

Code Red: Winnipeg's Fire and Paramedic Service Infrastructure Deficit

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Introduction

THE CONDITION OF Winnipeg's infrastructure is a seemingly endless source of public frustration. The deterioration of roadways during Winnipeg's annual spring thaw sparks widespread public anger and concern over the safety of the city's streets and roads. A lack of sewer capacity alongside wheel-sized potholes drew public ire during the exceptionally wet spring of 2022. During that same thaw, over 130 million litres of raw sewage were released into the Red and Assiniboine Rivers due to sewer back-ups. The poor condition of roads and sewers is covered by the media and receives regular public attention. There is less attention paid to the state of municipal buildings. The deterioration of these facilities affects the delivery of critical public services, notably the Winnipeg Fire and Paramedic Service.

The Winnipeg Fire and Paramedic Service (WFPS) garnered one of the worst grades among municipal departments in the 2018 *State of the Infrastructure* report released by the City. Nearly half of Winnipeg's 27 fire stations and 51 fire engines were designated by City officials to meet the criteria for replacement. Forty-five percent of studied fire stations were graded in "poor" condition, with occupational safety hazards and equipment deficiencies present throughout the WFPS facilities. Many of these stations are in areas of the City where fire and paramedic demands are high, creating concerns over the City's capacity to respond adequately to fires and medical emergencies.

Infrastructure deterioration outpacing the speed of repair or replacement is a problem in cities across North America, particularly those that, like Winnipeg, have developed via extensive urban sprawl (OECD 2018:125).

However, years of neglect alongside Winnipeg's extreme climate have caused the infrastructure deficit¹ to grow unsustainably. The City of Winnipeg's revenue has been severely constrained by the fourteen-year tax freeze between 1998 and 2012, with increases below 3 percent since 2012. Tax cuts have led to structural deficits in the City's operating and capital budgets (City of Winnipeg, 2018:10). The diminishing condition of municipal infrastructure creates significant hazards for City workers and the public.

Increasing demand on fire and paramedic infrastructure will elevate risks posed to the public as well as fire and paramedic staff if the dismal state of WFPS infrastructure is not remedied in the coming years. Data on fire and emergency medical incidents from the WFPS Master Plan and Winnipeg Free Press reporting reveal that service demand is increasing faster than previously predicted, placing a greater strain on already deteriorating infrastructure. The situation is complicated by frozen provincial funding for ambulance services delivered by WFPS on behalf of Shared Health.² WFPS does not have access to adequate stations, trucks or other equipment required to manage spikes in demand. At the same time, Winnipeg has not built WFPS infrastructure to keep pace with new demand on the edges of the City, creating concerns over long response times while increasing demand on existing stations.

The City must develop a plan to eliminate the infrastructure deficit in areas of municipal responsibility. Such a plan is required to bring WFPS infrastructure conditions in line with Winnipeg's needs and to ensure the safety of all who work in WFPS facilities. To eliminate the infrastructure deficit, the City will need to raise revenue via the main mechanisms it has at its disposal: property taxes and business taxes. At the same time, the City must work with the province to ensure that ambulance infrastructure is adequately funded.

Tax hikes do not get politicians elected, but neither does the closure of WFPS stations across the city. If repairs are done through a social procurement model, infrastructure upgrades could act as an economic development opportunity for Winnipeggers while bringing buildings to higher service standards.

¹ The infrastructure deficit reflects the difference between required spending on infrastructure growth and maintenance and what the City of Winnipeg has committed to spend over a given period. This figure was calculated to be \$6.9 Billion for 2018–2027 in Winnipeg's 2018 *State of the Infrastructure* report.

² Provincial funding has not kept pace with growing costs and rising demand (Winnipeg Free Press, 2022). Provincial funding for ambulance services, who is responsible for funding ambulance services through Shared Health, has been effectively frozen since 2016 (Kives, 2022). There has been no service agreement in place since 2017. Despite public reports that an agreement was imminent in March 2022, no agreement to date.

Winnipeg's Infrastructure Deficit

IN 2018, THE City of Winnipeg released a *State of the Infrastructure* report, which provided a detailed breakdown of municipal infrastructure conditions across City departments. Overall, tax-supported and Transit infrastructure received a grade of “C+,” reflecting the large volume of assets in “poor” condition. In particular, over 50 percent of fire and paramedic facilities, recreation facilities, and municipal buildings were in “poor” or “very poor” condition.

To provide a broad picture of the spending required to restore Winnipeg's infrastructure, the *State of the Infrastructure* report calculated a deficit figure across all municipal departments. This deficit figure reflects the difference between the City's anticipated capital spending between 2018 and 2027 and spending required for new infrastructure and maintenance of aging facilities. The report pegged the infrastructure deficit between 2019 and 2027 at \$6.9 billion, a large figure at over six times the size of Winnipeg's annual operating budget. Between 2018 and 2027, the City anticipates spending \$4 billion on infrastructure. However, this still leaves a \$6.9 billion deficit.

Winnipeg has been successful in reducing its infrastructure deficit over the last decade. The previous infrastructure deficit calculated for 2008–2017 totalled \$9.9 billion. The reduction in the infrastructure deficit was financed from revenue increases following the end of the municipal tax freeze era and support from the federal and provincial governments.

To deal with the infrastructure deficit over the long term, the City needs to both increase capital spending and improve density to make better use of existing infrastructure. The largest contributors to the infrastructure deficit are roads and transit, reflecting Winnipeg's suburban sprawl. Continued sprawl will only exacerbate Winnipeg's infrastructure deficit, while increasing density on existing infrastructure will provide the City with added revenue to service these areas (for a full discussion, see OECD, 2018:125). In addition, the City must find ways to increase its revenue, either through property and business tax increases or through other fees and levies. Property tax increases have fallen vastly behind other cities in Canada, leaving significant room for improvement (Canadian Centre for Policy Alternatives, 2022:12).

Infrastructure Deficit in Fire and Paramedic Services

WINNIPEG'S 1,400 FIRE and Paramedic Service workers operate out of 33 city-operated facilities (30 stations, one training center, one communications center, and one ambulance station). The 2018 State of the Infrastructure report rated the overall condition of WFPS facilities and equipment as “fair”; however, over half of WFPS stations and fire engines were in poor or very poor condition (see *Table 1*). The Winnipeg Fire and Paramedic Service 2020 Master Plan documents widespread deficiencies in WFPS infrastructure, including high-demand stations requiring replacement or major repairs, inadequate equipment, and occupational health hazards. The long-term neglect of WFPS infrastructure and equipment puts potential risks on first responders and the public through infrastructure and equipment degradation.

Data within the 2020 WFPS Master Plan provides a more detailed picture of Winnipeg's Fire and Paramedic infrastructure decline. *Table 1* lists the location, EMS call volume, and overall condition of each WFPS station. Stations are ranked by the average number of incidents per day. The condition of each facility was ranked on a scale ranging from ‘end of life’ to ‘good’. The table compares facility conditions with demand to reveal where repairs are acutely required, ranking individual WFPS facilities' conditions

TABLE 1 Condition of WFPS Facilities, Ranked by Annual Volume of Calls

Station No.	Location	Condition	EMS Incidents by Station (2016) – No. Calls Dispatched	EMS Incidents by Station (2016) – Average per day	Rank	Recommended for Replacement?
31	726 Furby Street	fair	9,149	25.1	1	Y
5	845 Sargent Avenue	poor	6,609	18.1	2	Y
30	524 Osbourne Street	poor	6,183	16.9	3	Y
1	65 Ellen Street	poor	5,507	15.1	4	Y
11	1705 Portage Avenue	good	4,877	13.4	5	N
6	603 Redwood Avenue	good	3,497	9.6	6	N
17	1501 Church Street	poor	3,504	9.6	6	Y
2	55 Watt Street	good	3,255	8.9	8	N
16	1001 McGregor Street	poor	3,026	8.3	9	Y
13	799 Lilac Street	poor	2,957	8.1	10	N
21	1446 Regent Avenue	good	2,860	7.8	11	N
14	1057 St. Mary's Road	poor	2,859	7.8	11	N
22	1567 Waverley Street	fair to poor	2,668	7.3	13	N
24	1664 Rothesay Street	poor	2,543	7.0	14	Y
20	525 Banting Drive	fair	2,514	6.9	15	N
18	5000 Roblin Avenue	good	2,282	6.3	16	N
27	27 Sage Creek Blvd	good	2,177	6	17	N
25	701 Day Street	fair	1,888	5.2	18	N
36	2490 Portage Avenue	fair	1,510	4.1	19	Y
26	1525 Dakota Street	good	1,260	3.5	20	N
10	1354 Border Street	good	196	0.5	21	N
19	320 Whytewold Road	end of life	N/A	N/A		Y
8	640 Kimberly Avenue	fair	N/A	N/A		N
7	10 Allen Blye Drive	good	N/A	N/A		N
12	1780 Taylor Avenue	good	N/A	N/A		N
4	150 Osbourne Street	poor	N/A	N/A		Y
9	864 Marion Street	poor	N/A	N/A		Y
15	1083 Autumnwood Drive	poor	N/A	N/A		N
***	2546 McPhillips Street	poor	N/A	N/A		N
3	337 Rue DeMeurons	poor	N/A	N/A		Y
23	880 Dalhousie Drive	poor	N/A	N/A		Y

Source: Winnipeg Fire and Paramedic Service Master Plan. Retrieved from: <https://www.winnipeg.ca/fps/2020-strategic-direction/pdfs/WFPS-Master-Plan-Final-Report.pdf>

TABLE 2 Share of WFPS Dispatches by Station Condition

Condition	Share (%) of all WFPS Facilities	% of all WFPS Incidents
Poor	45.2	46.5
Good	32.3	28.6
Fair	16.1	21.1
Fair to Poor	3.2	3.7
End of Life	3.2	N/A

Source: Winnipeg Fire and Paramedic Service Master Plan. Retrieved from: <https://www.winnipeg.ca/fps/2020-strategic-direction/pdfs/WFPS-Master-Plan-Final-Report.pdf>

by average emergency medical service (EMS)³ dispatches per day. The table also includes a replacement column indicating whether the facility meets replacement standards.

Nearly half of WFPS facilities are in poor condition (45.2 percent), with these stations experiencing some of the highest service demand (see *Table 2*). Of the facilities with incident data reported, nearly half of WFPS calls are dispatched to stations in poor condition. The 845 Sargent, 524 Osbourne, and 65 Ellen facilities highlighted below all receive a significant amount of service demand but have historically received little attention or upgrades, with each designated as needing replacement. 32.3 percent of facilities are in ‘good’ condition, 16.1 percent in ‘fair’ condition, and 3.2 percent in both ‘fair to poor’ or ‘end of life’. Of the current 27 fire stations, 13 met the criteria for a complete replacement.

An in-depth assessment of the condition, effectiveness, and functionality revealed several structural and logistical issues with individual stations. 150 Osborne Blvd (Station 4), was described as “poorly designed for modern emergency response”, lacking an emergency generator and alarm systems. In the heart of Osborne Village, Station 4 is critical to WFPS service in a dense part of the city. 845 Sargent Avenue (Station 5), a nearly 100-year-old facility, suffers from roof leaks, damaged bay doors, and showed evidence of a rodent infestation. According to 2016 data, Station 5 received an average of 18.1 EMS service calls daily, making it the second most active station out of those reported.

Most alarming in terms of occupational health was perhaps 880 Dalhousie Drive (Station 23), where staff posted notices indicating the presence of asbestos, a known human carcinogen. Most facilities meeting replacement

³ WFPS currently employs an integrated service model, meaning fire and paramedic units share facilities and deploy simultaneously after receipt of an EMS call. The 2020 WFPS Master Plan uses EMS deployments rather than fire as its main demand metric throughout.

criteria were unequipped with emergency generators, automatic fire sprinkler systems, or alarm systems. These issues are not limited to facilities in “poor” condition. At 726 Furby Street (Station 31), a station designated to be in ‘fair’ condition, vehicles are stored without an exhaust extraction system. Recommendations for ‘good’ facilities include the construction of women’s dorms, installing absent alarm systems, and other major remodelling projects.

Apparatuses (ie. fire trucks, ladder trucks, tankers, ambulances, etc.), which form the second component of WFPS infrastructure, are in equally poor condition. Timely replacement and appropriate storage are essential to fire service functionality. The WFPS fire fleet consists of 28 fire engines, six fire rescue trucks, five ladder trucks, and eight other rescue-specific units (water, trench, wildland). The number, quality, and maintenance schedules of these vehicles directly affect response times and quality of service. In 2016, more than 70 percent of Winnipeg’s fire apparatuses met industry standard replacement criteria. WFPS apparatuses receive scheduled maintenance at the Mechanical Services Branch four times per year, however, replacement schedules have not kept up with industry standards. Running vehicles and equipment beyond their recommended life cycles leads to more time vehicles are in repair and less time in deployment. As the WFPS master plan notes, “while it is possible to operate with a high kilometer, high hour fleet; it comes with extensive repair costs and significant out-of-service time.” (Emergency Services Consulting International, 2018:191)

Ladder trucks, which respond to fires in buildings greater than three storeys, are insufficiently available to meet current and future needs within the City. Presently, there are ladder trucks at stations 1, 11, 13, 16, and 21. This distribution leaves Osborne Village, St. Vital, St. Boniface, and South Pembina, along with a large part of North East Winnipeg, without a ladder truck in the immediate vicinity. These are neighbourhoods where multi-storey apartment buildings are already present and are being increasingly built. The City of Winnipeg Fire Underwriters Survey from 2018, which is used to inform home insurance prices across the City, found inadequate ladder service to be a fire risk within Winnipeg (Opta Information Intelligence, 2018:39).

The City of Winnipeg has asked provincial agency Shared Health for 10 more ambulances and 110 more paramedics to help meet the demand for emergency medical help and bring down high response times (Pursuga, 2022).

A rigorous and fully funded replacement schedule responsive to the needs of a growing urban population must be implemented to avoid escalating costs of apparatus replacement and increased service times. The Winnipeg Fire and Paramedic Service 2018–2027 infrastructure deficit was \$72 million.

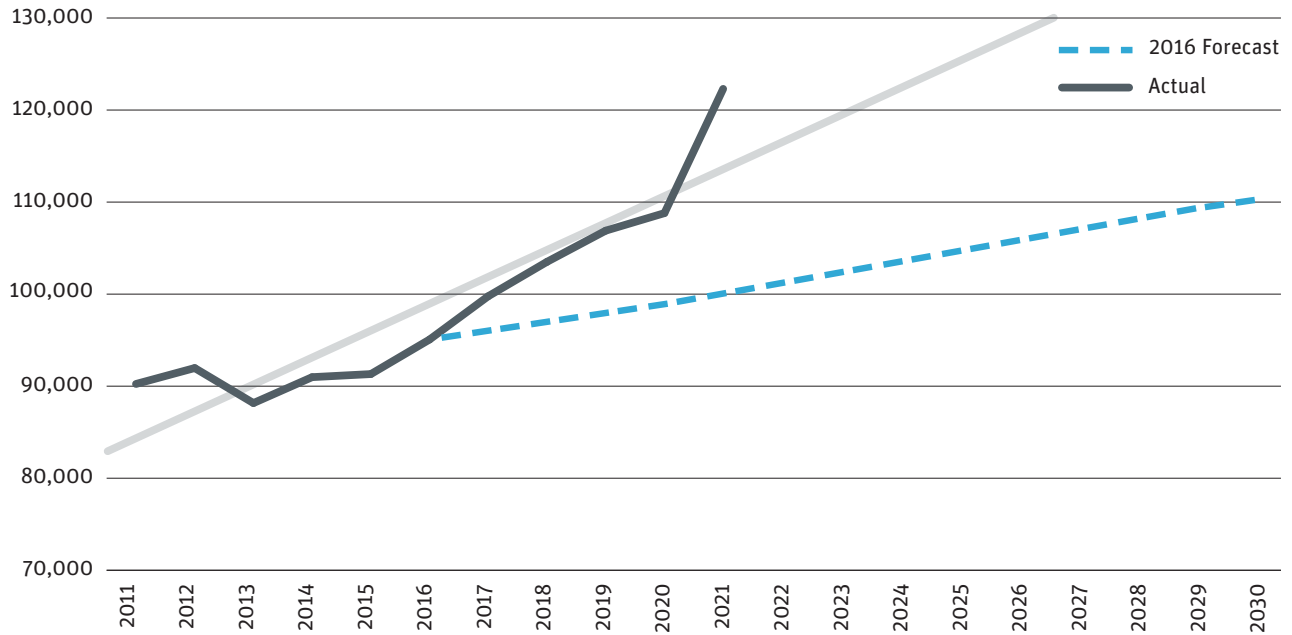
Eliminating this deficit in repairs and required new infrastructure spending represents an approximate doubling of committed capital spending between 2018 and 2027, which is currently \$74 million. Broken down into an annual figure, this would amount to an extra \$7.2 million in capital expenditure per year over ten years by the City of Winnipeg.

Increasing Demands on WFPS

FIRE INCIDENTS HAVE spiked in Winnipeg over the last three years (CBC News, 2022). Between January 2019 and January 2022, the number of fires in Winnipeg rose 58 percent, from 1,804 fires in 2019 to 2,857 in 2021. While this is still down from levels seen in the mid 2000s, 2022 has marked a spike in fire service demand. In the final week of January 2022 large fires broke out across the city, one of which took down a block of Portage Avenue (Unger and Halmarson, 2022) and another which engulfed a large condo development in East Kildonan (Lafevre, 2022). While January 2021 saw more total incidents of fires, more than twice as many apparatuses were deployed during January 2022. The incident on the condo construction site at London Street and Kimberley Avenue took the WFPS over eight hours and ten apparatuses to control. During that same week, a cooking fire broke out on Elgin Avenue where aerial and rescue apparatus filled by multiple crews were on scene.

The increasing number of dispatches in 2021 and 2022 are part of a broader trend towards increasing WFPS demand across Winnipeg. Demand for WFPS services per 1000 residents, the vast majority of which are EMS calls, are typically higher than those in other Canadian cities because of Winnipeg's fire and ambulance integrated service model. Increases in both the incidence of fires and EMS calls are increasing overall service demand. Historically, projections of WFPS service demand are based on forecasts

FIGURE 1 WFPS Future Service Demand Linear Forecast Model Comparison
Actual Service Demand vs. 2016 Projections (EMS Incidents)



of population growth. However, since 2016 demand for WFPS service has increased beyond the City’s projections.

Table 2 compares WFPS service demand projections taken from the WFPS Master Plan (Winnipeg, 2020:242) with actual demand and includes an updated trendline based on 2011–2021 data. Between 2016 and 2021 actual demand for WFPS services outstripped 2016 projections. In 2020, the WFPS received 108,800 service calls, roughly 9 percent higher than previously projected. In 2021, WFPS received roughly 21 percent more service calls than expected. These growth rates contrast with figures from 2011–2016, where demand sustained moderate growth with a slight decrease in 2013. The trendline, instead of being interpreted as a reliable prediction of future service demand, should be an indication that the WFPS will experience higher levels of demand than previously estimated. To address this increase in service demand, the City must ensure WFPS facilities meet contemporary standards and equipment for both fire and ambulance services is sufficiently available.

How can Winnipeg Address its WFPS Infrastructure Deficit?

THERE ARE THREE avenues the City can pursue to curtail the deterioration of WFPS infrastructure and to make the investments necessary to bring existing infrastructure up to a high standard. These include increasing density by encouraging infill development, raising revenues through an increase in property taxes and reintroduction of the impact fee, and the use of social procurement to ensure building retrofits meet additional policy goals like poverty reduction and emissions reduction.

Increasing Density, Maximizing Existing Resources

The first is increasing density to maximize the use of existing infrastructure. Population growth is a significant contributor to greater demand for WFPS facilities. As Winnipeg continues to sprawl, new infrastructure is required to service these new sectors of the city. Continually building new infrastructure rather than making better use of existing infrastructure is expensive for an already cash-strapped city like Winnipeg (Hortas-Rico and Solé-Ollé, 2010; Carruthers and Ulfarsson, 2003). Building new infrastructure requires large investments, which reduces the pot of capital spending available to service

existing municipal buildings. Further, sprawling suburban developments built with a lower density than existing neighbourhoods collect less property tax revenue by area than denser neighbourhoods, increasing the long-term cost of building new infrastructure relative to the new revenue these developments bring in. A better approach would be to focus on infill development and use the added revenue from this infill to improve existing infrastructure.

The construction of a new WFPS station for Waverly West is the latest example of Winnipeg's sprawl dilemma. The construction of a new WFPS station for Waverly West is justified given the scale of development in this neighbourhood. Development in the southwest corner of the City has transformed the area into a city larger than Brandon. A dedicated WFPS station is necessary to ensure adequate service for these residents. However, the construction of the new Waverly West station is the second largest WFPS capital expenditure for 2018–2027, after a new consolidated station for St. Boniface and Windsor Park. Together these two projects make up a third of planned WFPS capital expenditure for 2018–2027, making it more difficult to spend on renovations for existing stations. As Winnipeg expands on its suburban fringes, new infrastructure demands will continue to balloon. The City must reassess its approach to development, moving away from the suburban 'growth at any cost' model to a more appropriate planned growth which recognizes Winnipeg's strengths and weaknesses (Donald and Hall, 2019).

At the same time, WFPS should engage all those who work within its facilities to ensure that working conditions are safe and allow for adequate service. While fire and paramedic services work under an integrated service model, facilities should be retrofitted to reflect distinct needs. The City must also work with the provincial government to ensure the cost-sharing agreement for services provides adequate funding for an ambulance service that has been stretched thin in recent years.

Recognizing that there are limited infrastructure dollars for EMS, the WFPS should explore service delivery models that recognize the growing demand for medical service. The Emergency Paramedic in the Community (EPIC) program is one that could be examined for expansion (Winnipeg 2020). Vulnerable residents receive preventative care from Advanced Care Paramedics and decrease repeat calls to 911. The service currently has two SUVs. This service, and others related could be expanded to include specialized fire paramedic units which utilize smaller vehicles, freeing up investment dollars for specialized equipment.

Raising Revenue

Increasing density to maximize the use of existing WFPS stations will not be sufficient to bring WFPS buildings and equipment to a high standard. Winnipeg must raise its revenue to deal with underspending in past years. Although Winnipeg has started to raise property taxes in the last decade, directing most of this new revenue to infrastructure, these small 2.33 percent increases have not made up for the gap left by the 14-year tax freeze prior to 2012. The other major metropolitan centres in Western Canada raised property taxes by an average of 160 percent, since 1998, while Winnipeg raised its property taxes by just 22 percent (Canadian Centre for Policy Alternatives, 2022:17). To pay for high-quality infrastructure, the city will have to begin raising property taxes by 5 percent or more for the next ten years. A 5 percent property tax increase amounts to a \$93 annual increase for the average homeowner and would add \$34 million per year to Winnipeg's budget. If used to finance debt to pay for infrastructure, this increase could significantly reduce the infrastructure deficit while increasing funding for improving other public services. This increase would help redress the gap left by the 14-year tax freeze and bring Winnipeg closer to its western Canadian counterparts.

An additional avenue for the city to raise revenue would be reintroducing the impact fee. As outlined above, suburban development on the city's fringes requires large investments to build new infrastructure. Suburban development adds to the infrastructure deficit by reducing the amount spent on maintaining existing infrastructure. An impact fee would help alleviate the budgetary pressures of supplying new infrastructure.

The impact fee, which was a fee proposed by Mayor Bowman to be added to the cost of new suburban houses to help pay for infrastructure costs, was struck down in court in 2018 due to a lack of clear guidelines around how this money would be used to provide service to those paying the fee. However, with stronger guidelines and uses such as paying for new WFPS infrastructure in suburban areas, the fee could be reintroduced.

The City could also investigate raising business taxes, which have been cut in half since 2002 (Canadian Centre for Policy Alternatives, 2018:6). Businesses rely on the same infrastructure as citizens and should not be receiving tax breaks while citizens pay more. Winnipeg has a number of provisions to reduce the impact of taxes on small businesses, including a total tax break for businesses below a certain size. Winnipeg could seek to implement other fee increases outlined in the 2022 Alternative Municipal

Budget, which would help the city incentivize density while raising the revenue to pay for improved services and infrastructure. These include a commuter charge and a parking space levy (see Fiscal Framework chapter of the 2022 Alternative Municipal Budget).

Using WFPS Upgrades to Tackle Poverty and Address Climate Change

Addressing the infrastructure deficit in the WFPS will require nearly doubling the currently planned capital expenditure (\$74 million). The city will need to procure specialized equipment sourced from out of province. However, some of this investment will be sourced locally through renovations and retrofits for WFPS stations to have an economic and social impact. Contracts for this work will require a public procurement process. Through a social procurement process, these upgrades could offer an economic development opportunity for Winnipeg while helping the City meet other policy goals, like poverty reduction or reducing greenhouse gas emissions.

Winnipeg is home to a vibrant social enterprise and community economic development (CED) sector, which has a track record of success in completing public infrastructure projects. One such example is the case of Building Urban Industries for Local Development (BUILD), which has completed renovation work for Manitoba Housing, among other clients (Bernas and Hamilton, 2013). Using a CED model, BUILD provides training to its workers who typically face barriers to employment. These projects provide added benefits through strong economic multipliers and poverty reduction (ibid:43). The City should fund retrofits and renovations of WFPS buildings via social procurement.

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