,567	31,780	42,145	30,851	25,970	28,639	27,481	24,778	23,569	24,879	25,094	25,493
REVENUE													
- Charge Receipts: Inflated	$211.7	$148.4	$135.3	$183.0	$136.6	$117.3	$122.7	$129.2	$118.8	$115.2	$124.1	$127.6	$132.3
INTEREST													
- Interest on Opening Balance	$0.0	$2.4	$7.8	($19.4)	($10.3)	($18.6)	($13.1)	($50.0)	($45.5)	($41.3)	($37.2)	($32.3)	($26.9)
- Interest on In-year Transactions	$1.2	$2.6	($15.6)	$3.2	($3.8)	$2.1	($17.6)	$2.3	$2.1	$2.0	$2.2	$2.2	$2.3
TOTAL REVENUE	$212.9	$153.5	$127.4	$166.7	$122.5	$100.7	$92.0	$81.5	$75.4	$75.9	$89.1	$97.6	$107.7
CLOSING CASH BALANCE	$69.8	$223.2	($353.5)	($188.8)	($338.9)	($238.2)	($908.4)	($826.9)	($751.5)	($675.6)	($588.5)	($488.9)	($381.2)

FIRE & PARAMEDIC SERVICES	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	TOTAL
OPENING CASH BALANCE	($381.23)	($239.15)	($101.33)	($900.61)	($785.26)	($1,032.20)	($921.38)	($801.34)	($669.06)	($523.67)	($364.25)	($189.82)	
2017-2041 MAJOR OFFICE FUNDING REQUIREMENTS													
- Fire & Paramedic Services: Non Inflated	$0.0	$0.0	$676.8	$0.0	$253.8	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$2,681.1
- Fire & Paramedic Services: Inflated	$0.0	$0.0	$910.9	$0.0	$355.4	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$3,150.4
NEW MAJOR OFFICE DEVELOPMENT													
- Growth in Square Metres	30,279	27,488	25,138	28,854	27,423	28,189	28,151	28,512	28,878	29,248	29,626	29,911	737,695
REVENUE													
- Charge Receipts: Inflated	$160.2	$148.4	$138.4	$162.0	$157.1	$164.7	$167.8	$173.3	$179.1	$185.0	$191.1	$196.8	$3,826.1
INTEREST													
- Interest on Opening Balance	($21.0)	($13.2)	($5.6)	($49.5)	($43.2)	($56.8)	($50.7)	($44.1)	($38.8)	($28.8)	($20.0)	($10.4)	($664.3)
- Interest on In-year Transactions	$2.8	$2.6	($21.2)	$2.8	($5.5)	$2.9	$2.9	$3.0	$3.1	$3.2	$3.3	$3.4	($11.3)
TOTAL REVENUE	$142.1	$137.8	$111.8	$115.3	$108.4	$110.8	$120.0	$132.3	$145.4	$159.4	$174.4	$189.8	$3,150.4
CLOSING CASH BALANCE	($239.2)	($101.3)	($900.6)	($785.3)	($1,032.2)	($921.4)	($801.3)	($669.1)	($523.7)	($364.2)	($189.8)	($0.0)	

Adjusted Charge Per Square Metre	$4.09

Allocation of Capital Program	
Residential Sector	62%
Non-Residential Sector	38%
Rates for 2018	
Inflation Rate:	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

Non-res Split:	
Office	22%
Institutional	22%
Commercial/R	21%
Industrial	34%

APPENDIX D.2
TABLE 2 - PAGE 3

CITY OF WINNIPEG
CASHFLOW AND DETERMINATION OF REGULATORY FEE
FIRE & PARAMEDIC SERVICES
INSTITUTIONAL CHARGE
(in $000)

FIRE & PARAMEDIC SERVICES	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
OPENING CASH BALANCE	$0.00	$68.65	$219.64	($347.83)	($183.78)	($333.52)	($234.42)	($893.83)	($813.65)	($739.50)	($664.80)	($577.15)	($481.09)
2017-2041 MAJOR OFFICE FUNDING REQUIREMENTS													
- Fire & Paramedic Services: Non Inflated	$140.8	$0.0	$666.0	$0.0	$249.7	$0.0	$666.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
- Fire & Paramedic Services: Inflated	$140.8	$0.0	$692.9	$0.0	$270.3	$0.0	$750.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
NEW INSTITUTIONAL DEVELOPMENT													
- Growth in Square Metres	122,572	84,253	75,284	99,835	73,081	61,520	63,104	65,123	58,690	55,832	58,936	59,444	60,389
REVENUE													
- Charge Receipts: Inflated	$208.3	$146.0	$133.1	$180.0	$134.4	$115.4	$120.8	$127.1	$115.9	$113.4	$122.1	$125.6	$130.1
INTEREST													
- Interest on Opening Balance	$0.0	$2.4	$7.7	($19.1)	($10.1)	($18.3)	($12.9)	($49.2)	($44.8)	($40.7)	($36.6)	($31.7)	($26.5)
- Interest on In-year Transactions	$1.2	$2.6	($15.4)	$3.2	($3.7)	$2.0	($17.3)	$2.2	$2.0	$2.0	$2.1	$2.2	$2.3
TOTAL REVENUE	$209.5	$151.0	$125.4	$164.1	$120.6	$99.1	$90.6	$80.2	$74.1	$74.7	$87.7	$96.1	$106.0
CLOSING CASH BALANCE	$68.6	$219.6	($347.8)	($183.8)	($333.5)	($234.4)	($893.8)	($813.6)	($739.5)	($664.8)	($577.1)	($481.1)	($375.1)

FIRE & PARAMEDIC SERVICES	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	TOTAL
OPENING CASH BALANCE	($375.13)	($235.32)	($99.71)	($886.20)	($772.69)	($1,015.68)	($906.63)	($788.52)	($658.35)	($515.29)	($358.42)	($186.78)	
2017-2041 MAJOR OFFICE FUNDING REQUIREMENTS													
- Fire & Paramedic Services: Non Inflated	$0.0	$0.0	$666.0	$0.0	$249.7	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$2,638.2
- Fire & Paramedic Services: Inflated	$0.0	$0.0	$896.3	$0.0	$349.7	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$3,100.0
NEW INSTITUTIONAL DEVELOPMENT													
- Growth in Square Metres	71,727	65,116	59,550	68,352	64,962	66,777	66,686	67,541	68,409	69,287	70,179	70,855	1,747,506
REVENUE													
- Charge Receipts: Inflated	$157.7	$146.3	$136.2	$159.5	$154.6	$162.1	$165.1	$170.5	$175.2	$182.0	$188.1	$193.7	$3,764.8
INTEREST													
- Interest on Opening Balance	($20.6)	($12.9)	($5.5)	($48.7)	($42.5)	($55.9)	($49.9)	($43.4)	($36.2)	($28.3)	($19.7)	($10.3)	($653.7)
- Interest on In-year Transactions	$2.8	$2.6	($20.9)	$2.8	($5.4)	$2.8	$2.9	$3.0	$3.1	$3.2	$3.3	$3.4	($11.2)
TOTAL REVENUE	$139.8	$135.6	$109.8	$113.5	$106.7	$109.0	$118.1	$130.2	$143.1	$156.9	$171.6	$186.8	$3,100.0
CLOSING CASH BALANCE	($235.3)	($99.7)	($886.2)	($772.7)	($1,015.7)	($906.6)	($788.5)	($658.4)	($515.3)	($358.4)	($186.8)	$0.0	

Adjusted Charge Per Square Metre	$1.70

Allocation of Capital Program	
Residential Sector	62%
Non-Residential Sector	38%
Rates for 2016	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

Non-res Split:	
Office	22%
Institutional	22%
Commercial/R	21%
Industrial	34%

APPENDIX D.2
TABLE 2 - PAGE 4

CITY OF WINNIPEG
CASHFLOW AND DETERMINATION OF REGULATORY FEE
FIRE & PARAMEDIC SERVICES
COMMERCIAL/RETAIL CHARGE
(in $000)

FIRE & PARAMEDIC SERVICES	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
OPENING CASH BALANCE	$0.00	$66.93	$214.14	($339.12)	($179.17)	($325.16)	($228.54)	($871.44)	($783.26)	($720.97)	($648.14)	($562.68)	($469.04)
2017-2041 MAJOR OFFICE FUNDING REQUIREMENTS													
- Fire & Paramedic Services: Non Inflated	$137.3	$0.0	$649.3	$0.0	$243.5	$0.0	$649.3	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
- Fire & Paramedic Services: Inflated	$137.3	$0.0	$675.5	$0.0	$263.5	$0.0	$731.2	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
NEW COMMERCIAL DEVELOPMENT													
- Growth in Square Metres	73,539	50,549	45,168	59,898	43,846	36,919	37,860	39,071	35,212	33,498	35,360	35,664	36,231
REVENUE													
- Charge Receipts: Inflated	$203.1	$142.4	$129.8	$175.5	$131.1	$112.5	$117.7	$123.9	$113.9	$110.5	$119.0	$122.5	$126.9
INTEREST													
- Interest on Opening Balance	$0.8	$2.3	$7.5	($18.7)	($9.9)	($17.9)	($12.6)	($47.9)	($43.6)	($39.7)	($35.6)	($30.9)	($25.8)
- Interest on In-year Transactions	$1.2	$2.5	($15.0)	$3.1	($3.6)	$2.0	($16.9)	$2.2	$2.0	$1.9	$2.1	$2.1	$2.2
TOTAL REVENUE	$204.2	$147.2	$122.3	$159.9	$117.6	$96.6	$88.3	$78.2	$72.3	$72.8	$85.5	$93.6	$103.3
CLOSING CASH BALANCE	$66.9	$214.1	($339.1)	($179.2)	($325.2)	($228.5)	($871.4)	($783.3)	($721.0)	($648.1)	($562.7)	($469.0)	($365.7)

FIRE & PARAMEDIC SERVICES	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	TOTAL
OPENING CASH BALANCE	($365.73)	($229.43)	($97.21)	($863.99)	($753.33)	($990.23)	($883.91)	($768.76)	($641.86)	($502.37)	($349.44)	($182.10)	
2017-2041 MAJOR OFFICE FUNDING REQUIREMENTS													
- Fire & Paramedic Services: Non Inflated	$0.0	$0.0	$649.3	$0.0	$243.5	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$2,572.1
- Fire & Paramedic Services: Inflated	$0.0	$0.0	$873.8	$0.0	$340.9	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$3,022.3
NEW COMMERCIAL DEVELOPMENT													
- Growth in Square Metres	43,034	39,067	35,728	41,009	38,975	40,064	40,009	40,522	41,043	41,570	42,105	42,511	1,048,442
REVENUE													
- Charge Receipts: Inflated	$153.7	$142.3	$132.8	$158.5	$150.7	$158.8	$161.0	$166.3	$171.8	$177.5	$183.3	$188.8	$3,878.5
INTEREST													
- Interest on Opening Balance	($20.1)	($12.6)	($5.3)	($47.5)	($41.4)	($54.5)	($48.6)	($42.3)	($35.3)	($27.6)	($19.2)	($10.0)	($837.3)
- Interest on In-year Transactions	$2.7	$2.5	($20.4)	$2.7	($5.2)	$2.8	$2.8	$2.9	$3.0	$3.1	$3.2	$3.3	($18.9)
TOTAL REVENUE	$136.3	$132.2	$107.1	$110.7	$104.0	$106.3	$115.2	$126.9	$139.5	$152.9	$167.3	$182.1	$3,022.3
CLOSING CASH BALANCE	($229.4)	($97.2)	($864.0)	($753.3)	($990.2)	($883.9)	($768.8)	($641.9)	($502.4)	($349.4)	($182.1)	($0.0)	

Adjusted Charge Per Square Metre	$2.78

Allocation of Capital Program	
Residential Sector	62%
Non-Residential Sector	38%
Rates for 2016	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

Non-res Split:	
Office	22%
Institutional	22%
Commercial/R	21%
Industrial	34%

APPENDIX D.2
TABLE 2 - PAGE 5

CITY OF WINNIPEG
CASHFLOW AND DETERMINATION OF REGULATORY FEE
FIRE & PARAMEDIC SERVICES
INDUSTRIAL CHARGE
(in $000)

FIRE & PARAMEDIC SERVICES	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
OPENING CASH BALANCE	$0.00	$108.02	$345.63	($547.35)	($289.18)	($524.83)	($368.88)	($1,406.54)	($1,280.37)	($1,163.69)	($1,046.14)	($908.20)	($757.05)
2017-2041 MAJOR OFFICE FUNDING REQUIREMENTS													
- Fire & Paramedic Services: Non Inflated	$221.6	$0.0	$1,046.0	$0.0	$393.0	$0.0	$1,048.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
- Fire & Paramedic Services: Inflated	$221.6	$0.0	$1,090.3	$0.0	$425.4	$0.0	$1,180.2	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
NEW INDUSTRIAL DEVELOPMENT													
- Growth in Square Metres	286,738	203,971	182,257	241,695	176,925	148,937	152,772	157,658	142,085	135,167	142,681	143,911	146,196
REVENUE													
- Charge Receipts: Inflated	$327.8	$229.3	$209.4	$283.3	$211.5	$181.6	$190.0	$200.0	$183.9	$178.4	$182.1	$197.6	$204.8
INTEREST													
- Interest on Opening Balance	$0.0	$3.8	$12.1	($30.1)	($15.9)	($28.9)	($20.3)	($77.4)	($70.4)	($64.0)	($57.5)	($50.0)	($41.6)
- Interest on In-year Transactions	$1.9	$4.0	($24.2)	$5.0	($5.9)	$3.2	($27.2)	$3.5	$3.2	$3.1	$3.4	$3.5	$3.6
TOTAL REVENUE	$329.6	$237.6	$197.3	$258.2	$189.7	$155.9	$142.5	$126.2	$116.7	$117.5	$137.9	$151.2	$156.7
CLOSING CASH BALANCE	$108.0	$345.6	($547.4)	($289.2)	($524.8)	($368.9)	($1,406.5)	($1,280.4)	($1,163.7)	($1,046.1)	($908.2)	($757.0)	($580.3)

FIRE & PARAMEDIC SERVICES	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	TOTAL
OPENING CASH BALANCE	($580.30)	($370.31)	($156.90)	($1,394.53)	($1,215.92)	($1,598.28)	($1,426.68)	($1,240.82)	($1,035.99)	($810.86)	($564.01)	($293.92)	
2017-2041 MAJOR OFFICE FUNDING REQUIREMENTS													
- Fire & Paramedic Services: Non Inflated	$0.0	$0.0	$1,046.0	$0.0	$393.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$4,151.6
- Fire & Paramedic Services: Inflated	$0.0	$0.0	$1,410.4	$0.0	$550.3	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$4,878.2
NEW INDUSTRIAL DEVELOPMENT													
- Growth in Square Metres	173,647	157,642	144,166	165,476	157,268	161,663	161,443	163,512	165,613	167,739	169,899	171,536	4,230,599
REVENUE													
- Charge Receipts: Inflated	$248.1	$229.8	$214.3	$250.9	$243.2	$255.0	$259.8	$268.4	$277.3	$286.4	$295.9	$304.8	$5,924.3
INTEREST													
- Interest on Opening Balance	($32.5)	($20.4)	($8.6)	($76.7)	($66.9)	($87.9)	($78.5)	($68.2)	($57.0)	($44.6)	($31.0)	($16.2)	($1,028.6)
- Interest on In-year Transactions	$4.3	$4.0	($32.9)	$4.4	($8.4)	$4.5	$4.5	$4.7	$4.9	$5.0	$5.2	$5.3	($17.6)
TOTAL REVENUE	$220.0	$213.4	$172.8	$178.6	$167.9	$171.6	$185.9	$204.8	$225.1	$246.9	$270.1	$293.9	$4,878.2
CLOSING CASH BALANCE	($370.3)	($156.9)	($1,394.5)	($1,215.9)	($1,598.3)	($1,426.7)	($1,240.8)	($1,036.0)	($810.9)	($564.0)	($293.8)	$0.0	

Adjusted Charge Per Square Metre	$1.10

Allocation of Capital Program	
Residential Sector	62%
Non-Residential Sector	38%
Rates for 2016	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

Non-res Split:	
Office	22%
Institutional	22%
Commercial/R	21%
Industrial	34%

APPENDIX D.3

POLICE

APPENDIX D.3

POLICE

The Winnipeg Police Service provide protection services to the City.

TABLE 1 2017–2041 DEVELOPMENT-RELATED CAPITAL PROGRAM AND CALCULATION OF THE "UNADJUSTED" REGULATORY FEES

The 2017 to 2026 development-related capital program includes costs associated with new police stations and headquarters, along with associated technology requirements. The capital program amounts to $231.18 million.

Grant funding in the amount of $2.80 million has been identified in association with the new headquarters. Benefit to existing shares have been allocated primarily based on existing shares of population and employment compared to 2041, these shares total $186.97 million. In addition, as each of these projects is anticipated to benefit recent development, a prior growth share (for 10 previous years) has been deducted. This amount totals $13.44 million.

The remaining $27.96 million in costs for recovery through regulatory fees is apportioned to residential and non-residential development. This results in unadjusted charges of $70.83 per capita for residential development, $3.21 per square metre for Office, $1.33 per square metre for Institutional, $2.16 per square metre for Commercial/Retail, and $0.87 per square metre for Industrial development.

TABLE 2 CASH FLOW ANALYSIS

After cash flow considerations, both the residential and non-residential charges increase as shown in the following table:

POLICE SUMMARY									
2017-2041 Development-Related Capital Program		Unadjusted Charge		Adjusted Charge		Adjusted Charges			
						Office	Institutional	Commercial	Industrial
Total	Net Recoverable	$/capita	$/sq.m	$/capita	$/sq.m	$/sq.m	$/sq.m	$/sq.m	$/sq.m
$231,178,000	$27,961,441	$70.83	$1.37	$101.92	$1.96	$4.60	$1.91	$3.11	$1.24

APPENDIX D.3
TABLE 1

CITY OF WINNIPEG
DEVELOPMENT-RELATED CAPITAL PROGRAM

Service	Project Description	Timing	Gross Project Cost	Grants/ Subsidies/ Other Recoveries	Net Municipal Cost	Ineligible Costs Replacement & BTE	Development Related Costs	Costs for Recovery: Prior Growth	Costs for Recovery: 2017-2041	Costs for Recovery: Post 2041
7.0 POLICE										
7.1.1	North Station Information Technology Requirements	2017	$ 490,000	$ -	$ 490,000	$ 350,377	$ 139,823	$ 41,864	$ 97,758	$ -
7.1.2	North District Police Station	2017	$ 20,188,000	$ -	$ 20,188,000	$ 14,435,552	$ 5,752,448	$ 1,724,808	$ 4,027,639	$ -
7.1.3	Headquarters (past project)	2017	$ 178,200,000	$ 2,800,000	$ 175,400,000	$ 149,090,000	$ 26,310,000	$ 7,888,764	$ 18,421,236	$ -
7.1.4	East District Station (past project)	2017	$ 13,900,000	$ -	$ 13,900,000	$ 9,939,280	$ 3,960,720	$ 1,187,578	$ 2,773,142	$ -
7.1.5	West District Station (past project)	2017	$ 18,400,000	$ -	$ 18,400,000	$ 13,157,032	$ 5,242,968	$ 2,601,303	$ 2,641,665	$ -
	TOTAL POLICE		$ 231,178,000	$ 2,800,000	$ 228,378,000	$ 186,972,242	$ 41,405,758	$ 13,444,317	$ 27,961,441	$ -

Residential Calculation		
Residential Share of Development-Related Costs	62%	$17,336,093
25 Year Population Growth in New Housing Units		244,757
Unadjusted Per Unit Charge		$70.83
Non-Residential Calculation		
Non-Residential Share of Development-Related Costs	38%	$10,625,347
25 Year Growth in Square Metres		7,764,241
Unadjusted Per Square Metre Charge		$1.37
Non-Residential Allocation		
25 Year Growth in Square Metres: Major Office		737,695
25 Year Growth in Square Metres: Institutional		1,747,505
25 Year Growth in Square Metres: Commercial/Retail		1,048,442
25 Year Growth in Square Metres: Industrial		4,230,599
Office Per Square Metre Charge (Unadjusted)	22.3%	$3.21
Institutional Per Square Metre Charge (Unadjusted)	21.9%	$1.33
Commercial/Retail Per Square Metre Charge (Unadjusted)	21.4%	$2.16
Industrial Per Square Metre Charge (Unadjusted)	34.5%	$0.87

APPENDIX D.3
TABLE 2 - PAGE 1

CITY OF WINNIPEG
CASHFLOW AND DETERMINATION OF REGULATORY FEE
POLICE
RESIDENTIAL CHARGE
(in $000)

POLICE	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
OPENING CASH BALANCE	$0.00	($16,696.18)	($16,486.26)	($16,176.0)	($15,825.22)	($15,413.24)	($15,082.68)	($14,700.45)	($14,261.18)	($13,757.71)	($13,188.15)	($12,700.07)	($12,159.44)
2017-2041 RESIDENTIAL FUNDING REQUIREMENTS													
- Police: Non Inflated	$17,336.1	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
- Police: Inflated	$17,336.1	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
NEW RESIDENTIAL DEVELOPMENT													
- Population in New Units	10,663	10,955	11,084	11,272	11,424	10,291	10,376	10,475	10,599	10,701	9,599	9,610	9,662
REVENUE													
- Charge Receipts: Inflated	$1,086.8	$1,128.5	$1,175.3	$1,219.2	$1,260.3	$1,158.0	$1,190.9	$1,226.3	$1,265.7	$1,303.4	$1,192.5	$1,217.8	$1,248.9
INTEREST													
- Interest on Opening Balance	$0.0	($918.3)	($905.6)	($889.7)	($870.4)	($847.7)	($829.5)	($808.5)	($784.4)	($756.7)	($725.3)	($698.5)	($668.8)
- Interest on In-year Transactions	($446.9)	$19.7	$20.6	$21.3	$22.1	$20.3	$20.8	$21.5	$22.1	$22.8	$20.9	$21.3	$21.9
TOTAL REVENUE	$639.9	$229.9	$290.2	$350.8	$412.0	$330.6	$382.2	$439.3	$503.5	$569.5	$488.1	$540.6	$602.0
CLOSING CASH BALANCE	($16,696.2)	($16,486.3)	($16,176.0)	($15,825.2)	($15,413.2)	($15,082.7)	($14,700.5)	($14,261.2)	($13,757.7)	($13,188.2)	($12,700.1)	($12,159.4)	($11,557.5)

POLICE	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	TOTAL
OPENING CASH BALANCE	($11,557.46)	($10,887.29)	($10,143.20)	($9,445.22)	($8,668.79)	($7,810.68)	($6,863.68)	($5,820.47)	($4,849.11)	($3,787.64)	($2,630.17)	($1,370.60)	
2017-2041 RESIDENTIAL FUNDING REQUIREMENTS													
- Police: Non Inflated	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$17,336.1
- Police: Inflated	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$17,336.1
NEW RESIDENTIAL DEVELOPMENT													
- Population in New Units	9,734	9,814	8,998	9,103	9,193	9,294	9,404	8,381	8,450	8,519	8,587	8,669	244,757
REVENUE													
- Charge Receipts: Inflated	$1,283.4	$1,319.8	$1,234.3	$1,273.6	$1,312.0	$1,352.9	$1,396.3	$1,269.3	$1,305.3	$1,342.3	$1,380.1	$1,421.1	$31,584.0
INTEREST													
- Interest on Opening Balance	($635.7)	($598.8)	($557.9)	($519.5)	($476.8)	($429.6)	($377.5)	($320.1)	($266.7)	($208.3)	($144.7)	($75.4)	($14,314.4)
- Interest on In-year Transactions	$22.5	$23.1	$21.6	$22.3	$23.0	$23.7	$24.4	$22.2	$22.8	$23.5	$24.2	$24.9	$66.5
TOTAL REVENUE	$670.2	$744.1	$698.0	$776.4	$858.1	$947.0	$1,043.2	$971.4	$1,061.5	$1,157.5	$1,259.6	$1,370.6	$17,336.1
CLOSING CASH BALANCE	($10,887.3)	($10,143.2)	($9,445.2)	($8,668.8)	($7,810.7)	($6,863.7)	($5,820.5)	($4,849.1)	($3,787.6)	($2,630.2)	($1,370.6)	($0.0)	

Adjusted Charge Per Capita	$101.32

Allocation of Capital Program	
Residential Sector	62%
Non-Residential Sector	38%
Rates for 2018	
Inflation Rate:	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

APPENDIX D.3
TABLE 2 - PAGE 2

CITY OF WINNIPEG
CASHFLOW AND DETERMINATION OF REGULATORY FEE
POLICE
OFFICE CHARGE
(in $000)

POLICE	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
OPENING CASH BALANCE	$0.00	($2,185.91)	($2,136.26)	($2,098.33)	($2,004.94)	($1,958.85)	($1,932.32)	($1,898.12)	($1,854.65)	($1,820.72)	($1,789.97)	($1,745.35)	($1,695.24)
2017-2041 MAJOR OFFICE FUNDING REQUIREMENTS													
- Police: Non Inflated	$2,365.5	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
- Police: Inflated	$2,365.5	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
NEW MAJOR OFFICE DEVELOPMENT													
- Growth in Square Metres	51,743	35,567	31,780	42,145	30,851	25,970	26,639	27,491	24,776	23,559	24,879	25,094	25,493
REVENUE													
- Charge Receipts: Inflated	$238.1	$167.0	$152.2	$205.8	$153.7	$132.0	$138.1	$145.3	$133.6	$129.6	$139.8	$143.6	$148.8
INTEREST													
- Interest on Opening Balance	$0.0	($120.2)	($117.5)	($115.4)	($110.3)	($107.7)	($106.3)	($104.4)	($102.0)	($100.1)	($98.4)	($96.0)	($93.2)
- Interest on In-year Transactions	($58.5)	$2.9	$2.7	$3.6	$2.7	$2.3	$2.4	$2.5	$2.3	$2.3	$2.4	$2.5	$2.6
TOTAL REVENUE	$179.6	$49.6	$37.3	$94.0	$46.1	$26.5	$34.2	$43.5	$33.9	$31.8	$43.6	$50.1	$58.2
CLOSING CASH BALANCE	($2,185.9)	($2,136.3)	($2,098.9)	($2,004.9)	($1,958.8)	($1,932.3)	($1,898.1)	($1,854.6)	($1,820.7)	($1,789.0)	($1,745.3)	($1,695.2)	($1,637.1)

POLICE	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	TOTAL
OPENING CASH BALANCE	($1,637.09)	($1,543.72)	($1,458.78)	($1,380.58)	($1,271.04)	($1,161.15)	($1,036.48)	($901.45)	($752.65)	($589.09)	($409.75)	($213.53)	
2017-2041 MAJOR OFFICE FUNDING REQUIREMENTS													
- Police: Non Inflated	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$2,365.5
- Police: Inflated	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$2,365.5
NEW MAJOR OFFICE DEVELOPMENT													
- Growth in Square Metres	30,279	27,488	25,138	28,854	27,423	28,189	28,151	28,512	28,878	29,249	29,626	29,911	737,695
REVENUE													
- Charge Receipts: Inflated	$180.3	$166.9	$155.7	$182.3	$178.7	$185.3	$188.7	$195.0	$201.4	$208.1	$215.0	$221.4	$4,394.0
INTEREST													
- Interest on Opening Balance	($90.0)	($84.9)	($80.2)	($75.9)	($69.9)	($63.9)	($57.0)	($49.6)	($41.4)	($32.4)	($22.5)	($11.7)	($1,951.2)
- Interest on In-year Transactions	$3.2	$2.9	$2.7	$3.2	$3.1	$3.2	$3.3	$3.4	$3.5	$3.6	$3.8	$3.9	$12.6
TOTAL REVENUE	$93.4	$84.9	$78.2	$109.5	$109.9	$124.7	$135.0	$148.8	$163.6	$179.3	$196.2	$213.5	$2,365.5
CLOSING CASH BALANCE	($1,543.7)	($1,458.8)	($1,380.6)	($1,271.0)	($1,161.1)	($1,036.5)	($901.5)	($752.8)	($589.1)	($409.7)	($213.5)	$0.0	

Adjusted Charge Per Square Metre	$4.60

Allocation of Capital Program	
Residential Sector	62%
Non-Residential Sector	38%
Rates for 2016	
Inflation Rate:	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

Non-res Split:	
Office	22%
Institutional	22%
Commercial/R	21%
Industrial	34%

APPENDIX D.3
TABLE 2 - PAGE 3

CITY OF WINNIPEG
CASHFLOW AND DETERMINATION OF REGULATORY FEE
POLICE
INSTITUTIONAL CHARGE
(in $000)

POLICE	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
OPENING CASH BALANCE	$0.00	($2,150.92)	($2,102.06)	($2,065.33)	($1,972.85)	($1,927.49)	($1,901.39)	($1,867.74)	($1,824.86)	($1,791.58)	($1,760.33)	($1,717.41)	($1,668.11)
2017-2041 MAJOR OFFICE FUNDING REQUIREMENTS													
- Police: Non Inflated	$2,327.7	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
- Police: Inflated	$2,327.7	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
NEW MAJOR OFFICE DEVELOPMENT													
- Growth in Square Metres	122,572	84,253	75,284	99,835	73,081	61,520	63,104	65,123	58,690	55,832	58,936	59,444	60,389
REVENUE													
- Charge Receipts: Inflated	$234.3	$164.3	$149.7	$202.5	$151.2	$129.8	$135.9	$143.0	$131.5	$127.8	$137.3	$141.3	$146.4
INTEREST													
- Interest on Opening Balance	$0.0	($118.3)	($115.6)	($113.6)	($108.5)	($106.0)	($104.6)	($132.7)	($100.4)	($98.5)	($96.8)	($94.5)	($91.7)
- Interest on In-year Transactions	($57.6)	$2.9	$2.8	$3.5	$2.6	$2.3	$2.4	$2.5	$2.3	$2.2	$2.4	$2.5	$2.6
TOTAL REVENUE	$176.7	$48.9	$36.7	$92.5	$45.4	$26.1	$33.7	$42.8	$33.4	$31.2	$42.9	$49.3	$57.2
CLOSING CASH BALANCE	($2,150.9)	($2,102.1)	($2,065.3)	($1,972.8)	($1,927.5)	($1,901.4)	($1,867.7)	($1,825.0)	($1,791.8)	($1,760.3)	($1,717.4)	($1,668.1)	($1,610.9)

POLICE	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	TOTAL
OPENING CASH BALANCE	($1,610.88)	($1,519.01)	($1,435.43)	($1,358.49)	($1,250.70)	($1,142.56)	($1,019.89)	($887.02)	($740.60)	($579.66)	($403.19)	($210.11)	
2017-2041 MAJOR OFFICE FUNDING REQUIREMENTS													
- Police: Non Inflated	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$2,327.7
- Police: Inflated	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$2,327.7
NEW MAJOR OFFICE DEVELOPMENT													
- Growth in Square Metres	71,727	65,116	59,550	68,352	64,962	66,777	66,686	67,541	68,409	69,287	70,179	70,855	1,747,505
REVENUE													
- Charge Receipts: Inflated	$177.4	$164.2	$153.2	$179.4	$173.9	$182.3	$185.7	$191.9	$198.2	$204.8	$211.5	$217.9	$4,235.1
INTEREST													
- Interest on Opening Balance	($88.6)	($83.5)	($78.9)	($74.7)	($68.8)	($62.8)	($56.1)	($48.8)	($40.7)	($31.9)	($22.2)	($11.6)	($1,919.9)
- Interest on In-year Transactions	$3.1	$2.9	$2.7	$3.1	$3.0	$3.2	$3.2	$3.4	$3.5	$3.6	$3.7	$3.8	$12.4
TOTAL REVENUE	$91.9	$83.6	$76.9	$107.8	$108.1	$122.7	$132.9	$146.4	$160.9	$176.5	$193.1	$210.1	$2,327.7
CLOSING CASH BALANCE	($1,519.0)	($1,435.4)	($1,358.5)	($1,250.7)	($1,142.6)	($1,019.9)	($887.0)	($740.6)	($579.7)	($403.2)	($210.1)	($0.0)	

Adjusted Charge Per Square Metre	$1.91

Allocation of Capital Program	
Residential Sector	62%
Non-Residential Sector	38%
Rates for 2018	
Inflation Rate:	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

Non-res Split:	
Office	22%
Institutional	22%
Commercial/R	21%
Industrial	34%

APPENDIX D.3
TABLE 2 - PAGE 4

CITY OF WINNIPEG
CASHFLOW AND DETERMINATION OF REGULATORY FEE
POLICE
COMMERCIAL/RETAIL CHARGE
(in $000)

POLICE	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
OPENING CASH BALANCE	$0.00	($2,097.02)	($2,049.39)	($2,013.56)	($1,923.42)	($1,879.19)	($1,853.74)	($1,820.94)	($1,779.23)	($1,746.69)	($1,716.22)	($1,674.38)	($1,626.31)
2017-2041 MAJOR OFFICE FUNDING REQUIREMENTS													
- Police: Non Inflated	$2,269.3	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
- Police: Inflated	$2,269.3	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
NEW MAJOR OFFICE DEVELOPMENT													
- Growth in Square Metres	73,539	50,549	45,168	59,896	43,848	36,910	37,860	39,071	35,212	33,498	35,360	35,664	36,231
REVENUE													
- Charge Receipts: Inflated	$228.4	$160.2	$146.0	$197.5	$147.4	$126.6	$132.4	$139.4	$128.2	$124.4	$133.9	$137.7	$142.7
INTEREST													
- Interest on Opening Balance	$0.0	($115.3)	($112.7)	($110.7)	($105.8)	($103.4)	($102.0)	($100.2)	($97.9)	($96.1)	($94.4)	($92.1)	($89.4)
- Interest on In-year Transactions	($56.1)	$2.8	$2.6	$3.5	$2.6	$2.2	$2.3	$2.4	$2.2	$2.2	$2.3	$2.4	$2.5
TOTAL REVENUE	$172.3	$47.6	$35.8	$90.2	$44.2	$25.4	$32.8	$41.7	$32.5	$30.5	$41.8	$48.1	$55.8
CLOSING CASH BALANCE	($2,097.0)	($2,049.4)	($2,013.6)	($1,923.4)	($1,879.2)	($1,853.7)	($1,820.9)	($1,779.2)	($1,746.7)	($1,716.2)	($1,674.4)	($1,626.3)	($1,570.5)

POLICE	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	TOTAL
OPENING CASH BALANCE	($1,570.52)	($1,480.94)	($1,399.46)	($1,324.45)	($1,219.36)	($1,113.93)	($994.34)	($864.80)	($722.04)	($565.13)	($393.09)	($204.85)	
2017-2041 MAJOR OFFICE FUNDING REQUIREMENTS													
- Police: Non Inflated	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$2,269.3
- Police: Inflated	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$2,269.3
NEW MAJOR OFFICE DEVELOPMENT													
- Growth in Square Metres	43,034	39,067	35,728	41,009	38,975	43,054	40,009	40,522	41,043	41,570	42,105	42,511	1,048,442
REVENUE													
- Charge Receipts: Inflated	$172.9	$160.1	$149.4	$174.9	$169.5	$177.8	$181.1	$187.0	$193.2	$199.6	$206.2	$212.4	$4,129.0
INTEREST													
- Interest on Opening Balance	($86.4)	($81.5)	($77.0)	($72.8)	($67.1)	($61.3)	($54.7)	($47.6)	($39.7)	($31.1)	($21.6)	($11.3)	($1,871.8)
- Interest on In-year Transactions	$3.0	$2.8	$2.6	$3.1	$3.0	$3.1	$3.2	$3.3	$3.4	$3.5	$3.6	$3.7	$12.1
TOTAL REVENUE	$89.6	$81.5	$75.0	$105.1	$105.4	$119.6	$129.5	$142.8	$156.9	$172.0	$188.2	$204.9	$2,269.3
CLOSING CASH BALANCE	($1,480.9)	($1,399.5)	($1,324.5)	($1,219.4)	($1,113.9)	($994.3)	($864.8)	($722.0)	($565.1)	($393.1)	($204.9)	$0.0	

Adjusted Charge Per Square Metre	$3.11

Allocation of Capital Program	
Residential Sector	62%
Non-Residential Sector	38%
Rates for 2016	
Inflation Rate:	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

Non-res Split:	
Office	22%
Institutional	22%
Commercial/R	21%
Industrial	34%

APPENDIX D.3
TABLE 2 - PAGE 5

CITY OF WINNIPEG
CASHFLOW AND DETERMINATION OF REGULATORY FEE
POLICE
INDUSTRIAL CHARGE
(in $000)

POLICE	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
OPENING CASH BALANCE	$0.00	($3,384.70)	($3,307.82)	($3,250.02)	($3,104.48)	($3,033.12)	($2,982.04)	($2,939.06)	($2,871.77)	($2,819.25)	($2,770.07)	($2,702.53)	($2,624.95)
2017-2041 MAJOR OFFICE FUNDING REQUIREMENTS													
- Police: Non Inflated	$3,662.8	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
- Police: Inflated	$3,662.8	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
NEW MAJOR OFFICE DEVELOPMENT													
- Growth in Square Metres	296,738	203,971	182,257	241,695	176,925	148,937	152,772	157,658	142,085	135,167	142,681	143,911	146,196
REVENUE													
- Charge Receipts: Inflated	$368.7	$258.5	$235.6	$318.7	$238.0	$204.3	$213.8	$225.0	$206.9	$200.7	$216.1	$222.3	$230.4
INTEREST													
- Interest on Opening Balance	$0.0	($186.2)	($181.9)	($178.8)	($170.7)	($166.8)	($164.6)	($161.6)	($157.9)	($155.1)	($152.4)	($148.6)	($144.4)
- Interest on In-year Transactions	($90.6)	$4.5	$4.1	$5.6	$4.2	$3.6	$3.7	$3.9	$3.6	$3.5	$3.8	$3.9	$4.0
TOTAL REVENUE	$278.1	$76.9	$57.5	$145.5	$71.4	$41.1	$53.0	$67.3	$52.5	$49.2	$67.5	$77.6	$90.0
CLOSING CASH BALANCE	($3,384.7)	($3,307.8)	($3,250.0)	($3,104.5)	($3,033.1)	($2,982.0)	($2,939.1)	($2,871.8)	($2,819.2)	($2,770.1)	($2,702.5)	($2,624.9)	($2,534.9)

POLICE	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	TOTAL
OPENING CASH BALANCE	($2,534.90)	($2,390.32)	($2,258.81)	($2,137.73)	($1,968.11)	($1,797.84)	($1,604.91)	($1,395.83)	($1,165.41)	($912.15)	($634.47)	($330.64)	
2017-2041 MAJOR OFFICE FUNDING REQUIREMENTS													
- Police: Non Inflated	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$3,662.8
- Police: Inflated	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$3,662.8
NEW MAJOR OFFICE DEVELOPMENT													
- Growth in Square Metres	173,647	157,642	144,168	165,476	157,268	161,663	161,443	163,512	165,613	167,739	169,899	171,536	4,230,599
REVENUE													
- Charge Receipts: Inflated	$279.1	$258.5	$241.1	$282.3	$273.6	$286.9	$292.2	$301.9	$311.9	$322.2	$332.9	$342.8	$6,664.4
INTEREST													
- Interest on Opening Balance	($139.4)	($131.5)	($124.2)	($117.6)	($108.2)	($98.9)	($88.3)	($76.8)	($64.1)	($50.2)	($34.9)	($18.2)	($3,021.2)
- Interest on In-year Transactions	$4.9	$4.5	$4.2	$4.9	$4.8	$5.0	$5.1	$5.3	$5.5	$5.6	$5.8	$6.0	$19.6
TOTAL REVENUE	$144.6	$131.5	$121.1	$169.6	$170.2	$193.0	$209.1	$230.4	$253.3	$277.7	$303.8	$330.6	$3,662.8
CLOSING CASH BALANCE	($2,390.3)	($2,258.8)	($2,137.7)	($1,968.1)	($1,797.8)	($1,604.9)	($1,395.8)	($1,165.4)	($912.2)	($634.5)	($330.6)	($0.0)	

Adjusted Charge Per Square Metre	$1.26

Allocation of Capital Program	
Residential Sector	62%
Non-Residential Sector	38%
Rates for 2016	
Inflation Rate:	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

Non-res Split:	
Office	22%
Institutional	22%
Commercial/R	21%
Industrial	34%

APPENDIX D.4

WATER

APPENDIX D.4

WATER

Water services are managed through the City of Winnipeg's Water and Waste Department.

TABLE 1 2017–2041 DEVELOPMENT-RELATED CAPITAL PROGRAM AND CALCULATION OF THE "UNADJUSTED" REGULATORY FEES

The development-related capital program for Water services totals $310.87 million. The majority of the program accounts for a new water treatment plant which was constructed in 2009, but provided capacity to accommodate new development through the 25-year benefitting period. Other major projects include an extensions and upgrades to two water mains to serve future growth.

No grants, subsidies, or other recovery amounts have been identified. City staff identified benefit to existing shares of 75 per cent for the water treatment plant and 50 per cent for an upgrade to the Transcona water main. These amounts total $227.97 million. An additional $22.50 million was deducted from the costs associated with the 2009 water treatment plant to account for benefits to development that occurred prior to 2017.

Resulting costs for recovery over the 2017-2041 benefitting period total $60.40 million. This results in unadjusted charge calculations of $153.01 per capita for residential development, $6.93 per square metre for Office, $2.88 per square metre for Institutional, $4.68 per square metre for Commercial/Retail, and $1.87 per square metre for Industrial development.

TABLE 2 CASH FLOW ANALYSIS

After cash flow considerations, both the residential and non-residential charges increase as shown in the following table:

WATER SUMMARY									
2017-2041 Development-Related Capital Program		Unadjusted Charge		Adjusted Charge		Adjusted Charges			
						Office	Institutional	Commercial	Industrial
Total	Net Recoverable	$/capita	$/sq.m	$/capita	$/sq.m	$/sq.m	$/sq.m	$/sq.m	$/sq.m
$310,868,000	$60,403,580	$153.01	$2.96	$219.70	$4.23	$9.92	$4.12	$6.70	$2.68

APPENDIX D.4
TABLE 1

CITY OF WINNIPEG
DEVELOPMENT-RELATED CAPITAL PROGRAM

Service	Project Description	Timing	Gross Project Cost	Grants/ Subsidies/ Other Recoveries	Net Municipal Cost	Ineligible Costs Replacement & BTE	Development Related Costs	Costs for Recovery Prior Growth	Costs for Recovery 2017-2041	Costs for Recovery Post 2041
8.0 WATER										
8.1.1	Water Treatment Plant Capacity Validation	2018	$ 150,000	$ -	$ 150,000	$ -	$ 150,000	$ -	$ 150,000	$ -
8.1.2	Saskatchewan Avenue Water Main	2017	$ 4,830,000	$ -	$ 4,830,000	$ -	$ 4,830,000	$ -	$ 4,830,000	$ -
8.1.3	Transcona Water Main Reliability Upgrade	2018	$ 5,788,000	$ -	$ 5,788,000	$ 2,894,000	$ 2,894,000	$ -	$ 2,894,000	$ -
8.1.4	Water Treatment Plant (past project)	2017	$ 300,100,000	$ -	$ 300,100,000	$ 225,075,000	$ 75,025,000	$ 22,495,420	$ 52,529,580	$ -
TOTAL WATER			$ 310,868,000	$ -	$ 310,868,000	$ 227,969,000	$ 82,899,000	$ 22,495,420	$ 60,403,580	$ -

Residential Calculation		
Residential Share of Development-Related Costs	62%	$37,450,220
25 Year Population Growth in New Housing Units		244,757
Unadjusted Per Unit Charge		$153.01
Non-Residential Calculation		
Non-Residential Share of Development-Related Costs	38%	$22,953,360
25 Year Growth in Square Metres		7,764,241
Unadjusted Per Square Metre Charge		$2.96
Non-Residential Allocation		
25 Year Growth in Square Metres: Major Office		737,695
25 Year Growth in Square Metres: Institutional		1,747,505
25 Year Growth in Square Metres: Commercial/Retail		1,048,442
25 Year Growth in Square Metres: Industrial		4,233,599
Office Per Square Metre Charge (Unadjusted)	22.3%	$6.93
Institutional Per Square Metre Charge (Unadjusted)	21.9%	$2.88
Commercial/Retail Per Square Metre Charge (Unadjusted)	21.4%	$4.68
Industrial Per Square Metre Charge (Unadjusted)	34.5%	$1.87

APPENDIX D.4
TABLE 2 - PAGE 1

CITY OF WINNIPEG
CASHFLOW AND DETERMINATION OF REGULATORY FEE
WATER
RESIDENTIAL CHARGE
(in $000)

WATER	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
OPENING CASH BALANCE	$0.0	($34,133.9)	($35,494.8)	($34,869.2)	($34,113.0)	($33,224.9)	($32,512.4)	($31,688.4)	($30,741.5)	($29,656.3)	($28,428.5)	($27,376.4)	($26,211.0)
2017-2041 RESIDENTIAL FUNDING REQUIREMENTS													
- Water: Non Inflated	$35,562.9	$1,887.3	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
- Water: Inflated	$35,562.9	$1,925.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
NEW RESIDENTIAL DEVELOPMENT													
- Population in New Units	10,663	10,855	11,084	11,272	11,424	10,291	10,376	10,475	10,589	10,701	9,599	9,610	9,662
REVENUE													
- Charge Receipts: Inflated	$2,342.6	$2,432.5	$2,533.5	$2,628.0	$2,716.7	$2,496.2	$2,567.2	$2,643.5	$2,728.3	$2,809.7	$2,570.7	$2,625.1	$2,692.1
INTEREST													
- Interest on Opening Balance	$0.0	($1,877.4)	($1,952.2)	($1,917.8)	($1,876.2)	($1,827.4)	($1,788.2)	($1,742.9)	($1,690.8)	($1,631.1)	($1,563.6)	($1,505.7)	($1,441.6)
- Interest on In-year Transactions	($913.6)	$8.9	$44.3	$46.0	$47.5	$43.7	$44.9	$46.3	$47.7	$49.2	$45.0	$45.9	$47.1
TOTAL REVENUE	$1,429.1	$564.0	$625.6	$756.2	$888.1	$712.5	$823.9	$946.9	$1,085.3	$1,227.7	$1,052.1	$1,165.4	$1,297.6
CLOSING CASH BALANCE	($34,133.9)	($35,494.8)	($34,869.2)	($34,113.0)	($33,224.9)	($32,512.4)	($31,688.4)	($30,741.5)	($29,656.3)	($28,428.5)	($27,376.4)	($26,211.0)	($24,913.4)

WATER	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	TOTAL
OPENING CASH BALANCE	($24,913.4)	($23,468.8)	($21,864.8)	($20,360.2)	($18,686.5)	($16,838.7)	($14,795.4)	($12,546.7)	($10,452.8)	($8,164.7)	($5,669.6)	($2,954.5)	
2017-2041 RESIDENTIAL FUNDING REQUIREMENTS													
- Water: Non Inflated	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$37,450.2
- Water: Inflated	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$37,488.0
NEW RESIDENTIAL DEVELOPMENT													
- Population in New Units	9,734	9,814	8,998	9,103	9,193	9,294	9,404	8,381	8,450	8,519	8,587	8,669	244,757
REVENUE													
- Charge Receipts: Inflated	$2,766.4	$2,845.0	$2,660.6	$2,745.5	$2,828.1	$2,916.3	$3,009.8	$2,736.1	$2,813.8	$2,893.5	$2,974.9	$3,063.4	$68,039.6
INTEREST	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0.00
- Interest on Opening Balance	($1,370.2)	($1,290.8)	($1,202.6)	($1,119.8)	($1,027.8)	($926.0)	($813.7)	($690.1)	($574.9)	($449.1)	($311.8)	($162.5)	($30,754.0)
- Interest on In-year Transactions	$48.4	$49.8	$46.6	$48.0	$49.5	$51.0	$52.7	$47.9	$49.2	$50.6	$52.1	$53.6	$202.4
TOTAL REVENUE	$1,444.6	$1,604.0	$1,504.6	$1,673.7	$1,849.8	$2,041.3	$2,248.8	$2,093.9	$2,288.1	$2,495.1	$2,715.1	$2,954.5	$37,488.0
CLOSING CASH BALANCE	($23,468.8)	($21,864.8)	($20,360.2)	($18,686.5)	($16,838.7)	($14,795.4)	($12,546.7)	($10,452.8)	($8,164.7)	($5,669.6)	($2,954.5)	($0.0)	

Adjusted Charge Per Capita	$219.70

Allocation of Capital Program	
Residential Sector	62%
Non-Residential Sector	38%
Rates for 2016	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

APPENDIX D.4
TABLE 2 - PAGE 2

CITY OF WINNIPEG
CASHFLOW AND DETERMINATION OF REGULATORY FEE
WATER
OFFICE CHARGE
(in $000)

WATER	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
OPENING CASH BALANCE	$0.0	($4,458.6)	($4,604.9)	($4,524.5)	($4,321.9)	($4,222.5)	($4,165.3)	($4,091.6)	($3,997.9)	($3,924.8)	($3,856.3)	($3,762.3)	($3,654.3)
2017-2041 MAJOR OFFICE FUNDING REQUIREMENTS													
- Water: Non Inflated	$4,852.6	$257.5	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
- Water: Inflated	$4,852.6	$262.7	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
NEW MAJOR OFFICE DEVELOPMENT													
- Growth in Square Metres	51,743	35,567	31,780	42,145	30,651	25,970	26,639	27,491	24,776	23,569	24,879	25,094	25,493
REVENUE													
- Charge Receipts: Inflated	$511.3	$358.9	$320.0	$443.7	$331.3	$284.4	$297.6	$313.3	$289.0	$278.4	$300.9	$309.5	$320.7
INTEREST													
- Interest on Opening Balance	$0.0	($245.2)	($253.3)	($248.8)	($237.7)	($232.2)	($229.1)	($225.0)	($219.9)	($215.9)	($212.1)	($206.9)	($201.0)
- Interest on In-year Transactions	($119.3)	$1.7	$5.7	$7.8	$5.8	$5.0	$5.2	$5.5	$5.0	$4.9	$5.3	$5.4	$5.6
TOTAL REVENUE	$394.0	$116.4	$80.5	$202.6	$99.4	$57.2	$73.7	$93.7	$73.1	$68.5	$94.0	$108.0	$125.4
CLOSING CASH BALANCE	($4,458.6)	($4,604.9)	($4,524.5)	($4,321.9)	($4,222.5)	($4,165.3)	($4,091.6)	($3,997.9)	($3,924.8)	($3,856.3)	($3,762.3)	($3,654.3)	($3,528.9)

WATER	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	TOTAL
OPENING CASH BALANCE	($3,528.9)	($3,327.6)	($3,144.6)	($2,976.0)	($2,739.9)	($2,503.0)	($2,234.2)	($1,943.2)	($1,622.4)	($1,269.8)	($883.3)	($460.3)	
2017-2041 MAJOR OFFICE FUNDING REQUIREMENTS													
- Water: Non Inflated	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$5,110.1
- Water: Inflated	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$5,115.3
NEW MAJOR OFFICE DEVELOPMENT													
- Growth in Square Metres	30,279	27,488	25,138	28,854	27,423	28,189	28,151	28,512	28,878	29,249	29,626	29,911	737,695
REVENUE													
- Charge Receipts: Inflated	$388.6	$359.8	$335.6	$382.9	$380.9	$399.4	$406.8	$420.3	$434.2	$448.6	$463.4	$477.3	$9,277.8
INTEREST													
- Interest on Opening Balance	($194.1)	($183.0)	($173.0)	($163.7)	($150.7)	($137.7)	($122.9)	($106.9)	($89.2)	($69.8)	($48.6)	($25.3)	($4,192.0)
- Interest on In-year Transactions	$6.8	$6.3	$5.9	$6.9	$6.7	$7.0	$7.1	$7.4	$7.6	$7.8	$8.1	$8.4	$29.5
TOTAL REVENUE	$201.3	$183.1	$168.6	$236.1	$236.9	$268.7	$291.1	$320.8	$352.6	$386.6	$423.0	$460.3	$5,116.3
CLOSING CASH BALANCE	($3,327.6)	($3,144.6)	($2,976.0)	($2,739.9)	($2,503.0)	($2,234.2)	($1,943.2)	($1,622.4)	($1,269.8)	($883.3)	($460.3)	$0.0	

Adjusted Charge Per Square Metre	$9.92

Allocation of Capital Program	
Residential Sector	62%
Non-Residential Sector	38%
Rates for 2016	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

Non-res Split:	
Office	22%
Institutional	22%
Commercial/R	21%
Industrial	34%

APPENDIX D.4
TABLE 2 - PAGE 3

CITY OF WINNIPEG
CASHFLOW AND DETERMINATION OF REGULATORY FEE
WATER
INSTITUTIONAL CHARGE
(in $000)

WATER	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
OPENING CASH BALANCE	$0.0	($4,387.3)	($4,531.2)	($4,452.0)	($4,252.7)	($4,154.9)	($4,098.6)	($4,026.1)	($3,933.9)	($3,861.9)	($3,794.6)	($3,702.1)	($3,595.8)
2017-2041 MAJOR OFFICE FUNDING REQUIREMENTS													
- Water: Non Inflated	$4,774.9	$253.4	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
- Water: Inflated	$4,774.9	$258.5	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
NEW INSTITUTIONAL DEVELOPMENT													
- Growth in Square Metres	122,572	84,253	75,204	99,835	73,081	61,520	63,104	65,123	58,690	55,832	58,936	59,444	60,389
REVENUE													
- Charge Receipts: Inflated	$505.1	$354.1	$322.8	$436.6	$326.0	$279.9	$292.8	$308.3	$283.4	$275.0	$296.0	$304.6	$315.8
INTEREST													
- Interest on Opening Balance	$0.0	($241.3)	($249.2)	($244.9)	($233.8)	($228.5)	($225.4)	($221.4)	($216.4)	($212.4)	($208.7)	($203.6)	($197.8)
- Interest on In-year Transactions	($117.4)	$1.7	$5.6	$7.6	$5.7	$4.9	$5.1	$5.4	$5.0	$4.8	$5.2	$5.3	$5.5
TOTAL REVENUE	$387.7	$114.5	$79.2	$199.3	$97.9	$56.3	$72.5	$92.2	$72.0	$67.4	$92.5	$106.3	$123.4
CLOSING CASH BALANCE	($4,387.3)	($4,531.2)	($4,452.0)	($4,252.7)	($4,154.9)	($4,098.6)	($4,026.1)	($3,933.9)	($3,861.9)	($3,794.6)	($3,702.1)	($3,595.8)	($3,472.4)

WATER	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	TOTAL
OPENING CASH BALANCE	($3,472.4)	($3,274.4)	($3,094.2)	($2,928.4)	($2,696.0)	($2,462.9)	($2,198.5)	($1,912.1)	($1,596.4)	($1,249.5)	($869.1)	($452.9)	
2017-2041 MAJOR OFFICE FUNDING REQUIREMENTS													
- Water: Non Inflated	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$5,028.3
- Water: Inflated	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$5,033.4
NEW INSTITUTIONAL DEVELOPMENT													
- Growth in Square Metres	71,727	65,116	59,550	68,352	64,952	66,777	66,626	67,541	68,409	69,287	70,179	70,855	1,747,506
REVENUE													
- Charge Receipts: Inflated	$382.3	$354.0	$330.3	$386.7	$374.8	$393.0	$400.3	$413.6	$427.3	$441.4	$456.0	$469.6	$9,129.3
INTEREST													
- Interest on Opening Balance	($191.0)	($180.1)	($170.2)	($161.1)	($148.3)	($135.5)	($120.9)	($105.2)	($87.8)	($68.7)	($47.8)	($24.9)	($4,124.9)
- Interest on In-year Transactions	$6.7	$6.2	$5.8	$6.8	$6.6	$6.9	$7.0	$7.2	$7.5	$7.7	$8.0	$8.2	$29.0
TOTAL REVENUE	$198.1	$180.2	$165.9	$232.4	$233.1	$264.4	$286.4	$315.6	$346.9	$380.4	$416.2	$452.9	$5,033.4
CLOSING CASH BALANCE	($3,274.4)	($3,094.2)	($2,928.4)	($2,696.0)	($2,462.9)	($2,198.5)	($1,912.1)	($1,596.4)	($1,249.5)	($869.1)	($452.9)	$0.0	

Adjusted Charge Per Square Metre	$4.12

Allocation of Capital Program	
Residential Sector	62%
Non-Residential Sector	38%
Rates for 2016	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

Non-res Split:	
Office	22%
Institutional	22%
Commercial/R	21%
Industrial	34%

APPENDIX D.4
TABLE 2 - PAGE 4

CITY OF WINNIPEG
CASHFLOW AND DETERMINATION OF REGULATORY FEE
WATER
COMMERCIAL/RETAIL CHARGE
(in $000)

WATER	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
OPENING CASH BALANCE	$0.0	($4,277.3)	($4,417.7)	($4,340.5)	($4,146.1)	($4,050.8)	($3,995.9)	($3,925.2)	($3,835.3)	($3,765.2)	($3,699.5)	($3,609.3)	($3,505.7)
2017-2041 MAJOR OFFICE FUNDING REQUIREMENTS													
- Water: Non Inflated	$4,655.3	$247.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
- Water: Inflated	$4,655.3	$252.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
NEW COMMERCIAL DEVELOPMENT													
- Growth in Square Metres	73,539	50,549	45,168	59,898	43,848	38,910	37,860	39,071	35,212	33,498	35,380	35,664	36,231
REVENUE													
- Charge Receipts: Inflated	$492.4	$345.3	$314.7	$425.6	$317.6	$272.9	$285.5	$300.5	$276.3	$258.1	$288.6	$296.9	$307.7
INTEREST													
- Interest on Opening Balance	$0.0	($235.3)	($243.0)	($238.7)	($228.0)	($222.8)	($219.8)	($215.9)	($210.9)	($207.1)	($203.5)	($198.5)	($192.9)
- Interest on In-year Transactions	($114.5)	$1.6	$5.5	$7.4	$5.6	$4.8	$5.0	$5.3	$4.8	$4.7	$5.1	$5.2	$5.4
TOTAL REVENUE	$377.9	$111.6	$77.2	$194.4	$95.3	$54.9	$70.7	$89.9	$70.2	$65.7	$90.2	$103.6	$120.3
CLOSING CASH BALANCE	($4,277.3)	($4,417.7)	($4,340.5)	($4,146.1)	($4,050.8)	($3,995.9)	($3,925.2)	($3,835.3)	($3,765.2)	($3,699.5)	($3,609.3)	($3,505.7)	($3,385.4)

WATER	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	TOTAL
OPENING CASH BALANCE	($3,385.4)	($3,192.3)	($3,016.7)	($2,855.0)	($2,628.5)	($2,401.2)	($2,143.4)	($1,864.2)	($1,556.4)	($1,218.2)	($847.3)	($441.6)	
2017-2041 MAJOR OFFICE FUNDING REQUIREMENTS													
- Water: Non Inflated	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$4,902.3
- Water: Inflated	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$4,907.3
NEW COMMERCIAL DEVELOPMENT													
- Growth in Square Metres	43,034	39,067	35,728	41,009	38,975	40,064	40,008	40,522	41,043	41,570	42,105	42,511	1,048,442
REVENUE													
- Charge Receipts: Inflated	$372.8	$345.2	$322.0	$377.0	$365.4	$383.2	$390.3	$403.2	$415.5	$430.3	$444.6	$457.9	$8,960.6
INTEREST													
- Interest on Opening Balance	($186.2)	($175.6)	($165.9)	($157.0)	($144.6)	($132.1)	($117.9)	($102.5)	($85.6)	($67.0)	($46.6)	($24.3)	($4,021.5)
- Interest on In-year Transactions	$6.5	$6.0	$5.6	$6.6	$6.4	$6.7	$6.8	$7.1	$7.3	$7.5	$7.8	$8.0	$28.3
TOTAL REVENUE	$193.1	$175.6	$161.7	$226.5	$227.3	$257.8	$279.2	$307.7	$338.2	$370.9	$405.8	$441.6	$4,967.3
CLOSING CASH BALANCE	($3,192.3)	($3,016.7)	($2,855.0)	($2,628.5)	($2,401.2)	($2,143.4)	($1,864.2)	($1,556.4)	($1,218.2)	($847.3)	($441.6)	($0.0)	

Adjusted Charge Per Square Metre	$6.70

Allocation of Capital Program	
Residential Sector	62%
Non-Residential Sector	38%
Rates for 2016	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

Non-res Split:	
Office	22%
Institutional	22%
Commercial/R	21%
Industrial	34%

APPENDIX D.4
TABLE 2 - PAGE 5

CITY OF WINNIPEG
CASHFLOW AND DETERMINATION OF REGULATORY FEE
WATER
INDUSTRIAL CHARGE
(in $000)

WATER	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
OPENING CASH BALANCE	$0.0	($6,903.8)	($7,130.4)	($7,005.8)	($6,692.1)	($6,538.2)	($6,449.7)	($6,335.5)	($6,190.4)	($6,077.2)	($5,971.2)	($5,825.6)	($5,658.4)
2017-2041 MAJOR OFFICE FUNDING REQUIREMENTS													
- Water: Non Inflated	$7,513.9	$398.8	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
- Water: Inflated	$7,513.9	$406.7	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
NEW INDUSTRIAL DEVELOPMENT													
- Growth in Square Metres	296,736	203,971	182,257	241,695	176,925	146,837	152,772	157,658	142,085	135,187	142,681	143,911	148,188
REVENUE													
- Charge Receipts: Inflated	$794.8	$557.3	$507.9	$687.0	$512.9	$440.4	$460.6	$485.1	$445.9	$432.7	$465.9	$479.3	$496.6
INTEREST													
- Interest on Opening Balance	$0.0	($379.7)	($382.2)	($385.3)	($368.1)	($359.6)	($354.7)	($348.5)	($340.5)	($334.2)	($328.4)	($320.4)	($311.2)
- Interest on In-year Transactions	($184.8)	$2.6	$8.9	$12.0	$9.0	$7.7	$8.1	$8.5	$7.8	$7.6	$8.2	$8.4	$8.7
TOTAL REVENUE	$610.0	$180.2	$124.6	$313.7	$153.9	$88.5	$114.1	$145.1	$113.2	$106.0	$145.6	$167.2	$194.1
CLOSING CASH BALANCE	($6,903.8)	($7,130.4)	($7,005.8)	($6,692.1)	($6,538.2)	($6,449.7)	($6,335.5)	($6,190.4)	($6,077.2)	($5,971.2)	($5,825.6)	($5,658.4)	($5,464.3)

WATER	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	TOTAL
OPENING CASH BALANCE	($5,464.3)	($5,152.6)	($4,869.1)	($4,608.1)	($4,242.5)	($3,875.7)	($3,459.6)	($3,008.9)	($2,512.2)	($1,966.2)	($1,367.7)	($712.7)	
2017-2041 MAJOR OFFICE FUNDING REQUIREMENTS													
- Water: Non Inflated	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$7,912.6
- Water: Inflated	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$7,920.6
NEW INDUSTRIAL DEVELOPMENT													
- Growth in Square Metres	173,647	157,642	144,166	165,476	157,268	161,663	181,443	163,512	165,813	167,739	169,899	171,536	4,238,580
REVENUE													
- Charge Receipts: Inflated	$601.7	$557.1	$519.7	$608.4	$589.8	$618.4	$629.9	$650.8	$672.3	$694.6	$717.6	$739.0	$14,366.9
INTEREST													
- Interest on Opening Balance	($300.5)	($283.4)	($267.8)	($253.4)	($233.3)	($213.2)	($190.3)	($165.5)	($138.2)	($108.1)	($75.2)	($39.2)	($8,491.0)
- Interest on In-year Transactions	$10.5	$9.7	$9.1	$10.6	$10.3	$10.8	$11.0	$11.4	$11.8	$12.2	$12.6	$12.9	$45.6
TOTAL REVENUE	$311.7	$283.5	$261.0	$365.6	$366.8	$416.1	$450.7	$496.7	$545.9	$598.6	$654.9	$712.7	$7,920.6
CLOSING CASH BALANCE	($5,152.6)	($4,869.1)	($4,608.1)	($4,242.5)	($3,875.7)	($3,459.6)	($3,008.9)	($2,512.2)	($1,966.2)	($1,367.7)	($712.7)	($0.0)	

Adjusted Charge Per Square Metre	$2.64

Allocation of Capital Program	
Residential Sector	62%
Non-Residential Sector	38%
Rates for 2016	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

Non-res Split:	
Office	22%
Institutional	22%
Commercial/R	21%
Industrial	34%

APPENDIX D.5

WASTEWATER

APPENDIX D.5

WASTEWATER

Wastewater is managed through the City of Winnipeg's Water and Waste Department.

TABLE 1 2017–2041 DEVELOPMENT-RELATED CAPITAL PROGRAM AND CALCULATION OF THE "UNADJUSTED" REGULATORY FEES

The development-related capital program for Wastewater and Stormwater totals $1.18 billion. Large amounts are included for major upgrades and expansions to three sewage treatment plants, including that of the West End Sewage Treatment Plant (WEWPCC) project which was undertaken in 2008 but is expected to service growth new development over the 2017-2041 period. The capital program also includes construction of two interceptor sewers.

Provincial and federal grants totalling $267.68 are anticipated to help fund costs associated with the three sewage treatment plants. City staff have identified benefit to existing shares ranging from 68 to 93 per cent of the net municipal costs of these plants. These amounts total $656.07 million. For the 2008 WEWPCC initiative, an additional amount of $419,100 has been deducted to account for prior growth.

The remaining costs total $253.00 million. After residential and non-residential apportionments, unadjusted charges are calculated at $640.88 per capita for residential development, $29.01 per square metre for Office, $12.05 per square metre for Institutional, $19.58 per square metre for Commercial/Retail, and $7.83 per square metre for Industrial development.

TABLE 2 CASH FLOW ANALYSIS

After cash flow considerations, the residential and non-residential charges increase as shown in the following table:

WASTEWATER SUMMARY									
2017-2041 Development-Related Capital Program		Unadjusted Charge		Adjusted Charge		Adjusted Charges			
						Office	Institutional	Commercial	Industrial
Total	Net Recoverable	$/capita	$/sq.m	$/capita	$/sq.m	$/sq.m	$/sq.m	$/sq.m	$/sq.m
$1,177,172,000	$252,998,355	$640.88	$12.38	$790.87	$15.42	$36.14	$15.01	$24.40	$9.76

APPENDIX D.5
TABLE 1

CITY OF WINNIPEG
DEVELOPMENT-RELATED CAPITAL PROGRAM

Service	Project Description	Timing	Gross Project Cost	Grants/ Subsidies/ Other Recoveries	Net Municipal Cost	Ineligible Costs Replacement & BTE	Development Related Costs	Costs for Recovery: Prior Growth	Costs for Recovery: 2017-2041	Costs for Recovery: Post 2041
9.0 WASTEWATER										
9.1.1	Plessis Road Interceptor	2017	$ 7,300,000	$ -	$ 7,300,000	$ -	$ 7,300,000	$ -	$ 7,300,000	$ -
9.1.2	Kenaston Boulevard Interceptor	2021	$ 6,442,000	$ -	$ 6,442,000	$ -	$ 6,442,000	$ -	$ 6,442,000	$ -
9.1.3	WEWPCC (past project)	2017	$ 33,230,000	$ 13,260,000	$ 19,970,000	$ 18,572,100	$ 1,397,900	$ 419,145	$ 978,755	$ -
9.1.4	SEWPCC (future)	2018	$ 335,600,000	$ 59,420,000	$ 276,180,000	$ 187,802,400	$ 88,377,600	$ -	$ 88,377,600	$ -
9.1.5	NEWPCC (future)	2023	$ 794,600,000	$ 195,000,000	$ 599,600,000	$ 449,700,000	$ 149,900,000	$ -	$ 149,900,000	$ -
TOTAL WASTEWATER			$ 1,177,172,000	$ 267,680,000	$ 909,492,000	$ 656,074,500	$ 253,417,500	$ 419,145	$ 252,998,355	$ -

Residential Calculation		
Residential Share of Development-Related Costs	62%	$156,858,980
25 Year Population Growth in New Housing Units		244,757
Unadjusted Per Unit Charge		$640.88
Non-Residential Calculation		
Non-Residential Share of Development-Related Costs	38%	$96,139,375
25 Year Growth in Square Metres		7,764,241
Unadjusted Per Square Metre Charge		$12.38
Non-Residential Allocation		
25 Year Growth in Square Metres: Major Office		737,695
25 Year Growth in Square Metres: Institutional		1,747,505
25 Year Growth in Square Metres: Commercial/Retail		1,048,442
25 Year Growth in Square Metres: Industrial		4,230,599
Office Per Square Metre Charge (Unadjusted)	22.3%	$29.01
Institutional Per Square Metre Charge (Unadjusted)	21.9%	$12.05
Commercial/Retail Per Square Metre Charge (Unadjusted)	21.4%	$19.58
Industrial Per Square Metre Charge (Unadjusted)	34.5%	$7.83

APPENDIX D.5
TABLE 2 - PAGE 1

CITY OF WINNIPEG
CASHFLOW AND DETERMINATION OF REGULATORY FEE
WASTEWATER
RESIDENTIAL CHARGE
(in $000)

WASTEWATER	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
OPENING CASH BALANCE	$0.00	$3,444.73	$12,565.20	($36,104.8)	($28,387.38)	($24,275.10)	($16,374.80)	($115,225.22)	($111,782.05)	($107,835.80)	($103,371.54)	($99,545.75)	($95,308.21)
2017-2041 RESIDENTIAL FUNDING REQUIREMENTS													
- Wastewater: Non Inflated	$5,132.8	$0.0	$54,794.1	$0.0	$3,994.0	$0.0	$92,338.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
- Wastewater: Inflated	$5,132.8	$0.0	$57,007.8	$0.0	$4,323.3	$0.0	$104,563.3	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
NEW RESIDENTIAL DEVELOPMENT													
- Population in New Units	10,663	10,855	11,084	11,272	11,424	10,291	10,378	10,475	10,599	10,701	9,599	9,610	9,662
REVENUE													
- Charge Receipts: Inflated	$8,518.3	$8,845.1	$9,212.4	$9,556.0	$9,878.5	$9,076.8	$9,334.8	$9,612.3	$9,920.7	$10,218.4	$9,347.8	$9,545.5	$9,789.1
INTEREST													
- Interest on Opening Balance	$0.0	$120.6	$439.8	($1,985.8)	($1,560.2)	($1,335.1)	($900.8)	($6,337.4)	($6,148.0)	($5,931.0)	($5,685.4)	($5,475.0)	($5,242.0)
- Interest on In-year Transactions	$59.2	$154.8	($1,314.4)	$167.2	$97.2	$158.8	($2,821.5)	$168.2	$173.6	$178.8	$163.6	$167.0	$171.3
TOTAL REVENUE	$8,577.6	$9,120.5	$8,337.8	$7,737.4	$8,415.6	$7,900.5	$5,612.7	$3,443.2	$3,946.2	$4,464.3	$3,825.8	$4,237.5	$4,718.5
CLOSING CASH BALANCE	$3,444.7	$12,565.2	($36,104.8)	($28,387.4)	($24,275.1)	($16,374.8)	($115,225.2)	($111,782.0)	($107,835.8)	($103,371.5)	($99,545.8)	($95,308.2)	($90,589.7)

WASTEWATER	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	TOTAL
OPENING CASH BALANCE	($90,569.75)	($85,336.85)	($79,504.54)	($74,033.62)	($67,947.77)	($61,221.80)	($53,798.97)	($45,622.04)	($38,008.29)	($29,688.32)	($20,615.83)	($10,743.08)	
2017-2041 RESIDENTIAL FUNDING REQUIREMENTS													
- Wastewater: Non Inflated	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$158,859.0
- Wastewater: Inflated	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$171,127.2
NEW RESIDENTIAL DEVELOPMENT													
- Population in New Units	9,734	9,814	8,998	9,103	9,193	9,294	9,404	8,381	8,450	8,519	8,587	8,669	244,757
REVENUE													
- Charge Receipts: Inflated	$10,059.3	$10,344.8	$9,674.4	$9,983.0	$10,283.3	$10,604.2	$10,944.3	$8,948.9	$10,231.4	$10,521.2	$10,817.3	$11,139.0	$247,404.8
INTEREST													
- Interest on Opening Balance	($4,982.4)	($4,693.5)	($4,372.7)	($4,071.8)	($3,737.1)	($3,367.2)	($2,958.9)	($2,509.2)	($2,090.5)	($1,632.9)	($1,133.9)	($590.9)	($78,181.2)
- Interest on In-year Transactions	$176.0	$181.0	$169.3	$174.7	$180.0	$185.6	$191.5	$174.1	$179.0	$184.1	$189.3	$194.9	($96.4)
TOTAL REVENUE	$5,252.9	$5,832.3	$5,470.9	$6,085.9	$6,725.2	$7,422.6	$8,176.9	$7,613.7	$8,320.0	$9,072.5	$9,872.7	$10,743.1	$171,127.2
CLOSING CASH BALANCE	($85,336.9)	($79,504.5)	($74,033.6)	($67,947.8)	($61,221.6)	($53,799.0)	($45,622.0)	($38,008.3)	($29,688.3)	($20,615.8)	($10,743.1)	$0.0	

Adjusted Charge Per Capita	$798.87

Allocation of Capital Program	
Residential Sector	62%
Non-Residential Sector	38%
Rates for 2016	
Inflation Rate:	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

APPENDIX D.5
TABLE 2 - PAGE 2

CITY OF WINNIPEG
CASHFLOW AND DETERMINATION OF REGULATORY FEE
WASTEWATER
OFFICE CHARGE
(in $000)

WASTEWATER	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
OPENING CASH BALANCE	$0.00	$1,190.25	$2,566.08	($4,108.86)	($2,690.07)	($2,210.17)	($1,277.23)	($14,907.50)	($14,568.08)	($14,299.65)	($14,050.25)	($13,707.67)	($13,314.14)
2017-2041 MAJOR OFFICE FUNDING REQUIREMENTS													
- Wastewater: Non Inflated	$700.4	$0.0	$7,476.7	$0.0	$545.0	$0.0	$12,681.5	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
- Wastewater: Inflated	$700.4	$0.0	$7,778.8	$0.0	$589.9	$0.0	$14,281.4	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
NEW MAJOR OFFICE DEVELOPMENT													
- Growth in Square Metres	51,743	35,567	31,780	42,145	30,851	25,870	26,639	27,481	24,776	23,568	24,879	25,094	25,493
REVENUE													
- Charge Receipts: Inflated	$1,870.2	$1,311.2	$1,185.1	$1,616.5	$1,207.0	$1,036.4	$1,084.3	$1,141.4	$1,049.2	$1,018.1	$1,096.2	$1,127.7	$1,168.6
INTEREST													
- Interest on Opening Balance	$0.0	$41.7	$89.8	($226.0)	($148.0)	($121.6)	($70.2)	($819.9)	($801.1)	($786.5)	($772.8)	($753.9)	($732.3)
- Interest on In-year Transactions	$20.5	$22.9	($181.1)	$28.3	$10.8	$18.1	($362.9)	$20.0	$18.4	$17.8	$19.2	$19.7	$20.4
TOTAL REVENUE	$1,890.6	$1,375.8	$1,103.8	$1,418.8	$1,069.8	$932.9	$651.1	$341.4	$298.4	$249.4	$342.6	$393.5	$456.7
CLOSING CASH BALANCE	$1,190.3	$2,566.1	($4,108.9)	($2,690.1)	($2,210.2)	($1,277.2)	($14,907.5)	($14,568.1)	($14,299.7)	($14,050.2)	($13,707.7)	($13,314.1)	($12,857.4)

WASTEWATER	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	TOTAL
OPENING CASH BALANCE	($12,857.41)	($12,124.08)	($11,457.03)	($10,842.92)	($9,982.55)	($9,119.44)	($8,140.35)	($7,079.85)	($5,911.15)	($4,628.59)	($3,218.11)	($1,677.05)	
2017-2041 MAJOR OFFICE FUNDING REQUIREMENTS													
- Wastewater: Non Inflated	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$21,403.5
- Wastewater: Inflated	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$23,350.5
NEW MAJOR OFFICE DEVELOPMENT													
- Growth in Square Metres	30,279	27,488	25,138	29,854	27,423	28,189	28,151	28,512	28,878	29,249	29,626	29,911	737,695
REVENUE													
- Charge Receipts: Inflated	$1,415.7	$1,310.9	$1,222.8	$1,431.7	$1,387.9	$1,455.2	$1,482.3	$1,531.3	$1,582.0	$1,634.3	$1,689.5	$1,738.9	$33,803.1
INTEREST													
- Interest on Opening Balance	($707.2)	($666.9)	($630.1)	($596.4)	($549.0)	($501.8)	($447.7)	($389.4)	($325.1)	($254.5)	($177.0)	($92.2)	($10,437.8)
- Interest on In-year Transactions	$24.8	$22.9	$21.4	$25.1	$24.3	$25.5	$25.9	$26.8	$27.7	$28.6	$29.5	$30.4	($14.9)
TOTAL REVENUE	$733.3	$667.0	$614.1	$860.4	$863.1	$979.1	$1,060.5	$1,168.7	$1,284.6	$1,408.5	$1,541.1	$1,677.1	$23,350.5
CLOSING CASH BALANCE	($12,124.1)	($11,457.0)	($10,842.9)	($9,982.6)	($9,119.4)	($8,140.3)	($7,079.9)	($5,911.2)	($4,628.6)	($3,218.1)	($1,677.1)	$0.0	

Adjusted Charge Per Square Metre	$36.14

Allocation of Capital Program	
Residential Sector	62%
Non-Residential Sector	38%
Rates for 2016	
Inflation Rate:	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

Non-res Split:	
Office	22%
Institutional	22%
Commercial/R	21%
Industrial	34%

APPENDIX D.5
TABLE 2 - PAGE 3

CITY OF WINNIPEG
CASHFLOW AND DETERMINATION OF REGULATORY FEE
WASTEWATER
INSTITUTIONAL CHARGE
(in $000)

WASTEWATER	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
OPENING CASH BALANCE	$0.00	$1,171.20	$2,525.00	($4,043.09)	($2,647.01)	($2,174.79)	($1,256.79)	($14,668.87)	($14,332.92)	($14,070.76)	($13,825.35)	($13,488.25)	($13,101.02)
2017-2041 MAJOR OFFICE FUNDING REQUIREMENTS													
- Wastewater: Non Inflated	$689.2	$0.0	$7,357.0	$0.0	$536.3	$0.0	$12,478.5	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
- Wastewater: Inflated	$689.2	$0.0	$7,654.2	$0.0	$580.5	$0.0	$14,052.8	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
NEW INSTITUTIONAL DEVELOPMENT													
- Growth in Square Metres	122,572	84,253	75,284	99,835	73,081	61,520	63,104	65,123	58,690	55,832	58,936	59,444	60,389
REVENUE													
- Charge Receipts: Inflated	$1,840.2	$1,290.2	$1,175.9	$1,590.6	$1,167.7	$1,019.8	$1,066.9	$1,123.1	$1,032.4	$1,001.8	$1,078.6	$1,109.7	$1,149.9
INTEREST													
- Interest on Opening Balance	$0.0	$41.0	$88.4	($222.4)	($145.6)	($119.6)	($69.1)	($806.8)	($788.3)	($773.9)	($760.4)	($741.9)	($720.6)
- Interest on In-year Transactions	$20.1	$22.6	($178.2)	$27.8	$10.6	$17.8	($357.1)	$19.7	$18.1	$17.5	$18.9	$19.4	$20.1
TOTAL REVENUE	$1,860.4	$1,353.8	$1,086.2	$1,396.1	$1,052.7	$918.0	$640.7	$336.0	$262.2	$245.4	$337.1	$387.2	$449.4
CLOSING CASH BALANCE	$1,171.2	$2,525.0	($4,043.1)	($2,647.0)	($2,174.8)	($1,256.8)	($14,668.9)	($14,332.9)	($14,070.8)	($13,825.3)	($13,488.3)	($13,101.0)	($12,651.6)

WASTEWATER	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	TOTAL
OPENING CASH BALANCE	($12,651.60)	($11,930.00)	($11,273.64)	($10,669.36)	($9,822.76)	($8,973.46)	($8,010.04)	($6,966.53)	($5,816.53)	($4,552.53)	($3,166.59)	($1,650.21)	
2017-2041 MAJOR OFFICE FUNDING REQUIREMENTS													
- Wastewater: Non Inflated	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$21,060.9
- Wastewater: Inflated	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$22,976.7
NEW INSTITUTIONAL DEVELOPMENT													
- Growth in Square Metres	71,727	65,116	59,550	68,352	64,962	68,777	66,686	67,541	68,409	69,287	70,179	70,855	1,747,505
REVENUE													
- Charge Receipts: Inflated	$1,393.1	$1,289.9	$1,203.3	$1,408.8	$1,365.7	$1,431.9	$1,458.5	$1,506.8	$1,556.7	$1,608.2	$1,661.5	$1,711.0	$33,262.0
INTEREST													
- Interest on Opening Balance	($695.8)	($656.2)	($620.0)	($586.8)	($540.3)	($493.5)	($440.6)	($383.2)	($319.9)	($250.4)	($174.2)	($90.8)	($10,270.7)
- Interest on In-year Transactions	$24.4	$22.6	$21.1	$24.7	$23.9	$25.1	$25.5	$26.4	$27.2	$28.1	$29.1	$29.9	($14.6)
TOTAL REVENUE	$721.6	$656.4	$604.3	$846.6	$849.3	$963.4	$1,043.5	$1,150.0	$1,264.0	$1,385.9	$1,516.4	$1,650.2	$22,976.7
CLOSING CASH BALANCE	($11,930.0)	($11,273.6)	($10,669.4)	($9,822.8)	($8,973.5)	($8,010.0)	($6,966.5)	($5,816.5)	($4,552.5)	($3,166.6)	($1,650.2)	$0.0	

Adjusted Charge Per Square Metre	$15.01

Allocation of Capital Program	
Residential Sector	62%
Non-Residential Sector	38%
Rates for 2016	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

Non-res Split:	
Office	22%
Institutional	22%
Commercial/R	21%
Industrial	34%

HEMSON

APPENDIX D.8
TABLE 2 - PAGE 4

CITY OF WINNIPEG
CASHFLOW AND DETERMINATION OF REGULATORY FEE
WASTEWATER
COMMERCIAL/RETAIL CHARGE
(in $000)

WASTEWATER	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
OPENING CASH BALANCE	$0.00	$1,141.85	$2,461.73	($3,941.78)	($2,580.68)	($2,120.30)	($1,225.30)	($14,301.32)	($13,973.78)	($13,718.19)	($13,478.93)	($13,150.28)	($12,772.75)
2017-2041 MAJOR OFFICE FUNDING REQUIREMENTS													
- Wastewater: Non Inflated	$871.9	$0.0	$7,172.7	$0.0	$522.8	$0.0	$12,165.8	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
- Wastewater: Inflated	$871.9	$0.0	$7,462.5	$0.0	$565.9	$0.0	$13,730.7	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
NEW COMMERCIAL DEVELOPMENT													
- Growth in Square Metres	73,539	50,548	45,168	59,898	43,846	36,910	37,860	39,071	35,212	33,438	35,360	35,564	36,231
REVENUE													
- Charge Receipts: Inflated	$1,794.1	$1,257.9	$1,146.5	$1,550.8	$1,157.9	$994.2	$1,040.2	$1,094.9	$1,006.5	$978.7	$1,051.6	$1,081.9	$1,121.0
INTEREST													
- Interest on Opening Balance	$0.0	$40.0	$86.2	($216.8)	($141.9)	($116.6)	($67.4)	($786.8)	($768.6)	($754.5)	($741.3)	($723.3)	($702.5)
- Interest on In-year Transactions	$19.6	$22.0	($173.7)	$27.1	$10.4	$17.4	($348.2)	$19.2	$17.6	$17.1	$18.4	$18.9	$19.6
TOTAL REVENUE	$1,813.8	$1,319.9	$1,058.9	$1,361.1	$1,026.3	$895.0	$624.7	$327.5	$255.6	$239.3	$328.6	$377.5	$438.2
CLOSING CASH BALANCE	$1,141.9	$2,461.7	($3,941.8)	($2,580.7)	($2,120.3)	($1,225.3)	($14,301.3)	($13,973.8)	($13,718.2)	($13,478.9)	($13,150.3)	($12,772.8)	($12,334.6)

WASTEWATER	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	TOTAL
OPENING CASH BALANCE	($12,334.59)	($11,631.08)	($10,991.15)	($10,402.02)	($9,576.63)	($8,748.61)	($7,809.34)	($6,791.97)	($5,670.79)	($4,438.48)	($3,087.25)	($1,508.86)	
2017-2041 MAJOR OFFICE FUNDING REQUIREMENTS													
- Wastewater: Non Inflated	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$20,533.2
- Wastewater: Inflated	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$22,401.0
NEW COMMERCIAL DEVELOPMENT													
- Growth in Square Metres	43,034	39,067	35,728	41,009	38,975	40,064	40,008	40,522	41,043	41,570	42,105	42,511	1,248,442
REVENUE													
- Charge Receipts: Inflated	$1,358.2	$1,257.6	$1,173.1	$1,373.5	$1,331.4	$1,396.0	$1,422.0	$1,463.0	$1,517.7	$1,567.9	$1,619.8	$1,668.2	$32,428.6
INTEREST													
- Interest on Opening Balance	($678.4)	($639.7)	($604.5)	($572.1)	($526.7)	($481.2)	($429.5)	($373.6)	($311.9)	($244.1)	($169.8)	($88.5)	($10,013.3)
- Interest on In-year Transactions	$23.8	$22.0	$20.5	$24.0	$23.3	$24.4	$24.9	$25.7	$26.6	$27.4	$28.3	$29.2	($14.3)
TOTAL REVENUE	$703.5	$639.9	$589.1	$825.4	$828.0	$939.3	$1,017.4	$1,121.2	$1,232.3	$1,351.2	$1,478.4	$1,608.9	$22,401.0
CLOSING CASH BALANCE	($11,631.1)	($10,991.2)	($10,402.0)	($9,576.6)	($8,748.6)	($7,809.3)	($6,792.0)	($5,670.8)	($4,438.5)	($3,087.2)	($1,508.9)	$0.0	

Adjusted Charge Per Square Metre	$24.48

Allocation of Capital Program	
Residential Sector	62%
Non-Residential Sector	38%
Rates for 2016	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

Non-res Split:	
Office	22%
Institutional	22%
Commercial/R	21%
Industrial	34%

APPENDIX D.5
TABLE 2 - PAGE 5

CITY OF WINNIPEG
CASHFLOW AND DETERMINATION OF REGULATORY FEE
WASTEWATER
INDUSTRIAL CHARGE
(in $000)

WASTEWATER	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
OPENING CASH BALANCE	$0.00	$1,843.01	$3,973.37	($6,362.24)	($4,165.35)	($3,422.27)	($1,977.68)	($23,083.06)	($22,554.40)	($22,141.87)	($21,755.68)	($21,225.23)	($20,815.88)
2017-2041 MAJOR OFFICE FUNDING REQUIREMENTS													
- Wastewater: Non Inflated	$1,084.5	$0.0	$11,577.1	$0.0	$843.9	$0.0	$19,636.2	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
- Wastewater: Inflated	$1,084.5	$0.0	$12,044.8	$0.0	$813.4	$0.0	$22,113.6	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
NEW INDUSTRIAL DEVELOPMENT													
- Growth in Square Metres	296,738	203,971	182,257	241,695	176,925	148,937	152,772	157,658	142,085	135,167	142,681	143,911	146,198
REVENUE													
- Charge Receipts: Inflated	$2,895.8	$2,030.3	$1,850.5	$2,503.0	$1,868.9	$1,604.7	$1,679.0	$1,767.3	$1,624.8	$1,576.4	$1,697.3	$1,746.2	$1,809.4
INTEREST													
- Interest on Opening Balance	$0.0	$64.5	$139.1	($349.9)	($229.1)	($188.2)	($108.8)	($1,269.6)	($1,240.5)	($1,217.8)	($1,198.6)	($1,167.4)	($1,133.9)
- Interest on In-year Transactions	$31.7	$35.5	($280.3)	$43.8	$16.7	$28.1	($582.0)	$30.9	$28.4	$27.6	$29.7	$30.6	$31.7
TOTAL REVENUE	$2,927.5	$2,130.4	$1,709.2	$2,196.9	$1,656.5	$1,444.6	$1,008.2	$528.7	$412.5	$386.2	$530.5	$609.4	$707.2
CLOSING CASH BALANCE	$1,843.0	$3,973.4	($6,362.2)	($4,165.4)	($3,422.3)	($1,977.7)	($23,083.1)	($22,554.4)	($22,141.9)	($21,755.7)	($21,225.2)	($20,815.9)	($19,906.7)

WASTEWATER	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	TOTAL
OPENING CASH BALANCE	($19,906.67)	($18,773.16)	($17,740.29)	($16,789.40)	($15,457.18)	($14,120.72)	($12,604.67)	($10,962.58)	($9,152.94)	($7,163.91)	($4,982.98)	($2,596.78)	
2017-2041 MAJOR OFFICE FUNDING REQUIREMENTS													
- Wastewater: Non Inflated	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$33,141.7
- Wastewater: Inflated	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$36,156.3
NEW INDUSTRIAL DEVELOPMENT													
- Growth in Square Metres	173,647	157,642	144,166	165,476	157,268	161,663	161,443	163,512	165,613	167,739	169,899	171,536	4,230,599
REVENUE													
- Charge Receipts: Inflated	$2,192.1	$2,029.9	$1,893.5	$2,216.8	$2,149.9	$2,253.2	$2,295.2	$2,371.1	$2,449.8	$2,530.7	$2,614.5	$2,692.5	$52,341.4
INTEREST													
- Interest on Opening Balance	($1,095.0)	($1,032.5)	($975.7)	($923.4)	($850.1)	($776.6)	($693.3)	($602.9)	($503.4)	($394.0)	($274.1)	($142.8)	($16,162.1)
- Interest on In-year Transactions	$38.4	$35.5	$33.1	$38.8	$37.6	$39.4	$40.2	$41.5	$42.9	$44.3	$45.8	$47.1	($23.1)
TOTAL REVENUE	$1,135.5	$1,032.9	$950.9	$1,332.2	$1,336.5	$1,516.0	$1,642.1	$1,809.8	$1,989.0	$2,180.9	$2,386.2	$2,596.8	$36,156.3
CLOSING CASH BALANCE	($18,773.2)	($17,740.3)	($16,789.4)	($15,457.2)	($14,120.7)	($12,604.7)	($10,962.8)	($9,152.9)	($7,163.9)	($4,983.0)	($2,596.8)	$0.0	

Adjusted Charge Per Square Metre	$9.78

Allocation of Capital Program	
Residential Sector	62%
Non-Residential Sector	38%
Rates for 2018	
Inflation Rate	2.0%
Interest Rate on Positive Balances	3.5%
Interest Rate on Negative Balances	5.5%

Non-res Split:	
Office	22%
Institutional	22%
Commercial/R	21%
Industrial	34%