The journey to Work: Car as the Mode Choice among Working Single Mothers in the Greater Montreal Area

Rahel MERISSA

McGill University

Montreal, Quebec, Canada

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ABSTRACT

Using disaggregate census data for 1996, this paper tries to model the socio-demographic variables that influence the choice of car drive as the commuting mode of working single mothers in the Greater Montreal Area. Our analysis finds that income and commuting distance, professional status and tenure (but not household size) all influence the work mode choice. We also find that the probability of driving a car to work increases at a decreasing rate through incremental levels of income. We conclude from this finding that subsidies granted to low-income families for the purchase of a car (as is the case in the U.S.) can potentially be beneficial for single-mother led households with incomes of less than $25,000. We call for a detailed investigation of car ownership benefits among poor households in the Canadian context.

1 Literature Review

In our daily routines, we travel almost mindlessly. The distance between home and work is a bus trip away; five minutes by car separate us from the grocery store; hopping in a cab will get us to the meeting in no-time. For the majority of us, commuting is second nature, an inseparable part of our urban experience. Yet, there is a fragment of the population for whom commuting entails a lot of planning, an astounding budget of money and time and even some discomfort. While I view my transit trip as a picturesque occurrence in my day, smiling at the thought of missing my train but tirelessly waiting for my bus, for a disabled or elderly person, this experience can be frustrating and even painful. Similarly for a single mother who can not afford a car, carrying the groceries while keeping an eye on her toddler is an unpleasant exercise. These people for whom commuting requires a greater effort than from the rest of the population are the transportation-disadvantaged groups. This paper focuses on one of the transportation sub-groups: single mothers.

Transportation-disadvantaged groups haven't always been acknowledged this status. According to Law (1999), the distinction between different groups of commuters is a fairly recent concept. It is only in the early 70's with the work of Hillman (1973) and Falcocchio (1974) that certain groups were acknowledged as facing more constraints in mobility and accessibility (Law, 1999). But it is only at the end of the 70's that feminist research have established the influence of gender on commute patterns with the works of Rosenbloom (1978) and Giuliano (1979) (Law, 1999).

A critical component in travel behavior- and incidentally the topic of this paper- is the study of the influents of car as a mode choice for work travel. Single mothers often constitute one of the poorest segments of the population, and their choice of driving a car rather than use transit for instance is the result of greater economical sacrifices than say, a two-earner household. So, studying the influences of car as a mode choice among single mothers is truly illuminating in understanding what makes a car a necessity. It is also a tool to enable transportation planners to improve transit planning so that this mode reflects better the reality of transportation-disadvantaged people.

In the U.S., some scholars have argued that transportation, in the words of Cervero (2002) was the " *to* component of welfare-to-work". More specifically, that private mobility could really be what separates people on welfare from a job. Cervero et al. (2002) have found an associative relationship between owning a car and finding a job (and staying off welfare). Their multinomial logit model on Californian data show that controlling for other factors, the odds of finding a job was thirteen times greater for a person who owned a car compared to a person who did not own one, all else being equal. The use of data for two different time periods (91-92, 94-95) have also enabled them to show that conversely, the probability of getting a job was

reduced when a person who owned a car no longer did. Similarly, a study of employment barriers faced by single mothers in an Urban Michigan County conducted by Danzinger et al. (1999) found that, of the 753 black or white single mothers surveyed, about half of them reported no access to a car, or not having a driver's license. Their study hypotheses a set of 14 barriers single mothers face in the search of a job, while transitioning from welfare to work. The authors point out that at the national level, a meager 7.6 % are faced with this barrier. Their model further shows that, for a African-American single mother, aged between 25 and 34, with a child less than 2 and who's been on welfare for 7 years, the probability of working 20+ hours a week (and hence remaining on the welfare program) is only 67%, a drop of almost 15 % when compared with a woman with the same profile but not faced with the transportation barrier. The surprising finding of their study is that the transportation barrier issue affects white single mothers more than it affects afro-american ones (56.1 % vs. 35.8%), a finding significant at p=0.5.

Cervero et al. have eloquently sketched the common reality of American workers' daily lives; the intricate process through the urban world suffers no segregation of social status "low-skilled workers need access to cars for the same reasons high-salaried workers do-to drop their kids off at daycare centers in route to work, the desire to reduce time spent commuting [..], the availability of free parking". Their results show that over and above spatial proximity, private mobility was statistically linked to increasing the odds of employment. Although the relationship is "associative, not [...] causal", it is a strong one. Owning a car is probably the best bet to successful welfare-to-work policies.

This argument has been echoed by many researchers who have questioned the suitability of transit as a tool to move welfare recipients to work. For instance, Blumenberg and Manville (2004) argues that reverse commuting programs will most likely be ineffective. Most welfare-to-work transportation policies in the U.S are built around the notion that the spatial mismatch hypothesis holds (ibid.). Although this idea has received mixed review over the years, it is still largely the foundation of welfare-to-work policies. She criticizes actual policies that look at where single mothers live, where low-wage jobs are and encourage through subsidies and aid programs single mothers to travel from their residential location to these employment centers. More specifically, Blumenberg argues that:

1) Because the subsidies are not eternal, single mothers will not keep traveling these long distances as the job will be less attractive.
2) Due to the structure of the household whereby the mother is the sole responsible for the care of the family such long commutes should not be encouraged.

Blumenberg thinks that transportation aid should be provided to people looking for job and argues that transit will only be effective in high-density residential locations and high density job centers. Once the job is found, their trip most likely made by transit can be routinized, and even if the aid is stopped, this won't

affect the worker to keep the job. She argues that there should be policies to help mothers buy and maintain a car : " Family life […] is rarely conducted on a fixed schedule, but transit is" (Blumenberg and Manville).

2   Exploratory Data Analysis

2.1 Dataset

The dataset used in this paper is the 1996 Public Use Microdata File. This survey is a 2.7% sample of the Canadian population for whom census information is released at the disaggregate level, that is the sample is made of the census answers these respondents have provided at the moment of the census. Aside from ensuring the anonymity of the respondents, the confidentiality of the survey is warranted by certain variables being reported as not-available (for small geographic areas), or aggregated/round-off to avoid that excess detailing betrays the anonymity of the respondents. Nonetheless, the PUM file retains a certain level of dis-aggregation that makes it an invaluable tool to study certain social phenomena such as the one this study focuses on.

The PUM file contains information for all census metropolitan areas in Canada, but for the purpose of this paper, we have only selected CMA 462, corresponding to Montreal, our focus in this study being the single mothers in this region. This file contains a grand total of 91323 data points (corresponding to 91323 people), of which 3622 are single mothers.

Among the 3622 Montreal single mothers in our database, only 1682 (46.43%) constitute the employed labor force (single mothers *currently* working). A final selection process eliminating the single mothers working at home, with no fixed workplace or working outside Canada[1] established the sample size at 1554 (please see table 1). [2]

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[1] Single mothers working at home do not commute and hence can not determine the mode choice they used (dependent variable not defined); on the other hand, those with no fixed workplace can not report a unique commuting distance, which happens to be an independent variable in our logistic model. They have therefore been removed from the sample.

[2] In the first draft, incomplete explanation left the reader to think that people who work close to home were left out of the sample (not "commuting"). This is incorrect. The census definition of commuting includes ALL people who do not work at home, and this includes those working very close to home. Even if a job is at a walking distance, and the mode was "walk", it would be considered as commuting in the census. In this sense, we believe our sample is appropriate for analysis. We apologize for the inconvenience this confusion may have caused.

	Labour Force-Employed (1 2)	Labour Force-Unemployed (3 10)	Not in the labor force- Last worked in 1995-1996 (11 12)	Not in the labor force- Worked before 1995 or never worked (13 14)
0 km (worked at home)	81	1	5	
Less than 5 km	571	40	46	1494
5-10 km	398	29	30	
10-15 km	252	13	16	
15-20 km	144	14	5	
20-25 km	78	1	6	
25-30 km	45	3	2	
30 and over km	66	5	7	
No fixed Workplace	46	7	6	
Worked outside Canada	1	2	1	
None of the Above	__	206	__	
Groups Subtotals	1682	321	124	1494
Grand Total	3622 single mothers in the Montreal CMA for the whole database			

Table 1: Commuting Distance and Employment Status among Single Mothers in Montreal

Note:

1. The shaded area represents the data points used in the logistic regression model.

2. Individuals currently unemployed but who have worked at some time since January 1, 1995 were asked to report the commuting distance relative to the job longest held since January 1, 1995.
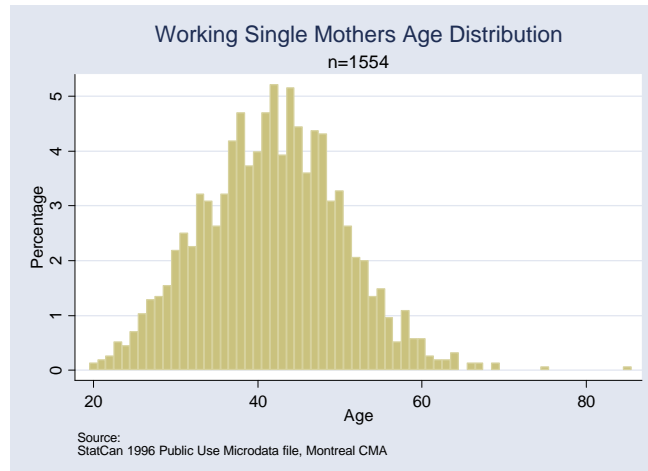
2.2 Preliminary Analysis

Fig. 1: Age distribution among working single mothers

Age: The mean age is 41.8 year, and the distribution has a standard deviation of 8.5 year. 90 % of the working single mothers in our database (i.e. all working single mothers but the ones who work at home) are in the interval [27;55] years.
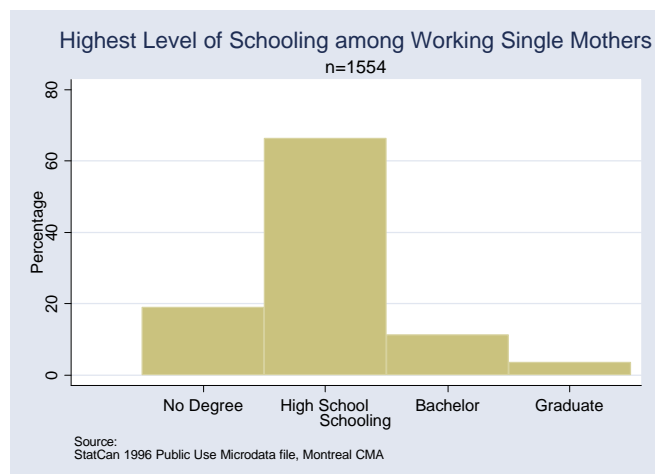
Fig. 2: Education Level among Working Single Mothers

Level of Schooling: An overwhelming majority (66.28%) only have a high school degree but some (14.8%) have a university degree. 18.92 % have no degree.

Fig. 3: Immigration Status among Working Single Mothers

Immigration Status: 18.79 % are immigrants, refugees/asylum-seekers or status-less. The rest of the single mothers in the sample are Canadian by birth.

Fig. 4: Working Single Mothers Income Distribution

Fig. 5: Working Single Mothers log-transformed Income Distribution

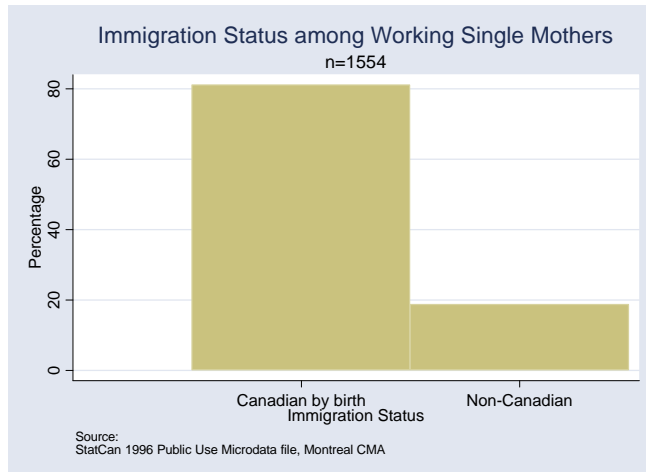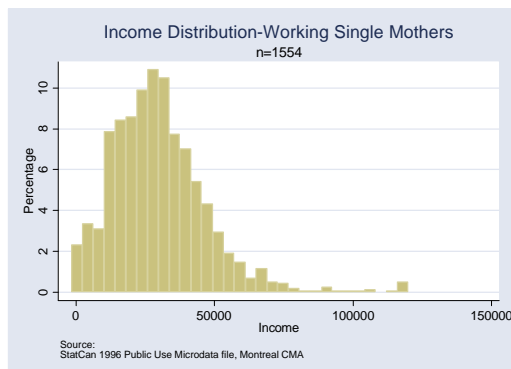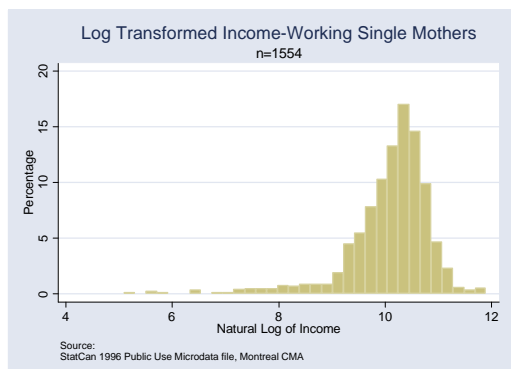Income Distribution: The income distribution of working single mothers is very heterogeneous. It ranges from a loss (-$1697) to $120,000. On average, they make a bit less than $30,000 ($29,929). The standard deviation of the distribution is $17,413, an indication of how heterogeneous the distribution is. To offer a basis of comparison, the average personal yearly income of working female spouses is a bit more than $25,000 ($25,297) and the standard deviation is $17,881. We hypothesize that the difference in average incomes is made of government subsidies for child support.

Commuting Distance-Working Single Mothers
n=1554
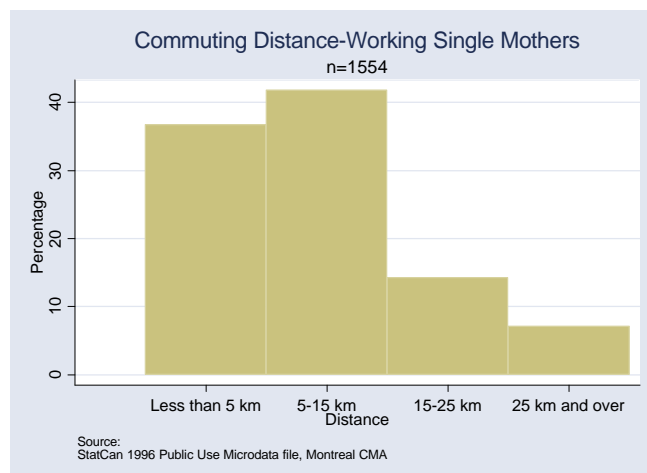
Fig. 6: Commuting Distance-Working Single Mothers

Commuting Distance: The highest majority (41.83%) commute distances between 5 and 15 km. 36.74 % commute less than 5 km.; these include people who chose to live close to home so they would not have to commute too far to go to work (even if they only walked to work, they are considered to commute. In the census, commuting is used in its broader sense, to go from and to home, even if the trip was made by walk). Less than 15 % travel distances between 15 and 25 km (14.29%). Finally, a minority (7.14%) commute 25km and more every day.

Fig. 7: Proportion of Professionals among Working Single Mothers

Occupation Prestige: A bit less than a quarter (24.13%) of the working single mothers are managers or professionals.
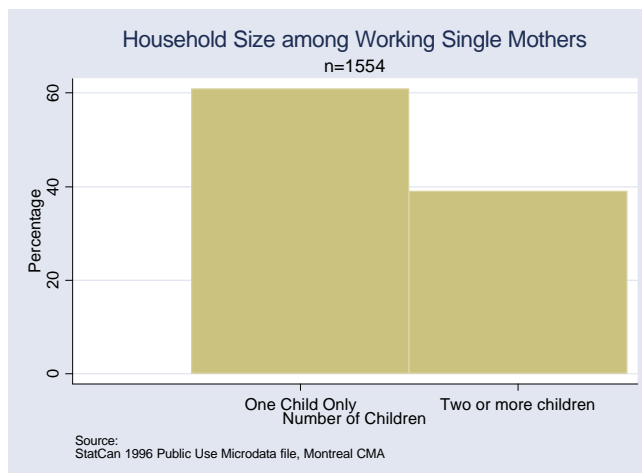
Fig. 8: Household Size-Working Single Mothers

Household Size: More than 60% (60.94%) only have one child.

Tenure among Working Single Mothers
n=1554
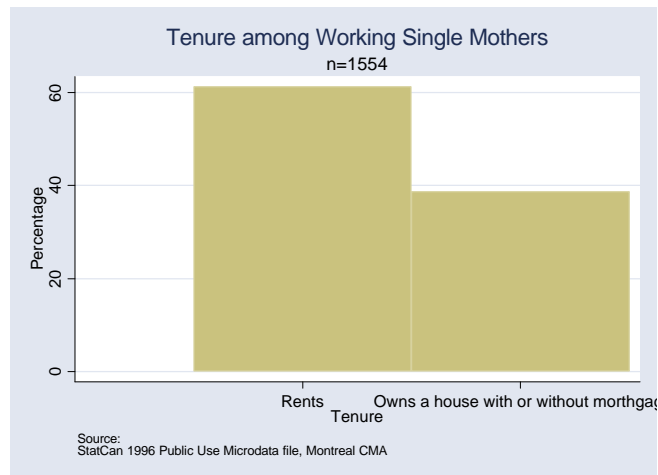
Fig. 9: Tenure-Working Single Mothers

Tenure: A surprising 38.67% own their house. At first, this percentage might be surprising, but we remind the reader that the sample s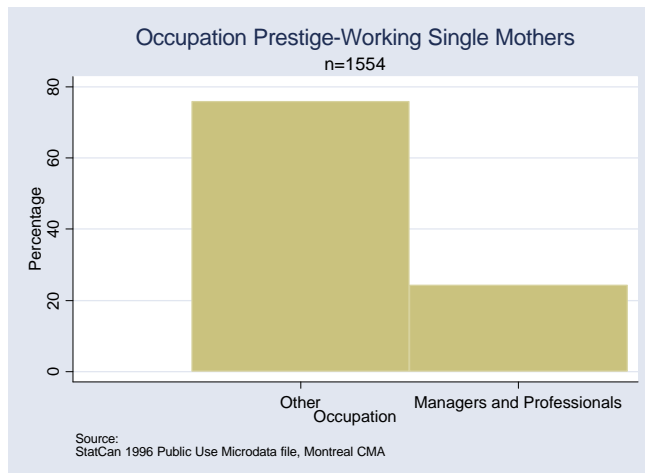ize is composed only of working single mothers, some of whom make all the way to $120,000. Furthermore, almost half of the sample is constituted of divorced single mothers, who are probably getting some child/spousal support from their divorced spouse. The proportion of never-married single mothers is only 24.2% and in that subset, only 21.8% own their houses, a percentage less surprising than the 38.67% mentioned earlier. To provide a basis of comparison, the percentage of female spouses who own their houses is a compelling 71.59%. Of course, female spouses are part of higher incomes families than single mothers due to the revenue generated by their spouse, which explains why this percentage is so high.

Mode Choice: Figure 10 displays the mode choice for work of working single mothers

Fig. 10: Mode Choice among Working Single Mothers

Commuting Mode Choice: A large majority (59%) drives to work, while only less than 3% are car-passengers, a result of their marital status. About less than a third go to work by transit (29%) and 9% use other modes (cycling, walk, cabs…)

3 Logistic Regression of Commuting Mode Choice among Single Mothers in Montreal

3.1 Hypotheses

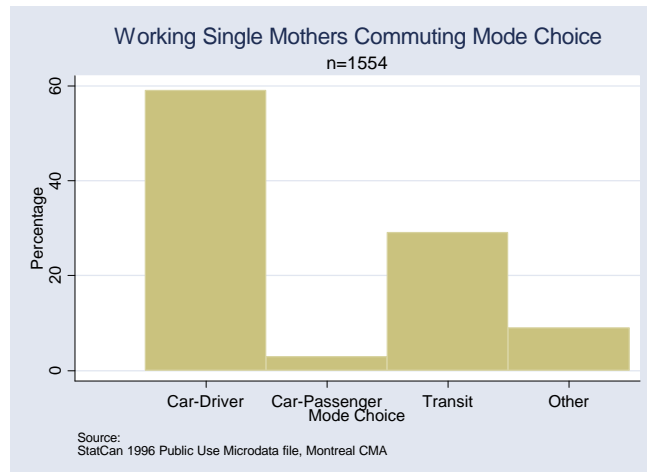In this paper, five independent variables are hypothesized to truly influence car as a mode choice. These variables are income, commuting distance, occupational prestige, household size and tenure.

It is intuitive to assume that car ownership is a direct function of household income, and higher incomes families are more likely to own one or more cars than families with lesser incomes.
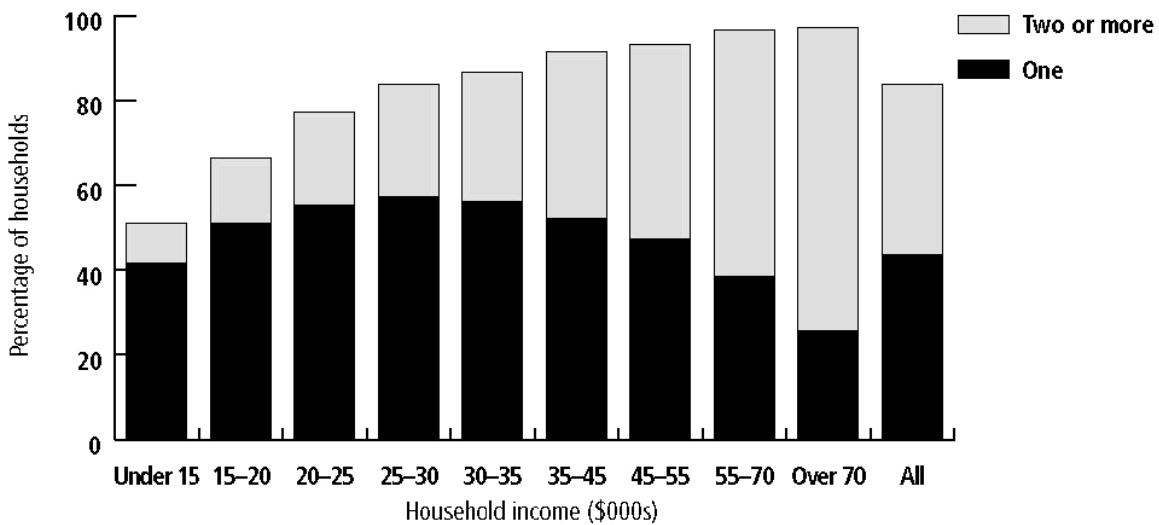
Fig. 11: Proportion of households owning vehicles by household income, 1996

The Transport Canada figure above describes this reality for Canadian households in 1996. The graph depicts a couple of interesting phenomena. First, the general trend of the mean percentage households owning a/more than one car is positively correlated with higher incomes, confirming the intuitive assumption described earlier. The figure also shows that among higher income households, the probability of owning more than one car is higher than in poorer households. These two facts are the basis of our hypothesis, and the rationale for including income in our logistic regression model.

Longer commutes to work are also more conducive of a faster mode like car drive. In our model, there are four categories of commuting distance: people who commute distances less than 5 km, between 5

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and15 km, 15-25 km and greater than 25 km. We expect the odds of driving a car to be higher in categories 3 and 4 than in categories 1 and 2.

We also hypothesize there is a certain prestige about driving a car and that this prestige, defined by one's professional category is especially prevalent among managers and professionals. This hypothesis is not new. In the collective conscience, the car is a status symbol. It embodies the idea of social status. Sheller has argued that "*high-income earners and professional elites […] equate car worth with personal worth*". Similarly, quoting Marsh, Cassel notes (1989) "*The driver of the rusty beetle, and the one in a gleaming turbo-charged Porsche both make equally powerful statements about themselves. They define themselves to be particular kinds of people and so define themselves socially*". This is why we believe that, even when income is controlled for, managers and professionals (considered in the census as the professional elites) are more likely to drive to work precisely because of their status (the indicator variable is coded 1 for managers and professionals, 0 otherwise).

Also, we hypothesize that the need for a car is partly determined by the number of children in the census family. Trips made by women in general, and single mothers in particular, are often in the form of trip chaining; women rarely make single trips, but rather commute before and after work for household-serving purposes: pick up the children, do some groceries, run errands…In the case of dual-earners households, we can hypothesize that some of those household-serving purposes are also shared by the father, but in single parent households, all the work is bared by the single mother. Naturally, family related trips like the ones described above are directly influenced by the size of the family; the greater the number of children, the more complex the trip-chaining. Studies however (Hensher and Reyes, 2000), have shown that trip chaining was incompatible with transit, or any other mode than car drive for that matter. A bigger family size will increase the complexity of trip chaining, which in turn will greatly influence the car as a mode choice. The rationale for the use of the household size as an independent variable becomes then self-evident. More specifically, we posit that in larger families, the single mother is more likely to own a car primarily to cater to the needs of her children, but also to drive to work. The corresponding variable is a dummy coded 1 if the single mother has two or more kids, 0 otherwise.

Finally, we posit that people who own their house (1) are more likely to drive than people who don't (0).The basis of this hypothesis are twofold. The first reason is the direct implication of utility theories. These show that (in the case of transportation) individuals will commute longer distances if they "consume" more residential space (a house as opposed to a rented apartment) in an effort to maximize their utility. The urban form/travel behavior interaction, however, indicates that residential neighborhoods are not conducive of transit, except maybe in the central city. This is to say, where people own their houses, transit is probably not an option, and people have to use their cars. The premise of this last idea is of course that people who have a house already have a car, which is the second basis of our hypothesis. We believe that this is the

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case because the acquisition of a house is dependent not only on a person's capital leverage but also their ability to repay debts in a timely fashion. When granting a mortgage (which households almost always need to buy their houses), all banks will require that the client have a good credit history and owning a car which lease/purchase payments have never defaulted are positive steps in that direction. These two combined facts (trading commute mode for more space and building a credit history) are the basis for our hypothesis linking tenure to commuting mode choice.

A number of control variables (three) have been also determined. These are education, age (proxy for experience), and immigration. The first two variables (education and age) are introduced in the model because they relate to income. Their presence in the model will allow us to capture the true influence of income and hence avoid spurious conclusions. Both are entered as indicator variables. Education is captured through highest level of education (highest degree obtained). Age, however, is entered as a dichotomous variable, 0 for single mothers 30 year of age or less, 1 for 30 year and older. In the absence of a variable capturing experience, age can stand for a reasonable proxy. The rationale for using this proxy is to try and capture the fact that older people (ie. with many years of experience) may have had the opportunity to accumulate wealth, and hence afford a car. If so, it is of importance to account for this phenomenon. Finally, immigration status will determine one's familiarity and comfort with their surroundings. Immigrant single mothers face more challenges than single mothers who are Canadian by birth, *ceteris paribus*. This factor will decrease the chances of immigrant single mothers to drive a car (we have coded this variable=0 for Canadian by birth, 1 for single mothers who are permanent residents, refugees, work permit holders or status-less).

3.2 Model and Results

3.2.1 Performance Measures and Best Model

Table 2: Logistic Regression Models among working single mothers

	m1	m2	m3	m4	m5		m6
					Odds	Coeff.	
Education (base=1:no degree)							
2: High School	1.749**	1.518**	1.484**	1.387*	1.297	0.260	1.294
3: Bachelor	3.541**	2.673**	1.974**	1.790*	1.530	0.425	1.527
4:Graduate	5.054**	3.702**	2.618*	2.589*	2.330*	0.846	2.363*
Age (base= 0: less than 30 year)							
1: 30 year and over	1.369	1.173	1.146	1.132	0.945	-0.057	0.931
Immigration Status (base=0: Canadian)							
1: Non Canadian or Permanent Resident	.286**	0.331**	0.332**	0.356**	0.323**	-1.131**	0.318**
Natural log of Income		1.546**	1.457**	1.427**	1.324**	0.281**	1.319*
Occupation Prestige (base=0: Not a professional, nor a manager)							
1: Manager or Professional			1.764**	1.734*	1.616**	0.480**	1.625**
Commuting Distance (base=1: 5 or less kms)							
2: 5-15 kms				1.435*	1.371**	0.316**	1.381*
3: 15-25 kms				3.959**	3.370**	1.215**	3.371**
4: 25 or more kms				4.011**	3.215**	1.168**	3.199**
Tenure (base=0: Rents)							
1: Owns a house					2.489**	0.912**	2.460**
Number of Children (base=0: Only one child)							
1: Two or More children							1.112
Constant (Model 5 only)						-3.218**	
Sample Size n	1552	1552	1552	1552	1552	1552	1552
Degrees of Freedom	5	6	7	10	11	11	12
LR ?²	128.12	161.32	174.79	249.31	301.98	301.98	302.76
? ?²		33.21	13.47	74.51	52.67	52.67	0.78

Source: StatCan Public Use Microdata File, Montreal CMA, 1996   ▢ : Preferred model
Model Comparison is to previous model

Note:

1. The logistic models in table 2 report odds ratios EXCEPT for model 5 (best model) for which both odds ratios and logit coefficients are reported. The dependent variable is the mode choice to work, coded as 1 if the single mother used her car, 0 otherwise (i.e: any other mode, walk included).

2. ** Wald Test Significant at the 1% level
*Wald Test Significant at the 5% level

As expected, the overall model performance is significantly limited in the absence of critical variables related to urban form (such as density and transit access) and commuting time, which have been proven to considerably affect mode choice. But this model should allow us to examine the combined effects of socio-demographic variables.

The regression models (1 to 6) run on the working single mothers database produce the results presented in table 2. In the first model, only the control variables are used (education, age and immigration status). Subsequently, all our independent variables are entered in the model one at a time so the improvement of model fit can be measured. The likelihood ratio tests and difference in ?² are reported in the last two lines of the table. In the first four tests, the likelihood ratio tests justify our use of the additional independent variable (income in m2, professional status in m3, commuting distance in m4 and finally tenure in m5). However in the last model, when the variable relative to children is entered, the likelihood ratio test produces the following result.

Test	Result
likelihood-ratio test	LR chi2(1) = 0.78
(Assumption: m5 nested in m6)	Prob > chi2 = 0.3786

Table 3: Final Likelihood Ratio Test (m5-m6)

When the children variable is entered, the model fit is improved (0.78), but not enough to justify the additional use of a degree of freedom. We therefore conclude that, according to the LR test, the best model is model 5. But our sample size is relatively large (1554), and so the results we are getting could be biased by the sample size. We therefore turn to Bayesian and Aikake Information Criteria to corroborate (or invalidate) the conclusions drawn from the likelihood ratio tests.

Table 4 contains AIC and BIC results for the six models estimated above.
According to the table, the AIC and BIC become increasingly smaller and negative respectively until model m5, where the trend is reversed (the AIC and BIC for model m6 are bigger and less negative than in model m5).

	Aikake and Bayesian Information Criteria (m1 to m6)	
m1	AIC : 1.279	AIC*n : 1984.620
	BIC : -9386.306	BIC′ : -91.380
m2	AIC : 1.259	AIC*n : 1953.412
	BIC : -9412.167	BIC′ : -117.240
m3	AIC : 1.251	AIC*n : 1941.941
	BIC : -9418.290	BIC′ : -123.363
m4	AIC : 1.207	AIC*n : 1873.427
	BIC : -9470.762	BIC′ : -175.836
m5	AIC : 1.174	AIC*n : 1822.753
	BIC : -9516.088	BIC′ : -221.162
m6	AIC : 1.175	AIC*n : 1823.978
	BIC : -9509.517	BIC′ : -214.590

Table 4: Aikake and Bayesian Information Criteria for models m1 to m6

This confirms the conclusions drawn from the likelihood ratio tests that model 5 is the best model. It is therefore the model that will be used subsequently in this paper.

3.2.2   Implications for hypotheses

Model 5 reveals a number of interesting things. When compared to m6, it indicates that one of our hypotheses-that the number of children influences a single mother's mode choice- is invalid. We had hypothesized earlier on that the more children a single mother has, the more likely she is to own a car (a large family makes transit an impractical option). Because the coefficient for number of children in not significant in model 6, we fail to prove (or reject) the influence of household size on commuting mode choice.

The other independent variables influence the car-mode choice as predicted, but the magnitude of their respective influence comes as a surprise. Although it was expected that income would have the most impact on the odds of driving a car, commuting distance, tenure and occupation prestige (the other hypotheses) have all turned out to be more influential. More specifically, managers, long commuters and home-owners are all more likely to drive than to use any other mode, *ceteris paribus*. Long distances (over 15 km) increase the odds by more than 200%, while tenure multiplies the odds by 2.5. Interestingly enough though, the odds of driving a car are somewhat smaller among single mothers who commute 25$^+$ km than among single mothers who commute distances between 15 and 25 km, all else being equal. Although the odds are not very different (3.215 vs. 3.370, respectively), the results are significant. We can only but hypothesize that this result captures a segment of the population (commuters over 25 km) who are more at a disadvantage than the other commuters, all else being equal. Finally, a single mother's social status (whether she is a manager or not), will increase the odds by 60%, while a unit increase in the logs of income will only change the odds by 30%.

It is surprising that the influence of income is not only moderate, but also much smaller than the other independent variables. In terms of odds, the numbers are compelling, but the results could be misleading if they are not put in the context of probabilities. This is what we propose to do in the following section.

3.2.3 Probabilities

In this section, we offer to plot how the probability of driving a car to work varies across the salient influential factors revealed in our analysis. We have chosen to plot the variation of the probability of driving a car as a function of commuting distance, income and professional status in fig. 12, as a function of home ownership and income in fig 13, and finally as a function of commuting distance and home ownership in the fig. 14 (all other covariates held at their mean).
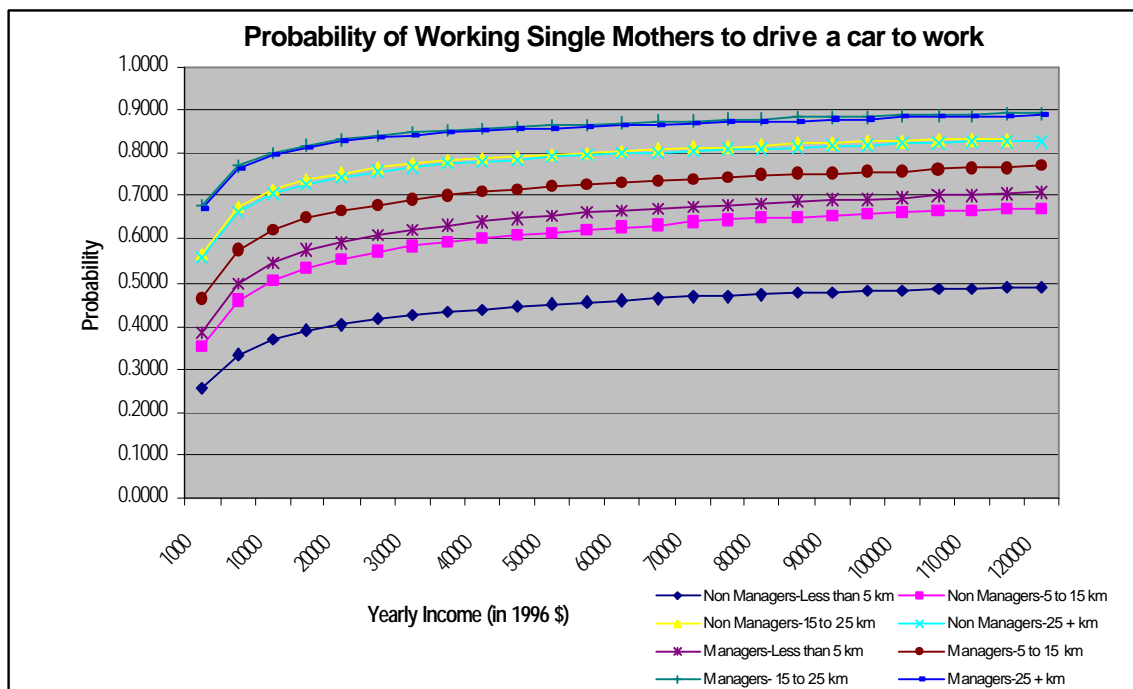

Fig. 12: Mode Choice as a function of income, commuting distance and professional status
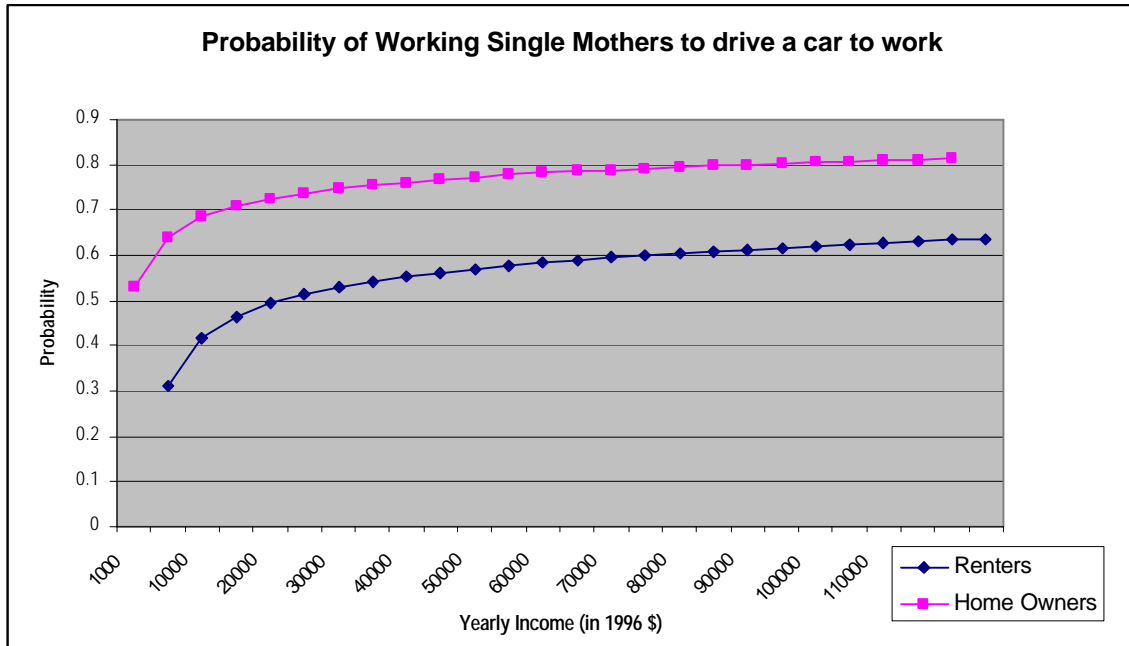
Fig. 13: Mode Choice as a function of income and tenure
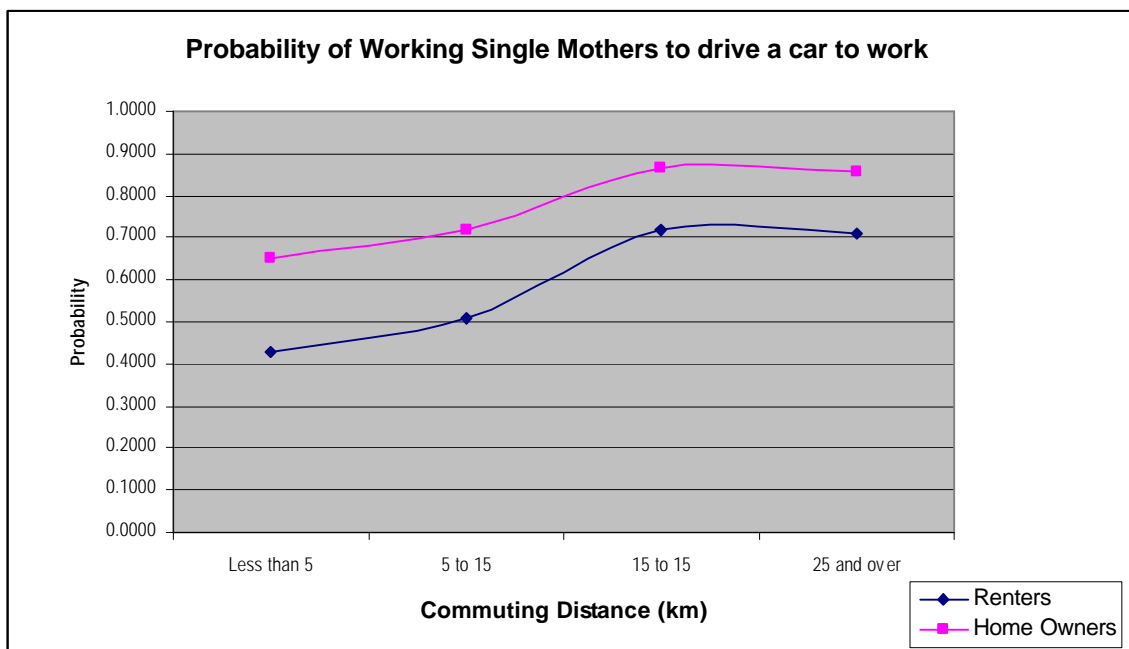

Fig. 14: Mode Choice as a function of income and Commuting Distance

As indicated earlier, commuters in the 15-25 km category are somewhat more likely to drive a car than the single mothers who commute over 25 km, all else being equal. This contradicts somewhat the theory we had hypothesized earlier (that the longer the commute, the higher the probability to drive a car). But figure 13 shows that that difference is less than 1.5% at all levels of income and professional status, a difference in probabilities too small to make any guesses as to why it exists. Also, figure 12 indicates that the combined effect of professional status and commuting length (non-managers who commute less than 5 km and managers who commute 15 to 20 km), amounts to a difference in probability of about 40% when income is held constant. Also, for any given category the effect of income on the probability of driving a car to work has a decreasing rate of increase, as indicated by the decreasing slopes at low levels (less than $25,000) and high levels of income (more than $80,000). This is equivalent to saying that the effect on driving a car, of say an extra $10,000 a year, has more effect among people with low incomes than on people with high incomes. Figure 13 indicates that the effect of home ownership can change the probability of driving a car by 15 to 30%, depending of the level of income. Similarly, in figure 14, tenure can affect the mode choice by 15 to 20% depending on the commuting length.

What we can gather from this analysis is that the impacts of tenure or commuting distance are not homogeneous at all levels of income. On the contrary, they vary as a function of income; when incomes are sufficiently high or distances sufficiently long, the effects of tenure become decreasingly important. Similarly, as distances increase -figure 12-, the effects of professional status become less important.

4 Conclusion

In this paper, we have conducted a study of the socio-demographic determinants of commute mode choice among working single mothers in the Greater Montreal Region. What crystallizes from the analysis is that a similar income increase among low-income and high-income single mothers would capitalize differently in the probability of driving a car among the two groups. While this income increase would have limited effects among higher income households, it would have a dramatic positive effect on the probability of driving a car to work among single mothers who make less than $25,000. This is a very important finding because it illuminates the hypothesis that the purchase of a car is a priority among low-income households (if only they had more money the study shows, they would most probably buy a car).

What policy implications are envisioned? In the U.S., there exist subsidies programs to help families on welfare with the purchase of a car, but these policies have received mixed review, amid the current debate of Kyoto, and after the major 1996 reform of the welfare program that has switched its focus from providing help to moving the welfare recipients to the labour market (Blumenberg, 2004). More research is probably needed to shed some light on the effects, on low-income households, of driving a car to work- does this mode choice increase the number and quality of work opportunities? Does it afford these families a feeling of empowerment and improved well-being? If so, it is essential to rethink the implications of these subsidies programs and their implementation in the Canadian context.

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