

# BRIEF CASE FOR FREQUENT SERVICE

FUNCTIONAL TRANSIT WINNIPEG

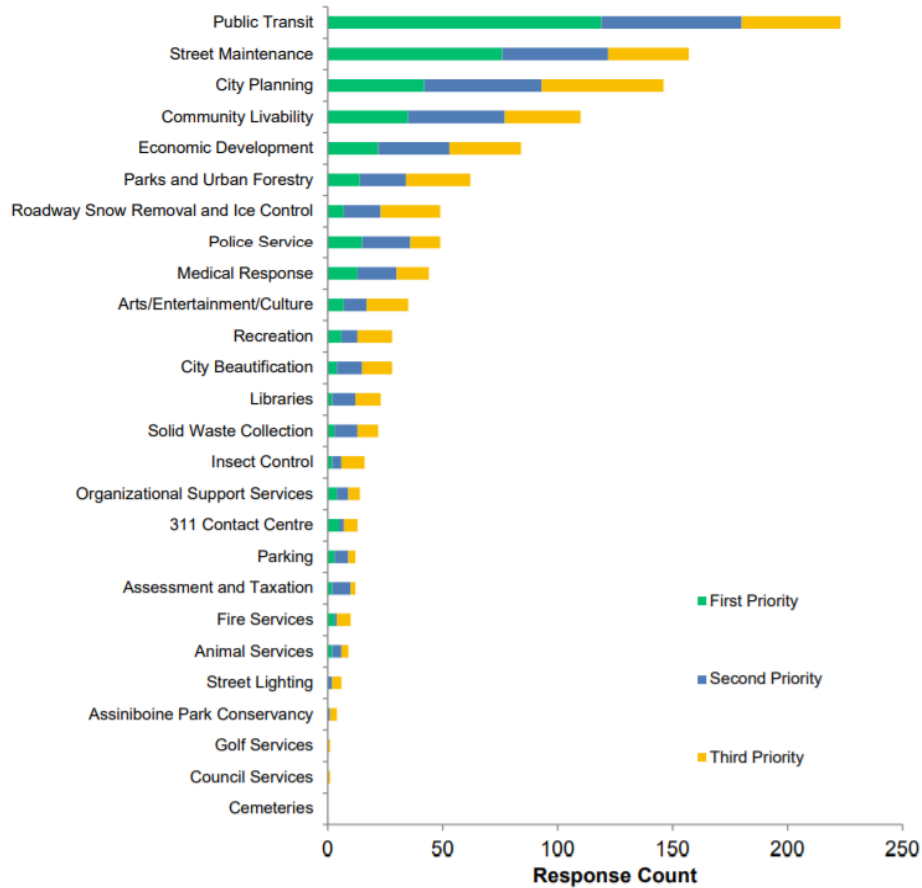


Figure 4-3 Winnipeggers' Top Three Priority Service Areas

City of Winnipeg 2019 Budget Engagement Report

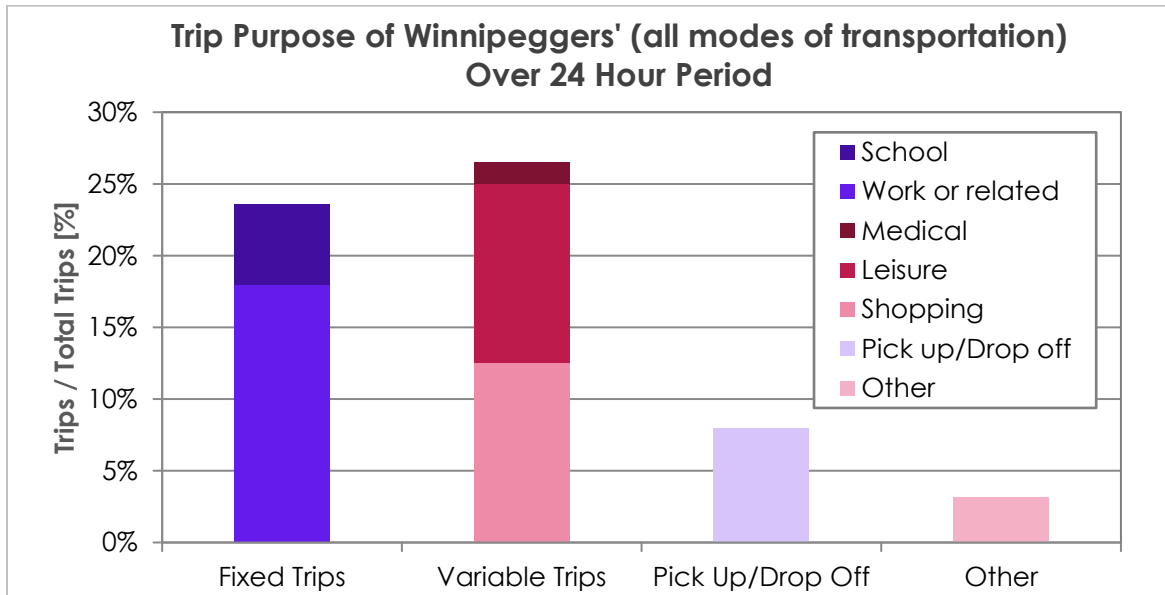
**What we heard about transit in Winnipeg:**

- Ongoing service enhancements to frequency and coverage are required.
- Transit needs to be easy to understand and use for new immigrants.
- Transit should be affordable.
- Communities should be designed to minimize walking distances to transit

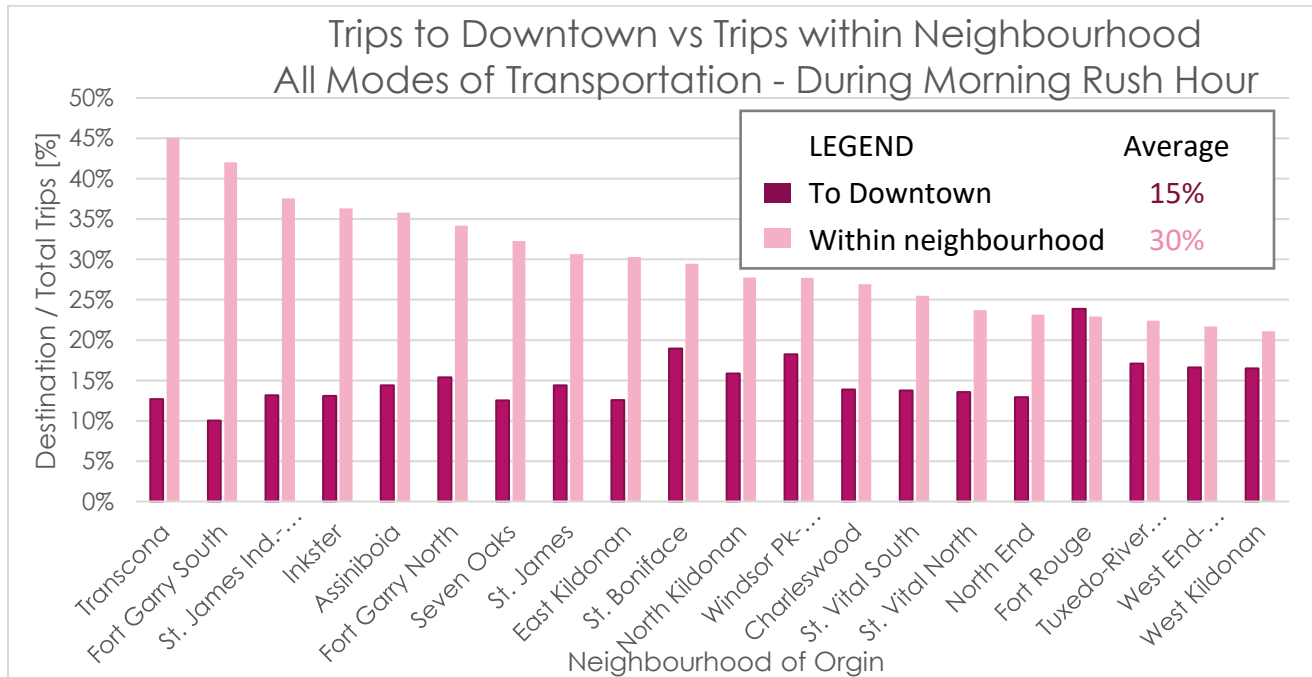
Winnipeg Transportation Master Plan findings for transit in Winnipeg (2011)

## IT MEETS WINNIPEGGERS' NEEDS

Winnipeggers' transportation needs are diverse and oriented around their own neighbourhoods. A frequent transit network is designed to provide spontaneous service to multiple destinations. This aligns with how Winnipeggers get around their city: namely more trips are made to diverse destinations than to fixed destinations like work and school and more trips are made within neighbourhoods than to downtown.



Data from 2007 Winnipeg Area Travel Survey Results – Final Report, page 33. Return home trip not shown on graph accounts for 39% of total trips.



Data from from 2007 Winnipeg Area Travel Survey Results – Final Report, pages 38-79. Elmwood results not shown due to inconsistencies in the reporting of the survey results. Morning rush hour is from 7am to 9am.

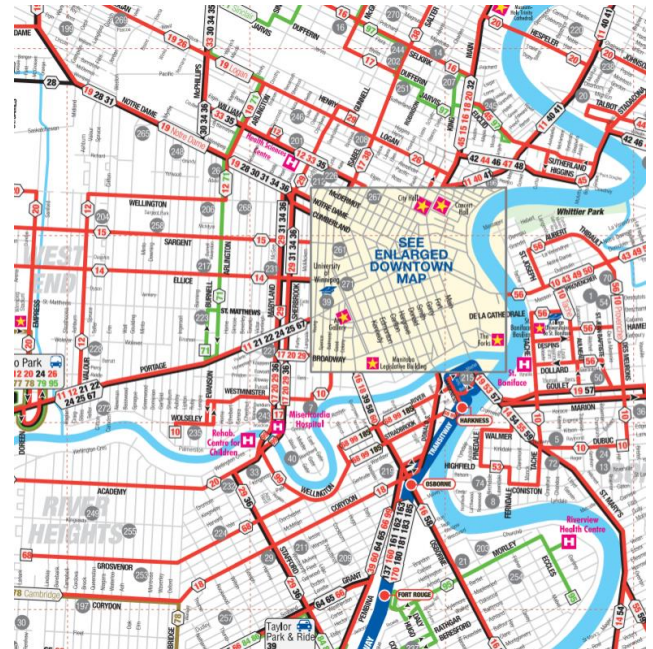
## IT'S EASY TO UNDERSTAND

Transit maps based on frequency are easier to understand than conventional transit maps like Winnipeg's. In the same way that road speed indicates convenience for drivers, transit frequency indicates route convenience to riders.

### MINNEAPOLIS FREQUENT SERVICE MAP



### WINNIPEG'S CURRENT TRANSIT MAP



### A GOOD MAP: CONVEYING ROAD SPEED AND CAPACITY FOR DRIVERS



Road maps often present information to road users much more effectively than transit maps do for riders. A driver can intuitively grasp which routes will be more effective for their purposes with just a glance at this map.



Research has found that frequency, low fares, safety and reliability are the factors that have the largest impact on ridership.

In a review of 12 American transit agencies that increased service in the 1990s, Taylor et al. found that **increased operating hours** had “by far the highest correlation between any [transit-service specific] factor and ridership increase.”<sup>1</sup> Taylor et al. also reviewed the research literature on transit, finding that among factors that transit agencies had control over, “increasing the quantity of service (in terms of service coverage and service frequency) and reducing fares are both found to have significant effects on ridership.”<sup>2</sup>

The direction of causation is important (whether an increase in ridership causes demand for greater service or whether better service led to more people choosing to ride public transit), and **demand has been found to follow supply improvements**. Taylor et al. are careful to avoid declaring the direction of causality, but in an interview process with transit managers, they found that transit professionals from agencies that increased ridership in the 1990s believed that service improvements were *followed by* increases in demand<sup>3</sup>. Research on service quantity and fare changes has shown that transit improvement is followed by an increase in ridership – albeit with a lag time<sup>4</sup>.

*Plain Transit for Planners*, from the Ontario Professional Planners Institute, confirms that frequency is important and also emphasizes the importance of accessible urban design:

“Key considerations for transit service include **frequency of service**, customer service, affordability and safety. The environment, which incorporates street design, transit access points, and neighbourhood design, must be supportive of transit service. The success of the transit provided is otherwise limited.”<sup>5</sup>

Research on bus rapid transit systems has also found that the factors most commonly associated with increased ridership are higher frequency, lower fares and network comprehensiveness. Statistically significant factors on daily ridership numbers, found by Hensher and Li, are shown below in the order of greatest impact to least.

1. Fares
2. **Frequency of service**
3. Length of network
4. Shorter average distance between stations
5. Integration with existing transit routes and network
6. Pre-board fare collection
7. Maintaining a high quality service level<sup>6</sup>

Research on BRT in Australia concluded that “All tests, including some tests after accounting for the effects of service levels, suggest the **quantity of services supplied dominates** as an influence on ridership.”<sup>7</sup>

---

<sup>1</sup> Taylor, B., et al. “Increasing Transit Ridership: Lessons from the Most Successful Transit Systems in the 1990s”: 48

<sup>2</sup> Taylor, B., et al. “Increasing Transit Ridership”: 21

<sup>3</sup> Taylor, B., et al. “Increasing Transit Ridership”: 107

<sup>4</sup> Chen, C. et al. “What Affects Transit Ridership? A Dynamic Analysis Involving Multiple Factors, Lags and Asymmetric Behaviour”: 1904

<sup>5</sup> Ontario Professional Planners Institute. *Plain Transit for Planners*: 2-3

<sup>6</sup> Hensher, D. A. and Z. Li. “Ridership Drivers of Bus Rapid Transit Systems.” *Transportation* 39 no. 6 (2012): 1218

<sup>7</sup> Currie and Delbosc. “Understanding bus rapid transit route ridership drivers”: 763

## WHY FREQUENCY IS SO IMPORTANT

“Frequency and span are the essence of freedom for a transit passenger. High-frequency, long-span service is there whenever you want to use it, even for spontaneous trips.”<sup>8</sup>

Frequent service is the most common factor in high ridership because it is the factor that makes transit convenient. Frequent service means speedy access to a moving vehicle going in the direction that the rider needs or wants to go and it also means speedier transfer times.

When riders need to get to diverse destinations, transfers are necessary. Frequent service makes transfers much less onerous because a rider knows they don't have to wait long for their connection, and if they do miss their connection, another one is coming soon. Of all the parts of a transit trip, transfers are the part that riders have the least control over – they don't control where they transfer, how long they have to wait, how many transfers they will have to make and whether their buses will arrive at transfer points on time. Frequent service makes transfer points more flexible and thus more reliable.

Ultimately, bus frequency makes public transit competitive with private automobiles – it makes it available when it is needed – and competitive transit is functional transit. The goal should be having a bus arriving when a rider needs it.

---

<sup>8</sup> Walker, *Human Transit*: 85

## INCREASING FUNDING FOR TRANSIT IS NECESSARY

As Winnipeg grows, increasing funding for public transit will be necessary in order to effectively move individuals and families conveniently around the city. Looking to the next two biggest urban areas in Canada – Edmonton and Ottawa – should be an indication of what kind of investment we should be expecting to make annually on public transit.

**Currently, Winnipeg's subsidy for transit is \$66.4 million.** The cities of Edmonton and Ottawa each contribute approximately \$220 million to their transit agencies. **In order for Winnipeg to match those cities in per capita terms, the city's subsidy should be approximately \$170 million.**

### EDMONTON

#### Branch — Edmonton Transit System

##### Approved 2016-2018 Budget – Branch Summary by Cost Category

(\$000)	2013 Actual	2014 Actual	Adjusted 2015 Budget	2016 Budget	2017 Budget	2018 Budget
<b>Revenue &amp; Transfers</b>						
User Fees, Fines, Permits, etc.	132,264	134,857	135,463	138,540	141,625	144,511
Grants	5,050	-	-	-	-	-
<b>Total Revenue &amp; Transfers</b>	<b>\$137,314</b>	<b>\$134,857</b>	<b>\$135,463</b>	<b>\$138,540</b>	<b>\$141,625</b>	<b>\$144,511</b>
<b>Expenditure &amp; Transfers</b>						
Personnel	183,128	188,556	206,903	212,041	218,549	226,456
Materials, Goods and Supplies	6,348	7,929	8,247	9,157	10,897	12,661
External Services	21,166	22,181	23,823	24,438	24,969	28,589
Fleet Services	88,403	85,241	90,989	90,287	92,630	92,722
Intra-municipal Charges	8,617	8,465	7,539	9,138	9,546	10,029
Utilities & Other Charges	8,508	9,070	9,863	11,447	11,771	13,586
Subtotal	316,170	321,442	347,364	356,508	368,362	384,043
Intra-municipal Recoveries	(4,814)	(4,263)	(3,275)	(3,713)	(3,844)	(3,984)
<b>Total Expenditure &amp; Transfers</b>	<b>\$311,356</b>	<b>\$317,179</b>	<b>\$344,089</b>	<b>\$352,795</b>	<b>\$364,518</b>	<b>\$380,059</b>
<b>Net Operating Requirement</b>	<b>\$174,042</b>	<b>\$182,322</b>	<b>\$208,626</b>	<b>\$214,255</b>	<b>\$222,893</b>	<b>\$235,548</b>
<b>Full-time Equivalents</b>	<b>2,289.5</b>	<b>2,323.0</b>	<b>2,395.3</b>	<b>2,401.3</b>	<b>2,409.8</b>	<b>2,416.8</b>

### OTTAWA

#### Funding

	2016	2015
Passenger and other revenue	\$183,400,000	\$185,189,000
Municipal contribution	\$220,000,000	\$214,376,000
Gas tax funding	\$20,200,000	\$20,165,000
Federal contribution	--	\$11,583,000
<b>Total</b>	<b>\$423,600,000</b>	<b>\$431,313,000</b>

	2016	2015
Capital expenditures	\$579,630,000	\$476,697,000