



**IMPACT OF DISCOUNTED UNIVERSITY
STUDENT TRANSIT FARES ON
WINNIPEG'S PUBLIC TRANSIT SYSTEM**

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Impact of Discounted University Student Transit Fares on Winnipeg's Public Transit System

Christa Jacobucci

Abstract

In 2000, Winnipeg Transit implemented a discounted monthly transit pass for use by post secondary students. The cost savings from this monthly pass has caused a small number of students to use public transit more often. However, this study shows that Winnipeg Transit and university students would see greater benefits if an unlimited semester pass was implemented. An unlimited semester pass would create an incentive for university students to increase their ridership on public transit, creating greater revenue for Winnipeg Transit as well as benefits for the universities.

Introduction

Automobiles are often seen as an attractive means of transportation. However, “there is a practical limit to the number of people automobiles can deliver to one place at one time, such as large commercial, educational, or recreational centres” (Litman 1998: 1). When this limit is approached, the results include traffic congestion, high parking costs, and increased frustration for drivers (Litman 1998). One way to reduce these effects is through an increase in the number of university students that use public transit. Public transit is of interest to students because it is cheaper than driving a car to university. Students are typically on tight budgets, and saving money is a priority. In the case of Winnipeg, not only would university students see benefits from using public transit more frequently, but Winnipeg Transit would as well. Through increased ridership, Winnipeg Transit would be able to improve its services, making public transit more convenient for all riders. Presently, Winnipeg Transit provides numerous programs which are aimed at making public transit an attractive means of transportation. These programs include the Power Hour Transfer which allows a rider to make stopovers or even return trips for the price of only one fare payment over a 60-minute period (Winnipeg Transit 2001). Park and ride services are also provided at six Winnipeg locations. Here, people can park their car for the day and use transit to get to their destination, saving them time and money (Winnipeg Transit 2000).

University students use various means of transportation to get to university each day. Many students already use public transit, but this number could be increased. The purpose of this research project is to evaluate the impact of transit fares on university student ridership.

The study estimated the (potential) effect on public transit ridership among university students of an unlimited semester pass for university students priced at \$61.60. The impact of revenue from an unlimited semester pass on Winnipeg Transit was then compared to the revenue from the post secondary monthly pass that is currently in place.

There is little data on the effects on ridership of discounted university student fares available in Winnipeg. The post secondary pass implemented by Winnipeg Transit has only been available since September 2000. Winnipeg Transit is presently analysing the effects of the pass in a study that should be completed by the end of April of 2001 (Menzies 2001). The unlimited semester pass for \$61.60 discussed in this study has never been implemented in Winnipeg. This paper compares the outcomes of implementing such a pass with those of Winnipeg Transit's post secondary monthly pass, which currently offers reduced fares to university students.

For the purposes of this study, the term "transit" refers to all bus transportation offered by Winnipeg Transit. The unlimited semester pass would provide all students attending either of Winnipeg's universities the option of using public transit for school, work, or social trips for a four-month period. An increase in ridership refers to a larger number of students riding transit due to the new semester pass. The term "means of transportation" refers to how students get to and from university each day. For this study, the means of transportation were classified as walking, biking, transit, car, and other.

Literature Review

A survey focussing on the public's perception of the public transit system was administered in Winnipeg in 1995. The results showed that auto users see transit use as a top transportation priority. Just under half (41%) of auto users surveyed stated that they would use public transit instead of their car if public transit was cheaper. It was also clear that people were strongly opposed to cuts to the public transit service (Western 1995). This survey of the general population, which included university students, illustrated that the citizens of Winnipeg value their public transit system, but feel that changes are needed to increase ridership.

Many other public transit systems have difficulty attracting riders. British Columbia used an unlimited prepaid monthly pass to entice riders. This discount was not offered to the general population, but only to the students and staff of the University of British Columbia. The University of British Columbia experiment found that transit fare discounts tend to be the greatest incentive for people to change their means of transportation (Litman 1999). Students were charged \$20 per month for the bus pass, allowing them to recoup the incremental cost after only six public transit trips per month. The University of British Columbia found that students would only change their means of transportation if they believed this would save them money, even if there was an increase in their travel time (Litman 1999). It can be theorized that the same would hold true for Winnipeg, and that more students would use transit if they felt it would save them money.

In 1996/97, the Winnipeg Transit Department, working in partnership with the University of Winnipeg and the University of Manitoba, proposed that all students pay a mandatory transit levy as part of their student fees. The levy would be equivalent to 50 per cent of an adult monthly transit pass, for each month that students attended university (City of Winnipeg 2000). Had this proposal been implemented, students would be paying \$30.80 per month (multiplied by four months) for a total of \$123.20 per semester. This discount was not viewed as resulting in significant savings, and the mandatory levy would have caused student fees to increase substantially for those students who are not transit users. The discount could have acted as an incentive for more students to use transit, but the total benefit to Transit was not seen as great enough.

Instead, Winnipeg Transit introduced a post secondary pass, in September of 2000. This reduced monthly pass is priced at \$49.30 per month, instead of the usual adult monthly rate of \$61.60 per month. This pass is not funded through a mandatory levy by the university, but is available for purchase by post secondary students who choose to use transit. Whether the reduced rate of the post secondary pass is enough of an incentive for more students to use public transit is currently being studied by Winnipeg Transit.

When looking at increasing public transit ridership among university students, the most common approach across North America is to administer a mandatory student semester pass to all students, for the price of a regular one-month adult pass (Foord 2001). Winnipeg students, for example, would pay \$61.60 per semester, or half the price of what Winnipeg Transit proposed in 1996/97. If such a plan were to be implemented, ridership rates among university students can be expected to increase by 15 to 50 per cent over a two-year period (Foord 2001). Not only would this

make transit use relatively inexpensive for students, but Winnipeg Transit would experience an increase in ridership, as well as guaranteed revenue.

Research Methodology

Collection Methods

This study was based on a written survey (see Appendix A). A total of 216 university students were surveyed; 116 students from the University of Winnipeg, and 100 students from the University of Manitoba. Variables considered in the survey included car ownership, primary and secondary means of transportation to and from university, the length of time it takes to commute, and methods of payment when using public transit. The study also considered whether the post secondary monthly pass implemented by Winnipeg Transit has caused students to use public transit more frequently.

The survey was distributed in February 2001 in classes at the University of Winnipeg and the University of Manitoba. At the University of Winnipeg, students surveyed were enrolled in courses in the departments of Geography, Political Science, and Philosophy. At the University of Manitoba, 100 surveys were administered to students enrolled in the departments of Agriculture and Animal Science/Entomology.

Data Analysis

The data collected consisted of nominal type measurements which were analysed using percentages and by finding the mode of many responses. The annual revenue that Winnipeg Transit would gain from the unlimited semester pass was determined by multiplying the number of students enrolled at the University of Winnipeg and the University of Manitoba by the cost of the semester pass, and by the number of semesters for which students were enrolled at university for that year.

Unlimited Semester Pass Equation for Revenue:

number of university students x \$ 61.60 x number of semesters enrolled

For comparative purposes, the revenue from the post secondary monthly passes that are currently used was determined by multiplying the number of passes sold by the price of the pass.

Post secondary Monthly Pass Equation for Revenue:

number of post secondary monthly passes sold x \$ 49.30

Research Limitations

This project had a number of limitations. The surveys were conducted in February, which may have affected students' means of transportation. One poll found that 20 per cent of Winnipeg's citizens change their means of transportation on a seasonal basis (Western 1995). The classes surveyed at the University of Manitoba were in Agriculture and Animal Science/Entomology, which are popular among students from rural areas. This may have resulted in a greater number of these students living in residence, and therefore not requiring a car to get to and from university. Due to time constraints, the sample size was not as large as had been hoped, and may not be entirely representative of the total university student body in Winnipeg.

Results

The purpose of the research project was to assess the impact of transit fares on university students' willingness to use public transit, and to illustrate the increase in revenue that Winnipeg Transit would experience as a result, as compared to the amount of revenue that the post secondary monthly transit pass has generated.

Public Transit

Winnipeg Transit currently offers five different types of payment to the consumer. These methods include cash, tickets, a five-day pass, a seven-day pass, and a monthly pass. For post secondary students attending the University of Winnipeg, the University of Manitoba, Red River College, and Saint Boniface College, the monthly pass has been discounted from the regular price of \$61.60 per month to \$49.30 per month. However, as illustrated in Figure 1, the majority of students do not use the post secondary monthly pass. The introduction of the post secondary monthly pass has only caused 15 per cent of university students in Winnipeg to use transit more frequently (Figure 2), compared to a possible increase of 56 per cent if the semester pass were implemented.

Figure 1: Payment Methods for Transit among University Students

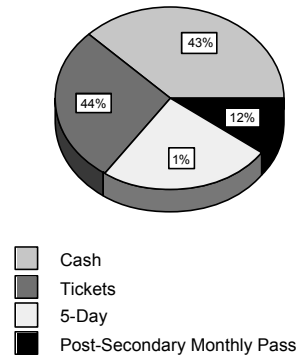
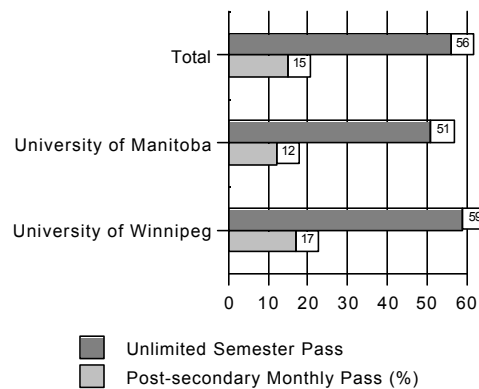


Figure 2: Increase in Student Ridership, by Type of Pass



If an unlimited semester pass were available for \$61.60, students would benefit from greater savings than they receive at present. Table 1 shows the cost of each payment method per trip, based on students taking transit two trips per day (to and from university), five days per week, four weeks per month, four months per semester. If the unlimited semester pass were implemented at \$61.60 per four-month period, students could recoup the incremental cost after only nine public transit trips per month, compared to paying the cash fare. The semester pass could also have the added benefit of replacing trips made by car on weekends and in the evenings, which would lower the amount charged per trip even more significantly. The more transit is used with the unlimited semester pass, the cheaper each trip.

Table 1: Cost per Transit Trip, by Payment Method

(Winnipeg Transit, 2001)

Method of Payment	Cost per Trip¹ (\$)
Cash	1.65
Tickets	1.60
5-Day Pass	1.44
7-Day pass	1.60
Post secondary Monthly Pass	1.23
Unlimited Semester Pass	0.39

Means of Transportation

Winnipeg Transit is greatly affected by students' choice of transportation mode. Because students may not use one means of transportation all the time, they were asked to state their secondary means of transportation as well. This information was then used to make a number of comparisons. Table 2 shows university students' primary means of transportation, including students' present level of ridership on public transit in Winnipeg.

¹Based on 2 trips per day, 5 days per week, 4 weeks per month, 4 months per semester (160 trips per semester).

Table 2: Primary Means of Transportation to and from University

	Walking	Biking	Bus	Car	Other	Total
University of Winnipeg	9 7%	0 0%	59 50%	49 42%	1 1%	118 100%
University of Manitoba	17 17%	2 2%	23 23%	58 57%	2 2%	102 101%
Total	26 12%	2 0.5%	82 38%	107 49%	3 0.5%	220 100%

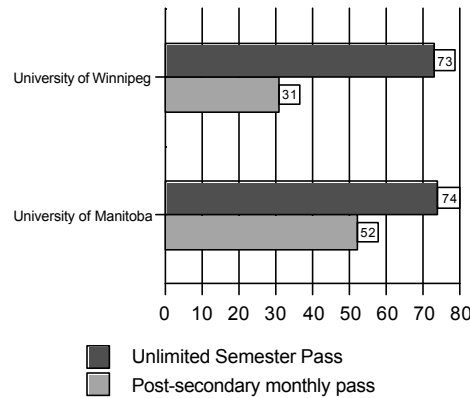
*the responses in **bold** represent the mode most frequently used

Among the students surveyed, the car is the most commonly used primary means of transportation, with public transit a close second. The University of Manitoba has a larger gap between car and transit use. However, at the University of Winnipeg, eight per cent (8%) more students use public transit than the car as their primary means of transportation to and from university. This data illustrates that transit is being used, but that there is room for increased ridership by many students.

Public Transit as a Primary Means of Transportation

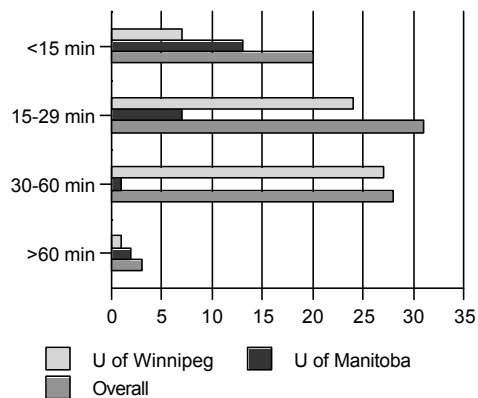
Of the student respondents, 38 per cent use public transit as their primary means of transportation to and from university (50% at the University of Winnipeg and 23% at the University of Manitoba). Of these students, 37 per cent stated that the post secondary monthly pass provided by Winnipeg Transit has caused them to use transit more frequently (31 per cent at the University of Winnipeg and 52 per cent at the University of Manitoba). Students using transit as their primary mode of transportation to and from university were also asked about the impact that the unlimited semester pass would have on their public transit ridership habits. The responses depicted in Figure 3 show that 73 per cent of students at the University of Winnipeg and 74 per cent at the University of Manitoba would increase their ridership if a semester pass were implemented. The data indicates that there is support for an unlimited semester pass by students currently using transit. The semester pass is predicted to cause students to ride transit more frequently than the post secondary pass has.

Figure 3: Increased Transit Use Among Primary Users, by Type of Pass



Travel time may impact students' choice of transportation mode. Of the students using public transit as their primary means of transportation, the time it takes to get to university by public transit differs. Figure 4 shows that it takes the majority of students between 15 minutes and one hour to get to university. However, even those students with travel times of 30 minutes to one hour are still inclined to use public transit. This may reflect a general tendency for people to overestimate the length of time it takes to reach their destination when using public transit (Maloney 2001). For this reason, it could be argued that the length of the commute is not a major factor in deciding to use public transit since it is often incorrectly estimated.

Figure 4: Length of Commutes among Primary Transit Users



Primary Means of Transportation Other than Public Transit

The majority of university students in Winnipeg use a mode other than public transit as their primary means of transportation. The results suggest that 62 per cent of students use other modes, which means that Winnipeg Transit has the opportunity to target up to 62 per cent of university students to make transit their primary means of transportation. Table 3 shows that 46 per cent of students who currently drive, walk, or cycle to university would use transit more often if the unlimited semester pass were implemented, and 22 per cent of these students would make it their primary means of transportation. While some of these students already use transit as their secondary means of transportation, 13 per cent are new riders². Therefore, not only would transit experience an increase in ridership from 46 per cent of students that use a means other than transit as their primary means of transportation, but Winnipeg Transit would receive a 13 per cent increase from new riders.

Table 3: Students Whose Primary Means of Transportation is Not Transit

	Students (total and %)
Semester pass would cause them to use transit more frequently	61 students (46%)
Semester pass would make transit their primary mode of transportation to and from university	30 students (22%)

Automobile as Primary Means of Transportation

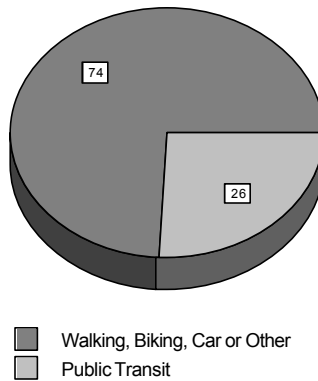
As a means of transportation, the automobile is public transit's single greatest competitor. The car is the primary means of transportation of 49 per cent of all university students in Winnipeg. However, 33 per cent of students who use the car as their primary means of transportation would use transit more often if an unlimited semester pass were in place. Among these students, 17 per cent

² New riders are those students that do not use public transit as their primary or secondary means of transportation to and from university.

would make public transit their primary means of transportation, resulting in an increase in transit ridership as seen in other cities.

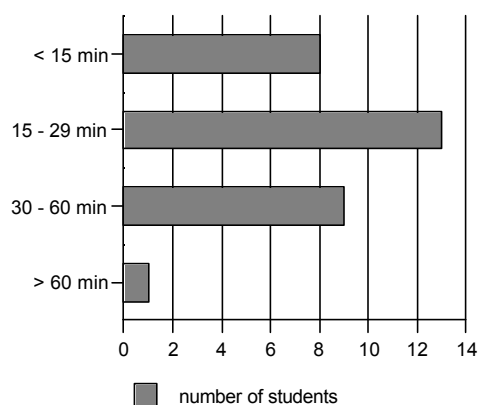
One reason that so many students drive to university may be the large number of students who own a car: 55 per cent. The majority of these students use their car as the primary means of transportation to and from university. However, Figure 5 shows that 26 per cent of car owners use transit as their primary means of transportation to commute to and from university.

Figure 5: Car Owners' Primary Means of Transportation



Students who own a car may choose to use transit rather than their car because it is cheaper. If they perceive themselves to be better off by using public transit instead of their car, even if their commuting time increases, then the length of time may not be a predominant factor. Figure 6 shows that the length of time for the majority of car owners travelling by public transit is between 15 minutes and one hour. Those car owners who travel 30 minutes to an hour may not see length of time as a factor in their decision to use transit.

Figure 6: Travel Time for Car Owners Using Transit as Their Primary Means of Transportation



Revenue for Winnipeg Transit

In September 2000, Winnipeg Transit implemented its post secondary monthly pass. This pass gave post secondary students a discounted fare and was thought to increase ridership, thereby creating greater revenue for Winnipeg Transit. Between September 2000 and January 2001, a total of 21,465 post secondary monthly passes were sold (Menzies 2001). The number of passes sold between February and April of 2001 are not yet known, so the average from the previous months was used to project sales for February, March, and April³. It was then determined that between September and April, 34,344 passes would have been sold⁴ at a price of \$49.30, for a total revenue of \$1,693,159.20. This estimated revenue was then compared with the estimated revenue that Winnipeg Transit would receive if the mandatory unlimited semester pass were to be implemented for university students.

The University of Manitoba had an enrollment of 21,978 students from September of 2000 to April of 2001. Since September to April covers a two-semester period, the students would have been

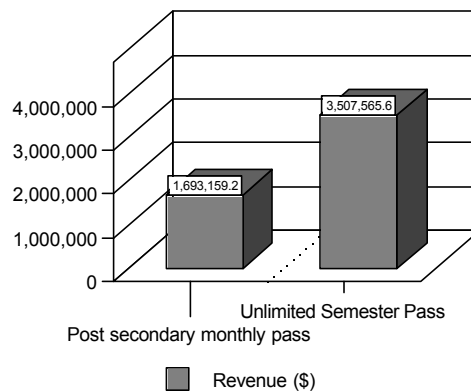
³ The average number of the post secondary passes sold between September of 2000 and January of 2001 was 4,293 per month.

⁴ The number of post secondary passes sold would have been compared to adult passes that students purchased before the discount was put in place to see the impact of the discount on students' willingness to purchase monthly passes, but Winnipeg Transit had not finished their analysis so a comparison was not possible.

charged \$123.20⁵ for a total revenue of \$2,707,689.60. The University of Winnipeg had an enrollment of 6,434 students from September to December of 2000, and 6,551 students from January to April of 2001. This would have created a total revenue of \$799,876.00 from the University of Winnipeg. Therefore, Winnipeg Transit would have received \$3,507,565.60 in revenue if the mandatory unlimited semester pass had been implemented in September of 2000 (Figure 7).

Not only would Winnipeg Transit have received more income from the unlimited semester pass, but there is the potential to generate even greater revenues. The semester pass as presented in this study only caters to students at the University of Winnipeg and the University of Manitoba. If the unlimited semester pass were also to be introduced at Red River College and Saint Boniface College, then Winnipeg Transit would see an even greater increase in revenue.

Figure 7: Potential Revenue for Winnipeg Transit, September 2000 to April 2001



Discussion

The results of the research show that while university students use public transit, the car is still the preferred means of transportation. An issue that influences the use of public transit negatively is the location and parking facilities of both universities in Winnipeg. The University of Winnipeg is located in Winnipeg's downtown area, making it relatively easy to reach by public transit, since transit

⁵ The amount of \$123.20 was determined because each semester pass is \$61.60, times 2 semesters, for a total of \$123.20 per student.

provides a number of different routes to the downtown because it is one of Winnipeg's largest employment hubs. The University of Winnipeg does not provide parking for students, which may be why less students drive to the University of Winnipeg than to the University of Manitoba. However, the University of Manitoba is located close to the end of Pembina Highway, a significant distance from the centre of Winnipeg and farther from the homes of the majority of students. Also, the University of Manitoba provides numerous parking spaces for students. The location and availability of parking at each university may have an impact on means of transportation that students choose to use, but public transit does service both universities and is a viable option for students to choose.

Implementing the unlimited university semester pass priced at \$61.60 per semester would result in many benefits. The reduced cost of using public transit would encourage students to use transit more frequently, thereby increasing their mobility while at the same time reducing the expense of transportation. Public transit is simple to use and more environmentally friendly than the automobile. Though transit is already relatively inexpensive, the semester pass would make transit an even less expensive way to travel (London Transit Commission 1997). Low income students would benefit from the cost reduction, and automobile users would reduce their costs by using their car less (Ecostar 2001). A transit test has been developed by Winnipeg Transit (Appendix B) for students who do not recognize using an automobile to commute to and from university as a big expense. This test gives students the opportunity to determine exactly how much it costs them to use a car to commute to and from university. The semester pass would also give students greater freedom in their housing location (London Transit Commission 1997) since students could live further from university without experiencing an increase in transportation costs, as long as they remain within Winnipeg Transit's service area.

The semester pass would also benefit the university because it could be used as a marketing tool for enrollment (Ecostar 2001). Students enrolled at the university would have a means of transportation provided to them. The universities would benefit from showing leadership in the battle against greenhouse gases (Foord 2001), while reducing the need for parking and improving the aesthetic appeal of the campus with increased green space. Also, less money would have to be spent on maintaining the parking lots and on snow removal during the winter months.

Winnipeg Transit would also see benefits. The semester pass would stabilize ridership, making it easier to predict the number of riders on each route. Also, such passes have been shown to

increase the likelihood of transit use later in life by getting students into the habit of using transit now (London Transit Commission 1997). Winnipeg Transit would also experience an increase in revenue, which could be used to improve service by increasing the number of buses on certain routes, allowing them to run more frequently.

Beyond the benefits that would be experienced from the introduction of an unlimited semester pass, there is great rationale for it. Not only is it a win/win situation for the university students and Winnipeg Transit, but the research undertaken here indicates that the concept would be well received by the majority of students.

The data shows that if a mandatory unlimited semester pass is implemented, students will use transit more frequently. In total, 56 per cent of students surveyed indicated that the unlimited semester pass would cause them to ride transit more frequently. However, in order to make this option viable, there can be no option to opt out for any student living within Winnipeg Transit's service area. Otherwise, students who prefer to use a different means of transportation would opt out, and Winnipeg Transit would not be guaranteed the revenue from these students. The only students who should be given the option to opt out are those who can prove that they use the Beaver Bus Line to commute to and from university each day. These students should not be penalized for using a more environmentally friendly form of transportation if they live in the country. Students driving to school from the country, on the other hand, can use the park and ride services provided by Winnipeg Transit and therefore should not be given the opportunity to opt out of the unlimited semester pass.

Conclusion

Transportation and the ability to increase mobility is a large component of people's lives. Society is built around easy mobility, causing people to become dependent on it. Because it is generally believed that the automobile allows for the greatest mobility, many students make this their primary means of transportation. However, public transit also allows for high mobility, and is possibly even more convenient to use since parking is not a factor for transit users. This study illustrates that the implementation of a mandatory unlimited semester pass priced at \$61.60 per semester would allow all university students in Winnipeg to enjoy a discounted fare, making public transit more attractive. If the semester pass were put in place, 56 per cent of the students surveyed would increase their use of public transit, and 43 per cent of the university student population in

Winnipeg would make transit their primary means of transportation. As well, Winnipeg Transit would receive a revenue of \$3,507,565.60 from the mandatory semester pass, compared to only \$1,693,159.20 in revenue from the post secondary pass currently in place. Thus, the semester pass could increase ridership and income more than the post secondary pass has, creating greater total benefits for those involved.

Recommendations

Winnipeg can be seen as a typical North American city in terms of people's preferred modes of transportation. Winnipeg has a greatly underused public transit system. The low levels of ridership may be caused by a combination of variables. However, 41 per cent of Winnipeg citizens surveyed in 1995 said they would use transit rather than their car if transit were cheaper (Western 1995), suggesting that price plays a dominant role in Winnipeg's decision to use public transit. This study has attempted to find ways to encourage university students to use public transit more frequently. Students would respond to the implementation of an unlimited semester pass, the cost of which would be included in university students fees. The semester pass would not only benefit university students, but also the universities and Winnipeg Transit. The most significant benefit would be the reduction of students' transportation costs while attending university. Students should be allowed to vote on the implementation of the pass before it is put in place (Foord 2001). Additionally, the federal government should show its support for university education by making the semester pass tax deductible (Foord 2001).

This research project gave insight into some aspects of the issue of public transit use by university students. It is recommended that further research be carried out on the effects of other variables, such as waiting times and quality of service, on students' choice of primary means of transportation. As well, a more in-depth look is needed into the increased revenue that Winnipeg Transit would experience, since this study undertook only a brief analysis of the potential revenue.

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Appendix A

Please check the appropriate answer that best reflects your transportation habits.

1. What university do you attend?

University of Winnipeg University of Manitoba

2. What year of studies are you in?

first second third fourth fifth graduate studies

3. Do you own a car?

yes no

4. What is your primary means of transportation to and from university? (use more than 50% of the time)

walking biking bus car (includes car pooling) other

5. On average how long does it take to get to university by your primary means of transportation?

less than 15 min. 15 to 29 min. 30 to 60 min. more than 60 min.

6. What is your secondary means of transportation to and from university?

walking biking bus car (includes car pooling) other

7. On average how long does it take to get to university by your secondary means of transportation?

less than 15 min. 15 to 29 min. 30 to 60 min. more than 60 min.

8. If you use the bus, how do you pay?

cash tickets 5-day pass 7-day pass monthly pass

9. If you use the bus, has the new university student monthly bus pass, priced at \$49.30/month caused you to use transit more frequently?

yes no

10. If students were charged \$61.60/semester, as part of student fees, for an unlimited bus pass that could be used at anytime within transit's service area;

a) Would it cause you to ride the bus more often?

yes no

b) Would it cause you to make the bus your primary sources of transportation to university?

yes no

Appendix B