



The Transportation Needs of American Women in a Cross-Cultural Context

Lalita Sen

Texas Southern University

THE TRANSPORTATION NEEDS OF AMERICAN WOMEN IN A CROSS-CULTURAL CONTEXT

In all states with the exception of Alaska, women represent at least fifty percent of the population, with at least ten percent being over 65 years old (except for Alaska and Utah). (Upclose 1990 Census). At the same time profound social and demographic changes in America over the last twenty years are reflected in lifestyle changes of American women. Today most women live in low density urbanized communities, have salaried jobs (even those with children) and are licensed drivers, using the car for longer drives and for more trips (Rosenbloom: 1995). Women's travel patterns reflect both their work and domestic responsibilities. During this same period the use of transit and carpools have also decreased for the low income and the elderly, the majority of whom are women (Pisarski: 1992).

The traditional travel variables including household income, license-holding, and employment, while valuable for examining the travel pattern difference between groups, help to explain differences among women rather than between men and women. If the cultural factor is added as a variable by introducing the impact of race and ethnicity, will this help to explain women's travel patterns even better?

The importance of cultural factors have become observable in the changing ethnic mosaic in urbanized areas of America. Cultural preferences have begun to show up in advertisement of services such as signage in ethnic languages as well as in English. The availability of certain goods and commodities targeted towards the neighborhood ethnic population also indicate the willingness of the business world to recognize cultural preferences. If the ethnic factor which reflects cultural preferences is examined against its impact on travel patterns, there appears to be differences between Blacks, Whites, Asians and Hispanics based on lifestyle and spatial locational differences, (Miller, Morrison & Vyas: 1986).

Perhaps the same considerations may prove to be a boon for public sector service provisions such as transit. The National Personal Transportation Survey conducted in 1990 provides data for examining travel patterns. Does the data show this anticipated difference in travel patterns between the different cultural groups?

GENERAL PATTERNS

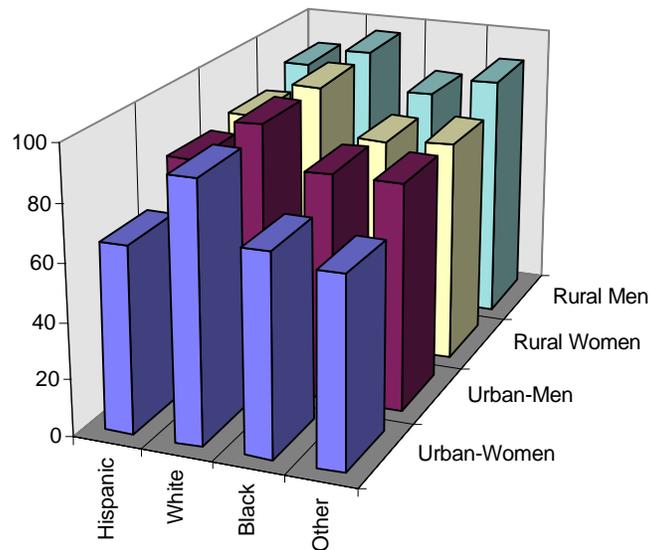
Examination of the National Personal Transportation Survey (NTPS) data for 1990 show that household income, license-holding, and employment explained the differences among different groups of women. Low income men and women in urban areas, and low income women in rural areas worked farther from home. The lowest income group of women traveled much farther than their male counterparts, (Rosenbloom: 1995).

As expected the data also shows that children have a major impact on women's travel habits. The presence of children in their lives explain the greater number of trips and distances traveled by most women 16-64 years of age. These trip patterns are further distorted based on the age of the children.

The marital status of the women also has an impact on distance traveled and the number of trips. If these travel patterns vary on the basis of income, age, and number of children in the household, the race and ethnicity factor should prove to be the remaining missing link in the equation, to explain variations in their travel patterns.

License holding is used as another indicator of travel behavior as well as mode choice. From the data, this statistic for persons 16-64 years of age if broken by sex, race and ethnicity clearly shows that for each racial category a higher percentage of men hold licenses compared to the women in that category. At the same time the differences among the comparable women groups vary.

Figure 1
License Holding People 16-64, by Sex, Race, and Ethnicity



The percentage of rural women's groups holding licenses appears to close the gap with the comparable men's group, reflecting the necessity of automobile as the only form of transportation in most areas. [Rosenbloom: 1995]. While variations between ethnic groups travel patterns exists, it is clear that cross-cultural variation in travel patterns are more likely to be evident in the major U.S. cities where larger numbers and a wider range of minority women live and work.

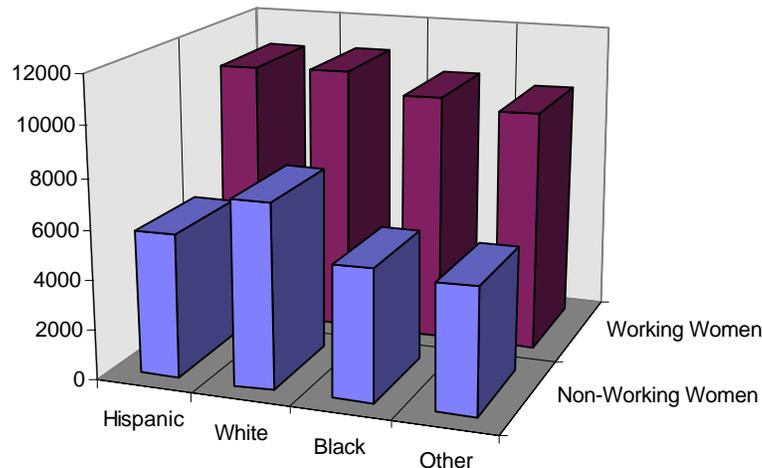
In examining other categories of NPTS data on women it is clear that within urban areas, the greatest difference among the different ethnic groups appears to be trip lengths for family/personal business with white women traveling farthest and Hispanic women the shortest distance. Here the car per household per driver may have provided an explanation for the travel patterns.

If the annual miles traveled in urban areas by women 16-64 is examined by race and ethnicity, the difference in travel patterns are least among working women regardless of race, and greatest between white working women and white non-working women [Figure 2].

This would lead us to conclude that there are little differences in travel patterns among urban women from different ethnic groups. However within the major ethnic categories identified, there may be major differences which are hidden. For example, the category "Black women" include all black women. Thus any black women from the Caribbean islands, South and or Central America, or Africa have their travel patterns totally submerged by the larger black group. Likewise in the "other" women category includes Asian -American many of whom live in close knit family units, and may have the responsibility of an extended family for three generations.

This category also includes North American Indians whose travel patterns and behavior may be totally unlike the larger number of Asian-American Women in the “other” category.

Figure 2
Annual Miles Driven by Urban Women 16-64 by Work Status, Race and Ethnicity, 1990



TRANSPORTATION MODE CHOICE

The impact of culture can be gauged best from the travel mode statistics from Table 1, (Rosenbloom: 1995).

Table 1
Travel Mode for All Urban Trips by Race and Ethnicity by
Women 16-64 Years Old for 1990

Race	Private Vehicle	Transit	Walk	Bike	Taxi	Other
Hispanic	80.40%	7.40%	11.50%	0.10%	0.20%	0.40%
White	92.30%	1.50%	5.20%	0.30%	0.20%	0.50%
Black	78.70%	8.50%	11.00%	-0.60%	1.20%	
Other	80.00%	7.70%	11.10%	0.10%	0.40%	0.70%

While Table 1 clearly supports the overall findings about women using cars as the primary mode due to their multiple responsibilities (work, home, children, etc.), there are significant percentages of minority women who either walk or use transit. The percentage of walkers and transit users are similar for Black, Hispanic and other women. Walking trips are more frequent than transit trips.

The only unexpected results are the very small percentage of taxi users with “Black” women making the greatest use of this mode (0.6%), followed by “other” women. A partial explanation for these results may be due to the exclusion of older women (above 64 years old) who are more likely to use taxis.

Women's Travel Issues

Proceedings from the Second National Conference

(Black women are three times more likely to use the other mode than Hispanic women). The “other” mode may reflect the availability of jitneys, rail, subways etc. which may exist as an option in specific urban centers within specific neighborhoods or areas. The data on daily distances traveled and trips undertaken clearly reflect the pattern of license holding among women with the exception of longer daily person miles for Hispanic Women.

If the principal travel modes for selected urban trips for women by ethnic groups are examined then, excluding private vehicle trips, some interesting patterns emerge for the use of transit and walking, (Table 2), (Rosenbloom: 1995).

Table 2

Principal Travel Modes for Selected Urban Trips by Race and Ethnicity for Women 16-64, 1990, in percentage.

	Work	Shopping		Family/Personal					
	Private	Transit	Walk	Private	Transit	Walk	Private	Transit	Walk
Hispanic	80.41	13.9	5.5	78.9	4.6	23.5	85.2	3.9	10.8
White	91	4.4	3.8	94	0.5	5.3	94.9	0.5	4.2
Black	79.1	14.2	12.5	79.2	4.3	15.8	86.2	4.2	8.9
Other	75.8	16.6	7.3	80.8	5	13.5	86.9	10.8	18.9

For work trips, except automobiles, transit usage is clearly important for all women except white women. For shopping, walking appears to be very important for Hispanic women, followed by “Black” and “other” women. For trips for family or personal business “other” women use walking as the next most used mode after private vehicle, followed by transit as the next most important alternative mode. The modal choice selection is similar for Hispanic women and Black women. This usage of transit and walking may reflect in part, the different lifestyles, the difference in car ownership, license holding, as well as a different cultural preference, perhaps re-enforced by the nature of the land use patterns and availability of transit in different ethnic/cultural neighborhoods.

MARITAL STATUS & CHILDREN

In general, the presence of children for either married women, or single women as head of household has affected women's travel behavior. With an increase in the percentage of single female head of household the impact of marital status, the number of children, and age of youngest children are very critical regardless of ethnicity. If the ethnic factor is added to the impact of marital status of women on their travel behavior, some interesting patterns emerge (Rosenbloom: 1995). The largest number of trips are taken by single white mothers with children, other than those with children between the ages 6-15 years. Single Black mothers have similar patterns although they make fewer trips. Single Hispanic women with children 16-21, and single “other” women with children 16-21 make most of the trips. Clearly for both the “other” women and single Hispanic women the numbers indicate the need to make more trips for and with older children. This may be an indication of a cultural bias and a need to be protective.

In a two adult household, the daily urban trips by the female parent of white and “other” women categories are similar to the pattern of trips made by a single white female parent, although less frequently. The Black female parent appears to make fewer trips with younger children. While Hispanic women with the youngest children make most of the trips, the daily average is less than for White women.

When compared to the 1969 data, the 1990 NPTS data clearly confirms other studies conducted on women's travel behavior (the number of miles traveled by car increased by 82% between 1969 & 1990). The use of car pools dropped substantially in the same period falling 15%, while transit ridership has dropped for all categories of users including the elderly. [Pisarski: 1992]. This data does not reflect another large group of women, whose travel needs are less but who as a group are growing. It is the elderly women. What are their needs and patterns especially if the ethnic/cultural factor is introduced?

ELDERLY WOMEN

While it is clear that younger travelers' patterns do differ along racial and ethnic lines, are these differences retained as they get older? What happens to the older travelers?

An issue to be considered is the behavior of ethnic families toward their elderly female relatives that may create another form of travel assistance or travel patterns. Data on urban travel mode, for all trips by race and ethnicity for women 65 and over show that private vehicle is still the dominant mode, as shown on Table 3. (NPTS Demographic Special Report: 1995).

Table 3
Urban Travel Mode for All Trips for Women 65+ by Race and Ethnicity

Race	Private Vehicle	Transit	Taxi	Walk	All Other
Hispanic	74.20%	4.60%	1.50%	15.20%	4.50%
White	88.40%	1.70%	0.50%	8.70%	0.70%
Black	69.70%	13.50%	1.40%	15.40%	0.00%
Other	70.00%	16.30%	1.20%	12.50%	0.00%

It is clear from the data above, that transit is very important for some Black and "other" elderly, while walking is important to all minority elderly women. The unexpected low taxi usage is marginally highest for the Hispanic, followed by the Black and "other" women categories. All "other" modes (which may include jitneys) appear to be important to the Hispanic only. An interesting feature of this travel pattern is the comparison between older men and women by ethnicity and race, for daily trips, person miles, and daily vehicle trips. Older White men and women have similar patterns with women traveling somewhat less, while older Black and Other women appear to travel twenty percent less than their male counterparts. For older Hispanic women it is reduced by fifty percent when compared to their comparable men. Travel distance for the elderly does increase with household income, rising steeply up to \$25,000 annual income, then the increase is slower, again rising steeply for those above \$40,000 annual income level.

There are few detailed studies on travel behavior and patterns of elderly ethnic minorities outside the Black and Hispanic groups (Cruz-Lopez and Pearson: 1985). There are no detailed studies dealing with the travel patterns of elderly minority women in a cross-cultural setting. Some information on elderly women is available from the study of minority elderly population conducted in the Houston (Sen and Radhakrishna: 1990). Data collected for that study indicates that many elderly Hispanic, Asian- Indian, and Chinese women do not have driver's license, and would not drive. For the two Asian groups car ownership is tied to relatives being the main source of finance. Language barrier is also a factor preventing many minority elderly from utilizing services such as senior activities, as well as existing public transportation facilities.

Women's Travel Issues

Proceedings from the Second National Conference

In the NPTS data, cultural differences in travel patterns and behavior among women from different ethnic backgrounds show up as variations within the overall travel pattern for women. More crucial questions that cannot be answered from such statistics is the lifelong experience of many women with cross cultural backgrounds which determine their behavior, choices of activities and hence their travel needs modified by such factors as income, age, ethnicity/cultural grouping, occupation; household responsibilities, age and number of children, dependent seniors/adults if any and the number of license holders and cars in the household.

Women tend to be the primary care giver in most societies. With the lack of traditional support system of an extended family such as those in many parts of Europe, Asia, Latin America, and Africa, for many, friends or neighbors or other support systems must be used in coping with the day to day responsibilities, (Cruz-Lopez and Pearson: 1985 and Fleishmann and Shmuelli: 1984).

For many women, acquiring support in a dispersed socioeconomic landscape means using time and money for transportation. Many women from other cultures depend on male members or younger members. This is carried on throughout their lives (Sen and Radhakrishna: 1990).

Transportation needs of American Women must be perceived in terms of a number of factors; age, stage in life cycle, location, trip needs, mode choice, and life styles based on previous experiences and cultural background. The existing literature has helped to establish critical factors.

While numerous studies have already isolated the significance of stages in the life cycle, age and location of origins and destinations of trips, conventional studies of mode have dealt with preferred modes without the inclusion of life styles/cultural factors.

Yet this is critical when we consider that many women especially in urban areas are first-generation immigrants whose experience and life styles do not fit the majority. Thus a number of questions have been raised for further research and also to influence data collection efforts at all levels. They are summarized as follows:

- Do women from different cultural backgrounds bundle their trips in a different manner and in different amounts?
- Do they also choose to substitute time for money or travel time for some other activities?
- How do women with prior living experience outside the U.S. choose transport modes or conduct their lives?
- What are the average household size, and the number of non-driving adults and children in the household?
- What are the influence of country of birth / culture on preferred mode, or use of existing mode(s)?
- What are the influence of prior transportation experience on their travel behavior and patterns in the United States?
- What are the influence of their length of residence in the United States and their age at immigration.
- For those women who have acquired their licenses at some later stage in their lives, how do they use the car and how often and where and when do they travel?

If cultural minority women’s groups born in the United States are added to those foreign-born or foreign-raised, there is a wide variety of transport experience which may influence their mode choices and travel behavior and patterns (Table 4).

Table 4
Cultural Background and Probable Transport Experience

Background	Mode
Africa	Walking, Bicycle, Bus, Private Auto, Horseback / Camel
Europe	Public Transit, Train, Sub-Way, Bus, Bicycle, Cart, Walking, Truck, Private Auto
Asia	Bus, Bicycle, Rickshaw, Thukthuk (Three-Wheeled Motorized Vehicle), Train, Cart, Taxi, Contract Bus, Boat, Ferry, Bicycle, Walking
South / Central America	Public Transit, Bus, Private Auto, Subway, Train, Airplane, Horseback, Taxi, Jitney
Australia / New Zealand	Public Transit, subway, airplane, Horseback, Taxi, Bus, Private Auto, Walking
United States	Walking, Jitney, Subway, Ferry, Airplane, Suburban Train, Private Auto, Bus

Table 4 indicates very similar range of modes for all continents and countries. However, the travel conditions, and the primary available mode differ and so do the lifestyle and responsibilities for the women, in all settings.

Although the differences in lifestyles may be great, there are some common elements for those now living in the United States. A Navaho woman in the reservation may walk or get a ride, or use transit if available if she does not have her own vehicle. An African woman who may have moved to the United State may walk, ride transit, or get a ride if she does not own a vehicle.

Those migrating from large population centers of the world, with some education, some knowledge of the English language, will have a different set of lifestyles, expectations, and adaptability. Hence they are likely to become automobile users (unless they are middle-aged or older immigrants). Those who have immigrated from smaller towns and rural areas and have language barriers are more likely to be dependent on public transit, walking, or getting rides. Car ownership may also be delayed due to insufficient income. If these factors are combined with marital status for the women, there may be a longer dependence on public transit, walking or getting rides, by all immigrant women.

Low income cultural minorities among women born in the United States may show similar behavior and travel patterns as the previous group of immigrant women.

A final question that should be raised is how will these women travel as they continue to age in the United States? Will their preferences and behavior shift over time just like the average American-born woman or will their behavior revert to the more dependent role as defined in their respective cultures?

These questions are important in providing the data for future transport service planning especially in areas with high concentrations of immigrants. Such data if collected over time may provide a better guide

Women's Travel Issues

Proceedings from the Second National Conference

to the future demand for para-transit, fixed-route and other types of transportation. Clearly, for many of these women, aging in the United States may lead to the introduction of different types of services and or a more restricted dependent lifestyle close to their friends, relatives, and or children.

Although women with cross-cultural experience may not be a very large group in any city, they may form a significant minority in the socioeconomic landscape (US News: October 7, 1996). Their travel needs and behavior as they age, combined with those of the all other non-driving elderly may be influential in the demand for alternative modes of transportation to the private automobile. Perhaps this increased demand for some form of public transportation may generate some innovative services. If the advent of cycle rickshaws in Oxford, England, is an indicator of transit innovations, it is not inconceivable that similar non-motorized vehicles could be considered for neighborhood services (India Abroad: September 20, 1996).

REFERENCES

- Cruz-Lopez, Miguel and Pearson, Richard E, "The Support Needs and Resources of Puerto Rican Elders," *The Gerontologist*, vol. 25, no. 5, 1985, pp. 483-487.
- Fleishmann, R. and Shmuelli, A. "Patterns of Informal Social Support of the Elderly: An International Comparison," *The Gerontologist*, Vol. 24, no. 3, June 1984, p. 303-312.
- Ho, Amy. "Understanding Asian Communities in Southern California. Implications for Ridesharing Marketing," paper presented at the 1994 Annual Meetings of the Transportation Research board, Washington, D.C., January 9-13, 1994.
- Millar, M., Morrison, R., Vyas, A. "Minority and Poor Households: Patterns of Travel and Transportation Fuel Use," Argonne, Illinois, Argonne National Laboratory, 1986.
- Pisarski, Allan "Travel Behavior Issues in the 90's," U.S. Department of Transportation, Federal Highway Administration, July 1992.
- Pope, Victoria, "Writing Murphy's Law," *U.S. News and World Report*, October 7, 1996 p. 32.
- Rosenbloom, Sandra, "Travel by Women," in *1990 NPTS Demographic Special Reports*, U.S. DOT, Federal Highway Administration, February 1995 p. 2-1—2-57.
- Rosenbloom, Sandra, "Travel by the Elderly," in *1990 NPTS Demographic Special Reports*, U.S. Department of Transportation, Federal Highway Administration, February 1995 p. 3-1 - 3-49.
- Sen, Lalita, and Radhakrishna, Atur , "Transportation of Minority Elderly and Handicapped Population: A New Area for Special Service Expansion," Proceedings for the 5th International Conference on Mobility and Transportation for Elderly and Disabled Persons, Gordon and Breach Science Publishers, Ltd., London, 1990, p. 889-899.
- Suri, Sanjay, " Cycle Rickshaws Branch Out from Oxford," *India Abroad*, September 20, 1996, p. 36.