

**PRIVATE TRANSPORT ACCESS  
AMONG OLDER PEOPLE:  
IDENTIFYING THE DISADVANTAGED**

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# **PRIVATE TRANSPORT ACCESS AMONG OLDER PEOPLE: IDENTIFYING THE DISADVANTAGED**

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## **Abstract:**

*Private transport is important in enabling older people living in the community to maintain their independence and social networks. Access to this resource remains a major concern for older people. This study examines the demographic risk factors that restrict older people's access to private transport. The findings lead to policy recommendations directed towards self-reliance.*

*Analysis, based on the study's household survey consisting of a sample of non-institutionalised older Gold Coast people (N=401), reveals that there is a sizable group (29%) who do not drive. Of single older women, 21% report that the inability to drive causes significant hardship. Being female, aged over 80 years, receiving a full government pension and possessing a disability are significant factors to the inability to drive.*

*Within coupled households the preference for male drivers may lead to the depreciation of women's driving skills. Since these women are likely to become widowed, they eventually lose their primary source of transport.*

*Programmes delaying the surrender of licences - such as campaigns encouraging married older women not to surrender their driver licences prematurely - will alleviate the pressure of the growing demand for government subsidised transport services and promote greater independence among the older people.*

# **1 INTRODUCTION**

Access to private transport for mobility outside the home is very important in enabling older people living in the community to maintain their independence (Dent 1999; Stacey and Kendig 1997) and nurture social networks (Cant 1989). The study reported here examines the demographic risk factors that restrict older people's access to private transport. Analysis is based on the study's household survey consisting of a sample of 401 non-institutionalised older people<sup>1</sup> residing in the Gold Coast City, in 1999. Organised into two broad tests this paper: 1) identifies demographic risk factors (namely gender, age, income level and disability status) for poor access to private transport; and 2) explains gender differentials in access to private transport. For the purpose of this paper access to private transport is the ownership and ability to drive a car (Dent 1999).

The findings lead to policy recommendations directed towards the encouragement of older people meeting their own transport needs, enabling them to become independent of relatives, friends and the fickleness of government provisions.

## **1.1 The Significance and Contribution of the study**

Little research exists in Australia on the private transport circumstances of older people living in the community (Cant 1989; Dent et al 1999). Yet access to private transport is a concern for older people (Stacey and Kendig 1997; Dent et al 1999). The critical need for greater research in this area is highlighted in several studies. Interviews with referral agents for home and care services identified transport as one of the three greatest unmet needs among Sydney's older people (Baume 1993). A more recent investigation of Sydney's older people

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<sup>1</sup> men (N=197) and women (N=204) aged 65 years and over.

found that over half of the sample reported access to private transport as difficult or impossible (Dent 1999).

While an investigation of private transport access for older people is important, it is a critical issue amongst Gold Coast older residents. The Gold Coast City, characterised by its high proportion of older people - 17% of the total Gold Coast population - far exceeds the Australian average (12.1%) (ABS 1998). Additionally the area possesses one of the fastest growing older populations and continues to remain a popular retirement location. This increase in geographically dispersed families, due to retirement, may preclude adult children from providing transport assistance to their ageing parents (Arber and Ginn 1991).

A recent Gold Coast study found that 29% of the non-institutionalised Gold Coast older people did not drive. The inability to drive was a serious concern for 21% of older women living alone and 11% of older women living as a couple (Vecchio et al 2001). *Transport Woes*, a publication by the Older Women's Network (2002), advances the argument that transport services are inadequate to meet the daily needs of the Gold Coast older population. This inadequacy is evidenced by Transcord's<sup>2</sup> recent scaling down in the frequency of service available to each client. To accommodate the increase in demand for subsidised transport among the Gold Coast older community, Transcord can only guarantee each client a mere one day per week "pick-up" service<sup>3</sup>.

This situation of unmet need is likely to worsen as the Australian population continues to age<sup>4</sup>. The government's commitment to the notion of self-reliance<sup>5</sup> is a response to the

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<sup>2</sup> subsidised transport for the frail and disabled eligible under the Home and Community Care programme.

<sup>3</sup> Telephone interview with A Meehan from Transcord (September, 2002).

<sup>4</sup> The Australian population has become increasingly top heavy at the upper age spectrum with those 65 and over the fastest growing age group. The population of older Australians rose from 8.3% in 1971 to 12.3% in 2000. By 2051 the proportion of older Australians are projected to increase to 24.2% of the total population (ABS 2000).

<sup>5</sup> Individuals are encouraged to take responsibility for their own retirement through schemes such as compulsory superannuation, HACC (Home and Community Care) and private health insurance.

anticipated increase in the costs associated with a rapidly aging population. This implies that older people cannot expect to rely on government resources for their transport needs. Identifying individual characteristics that explain older people's access to private transport will assist in formulating policies that encourage transport independence among vulnerable groups.

## **1.2 Organisation of the Paper**

Section 2 of this paper is a literature review of the determinants of private transport availability. Section 3 briefly describes the transport services available to older Gold Coast residents. Section 4 outlines the conceptual framework in which the two hypotheses are posited, and is followed by an explanation of the research method in Section 5. Section 6 presents the models for 1) testing the determinants of private transport access and 2) identifying the source of gender differentials in private transport. The descriptive and analytical statistics in Section 7 outline the research results. The discussion and recommendations of this study are detailed in Section 8 and 9 respectively.

## **2 GENESIS OF THE STUDY**

Cant (1989) noted the dearth of published research on transportation for older Australians. A decade later Dent et al (1999) supported this observation. Several studies do, however, provide some insight into private transport access among older people. Stacey and Kendig (1997) identified the practical importance of driving and motorcar transport for older Melbourne residents. It highlighted the gender differences in driving and the relative driving disadvantage of older women. As for an explanation of private transport access, a study by Cant (1989) listed costs, disability, fewer driver licences among older women and

institutional hurdles as the main reasons for blocked access to car transport among older Australian people. Dent's (1999) study of 620 older people living in the Sydney community verified the transport deprived. Being female, aged over 80 years, low income, living with others and possessing a disability were significant risk factors in private transport.

### **3 TRANSPORT AND THE GOLD COAST OLDER PEOPLE**

Gold Coast residents eligible under the Home and Community Care (HACC) Programme, such as the frail and disabled, may have access to various subsidised transport services<sup>6</sup>. The majority of older people do not qualify for such services.

For most fit older people, private transport is the preferred choice. General Practitioners (GPs) play a critical role in the availability of this resource. The Queensland Transport department requires those aged 75 years and over to hold a current medical certificate to prove their capacity to drive. Based on the medical evidence and the discretion of the medical practitioner, older drivers may be granted a full licence or a restricted licence e.g. day licence.

According to Lipski (2002) the current arrangements of assessing driving capacity by GPs does have several shortcomings. First, not all GPs are aware of the regulations for medical driver assessments. Second, many GPs do not routinely screen older drivers. Third, GPs are not adequately trained in medical driver assessments. Last, GPs have difficulty remaining impartial in the assessment process of driving capacity. Many are concerned about damaging an established therapeutic doctor-patient relationship if they cancel their patient's driver licence (Lipski 2002).

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<sup>6</sup> These include Transcord, St Vincent's Community Shopping and Transport, and Taxi subsidy.

#### 4 THE PRIVATE TRANSPORT STATUS OF OLDER PEOPLE

This paper tests the findings of Dent (1999) that the significant individual characteristics in accessing private transport are gender, age, household type, income and disability.

The first research question therefore becomes:

*1. Are being female, older age, living alone, receiving a low income and possessing a disability significant risk factors for the inability to drive?*

Evidence reveals that fewer driver licences exist among older women (Cant 1989). Indeed, Cant (1989) reported that on the retirement of their husbands many women had stopped driving. The "rusty skills" hypothesis partly explains this phenomena. Mincer and Polachek (1974) characterised intermittency as the "discontinuity of work experience" due to several entries into and exits from the labor force. They attributed intermittency in employment to women's traditional household responsibilities in families' divisions of home and market labor. During time spent out of the labor force work skills become "rusty" thereby lowering the value of women's human capital and subsequent earning.

I suggest that within older coupled households the household division of labour extends to the driving responsibility. Upon retirement the majority of driving becomes the responsibility of the "primary bread winner" (usually the older male). This leads to intermittent driving by the female. Her "rusty driving skill" proves difficult to maintain and improve. Eventually she surrenders her licence.

The overwhelming evidence from our household survey (1999) that older females have lesser access to private transport (Stacey and Kendig 1997; Cant 1989; Dent 1999) and that, this is a major concern of older women (Vecchio et al 2001), leads to the second research question:

*2. Are older females more vulnerable than older males to the private transport effects of living as a couple, older age, low income and disability?*

Investigating these research questions will assist in the creation of policies that maintain the transport independence of older people as long as possible, as well as, meet the government policy objective of self-reliance.

## **5 RESEARCH METHOD**

The lack of information available on the relevant social indicators made it necessary for this study to conduct a household survey in 1999 of older people residing in private households in the City of Gold Coast<sup>7</sup>.

The household survey questions were influenced by the outcomes of key informant interviews with persons providing services for the elderly on the Gold Coast within the following organizations: 60 and Better, Home and Community Care (HACC), Blue Nursing, St Vincent's Community Services, Fast Track and the Gold Coast City Council.

Pertinent to the present study were questions on demographic background. Instead of self-perceived disability as a measure of disability respondents were asked to indicate if they

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<sup>7</sup> The ten statistical areas with the highest median age were chosen: Bilinga, Broadbeach Waters, Burleigh Heads, Burleigh Waters, Coolangatta, Hollywell, Palm Beach, Paradise Point, Runaway Bay, Tugun



required assistance in daily activities. This was intended to reduce the biasness associated with self-perceived health evaluations<sup>8</sup>.

The postal survey produced a response rate of 45.4%. The total number of 401 survey responses represented 0.8% of the Gold Coast's total 49,235 aged population residing in the 10 statistical local areas<sup>9</sup>. A comparison of characteristics of the surveyed households with ABS local area statistics (1996), revealed that the household sample was highly representative of the Gold Coast's older population.

## 6 THE REGRESSION MODELS

Multivariate analysis by Dent et al (1999) concluded that gender, age, household type, income and disability explained access to private transport. To test the significance of these independent variables a logistic regression model is performed.

### 6.1 The Significance of Gender, Age, Household Type, Income and Disability

Analysis of an estimation of the structural model of the total sample of 401 older men and women establishes the significance of independent variables (gender, age, household type, income and disability) that explain access to private transport.

The model is:

$$T_i = \beta_0 + \beta_1 G_i + \beta_2 A_i + \beta_3 H_i + \beta_4 P_i + \beta_5 D_i + \varepsilon_i \quad (1)$$

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<sup>8</sup> Women tend to over-report their health status while men tend to underreport (Herzog 1989; Frerro 1980).

<sup>9</sup> After completion of the survey, the data was screened for validity and reliability using the SPSS statistical package. This involved an examination of the survey data for plausibility, missing data, outliers, normality, linearity, homoscedasticity and multicollinearity. After vigorous screening of the data, Box's Test confirmed the homogeneity of variances. The Spearman correlation (nonparametric) statistics reported no bivariate correlations greater than 0.7 (Tabachnick and Fidell, 1989). The absence of multicollinearity produced no biased coefficients for the explanatory variables.

where

T = 1 if drives, 0 if does not drive.

G = 1 if male, 0 female

A = continuous variable, age from 65 years

H = 1 if single-person household, 2 if couple household

P = 1 if receive a full government pension, 2 other

D = 1 if full independent living, 2 if rely on others

## 6.2 Interactive Model: The Private Transport Effect of Age, Living Alone, Low Income and Disability

To investigate observed gender differences, an interactive model (moderated regression analysis with a dummy variable) determines the difference between the estimated coefficients of male and female samples. The model identifies the source of this difference, whether it occurs at the intercept values or slope values or both<sup>10</sup>. The first regression model (1) is augmented by adding slope dummy variables. This is recommended by Herzog (1989) and used by Kessler & McLeod (1984). Hence the second model is:

$$T_i = \beta_0 + \beta_1 G_i + \beta_2 A_i + \beta_3 (G.A_i) + \beta_4 H_i + \beta_5 (G.H_i) + \beta_6 P_i + \beta_7 (G.P_i) + \beta_8 D_i + \beta_9 (G.D_i) + \varepsilon_i \quad (2)$$

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<sup>10</sup> Analysis can reveal one of 4 possibilities. That:

Male and female regressions are identical i. e. coincident regression

Male and female regressions differ only in their intercept i. e. parallel regression.

Male and female regressions have the same intercept but different slope i. e. concurrent regression.

Male and female regressions have the different intercepts and different slope i. e. dissimilar regression (Gujarati 1999).

## 7 RESULTS

### 7.1 Descriptive Statistics

Demographic characteristics of the 401 respondents are shown in Table 1. Distribution of characteristics from the sample (household survey) is as expected and consistent with population distributions (ABS 1998). The disability indicator is positively skewed reflecting that most of the non-institutionalised older people do not rely on others for day to day living. Almost half (46%) of the respondents receive a full government pension and 33% live alone.

**Table 1: Demographic characteristics**

		<b>Number</b>	<b>Percent</b>
Gender	Male	197	49.1
	Female	204	50.9
Mean age		74	
Education	Junior	194	50.4
	Secondary/Diploma	148	38.4
	Tertiary	43	11.2
Marital status	Married & de facto	243	60.6
	Never married	11	2.7
	Separated/divorced	30	7.5
	Widowed	91	22.7
	Ancestral	21	5.2
Living alone		132	32.9
Pension	Government pension	182	46.3
	Part/full self funded	211	53.7
Disability	Independent living	305	77.8
	Depend on others	87	22.2

Source: Household survey 1999

### 7.2 The Significance of Gender, Age, Household Type, Income and Disability

The chi-squared test is used to assess the significance of differences in individual characteristics between those that drive and those that do not. Results are presented as odds ratios (OR) and their 95% confidence interval (Table 2). The level for statistical significance is set at 0.01.

**Table 2: Access to private transport by demographic characteristics**

Unable to drive					
		Number	Percent	OR	95%CI
Gender	Male	23/195	11.79	6.076	3.628-10.176**
	Female	91/203	44.82		
Age	>80 years	38/68	55.88	0.250	0.146-0.428**
	65-80 years	74/323	22.91		
Income	Government pension	73/182	40.11	0.323	0.203-0.513**
	Part/full self-funded	37/208	17.79		
Living Alone	No	63/266	23.68	2.029	1.293-3.182**
	Yes	51/132	38.63		
Disability	No	72/302	23.84	2.719	1.653-4.473**
	Yes	40/87	45.98		

Source: Household Survey 1999      \*\* Significant at 0.01 level (two tailed)

Of the total respondents, 29% do not drive. Significant risk factors to private transport access are being female, aged over 80 years, receiving a full government pension, living alone and possessing a disability.

Results from the multivariate analysis (Table 3) reduced the number of factors with significant independent effects. A test of the full logit model for private transport with predictors against a constant-only model are statistically reliable ( $\chi^2 = 119.48$ ,  $p < 0.001$ )<sup>11</sup>. The predictors, as a set, reliably distinguish between able to drive and unable to drive. The relatively larger variance in private transport (Nagelkerke  $R^2 = 0.386$ ) is accounted for by gender, age, income and disability.

Males and those not reliant on others for their daily activities are more likely to drive than females (nine times more likely) and those reliant on others (more than twice as likely). From 65 years of age, as respondent's increase in age there is also a 15% decrease in the odds of driving. Those who receive a full government pension are 60% less likely to drive compared with others. Household type does not explain access to private transport.

<sup>11</sup> Analysis as suggested by Tabachnick and Fidell (1996)

**Table 3: Regression analysis of risk factors for no access to private transport, Model 1**

	Estimate (odds ratio)	Wald-statistic
Gender	2.240 (9.391)***	47.072
Age	-0.122 (0.885)***	26.510
Living alone	-0.093 (0.754)	0.099
Full pension	-0.951 (0.386)***	11.812
Full independent living	0.891 (2.439)***	7.952
R <sup>2</sup>	0.386	
χ <sup>2</sup>	119.480***	

Source: Household survey 1999

\*\*\* Significant at 0.01 level (two tailed)

### 7.3 The Private Transport Effect of Age, Living Alone, Low Income and Disability

The overwhelming evidence that older women are less likely to drive than older men led to the investigation of gender differentials in access to private transport. Using the interactive approach the analysis of the total sample indicates that the intercept coefficient is statistically significant, indicating differences between expected access to private transport for males and females.

**Table 4: Differential intercept between coefficients of the total samples, Model 2**

	Estimate (odds ratio)	Wald-statistic
Gender	2.359 (10.584)**	3.77
Age	-.122 (.885)***	26.492
Living alone	-.076 (.927)	.050
Full pension	-.948 (.388)***	11.552
Full independent living	.891 (2.438)***	7.955
Gender x household type	-.070 (.933)	.010
R <sup>2</sup>	0.39	
χ <sup>2</sup>	119.491***	

Source: Household survey 1999

\*\*\* Significant at 0.01 level (two tailed)

Splitting the analysis into lone and couple households provides greater insight<sup>12</sup>. Analysis of the couple household model reveals that the intercept coefficient,  $\beta_1$ , is statistically significant, indicating a difference between expected values of access to private transport for coupled males and coupled females. This verifies the existence of gender bias.

<sup>12</sup> Analysis was split into lone and couple households to decrease the number of variables in analysis that were not significant. Non-significant variables use up residual dfs and reduce the significance of the main effects.

Furthermore, in the same household model (couple households), the coefficient of the interaction term for age is negative and significant. This implies that coupled older males are more sensitive than coupled older females to the private transport effect of age. In reference to the research question two, it is the older males that are more vulnerable than older females to the private transport effects of age.

**Table 5: Differential intercept and differential slope between coefficients of male and female samples by household type, Model 2**

	Lone Households		Couple Households	
	Estimate (odds ratio)	Wald-statistic	Estimate (odds ratio)	Wald-statistic
Gender	-7.666(.000)	1.355	11.177(71445.5)**	4.300
Age	-.173 (.841)***	11.699	-.078(.925)**	3.941
Gender.Age	.119(1.127)	1.747	-.105(.901)*	2.457
Full pension	1.710(5.528)***	7.228	.770(2.161)*	3.187
Gender.Full pension	-.849(.428)	.459	.087(.908)	.013
Independent living	-2.752(.064)***	8.552	-.150(.860)	.090
Gender.Independent living	1.719(5.581)	1.166	-.933(.394)	1.474
R <sup>2</sup>	0.496		0.343	
χ <sup>2</sup>	56.771***		66.251***	

Source: Household survey 1999

\* Significant at 0.1 level (two tailed). \*\* Significant at 0.05 level (two -tailed). \*\*\* Significant at 0.01 level (two tailed)

## 8 DISCUSSION

Little reported research in Australia exists on the private transport circumstances of older people. Being female, aged over 80 years, receiving a full pension and dependence on others for daily activities were significant risk factors to the inability to drive. Similar to Dent (1999), this study found that living alone was not a significant risk factor when the analysis controlled for gender, age, disability and income. A possible explanation is that older people whose ability to use private transport was not impeded by one or more other risk factors were capable of living alone.

Given a situation where both partners in a couple household can drive, males are less likely to surrender their driver licences than females. Australian evidence (Stacey and Kendig 1997; Cant 1989) and several overseas studies (Campbell et al 1993; Rabbitt et al 1996) support this view. In coupled households, this study found that there was a significant bias towards the male driver. The cultural bias against older female drivers experienced within coupled households could partly explain the significantly higher proportion of non drivers among older women. A further explanation of the gender differentials included that coupled males were more sensitive than coupled females to the age effect.

The preference for male drivers in coupled households may become problematic as older women become widowed and lose their primary source of private transport. This in turn reduces their independence and creates barriers to social networks.

## **9 RECOMMENDATIONS**

Presently the division of labor among older couple households results in a preference for the male driver while the female spouse (usually younger and fitter) embraces an intermittent driving role, leading to the depreciation of her driving skill. Add to this community attitudes that discourage older people from driving, leads to the premature surrender of driver licences among older married women.

While there is certainly a case for more government subsidised transport services, programmes that encourage and maintain an adequate level of skill in driving, particularly among the fitter older married women, will delay the surrender of licences and alleviate the pressure of the growing demand for government subsidised transport services. This promotes greater independence among the older people.

Based on the analysis and interviews this paper recommends the following:

1. The introduction of subsidised driver training and retraining courses, aimed at encouraging fit older people to continue driving<sup>13</sup>.
2. Media campaigns encouraging older women to maintain their driving independence (Stacey and Kendig 1997).
3. Wider issuing and a wider range of restricted licences to eligible older people (Cant 1989).
4. Uniform testing procedures by medical practitioners to grade their patients' motor skills essential in driving a vehicle.
5. The introduction of an independent medical body to oversee all medical assessments relating to the grading of driving capacity. This proposal diminishes the conflict of interest confronted by GPs<sup>14</sup>.

These recommendations are not big ticket items and do not require a great deal of public resources when compared with subsidised transport services. Furthermore, they simultaneously promote the goal of today's government and the primary goal of older people: the promotion of the government's self-reliance principle; and most importantly, the maintenance and promotion of older people's individual independence and autonomy (Arber and Ginn 1991).

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<sup>13</sup> The Queensland Transport department does not offer driving courses or refresher courses in driving. Potential drivers must attend a private driving school. On the Gold Coast driving lessons range in price from \$27 to \$36 per lesson (as at September 2002). Those aged 65 and over are expected to qualify after between 15 and 20 lessons (A Capri Driving School, interview 6/9/2002).

<sup>14</sup> This proposal is supported by 55% of GP's surveyed (Lipski 2002).



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