



Women's Travel for
Shopping in Traditional
Neighborhoods:
How Does a Woman's
Role in the Household
Affect Activity and Travel
for Shopping?

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WOMEN'S TRAVEL FOR SHOPPING IN TRADITIONAL NEIGHBORHOODS: HOW DOES A WOMAN'S ROLE IN THE HOUSEHOLD AFFECT ACTIVITY AND TRAVEL FOR SHOPPING?

INTRODUCTION

In recent years a group of architects, real estate developers, environmentalists have argued for a new form of urban development, called the "New Urbanism" or neo-traditional development. The New Urbanists have developed a set of comprehensive proposals for land use and transportation that are intended to promote a more active public life, an enhanced sense of community, and greater safety for all segments of the population. They advocate a form of development that typically includes mixed-use development, a grid street pattern, and increased density, especially around transit stations (Calthorpe 1993; Katz 1994). Within this new design paradigm, they acknowledge that the New Urbanism is an attempt to recreate many of the elements of the older traditional neighborhoods that were built prior to World War II. They claim that such an urban form literally creates better communities, with a variety of housing for a diversity of housing, well-defined neighborhoods that promote interaction and grid street patterns and transit orientation that facilitate walking, bicycling, and transit use.

The New Urbanists' urban prescriptions for all members of the household include some of the earlier land use prescriptions of Marion B. Fox (1985, 1983). Fox argues that changes need to be made from the existing suburban pattern of low-density and segregated residential development to zoning that permits the development of shops in close proximity to residential areas. Further she argues, this and other land use changes will increase the accessibility of services for women and thus help them to balance the multiple roles related to work, household and children by reducing their need to travel.

This paper considers the differences in the shopping activity and travel of men and women in six traditional shopping areas in the Oakland-Berkeley area of the San Francisco region. These shopping areas were specifically chosen because they have a higher level of density than traditional suburban developments and include the mix of services and residence that should provide the access for women that Fox advocated more than a decade ago.

METHODOLOGY

Data for this paper was collected in six neighborhood shopping areas in the East Bay areas of the San Francisco Region. Each of these shopping areas is surrounded by medium density residential areas (13-21 persons per acre) with households near the regional median income.¹ Two surveys of customers were conducted with approximately equal numbers in each shopping area distributed between weekday afternoons and Saturdays: (1) a brief intercept survey to gather information on travel and shopping activity on the day of the interview; and (2) a mailback from these customers who were willing to provide additional information on household characteristics, attitudes about various factors in the shopping area and their usual pattern of activity and travel for shopping. These samples of approximately 1000 respondents to the intercept survey and 470 respondents to the mailback survey provide the database for the comparisons in this paper.

Women's Travel Issues

Proceedings from the Second National Conference

In this paper the activity, shopping and travel patterns of customers in these shopping areas are compared and contrasted based upon gender and household characteristics. A word of caution is necessary about the household characteristics because of the way in which the data was collected. The gender of the respondents was recorded during the intercept survey and confirmed based upon the response to the intercept survey (see Table 1 for a breakdown of respondents by gender). Although women were more likely to return the mailback survey, there is no evidence of other systematic bias in their responses.

In the mailback survey, the ages of household members was recorded and, respondents were placed into one of the following categories based upon household composition: single person, couple (two adults with no children), single parent, two adults with children, more than two adults with children. Because of the small number of households headed by single parents or more than two adults, all households with children under the age of 18 are included in a single category. Table 2 reports the number of households in each category. As the mailback survey did not request the gender of household members, incomplete information is available about any member of the household who is not the respondent (unless other household members accompanied the respondent when the initial survey was conducted). In addition, the small sample size of respondents to the mailback survey does not allow the analysis of other travel patterns based on income, and other factors that affect travel.

Table 1
Gender of Respondents to Intercept
and Mailback Surveys (Number and Percentages)

	Women		Men		All Respondents	
Respondents to Intercept Survey	522	53%	466	47%	988	100%
Respondents to Mailback Survey	309	66%	159	34%	468	100%

Source: Customer Intercept Survey; Customer Mailback Survey
Notes: Gender was recorded for only 988 of 997 respondents.
Statistics: In comparison of gender of respondents to intercept and mailback survey, women are significantly more likely to respond to the mailback than men ($p < .05$).

This paper considers the following three major aspects of gender differences in shopping, activity and travel patterns for shopping: (1) differences in the household responsibilities; (2) differences in the mode choice; and (3) differences in trip chaining. Differences in household responsibilities will be based upon (1) whether children accompany the respondent on the shopping trip; (2) the percentage of overall food shopping done by respondent; (3) the frequency with which respondents go to the shopping area to engage in various activities; and (4) the number and types of stops made as a part of a shopping trip.

Table 2
 Gender of Respondents by Household Composition,
 Household Employment Status and Respondent Employment Status
 (Number and Percentage of Households)

Household Type	Women		Men		Total	
Single	74	62%	45	38%	119	100%
Not Currently Employed	32	76%	9	24%	42	100%
Respondent is Currently Employed	42	55%	35	45%	77	100%
Households with Two Adults	108	62%	65	38%	173	100%
Neither is Currently Employed	34	74%	11	26%	46	100%
At Least One Household Member is Employed	74	58%	53	42%	127	100%
Respondent is Not Employed	10	58%	7	42%	17	100%
Respondent is Employed	64	58%	46	42%	110	100%
Households with Children	81	72%	32	28%	113	100%
Not Currently Employed	6	75%	2	25%	8	100%
At Least One Household Member is Employed	75	71%	30	29%	105	100%
Respondent is Not Employed	19	100%	0	0%	19	100%
Respondent is Employed	56	65%	30	35%	86	100%
Households with More than Two Adults and No Children	45	73%	17	27%	62	100%
Not Currently Employed	6	78%	1	22%	7	100%
At Least One Household Member is Employed	38	72%	15	28%	53	100%
Respondent is Not Employed	10	67%	5	33%	15	100%
Respondent is Employed	28	74%	10	26%	38	100%
Total	308		159		467	100%
<small>Source: Customer Intercept Survey; Customer Mailback Survey</small> <small>Notes: Subtotals may not equal due to missing information.</small>						

This research largely confirms conclusions of previous studies on women's travel behavior with the exception of the men taking greater responsibility for children, especially when the women works. Consistent with the findings of Hanson and Hanson (1980), this research confirms that women take greater responsibility for shopping activities, especially in households with two adults and/or with children in the household. However, in households with children where the woman is employed, men are equally likely to be accompanied by children. The lack of a difference in mode choice and trip chaining between women and men suggests may confirm the greater responsibility that men in this households take with respect to caring for children.

Women's Travel Issues

Proceedings from the Second National Conference

HOUSEHOLD RESPONSIBILITY

Women's greater level of responsibility for the care of children is shown by the higher percentage of female respondents who took children along to the shopping area (see Table 3). While about 11% of all respondents are accompanied by children, 13% of women respondents were accompanied by children. In all households with children, 46% of women are accompanied by children compared to 28% of men in such households. In households in which the woman is employed, men and women were equally likely to be accompanied by children during the trip to the shopping area.

Table 3

Respondents Accompanied by Children during Shopping Trip by Gender (in Percentages)

	Women	Men	All Respondents
All Respondents*			
Shopping Alone or Accompanied by Another Adult	87	92	89
Accompanied by Children	13	8	11
Households with Children in Which at Least One Member is Employed#			
Shopping Alone or Accompanied by Another Adult	54	72	59
Accompanied by Children	46	28	40
Households with Children in Which Woman is Employed			
Shopping Alone or Accompanied by Another Adult	61	73	65
Accompanied by Children	39	27	35
Source: Customer Intercept Survey Statistics: * - Percentage of women accompanied by children is significantly different than percentage of men ($p < .05$) # - Percentage of women accompanied by children is significantly different than percentage of men ($p > .05$ and $p < .10$)			

Women have a greater responsibility within households for food shopping. In households with two adults and/or children women reported being responsible for a significantly higher percentage of the food shopping than other adults, presumably men, in the household. Working women in households with one other adult or with children had a similar level of responsibility. These findings are consistent with those of Hanson and Hanson (1980) that suggest that women take greater responsibility for food shopping.

Table 4
Percentage of Food Shopping by Gender and Characteristic of Household

	Women	Men
Single Person	93	90
Households with Two Adults*	80	59
Households with Children*	81	53
Households with more than Two Adults	65	64

Source: Customer Intercept Survey

Statistics: Women and men are compared in each households category.

* - The percentage of food shopping by gender is significantly different ($p < .05$).

Male respondents go the these neighborhoods shopping areas with greater frequency than women in all types of households except households with children (see Table 5). These differences suggest that woman may be more likely to plan shopping trips more carefully than men and thus require fewer stops per week or men may be engaging in different types of non-shopping activities in the shopping area. In most other ways, men and women of all households types report going to shopping areas with similar frequency for grocery shopping, specialty food shopping and to go to restaurants.

Overall, women make more stops for specialty foods and comparison shopping and total stops for goods (see Table 6)². Among households without children, the number of stops is not significantly different between men and women (see Tables 7 through 10). The only exception to this trend is the higher rate of stopping by men for miscellaneous convenience stores, such as, the hardware store, the pharmacy and the liquor store. Women in households with children make, on average, a larger number of stops especially for comparison goods, like clothing and other less frequently purchased items, and groceries, including specialty foods. The only category stops that men in households with children make at a higher frequency are the relatively small category of stops for other services, such as business offices, insurance agents, travel agents and other types of less frequently used personal service.

ACCESS MODE

The access mode to the shopping area for women and men is not significantly different for any type of household. However, among employed respondents, men are significantly less likely to drive than are women in single person households and household with two adults. Among households with children, men and women are equally likely to drive. These results are not entirely consistent with the finding of Rosenbloom and Burns (1994) that women with children are more likely to drive because of their greater level of responsibility for the care of children. However, to the extent that men with children were equally likely to be accompanied with children on their shopping, this may suggest an equal sharing of household responsibilities.

These results suggest the claims that people will use alternative modes of transportation to go to shopping areas. In each category of household structure about 60% of respondents used the automobile to get to the shopping area. This compares to over 90% of trips for white men and women for shopping trips (Rosenbloom 1995: 2-43).

Table 5
 Frequency of Shopping by Gender and Household Characteristics
 (Average Number of Times Per Week)

	Women	Men
Stopping in Shopping Area		
Single Person*	2.3	3.9
Households with Two Adults*	2.3	3.3
Households with Children	3.5	3.5
Households with more than Two Adults*	2.9	5.7
All Respondents*	3.1	3.6
Grocery Shopping		
Single Person	1.5	1.9
Households with Two Adults	1.7	2.1
Households with Children	2.5	1.9
Households with more than Two Adults	1.9	2.3
All Respondents	2.1	2.0
Specialty Food Shopping		
Single Person	1.9	1.6
Households with Two Adults	1.8	1.7
Households with Children#	2.1	1.5
Households with more than Two Adults	2.0	2.2
All Respondents	1.8	1.6
Stops at Restaurants		
Single Person	.9	1.3
Households with Two Adults	1.2	.9
Households with Children	.8	.6
Households with more than Two Adults	1.1	.8
All Respondents	.9	1.0

Source: Customer Intercept Survey

Statistics: Women and men are compared men for each type of destination.

* - The frequency of stops for this category differs between men and women ($p < .05$)

- The frequency of stops for this category differs between men and women ($p > .05$ and $p < .10$)

Table 6
Average Number of Stops Made by Type of Stops by Gender of Respondent

	Women	Men	All Customers
Specialty Food Shopping#	.70	.59	.66
Grocery Shopping	.27	.26	.27
Cafés and Coffee Shops	.21	.25	.23
Miscellaneous Convenience	.21	.22	.21
Flowers, Cards and Books	.11	.08	.09
Restaurants	.09	.08	.09
All Convenience Shopping	1.58	1.47	1.54
Convenience Services	.28	.27	.28
Comparison Shopping*	.42	.19	.32
Other Services	.04	.04	.04
Total Stops*	2.32	1.97	2.18

Source: Customer Intercept Survey

Notes: Number of stops is an average number of stops per customer; because customers do not stop at all types of uses, the numbers are less than one stop per customer for most uses. Types of stops are categorized in Steiner (1996).

Statistics: * - Mean number of stops is significantly different at .05.
- Mean number of stops is significantly different at .10.

Table 7
Average Number of Stops Made for Employed Single Person by
Type of Stop by Gender of Respondent

	Women	Men
Specialty Food Shopping	1.00	.69
Grocery Shopping	.11	.17
Cafés and Coffee Shops	.26	.31
Miscellaneous Convenience	.31	.28
Flowers, Cards and Books	.09	.03
Restaurants	.03	.14
All Convenience Shopping	1.80	1.62
Convenience Services	.40	.38
Comparison Shopping	.31	.10
Other Services	.06	.03
Total Stops	2.57	2.13

Source: Customer Mailback Survey

Notes: Number of stops is an average number of stops per customer; because customers do not stop at all types of uses, the numbers are less than one stop per customer for most uses. Types of stops are categorized in Steiner (1996).

Statistics: * - Mean number of stops is significantly different at .05.
- Mean number of stops is significantly different at .10.

Women's Travel Issues

Proceedings from the Second National Conference

Table 8

Average Number of Stops Made by Employed Respondents in Households with Two Adults by Type of Stop and Gender of Respondent

	Women	Men
Specialty Food Shopping	.98	.73
Grocery Shopping	.22	.37
Cafés and Coffee Shops	.21	.27
Miscellaneous Convenience*	.07	.29
Flowers, Cards and Books	.09	.15
Restaurants	.03	.00
All Convenience Shopping	1.60	1.80
Convenience Services	.21	.21
Comparison Shopping	.35	.27
Other Services#	.00	.07
Total Stops	2.16	2.37

Source: Customer Intercept Survey

Notes: Number of stops is an average number of stops per customer; because customers do not stop at all types of uses, the numbers are less than one stop per customer for most uses. Types of stops are categorized in Steiner (1996).

Statistics: * - Mean number of stops is significantly different at .05.

- Mean number of stops is significantly different at .10.

Table 9

Average Number of Stops Made by Employed Respondents from Households with Children by Type of Stop and Gender of Respondent

	Women	Men
Specialty Food Shopping*	1.00	.39
Grocery Shopping#	.30	.11
Cafés and Coffee Shops	.15	.14
Miscellaneous Convenience	.15	.32
Flowers, Cards and Books	.13	.07
Restaurants	.07	.04
All Convenience Shopping*	1.79	1.07
Convenience Services	.24	.36
Comparison Shopping#	.48	.18
Other Services*	.04	.21
Total Stops*	2.56	1.82

Notes: Number of stops is an average number of stops per customer; because customers do not stop at all types of uses, the numbers are less than one stop per customer for most uses. Types of stops are categorized in Steiner (1996).

Statistics: * - Mean number of stops is significantly different at .05.

- Mean number of stops is significantly different at .10.

Table 10

Average Number of Stops Made by Employed Respondents in Households with More Than Two Adults by Type of Stop and Gender of Respondent

	Women	Men
Specialty Food Shopping	.56	.90
Grocery Shopping	.24	.20
Cafés and Coffee Shops	.28	.20
Miscellaneous Convenience#	.08	.40
Flowers, Cards and Books	.04	.10
Restaurants	.04	.10
All Convenience Shopping	1.24	1.90
Convenience Services	.52	.60
Comparison Shopping#	.32	.00
Other Services	.04	.00
Total Stops	2.12	2.50

Source: Customer Intercept Survey Notes: Number of stops is an average number of stops per customer; because customers do not stop at all types of uses, the numbers are less than one stop per customer for most uses. Types of stops are categorized in Steiner (1996).

Statistics: * - Mean number of stops is significantly different at .05.
- Mean number of stops is significantly different at .10.

Table 11

Mode of Access by Household Structure and Gender (Percentages)

	Auto	Other Modes
Single Person		
Women	64	36
Men	56	44
All Households with Single Persons	61	39
Households with Two Adults		
Women	67	33
Men	57	43
All Households with Two Adults	63	37
Households with Children		
Women	63	37
Men	66	34
All Households with Children	64	36
Households with more than Two Adults		
Women	58	42
Men	47	53
All Households with More Than Two Adults	55	45
All Respondents		
Women	64	36
Men	57	43
All Households	62	38

Source: Customer Intercept Survey

Statistics: In comparison of men and women with similar household characteristics, the mode of travel is not significantly different.

Women's Travel Issues

Proceedings from the Second National Conference

the origin or the destination. Among single persons, women are more likely to make the simplest type of trip, home to shop to home and men are likely to make more complex trips including trips with home neither as the origin nor the destination. Among households with children and households with more than two adults and no children the pattern of trip chaining is not significantly different between men and women.

Table 12
Mode of Access by Household Structure and Gender for
Employed Respondents (Percentages)

	Auto	Other Modes
Single Person*		
Women	69	31
Men	46	54
All Households with Single Persons	58	42
Households with Two Adults*		
Women	77	23
Men	59	41
All Households with Two Adults	69	31
Households with Children		
Women	68	32
Men	63	37
All Households with Children	66	34
Households with more than Two Adults#		
Women	61	39
Men	40	60
All Households with more than Two Adult	56	45
All Respondents*		
Women	70	30
Men	55	45
All Households	64	36

Source: Customer Mailback Survey

Statistics: Comparison of men and women by household type.

* - Mode choice is significantly different ($p > .05$)

- Mode choice by gender is significantly different ($p > .05$ and $< .10$)

Trip Chaining

The pattern of trip chaining is not statistically different for households with children and with three or more unrelated adults in the same household³. In households with two adults, men are more likely to make the simplest type of trips, home to shop to home, and the most complex, with home neither as the origin nor the destination. This research lends support to the idea that creating greater accessibility to community services may reduce the burden of travel of both men and women irrespective of the role they take in the household. Among all household types, men and women were less likely to drive to the shopping area than national data surveys suggest. While this may not affect the greater responsibility that women bear for shopping activities, it may reduce the level of travel, or allow them to combine their recreation (a walk in the neighborhood with their children) with shopping activities.

Table 13
Type of Trip by Household Structure and Gender for Respondents (Percentages)

	Simple Home Shop-Home	Work/School Commute μ	Home-based Complex Chain π	Other Complex Chains λ
Single Person#>				
Women	46	10	38	7
Men	29	13	47	11
All Respondents	40	11	41	8
Households with Two Adults*				
Women	34	14	43	9
Men	42	20	22	17
All Respondents	37	16	35	12
Households with Children				
Women	48	12	30	10
Men	41	19	34	6
All Respondents	46	14	31	9
Households with more than Two Adults>				
Women	36	13	33	18
Men	24	24	47	6
All Respondents	32	16	37	15
All Respondents				
Women	41	12	37	10
Men	36	18	34	17
Total	39	14	36	11

Source: Customer Mailback Survey

Notes: > - Due to the small sample size, the comparison was made between the simple, home to shop to home trips and other trips
 μ - Included Home-Shop-Work/School and Work/School-Shop-Home
 π - Included Home-Shop-Other and Other-Shop-Home
 λ - Included Work/School-Shop-Other, Other-Shop-Work/School and Other-Shop-Other

Statistics: A comparison is made between women and men by household type.

* - Pattern of trips is significantly different between men and women ($p < .05$)
- Pattern of trips is significantly different between men and women ($p > .05$ and $p < .10$)

CONCLUSIONS AND OTHER AREAS FOR RESEARCH

This research confirms much of the previous research that suggests that women bear a greater responsibility for shopping activities than men. Women in households with other adults and/or children reported

Women's Travel Issues

Proceedings from the Second National Conference

Table 14
Type of Trip by Household Structure and Gender for Employed Respondents (Percentages)

	Simple Home Shop-Home	Work/School Commute μ	Home-based Complex Chain π	Other Complex Chains λ
Single Person>				
Women	36	12	48	5
Men	31	17	43	9
All Respondents	34	14	46	7
Households with Two Adults#				
Women	27	20	44	9
Men	35	24	22	20
All Respondents	30	22	35	14
Households with Children>				
Women	45	18	29	9
Men	40	20	33	7
All Respondents	43	19	30	8
Households with more than Two Adults>				
Women	43	7	36	14
Men	40	20	30	10
All Respondents	42	11	34	13
Households with More than Two Adults				
Women	37	16	39	9
Men	36	21	31	12
All Households	36	18	36	10

Source: Customer Mailback Survey

Notes: > - Due to the small sample size, the comparison was made between the simple, home to shop to home trips and other trips.

μ - Included Home-Shop-Work/School and Work/School-Shop-Home

π - Included Home-Shop-Other and Other-Shop-Home

λ - Included Work/School-Shop-Other, Other-Shop-Work/School and Other-Shop-Other

Statistics: A comparison is made between women and men by household type.

* - Pattern of trips is significantly different between men and women ($p < .05$)

- Pattern of trips is significantly different between men and women ($p > .05$ and $p < .10$)

doing a higher percentage of the food shopping for the household. Women in households with children made a significantly larger number of stops while shopping especially a grocery stores, specialty food stores and at store that sold clothing and other comparison goods.

Women's greater level of responsibility for children, especially in households with children where both parents work, was not confirmed in this research. Men and women in these household are equally likely to be accompanied by children while they shopped. Contrary to previous research that suggests that working women are more likely to drive and have more complex trip chains than men, the mode choice and trip chains of working men and women with children are similar. This difference could be related to the higher socio-economic status of the households than the general population of the area; households with children had the highest levels of education and income of any household type in this research. While the data collected in this research does not have a large enough sample to explore this question depth, the sharing of responsibility for childcare activities should be explored further.

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NOTES

¹ While it may be desirable to compare households with a diversity of incomes and ethnicities, shopping areas in medium income areas are used to reduce the diversity based upon the shopping market areas. These shopping areas serve customers that are near and slightly above the median income of the region. The customers of these shopping areas are more highly educated, less likely to have children in the household and more likely to be white than other households in the region generally. These samples represent a simple random sample of the customers of each of these shopping areas and, to the extent that customers are from outside of the surrounding neighborhood of any of these shopping areas, do not represent a sample of residents of the surrounding neighborhood. For a more detailed discussion of the sampling method, see Steiner 1996.

² Specialty food shops usually provide a small number of types of goods that are of higher quality than might be found in a grocery store. Bakeries, delies, cheese shops, poultry, fish, meat and produce markets are included as specialty foods. Cafés and coffee shops include places, such as ice cream shops, candy stores, and coffee shops, where a customer can pick up something quickly to eat or drink. They are contrasted with restaurants where customers can sit down for a meal. Miscellaneous convenience services include liquor, and drug and hardware stores. Convenience services includes services, such as the video store, post office, dry cleaners, shoe repair, and bank, that are located in many locations within a region and provide services that are used on a routine basis. Other services include services, such as medical, dental and chiropractic offices, real estate and travel agents that are used on a less regular basis. Comparison shopping includes goods that are purchased less frequently and based on a comparison of cost and quality of services. Clothing, jewelry and gift stores are examples of comparison shopping.

³ Trip chains are categorized into simple and complex chains (see Strathman, Dueker and Davis 1992). By definition all chains begin and end at home. A simple chain is defined as any trip from home to a shopping area to home. Complex chains include all trips with multiple destinations between home, including the shopping area. Within the trip to the shopping area, a respondent could make stops at multiple destinations for different purposes. The different trip purposes within the same shopping area are not considered as a part of the trip chaining. Respondents were asked two question that were combined to define the trip patterns, "Where were you before you came to <shopping area> today?" and "Where will you go after you have made all of your stops in <shopping area>?". Because of the wording of these two questions, three links of each respondent's trip are identified, the stops she made before she went to the shopping area, the stops she made while in the shopping area, and the place she went after she completed her stops in the shopping area. A trip chain is defined for each respondent as a simple chain, home to shop to home, or a complex chain. Complex chains are further categorized into work/school commutes, home-based complex chains, and other chains. Work/school commutes include all trips in which the origin or destination is work or school and the paired destination or origin is home. Home-based complex chains include any trip that has home as an origin or the destination with a location other than home, work, or school. Work/school commutes and home-based complex chains have at least four links in the chain. Trips categorized as other complex chains are potentially the most complicated of all trips; they include all trips in which home is neither the origin nor the destination of the travel. These trips have at least five links in the chain.