Men, Women, and Wheels: The Historical Basis of Sex Differences in Travel Patterns

MARTIN WACHS

There are substantial differences between the travel patterns of men and women, despite the fact that a majority of women are now in the paid labor force. Women make shorter work trips, make greater use of public transit, make more trips for the purpose of serving another person's travel needs, and drive far fewer miles per year than men. The historical basis for these differences in travel are examined and they are attributed ultimately to the evolution of separate spheres that delineate the social responsibilities of men and women. Man's sphere has traditionally been the workplace and woman's, the home, and transportation systems were built with the conscious purpose of separating those functional spheres in geographic space. This was the case when new transit systems were built at the end of the last century and the suburbanization of middle- and upper-class residences ensued. As the automobile became the dominant mode of transportation in the 1920s, the idea of separate spheres was extended to that vehicle, and social conventions developed regarding appropriate uses of the automobile by men and women. These uses differed for the two sexes, and sex-based stereotypes were used to reinforce the division between man's and woman's worlds. Many of the sex-role definitions that were established decades ago have remained, and women's work is still defined within limits associated with their special domain. It is important that transportation planners consider the special travel needs of women because they are indeed the product of conscious policles that have been pursued in the past.

Travel patterns of men and women differ substantially. This might not have been a surprising statement decades ago when most men were employed outside the home and most married women were engaged in full-time homemaking. It is certainly more surprising today when the majority of adult women are in the workforce, even those having small children at home, and there are actually more employed women than employed men in the United States.

Despite the fact that a larger proportion of American women are licensed to drive than at any time in U.S. history, the 1983 Nationwide Personal Transportation Study (NPTS) showed that the average number of annual miles driven per licensed male driver was 13,962, whereas the figure per licensed female driver was only 6,381 (1, p. E-11). Women make trips to satisfy a wider diversity of travel purposes than do men, yet women's trips are on average of shorter distance than men's (2). A number of studies have shown that women work closer to home than do men and that women make a much larger proportion of their trips as passengers. Reviewing a variety of disparate

Graduate School of Architecture and Urban Planning, Harvey S. Perloff Hall, University of California, Los Angeles, Los Angeles, Calif. 90024.

sources of information, Giuliano concluded that women also make the majority of trips taken on public transit in the United States (3).

Most complex social phenomena have deep historical roots, and that is certainly true for travel and the residential location and labor-force participation patterns that influence travel. Research on historical change has shown that these patterns are best understood as part of a continuous evolution of social relationships that has been under way for more than a century.

EARLY EVOLUTION OF SEX DIFFERENCES IN TRAVEL

For most of recorded history, the majority of people worked at home. Most households produced food, shelter, and clothing under their own roofs, and merchants, blacksmiths, craftsmen, and others who offered services for sale did so at their homes. This was true in the United States until well into the 19th century. It began to change slowly as capitalism matured and the industrial revolution gained momentum. Factors reached sufficiently large scale that they required more workers than could be provided within a household and needed separate buildings and special locations, for example, access to waterways and railroad lines.

By 1850 a substantial proportion of the population—but still a minority—worked outside of the home. Virtually all those workers were men and most walked to work. The first metropolitan transit services, horse-drawn omnibuses, operated in the 1830s through 1850s, reflecting increases in travel to and from work and for economic transactions during the workday (4).

This was happening in most industrialized countries throughout the 19th century, but another factor came into play that was especially important in America. Throughout recorded history, most societies had been patriarchal. Men dominated all household decisions. Women and children were important parts of household production; they provided the labor that produced food, clothing, and shelter, but men were in command. In the United States during the last century, a different doctrine evolved, derived perhaps from a combination of the Judeo-Christian ethic and the frontier experience. Men and women here had what historians have called "separate spheres," but women were respected and even dominant within their sphere. Man's arena was work, economic production, and public life (politics, scholarship), and woman's sphere was the care of children, the nurturing of husband, the comfort and tranquility of home, and the moral guardianship of the family. By 1850 or so, home had become more than an economic unit of production. It slowly became a symbol of the ideal of goodness and morality, and it provided material comfort and status. Although this was true to some extent in many western capitalist countries, it was particularly characteristic of American society, and occurred here to a greater degree than elsewhere (5).

The growing separation in space between home and work-place and the established role separation between men and women, along with the related evolution of the home as the primary symbol of the American self-image, are important sources of today's sex differences in activity and travel patterns. Another source is the revolution in transportation and communications technology, which changed more rapidly from 1850 on than it had in all of prior recorded history.

Between 1850 and 1900 transportation technology advanced from horse-drawn carriages to horse-drawn streetcars on rails to cable cars, to steam-driven and electric railways, and finally to individual horseless carriages. Each advance encouraged greater spatial separation between home and work, as did the advent of the telephone. Glorification of home and family caused people to strive for single-family, low-density living, and the streetcars made it possible. As Charles Horton Cooley wrote in 1884 (6):

Humanity demands that men have sunlight, fresh air, grass, and trees. It demands these things for the man himself and still more earnestly for his wife and children. On the other hand, industrial conditions require concentration. It is the office of urban transportation to reconcile these conflicting requirements; in so far as it is efficient it enables men to work in aggregates and yet to live in decent isolation. The greater its efficiency in speed, cheapness, and convenience, the greater the area over which a given industrial population may be spread.

As this quotation illustrates, Americans aspired 100 years ago to lower densities and larger individual homes, which were designed largely to be the woman's domain. Streetcar suburbs of low-density single-family homes were built in most urban areas before the arrival of the automobile, but they were available to only the small proportion of the population who could afford them, and they remained almost exclusively residential in character. Although shops and service establishments were located near their suburban residential customers, factories and commercial institutions were still clustered downtown at the ports, railheads, and markets of the metropolitan area.

Those who used public transit had to pay roughly 20 percent of their average daily wage in fares. Thus, only the rich could live in the suburbs and commute by transit, whereas most people remained in the inner city and walked to work (7, pp. 128–173). This remained the case as urban densities increased precipitously around the turn of the century with the flood of migration from Europe. By 1910 population density on Manhattan's East Side reached 900 people per acre and was growing by 40 percent per decade (8). In Pittsburgh steel workers lived in crowded tenements in the shadow of the mills because they could afford neither elegant single-family suburban housing nor the cost of commuting.

Social reformers saw high-density urban living as the source of disease and maladjustment, and progressives called for suburbanization and the lowering of transit fares to permit it. Feminists and settlement workers joined with real estate developers in calling for lower density and greater separation of home and workplace, and that meant more transit lines and lower flat fares. V. G. Simkovitch, for example, a New York

settlement house worker who was the only woman to address the first National Conference on City Planning in Washington, D.C., in 1909, joined with men speakers in advocating a lowering of transit fares, universal free transfers, and the construction of low-density residential suburbs as the solution to the urban crisis (9). The new subway in New York City was designed to operate with the flat fare and free transfers that still exist in order to promote suburbanization and lower densities by separating man's sphere from woman's sphere in space as well as in function.

WOMEN AND THE EARLY AUTOMOBILE

The automobile appeared before the new transit systems were fully built, bringing with it an enormous variety of social changes. As is well known, the automobile was for a time the plaything of the rich, and although at first one's class determined one's access to it, sex did so to a far lesser extent. Automobiles fit most naturally in low-density, spacious surroundings, and that meant the suburbs, which were the woman's domain during most of the work week. The unconventional Mrs. August Belmont, who had already shocked society by marrying a Vanderbilt before that family was considered socially eligible and by then divorcing him when divorce was unheard of, also blazed a trail by appearing in public at the wheel of her new car in 1897. Later she financially supported the National Women's Party, one of several groups that used automobiles extensively in their campaigns for women's rights and suffrage. Suffragists held automobile parties in town squares, at which speakers would arrive in automobiles draped with banners, carrying mobile podiums and literature to distribute to the assembled audiences. In 1912 the pugnacious and portly Mrs. Belmont made national headlines by leading a "monster parade" down Fifth Avenue in support of the feminist cause, and she did so at the front of an impressive "automobile contingent" (10, pp. 27-28).

Before the turn of the century and until World War I, there were women's automobile races and automobile gymkhanas. Many books were published recounting cross-country automobile adventure trips by women, including one by Emily Post, who was accompanied by her son (11). On January 2, 1900, Florence E. Woods, at the age of 17, merited front-page headlines as she became the first woman to drive her automobile through New York's Central Park (12, pp. 72–73).

There is ample evidence that women could crank-start a car, replace flat tires, and disassemble carburetors as effectively as men. In her 1908 book about motoring, for example, Hilda Ward describes in detail how she patched tires, fixed fuel leaks, and corrected the functioning of cylinders that were misfiring (13). Similarly, the daughter of Laura Ingalls Wilder, while herself motoring across Europe with a woman companion, wrote to her father, Almanzo, giving him detailed instructions on what he should do to clear clogged fuel lines, including blowing into them and using the tire pump should exhaling fail (14, p. 102). She joked about how mechanically inept her father seemed to be, whereas the technical details of automobile maintenance came so easily to her.

Society women before 1910 drove for recreation quite as freely as wealthy men did, and were called *chauffeuses*, but effects of the doctrine of separate spheres were evident in their

travel patterns. Women drove downtown more rarely than men. Typically they stayed within their suburban communities, driving to social events, shops, and school functions.

Electric automobiles were easier to start, because they did not require cranking, and they were cleaner than gasolinepowered vehicles. But they had less power than gasoline cars and were much less adept at hill climbing because of their lesser power and the weight of their batteries. Research by Virginia Scharff (unpublished data, 1986) has shown that electric automobiles were vigorously marketed as women's cars, whereas gasoline cars were pitched toward men drivers, a reflection of their different travel patterns and the social consensus that men and women lived in separate spheres. Women were taken to benefit more than men from the electric's absence of a hand crank for starting, and were expected to drive primarily to perform errands and make social calls within their communities, where the limited range of electrics would suffice. Men, on the other hand, were presumed to put great emphasis on speed and range for longer recreational trips and more adventurous driving, and would not be inhibited by the need to crank-start a car. Scharff points out that at exactly the same time that Henry Ford was introducing the Model T, he bought his wife an electric car for her birthday.

NATIONAL ADOPTION OF THE AUTOMOBILE

In the first three decades of this century, enormous political, economic, and social change occurred, and the automobile was emerging in the midst of that change at an almost unbelievable pace. Although the automobile was still a phenomenon that turned heads in 1900, by 1910 there was one for every 265 people in the United States. Mass production lowered the price of the automobile in relation to income, and by 1917 the ratio stood at one car for every 22 people, and in 1919 it was reported to be one per 16 people. The proportion of the population engaged in manufacturing, servicing, selling, and insuring automobiles had grown so large that the general prosperity encouraging automobile ownership was in large part explained on the basis of the growth of the automobile industry itself. By 1929, with new-car financing on a credit basis quite universal, there was one car for every six men, women, and children in the country; ownership extended to middle- and even lowerclass families, and it was almost literally possible to accommodate the entire population had it wished to take to the roads at once (15, p. 59). By now, as one author put it, "A new car means more to the clerk in the chain grocery store, who never owned one before, than it means to the president of the company whose garages have housed a dozen for years" (16).

As automobile ownership grew by leaps and bounds, innercity population densities declined, and suburbs grew in every metropolitan area. In response, transit use increased for work trips but declined dramatically for recreational and social trips, which were increasingly the domain of the automobile.

Many of the features of the electric automobile, especially the electric starter, had by the early 1920s been incorporated into gasoline-powered vehicles, and electric vehicle purchases declined until they represented an insignificant portion of the new-car market. In addition, enclosed all-weather "family" vehicles, rather than open cars, rapidly came to dominate the

new-car market. For example, in 1919 only 10.3 percent of cars produced in the United States were classified as closed, but by 1929 some 89.4 percent were closed (17, p. 39). The closed car was clearly utilitarian, and in combination with paved roads and streets it completed the transformation of the automobile from recreational vehicle to family necessity.

The enormous growth of the automobile industry in the first part of the 20th century was the most important factor in the prosperity of the 1920s, yet economists and businessmen began to worry about the future. With the number of automobiles approaching the number of families in the United States, industry spokesmen and social commentators wondered aloud whether "saturation" was approaching and whether that meant that the future demand for replacement automobiles would be much lower than the annual demand for "first cars" that had fueled the early growth of the industry. If so, would manufacturers be left with idle capacity in the coming years, and would the economic growth of the country be impaired (18)? The answer came as a conscious and vigorous effort by the industry to promote the ownership of more than one car per family, and the advertising of the 1920s clearly indicates that the second car was marketed to households whose first car was largely the man's domain, but whose second car would be used mostly by the woman.

SEX STEREOTYPING AND THE AUTOMOBILE IN THE 1920s

Given that the automobile industry had decided to market cars to a growth market consisting primarily of women, it is interesting to examine both how the industry viewed women and how it attempted to appeal to them. After all, during World War I women had entered the workforce in unprecedented numbers, and in 1920 they had attained the vote. The image of the flapper was dominating the media; women bobbed their hair, wore short skirts, and were seen drinking and smoking in public. The 1920s are often described as a time of increasing female independence and assertiveness, and the automobile might have been presented as a technology that could liberate women from their traditional roles and help break down the barriers between men's and women's separate spheres.

But the established values were very strong, and the flapper was more a counterculture image than she was the typical housewife of the period. Indeed, leaders of public opinion appeared to have a greater need than ever to reinforce the traditional roles of women against the threats of change. They spoke out against the declining importance of family and home, and transformed the meaning of the liberation of women from a change in their roles to a release from drudgery by applying technology to the reinforcement of traditional roles. Barbara Peterson, for example, describes the emergence of the modern woman in the 1920s in these terms (19, pp. 81–99):

The decade of the 1920s wanted its women soft and pliant and condoned aggressiveness only in sex and sports In the era which glorified that "the business of America is business," every woman was told through the media and advertising that she was entitled to an automobile, radio, washing machine, vacuum cleaner and a "total electric kitchen." This was to be her true liberation; with her new leisure she could be a better mother and more beautiful wife.

Thus, it is not surprising that in a world of jazz, rouge, and short skirts, women were deliberately portrayed in extremely traditional roles by those writing the advertising copy for the automobile industry. In what appeared to many an unstable world, it was safer and more lucrative to appeal to mainstream values than to the minority culture that was trying to break with tradition.

A General Motors advertisement of the 1920s, typical of hundreds of ads placed in magazines and newspapers, shows a middle-class woman picking flowers with her children; their car is visible in the background. The text reads as follows (20):

"When I was a child it was easy for mothers to keep in touch with their children," says a woman in Illinois. "Today the members of the family must make a real effort to keep united. I thought a great deal about this as my children began to grow up. I decided that the most important thing I could possibly do would be to plan ways in which they and I could have good times together. My husband agreed, and for that reason we bought a second automobile, since he had to use his car in getting back and forth to business. I can't begin to tell you of the happiness it has given us—picnics together, expeditions for wild flowers in the spring, and exploration parties to spots of historic interest. It's our very best investment. It has helped the children and me to keep on being pals."... Every year thousands of families decide that a second car is a saver of time, a great contribution to family happiness and health.

The text suggests that traditional roles may be harder to achieve than in the past, but it glorifies them and recommends an automobile as the path to their attainment.

In a society faced with threats of new economic, social, and political freedom for women during the 1920s, the automobile increasingly became a means by which the woman's sphere of home and family was reinforced. Women's opportunities to use the automobile became more and more limited through symbolism and social convention as their actual physical access to the automobile increased.

The popular literature of the 1920s began to present exaggerated descriptions of the women's world as compared with that of men, and the automobile constituted a central part of the imagery. In a widely quoted treatise, The Suburban Trend (21), Harlan Paul Douglass advocated that decentralization and suburbanization continue as the solution to urban ills, though he was well aware of the extent to which suburban life affected men and women differently. He noted, for example, that in several suburbs where commuters were surveyed, women constituted only between 8 and 15 percent of the commuters to the central city. He described women's role as driving their husbands to and from the train stations, driving children to school, and driving to shopping locations. The isolation of suburban housewives was noted, yet his solution was less than satisfying by present-day standards. Observing that suburban women are increasingly well educated, energetic, and possessed of managerial skills, he comments that their energies are and will be put increasingly into organizing (21, pp. 194-195)

women's clubs of spectacular proportions, with palatial buildings, and sometimes representing federation or other forms of complex organization. Their interests are all-sided with a strong tendency to stress civil responsibility, and in their seriousness and competence of administration they often go far beyond the traditional dilettante character of the average women's club in places of like size.

Although women who drove in the first decades of the century were assumed to have at least some interest in the mechanical properties of automobiles, during the 1920s the mechanical traits of cars came to be more associated with men's domain. Women were increasingly important as a market for automobiles, but it was asserted that they had little interest in the engines, brakes, or tires, and instead were devoted to the properties of cars that were more associated with feminine roles: color, styling, upholstery, and comfort. An article in Automobile Topics, a trade journal read by automobile dealers, for example, stated that "one of the first things a woman thinks of when the purchase of a new car is considered, is whether the color of the upholstering will harmonize with her personality, coloring, and clothes." The article goes on to state that if she thinks the car will not complement her looks, the salesman "might as well try to sell his cars to an Eskimo" (22).

In a popular book on consumers, Walter Pitkin reported on a study that showed that in 1929 men were the principal buyers of 59 percent of the automobiles sold, whereas women had become the principal buyers of 41 percent of all new cars. Despite women's increasing influence on car purchases, in a section entitled "Woman, The Economic Imbecile" he quotes Alice Hamilton's column from the *New York World Telegram* to describe how women go about selecting automobiles (23, p. 282):

When a woman views a motor car and looks as if she were pondering weighty matters the automobile dealer grows elated. "Ah," he thinks, "she is considering our wonderful new floating power. She is enchanted by our full pressure engine lubrication."

That puzzled look is deceptive. She is not thinking of freewheeling, of automatic clutches. She is wondering if the car is sufficiently impressive to serve as a frame for her as she sits, viewed through the glass by passing admiring multitudes. She considers how her foot, ankle, and calf will look as she steps smartly down upon the running board.... Does this fawn gray upholstery go with most of her clothes?

As the lines between men's and women's roles regarding the automobile were drawn increasingly sharply in the 1920s to limit woman's place, the stereotype of the woman driver as indecisive, erratic, and unsafe became ever more common. Michael Burger, for example, quotes one writer who stated in the *New Statesman* in 1927 that women (24)

do not very commonly possess the nervous imperturbability which is essential to good driving. They seem always to be a little self-conscious on the road, a little doubtful about their own powers. They are too easily worried, too uncertain of their own right of way, too apt to let their emotions affect their manipulation of the steering wheel.

Women's roles in the home and as mothers are frequently described in the literature of the 1920s as more suited to their temperament and motor abilities than such mechanical tasks as driving a car. Walter Pitkin, for example, states that women differ from men in motor ability, primarily because "boys and men on the average greatly exceed women and girls in the ability to manipulate mechanical contrivances," and as a consequence, "women shink from acting when facing a crisis," "work by fits and starts" when under high pressure, and work consistently only when there is no pressure. Consequently, Pitkin concludes that women are overcautious, that they make

poorer drivers than men, and even that "they cause accidents on the part of their fellow drivers." He goes so far as to state that "owing to their inferior motor outlets, women succeed best in outer behavior in relatively simple motor activities, such as sweeping, washing, and ironing" rather than in more complex motor tasks like driving (23).

A central part of the traditional image of women as moral guardians of household and children is the ideal of chastity, and an important part of the imagery of the new womanhood of the 1920s was the expression of her sexuality as revealed in clothing, hair styles, dance, and many other forms of social behavior. It is not surprising, then, that part of the imagery that developed about the automobile at that time was attached to sexuality and involved the limitation of young women's access to automobiles for the purpose of protecting their chastity. It was assumed, with good reason, that automobiles were widely used for romantic liaisons and for access to dimly lit roadhouses, where young women would smoke and drink, far from parental supervision, and that such behavior could only lead to sexual excesses.

In their famous sociological study, Middletown, for example, the Lynds observed that the automobile and the movie theater had already replaced the parlor as the locus of most courtship, and they quoted the community's judge as saying that automobiles had become "houses of prostitution on wheels." It was observed that children spent more time away from home since the advent of the automobile, and that a boy almost never took a girl to a dance except by car. The automobile became identified with petting parties, and some 31 percent of girls and 40 percent of boys reported having "disagreements" with their families over the use of automobiles. Increasingly, parents attempted to protect their daughters by limiting their opportunities to travel with young men in automobiles, and this in turn further identified the automobile with the different roles of men and women (25).

In a treatise by sociologist Emory Bogardus (26, pp. 74-75), the automobile is directly linked with illicit sexual liaisons in the minds of parents and social workers, who are quoted at length. According to one social worker, "a couple gets off in the country in some secluded spot, and there are very few people who would not be tempted." A parent stated that "the couple out for a ride reach some secluded spot and things go from bad to worse perpetual spooning in all places leads to promiscuous relationships." A social worker observed that high-speed driving "tends to break down all of the barriers that before existed. Other things being equal, the couple in the sports car are more liable to step over the bounds than otherwise, simply because the car they are in is different or a little off color, so to speak." Parents were urged to protect their daughters by restricting their company and their hours of travel in automobiles, and young men were assumed to be doing what was natural to their sex when they acquired cars and used them in the pursuit of female affections.

The 1920s was the decade in which the automobile fully assumed the functions that it has in today's society, with most households having at least one automobile that is central to their economic and social lives. Yet, despite the increasing universality of automobile transportation and the prospect that women and men might have equal access to automobiles by each having one, this period was also characterized by a solidification of sex roles with respect to cars. Women were clearly

defined to be more restricted in their access to automobiles, as their roles as homemaker and nurturer of children were reinterpreted and applied to their status as automobile operators. Their mechanical competence and driving skill were portrayed as limited in order to maintain social limits on women's access to transportation for fear that women might use this access to step beyond their traditional sphere of activities.

SEX ROLES AND THE AUTOMOBILE SINCE WORLD WAR II

The process of suburbanization and expanding motorization of the population and their reinforcement of the doctrine of separate spheres were severely interrupted for fully 15 years by the Depression and World War II. First economic distress and then shortages, rationing, and military service brought great discontinuities in families' patterns of residential location and travel. But after the war the previous pattern of suburbanization was resumed with renewed commitment, as if to make up for lost time. Suburbs grew more rapidly than ever, and automobiles became the nation's primary mode of commuting as highway building and single-family housing subsidy programs reinforced the shared commitment to this pattern. Home remained the separate sphere of women, and in keeping with that image the design of suburban residential tracts stressed built-in cabinets, versatile kitchen appliances, and provision of play areas for children (27). Suburbs were still designed as dormitories for downtown workplaces, and freeways were built to replace commuter railroads and trolley lines as the connections to the traditional downtowns.

But the nature and location of work was changing, as services, information processing, finance, and retailing eclipsed manufacturing and heavy industry as the sources of most employment. Because work in these types of jobs did not require downtown locations and the labor force was now increasingly concentrated in the suburbs, a growing proportion of all jobs came to be concentrated in the suburbs, and by 1970 the census showed that more people traveled to work from suburb to suburb than from suburb to downtown or entirely within the central city. Service and retailing establishments located in the suburbs to take advantage of lower-cost land, proximity to their markets, and proximity to a low-priced labor force consisting increasingly of suburban women. In the 1980s the suburbs are home to a variety of families, many of which do and many of which do not match the traditional stereotypes. Most suburban women are in the labor force, and many single-parent households headed by women are found in the suburbs alongside two-parent households. Suburban households often have as many automobiles as they have licensed drivers, and yet differences in roles and travel patterns persist as an echo of the past.

CONCLUSION

For 100 years the city has been associated with male characteristics. Cities epitomize assertiveness through their economic activity, intellectual creativity, and centrality in world affairs. Simultaneously, the suburbs have been associated with women's sphere. Suburbs are thought of as places of domesticity,

passivity, repose, closeness to nature, and spiritual values (28). Scholars have frequently noted this dichotomy when describing the place of the home and house in American society. They have less often noted the central role that transportation has played in both creating and maintaining this dichotomy, and the utility of travel data for measuring the extent of the dichotomy.

By permitting the spatial separation of home and workplace within the bounds of reasonable expenditures of time and cost, public transit and the automobile encouraged cities to develop spatially in response to the image of separate spheres that was so central to American culture. And current studies of transportation patterns provide measures of the extent to which that image still dominates family and economic life.

Women have entered the work force in very large numbers but still make work trips that are on average substantially shorter than men's. Women, whether they are working or not, make many more trips for the purpose of "serving passengers," that is, delivering someone else to a destination of importance to that person. Although women today have nearly universal access to automobiles and the labor market, the persistence of these differences can be interpreted literally as the echo of the historical patterns that have been reviewed in this paper.

Lower-paid workers have always made shorter work trips than higher-paid ones. Poorer workers a century ago lived near their places of employment because the cost of transport would deplete their earnings if they moved farther away. Today women live closer to their jobs than do employed men in the same households. There are three factors that, taken together, may explain this phenomenon. First, women are paid substantially less than men. Although more women are in the labor force than ever before, they tend to hold the same types of jobs as they did in the 1950s. Women are overrepresented in what is called the "secondary" workforce, consisting of part-time or seasonal workers, and are concentrated in job classifications in which the majority of employees are women, especially clerical and sales work. These positions pay lower wages than the positions traditionally held by men, and it is argued by some that women select jobs closer to home because searching farther away yields no wage advantage among the jobs for which women qualify. Second, women may work closer to home because the recent suburbanization of service and retail activity has resulted in the more even distribution across the urban landscape of "women's" jobs than the professional and technical jobs that are more typically held by men. In other words, women are filling the jobs that moved to the suburbs in the first place in order to take advantage of a proximate low-paid workforce, and those jobs involve shorter commuting distances for just that reason. Third, women work closer to home and drive shorter distances in part because even as they enter the workforce they retain their family obligations as nurturers, shoppers, and homemakers. Because of the time commitments involved in these activities, and the need to be nearer to children in case of a school emergency call, women choose work locations in order to minimize travel and maximize productive uses of their time (29).

Susan Saegert has written that men who enter the workforce rely on their wives for support, but female workers have no wives to rely upon (28). Even as women enter the economic world of work in record numbers, they retain the traditional

role for which the suburbs were designed in the first place. The structure of suburban life, the low densities, and the distances that must be traversed continue to limit women's full entry into what has traditionally been men's sphere, and that is not surprising because the suburbs were built with distinct sex roles in mind. Surveys have shown that men continue to prefer suburban living, but working women who value both their family roles and their work have reported that they find it easier to juggle their dual responsibilities in urban rather than suburban environments, where child care, shopping, and services are available at shorter distances from the home (28). It is not surprising that this is the case, because women are now exerting extra effort and energy to blend roles that were consciously planned to take place in spatially separated locations. Transportation policies and investments made those separations possible, and it is therefore appropriate that the special travel patterns and needs of women be explicitly addressed as part of current transportation policymaking.

ACKNOWLEDGMENT

The research described in this paper was conducted with the support of a Gender Roles Fellowship from the Rockefeller Foundation. The author gratefully acknowledges this support.

REFERENCES

- Personal Travel in the U.S. In Nationwide Personal Transportation Study, Vol. 2, U.S. Department of Transportation, Nov. 1986.
- W. Michaelson. The Impact of Changing Women's Roles on Transportation Needs and Usage. Urban Mass Transportation Administration Report DOT-I-85-01. UMTA, U.S. Department of Transportation, 1983.
- G. Giuliano. Public Transportation and the Travel Needs of Women. Traffic Quarterly, Vol. 33, No. 4, 1980, pp. 607-616.
- G. R. Taylor. The Beginnings of Mass Transportation in Urban America. Smithsonian Journal of History, Vol. 1, Part I and Part II, Summer and Fall 1966.
- C. N. Degler. At Odds: Women and the Family in America from the Revolution to the Present. Oxford University Press, New York, 1980.
- C. H. Cooley II. The Theory of Transportation. Publications of the American Economic Association, Vol. 9, No. 3, May 1894, p. 298.
- T. Hershberg, D. Light, Jr., H. E. Cox, and R. R. Greenfield, The Journey To Work: An Empirical Investigation of Work, Residence, and Transportation, Philadelphia, 1850 and 1880. In Philadelphia: Work, Space, and Group Experience in the Nineteenth Century (Theodore Hershberg, ed.), Oxford University Press, New York, 1981.
- P. Derrick. Catalyst for Development: Rapid Transit in New York. New York Affairs, Vol. 9, No. 4, Fall 1986.
- U.S. Congress. V. J. Simkhovitch: Address to the First National Conference on City Planning, May 22, 1909. Document 422, 61st Congress, Second Session, 1910, pp. 101-105.
- L. Morris. Postscript to Yesterday: America: The Last Fifty Years. Random House, New York, 1947.
- E. Post. By Motor to the Golden Gate. D. Appleton and Company, New York, 1916.
- M. Smith and N. Black. America on Wheels: Tales and Trivia of the Automobile. William Morrow and Company, New York, 1986.
- H. Ward. The Girl and the Motor. The Gas Engine Publishing Company, Cincinnati, Ohio, 1908.
- R. W. Lane and H. D. Boylston. Travels With Zenobia: Paris to Albania by Model T. Ford. University of Missouri Press, Columbia, 1983.
- Committee on Recent Economic Changes of the President's Conference on Unemployment. Recent Economic Changes in the United States. McGraw-Hill Book Company, New York, 1929.

- E. Clark. The Worker and His Gains. The Survey, Vol. 62, No. 5, 1929, p. 283.
- M. Willey and S. Rice. Communication Agencies and Social Life. McGraw-Hill Book Company, New York, 1932.
- B. Amidon. Why Prosperity Keeps Up. The Survey, Vol. 62, No. 5, 1929, pp. 279–280.
- B. Peterson. The Emergence of the Modern Woman. In The Evolution of Mass Culture in America—1877 to the Present (Gerald R. Baydo, ed.), Forum Press, Stillwater, Okla., 1982.
- General Motors advertisement. American Magazine, June 1929, p. 115.
- 21. H. P. Douglass. *The Suburban Trend*. The Century Company, New York, 1925.
- H. C. Wendt. Meeting Woman's Taste in Body Style. Automobile Topics, Vol. 78, June 20, 1925, pp. 531–533.
- 23. W. B. Pitkin. The Consumer: His Nature and His Changing Habits. McGraw-Hill Book Company, New York, 1932.

- M. A. Burger. Women Drivers: The Origins of a 20th Century Stereotype. Presented at the Detroit Historical Society Conference on the Automobile and American Culture, Oct. 1, 1982.
- R. S. Lynd and H. M. Lynd. Middletown. Harcourt, Brace, and Company, New York, 1929.
- E. S. Bogardus. The City Boy and His Problems: A Survey of Boy Life in Los Angeles. Rotary Club of Los Angeles, Los Angeles, Calif., 1926.
- D. Hayden. Redesigning the American Dream. W. W. Norton and Company, New York, 1984.
- S. Saegert. Masculine Cities and Feminine Suburbs: Polarized Ideas, Contradictory Realities. Signs: Journal of Women in Culture and Society, Vol. 5, No. 3, 1980, Supplement, pp. S96-S111.
- S. Hanson and I. Johnston. Gender Differences in Work-Trip Length: Explanations and Implications. *Urban Geography*, Vol. 6, No. 3, 1985, pp. 193-219.