



Distance and Labor Force Participation: Implications for Urban and Rural Women

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ABSTRACT

Six explanations for differences in worktrips between men and women and among different groups of women workers are reviewed in this paper. The first argues that women's secondary role in the labor force and the dual roles women assume (combining paid work with domestic responsibilities) reinforce their resistance to long worktrips. The second explanation is that women's economic returns to commuting do not justify long worktrips. A third argument is that women's jobs are more likely to be located closer to their homes than are men's. Fourth, some have argued that spatially segmented labor markets have emerged to draw on pools of conveniently located, cheap female labor. A fifth set of arguments focuses on the relationship between home and work, arguing that it is different for women than for men, resulting in different commuting choices. A final set of arguments is based on the claim that distance imposes varied constraints on women with different levels of skills and resources. Research on each of these explanatory themes is reviewed and evaluated. The subsequent sections of the paper address the comparative position of urban and rural women, the policy implications of these research findings, and identifies future research and data needs.

DISTANCE AND LABOR FORCE PARTICIPATION: IMPLICATIONS FOR URBAN AND RURAL WOMEN

Labor force participation patterns are intimately connected to commuting behavior, but the nature of this link has been the topic of an extended debate in the literature. As women's labor force participation patterns have changed, so too has their commuting behavior. Although there has been some convergence in the work-related travel of men and women, significant differences remain. As more women have joined the labor force, sharper differences have emerged among different groups of female workers. To what extent have commuting preferences or constraints shaped the ways women have entered employment? Alternately, have women's available employment options dictated the patterns of worktrips they undertake? A variety of explanatory themes have been pursued in answering these questions over the past three decades. These competing (and sometimes complementary) explanations (shown in Figure 1) can be summarized as follows.

Explaining the link between Employment And Commuting

Commuting shapes women's employment

Explanation 1: Short work trips minimize conflicts between parenting, household and employment responsibilities.

Explanation 3: Women's jobs are distributed more evenly across space than men's.

Explanation 5: Job search and accessibility may be constrained by residential location.

Employment shapes women's commuting

Explanation 2: Women's economic returns to commuting do not justify long worktrips.

Explanation 4: Employers locate close to residential areas to attract the desired labor supply.

Explanation 6: A woman's labor force participation may be constrained by the relative burden commuting poses for her.

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1. Most women are secondary or supplementary wage earners in the household. They are more likely to have part-time, intermittent or seasonal jobs, and have higher job turnover rates. Women fulfill a dual role in the household, combining wage earning with their primary role as mothers and household workers. All of these features reinforce their resistance to long worktrips. Short commuting distances make it easier to combine their conflicting time demands, and the subsidiary role that wage work plays in their lives does not encourage long worktrips.

2. Women earn less than men on average, and wage rates for typically female jobs vary less than men's wages. Women's economic returns to commuting do not justify long worktrips. Unlike men, they will not earn significantly more at some locations within the metro area, and might as well minimize commuting costs, thus increasing their real wages.

3. Women's jobs are distributed more evenly across space than are men's. The sectors in which women are more likely to work are either closely tied to consumers (such as retail, personal services, education or health) or may be decentralized to cheaper back-office locations (clerical and other white collar employment). Men on the other hand are more likely to work in producer services, higher level management or professional, or blue collar industries and occupations, which are best located in concentrations of economic activity downtown or away from residential environments. Thus, women are more likely to find employment closer to home than are men.

4. Labor markets do not operate on a city- or metropolitan-wide basis. They are spatially segmented at quite a fine scale, frequently by the race, skill-levels and gender of the labor pools they draw from. Many employers locate at least partly on the basis of local labor supply characteristics. Highly segmented local labor markets based on particular sorts of labor available constrain and shape the employment opportunities available to women. In some occupations and industries, local labor markets may operate as "ghettos" of female employment, low wage but conveniently located.

5. Home location must be considered jointly with work location if we are to understand commuting patterns adequately. Home and work are intimately entwined in a variety of ways, and these links have different consequences for women than for men.

a) Residential location decisions depend on a complex set of factors. In two-earner families, two different job locations must be taken into consideration. The consumption of different amounts and quality levels of housing, and the choice of residential environments suitable for children of different ages, complicate the relationship between residential and employment location. Women's preferences for shorter worktrips may represent an attempt to accommodate these conflicting trade-offs.

b) In many employment sectors (especially those with lower skill requirements) job search areas may be significantly constrained by residential location. Job searches that depend on personal contacts (more likely for women than for men) mean that many women will choose jobs on the basis of the home location.

c) Residential segregation by race and income may have a variety of effects on job search, job accessibility (depending on the available choice of transportation modes) and even employer preferences. The location of many women (especially female heads of households) in more affordable inner city neighborhoods may constrain labor force participation to a narrow range of particular job types.

6. Distance may pose different kinds of constraints on women with different human capital (skills and job experience) and transportation (drivers' license and availability of a car) resources. The threshold costs of the investment required to commute to a job in a more distant less accessible location, and the likely economic returns to commuting for women with different levels of advantage in the labor market, differ substantially among women. Different women's labor force participation patterns may be shaped, enabled or constrained in quite different ways depending on the relative burden that commuting represents for them.

One problem with comparing and evaluating research results based on data spanning three decades is that significant changes have occurred in women's labor force participation patterns, their access to resources, and the spatial structure of both urban and rural employment and residential locations, over this period. Findings based on data collected in the 1960s may be contradicted or undermined by analyses conducted on 1990 data. Since the mid-1960s, women have entered the labor force in increasing numbers, and these changes have been especially significant among married women with children. The 27% of married women with children who worked outside the home in 1960 had increased to roughly 74% in 1990. The increase in married women with children under six who worked outside the home has been even more rapid - from 18% in 1960 to nearly 60% in 1990 (Lugaila 1992, p. 28).

While household labor has had to be reorganized to accommodate this shift, household incomes have not risen as fast as the increasing numbers of two-earner (and even two full-time earner) households would suggest. For many, household incomes have declined in real terms even as labor force participation has increased. Despite sharp increases in the labor force participation of married women since the 1970s, median family income increased by only 6% (11% among married couples) between 1973 and 1990, compared to a 104% increase between 1947 and 1973 (Lugaila 1992, p. 30). This is important for what it suggests about how the role of women wage earners has changed. Once perceived as discretionary or secondary workers with a less stable attachment to the labor force (and thus a different set of commuting preferences) the meaning of work appears to have changed in fundamental ways, with implications for the relative burden that space poses. The impact of married women's contribution to the household can be seen in the fact that families with children where only the father worked had incomes 36% less than those with two full-time workers (Lugaila 1992, p. 65). For the growing numbers of single mother families (from 11% in 1970 to almost 20% in 1990) work outside the home is anything but discretionary, if childcare responsibilities and a host of other barriers can be surmounted. With a family income approximately 42% less than that of married couples, families headed by women have considerably higher poverty rates (Lamison-White 1992, p.6).

The past three decades have seen equally dramatic changes in the spatial organization of work, and substantial continued changes in residential structure. Jobs have changed their content (and their labor needs) in response both to firm reorganization and to technological change (Chapman and Walker 1987, pp. 109-110). Employment centers have shifted away from the downtown core to suburban office, research and industrial parks. Much of the pink-collar clerical employment in which women are concentrated relocated to cheaper peripheral sites as communication networks became more sophisticated. Retail and consumer service jobs (also overwhelmingly feminized sectors) moved along with decentralizing offices, homes and factories. New consumer needs generated by the rise of two-earner families (for more commercialized household services, for daycare, home care and maintenance, and a variety of previously "unpaid" tasks) have added new kinds of jobs in new, more dispersed locations. While the downtown core may retain a solid employment base, the composition of those jobs have changed to include more sophisticated "command and control" functions, and the

lower skilled support services that must be provided on location (Sassen 1991). Intermediate managerial and clerical positions that once provided the bulk of CBD employment are now far more footloose.

Residential suburbanization has continued, blurring into exurbanization at the edges, reinforced by the dispersed location of new employment centers. In a study of 12 major metropolitan areas between 1980 and 1990, Hughes (1995) found that although all but one had grown, central cities lost population in seven of the metropolitan areas, and suburban residents outnumbered city residents in all twelve. Although minority suburbanization has increased over the past three decades, most suburbs of large US cities exhibit sustained high rates of racial residential segregation, and the segregation of poverty-level households in central cities rose sharply during the 1980s (Massey and Denton 1993; Abramson, Tobin and VanderGoot 1995; Kasarda 1993). Hughes (1995, p. 279) found that disparities in unemployment rates between cities and suburbs ranged from 2% to 11%. In almost every metropolitan area, employment growth occurred disproportionately in suburban counties. In eight of the twelve metropolitan areas he studied, more than 90% of job growth over the period 1980 to 1990 was outside the county where the central city was located (Hughes 1995, p. 282).

Can we identify a parallel set of processes at work in rural America? From an urban perspective, suburbanization has decentralized employment. From the point of view of rural residents however, employment has increasingly centralized on the fringes of metropolitan areas, sharpening distinctions between remote and contiguous rural areas. Spatial, economic and social restructuring (as rural America has evolved from an agricultural to a peripheral manufacturing to a peripheral service region) has transformed the labor force participation patterns of rural women, pushing them into waged employment as family farms declined and differentiating the experiences of women with different human capital resources, occupational sectors and household resources.

Rural-based women's labor force participation rates have risen much faster than those of urban women over the past three decades, and women have thus accounted for a larger proportion of non-metropolitan than metropolitan employment growth (Brown and O'Leary 1977; Lichter 1989). However, rural or non-metropolitan-based women continue to be rewarded at lower rates than urban or metropolitan-based women (McLaughlin and Perman 1991; Bokemeier and Tickamyer 1985), to experience much higher rates of unemployment and underemployment than urban or metro women (Maret and Chenoweth 1978; Lichter 1989), and to experience more marginal, discontinuous work histories (Ollenberger, Grana and Moore 1989), even after controlling for differences in human capital and occupational and industrial sector.

Over the 1980s, non-metropolitan counties (especially in the Midwest) lost population rapidly (Beale and Fuguitt 1986; Fuguitt 1991). Reflecting population declines, consumer-based service, retail and construction sectors stagnated or began to centralize in the suburban fringes of adjacent metropolitan areas where they could serve a larger hinterland of mobile rural consumers (Bluestone and Long 1989; Miller and Bluestone 1988). Recently, some commentators have argued that the new divide in rural America is determined less by the health of the farm economy than by proximity to metro areas (Deavers 1992; Galston 1992; Bluestone and Long 1989). Bokemeier and Tickamyer (1985) similarly argue that the important distinction among women's returns to employment is not locational differences within non-metro regions, but the differences in opportunity structure offered by metro versus non-metro labor markets.

Over the past three decades, women's position in the labor force has changed in quite significant ways, as has the spatial and family structure within which they live and work. To what extent have

commuting patterns been transformed to accommodate the new conflicts generated by these changes? This paper reviews research related to each of the six explanations about the link between work and commuting outlined above, and tries to evaluate how each advances our understanding of the link. The implications of these findings for the relationship between labor force participation and worktrip length are discussed for rural and urban women, and policy options to address the problems identified in the literature are discussed in subsequent sections. The paper concludes with an outline of an agenda for further research.

EXPLANATIONS OF THE LINK BETWEEN EMPLOYMENT AND COMMUTING

Women's secondary wage earner status

This was the initial set of explanations offered for the finding that women had shorter journeys to work than men. As outlined above, it is composed of a few different factors. Early investigations of gender differences in worktrip length focussed on the role of children and marital status in constraining the distances employed women were willing to travel to work. Ericksen (1977) and Madden and White (1978) argued that household and childcare responsibilities gave women the role of dual workers, with conflicting responsibilities that they attempted to balance by keeping the journey to work as short as possible. Madden (1981) argues that employed women have larger household responsibilities than employed men, but found that sex differences in worktrip length do not disappear when household structure is controlled for (Madden 1981, p. 184). Although unmarried and married women with children have comparable work trip lengths, the disparity in their residential location suggests they have very different job locations. Men who make the longest worktrips and women who make the shortest are in the same household category - two-earner with children - implying a sexual division of labor within the household that contributes to differences in worktrip length (Madden 1981, p. 185). Singell and Lilleydahl (1986) too find that the presence of children reduces a women's commute but not a man's.

A substantial amount of cross-national evidence supports the relationship between short worktrips and childcare responsibilities. Fagnani (1987) found that French married women with children were likely to adjust their work schedules and travel patterns to meet their children's needs, while married men were unlikely to. Women with more children were more likely to have shorter worktrips than those with fewer or no children (Fagnani 1987, p. 27). In a comparison of households in the United States and the Netherlands, Rosenbloom (1987) shows that women's responsibility for the travel needs of their children results in significant gender differences in travel patterns, and that the impact on women's travel patterns varies with the age of their youngest child (Rosenbloom 1987, p.20).

Hanson and Johnston (1985), however, challenge what they describe as the "folklore" that ascribes women's shorter worktrips to their greater household responsibilities. They find that the gender gap in worktrip length is not evident for single person households; while this would support an argument that household gender divisions account for other trip differences, the argument would be undermined by their finding that worktrip distances are also not significantly different for men and women with preschool children, presumably the stage at which household responsibilities would be heaviest (Hanson and Johnston 1985, p. 206). In more recent work on the same data-set, Johnston-Anumonwo (1992) concludes that household responsibilities do appear to be related to sex differences in worktrip length, but that the relationship is stronger with marital status rather than parenthood. Johnston-Anumonwo concludes that marriage, rather than the presence of children, imposes household responsibilities that deter

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wives from commuting long distances to work (Johnston-Anumonwo 1992, p. 167). Hanson and Pratt's more detailed investigations of the travel patterns of women in Worcester revealed that household responsibilities did indeed pose a significant constraint on the participation patterns and job search strategies of women (Hanson and Pratt 1990).

A related explanation is that women have shorter worktrips because their household responsibilities required them to make numerous linked trips (to the grocery store, to school or daycare) rather than because their household responsibilities required them to be closer to home to deal with emergencies and minimize commuting time (Rosenbloom 1987, p. 19). Hanson and Hanson's (1980) study of travel patterns in Sweden found that employed married women made more shopping and domestic trips than married men, but not as many leisure-related trips. Hanson and Johnston's (1985) study of gender differences in Baltimore did not find significant differences in the amount of non-home, non-work travel men and women engage in, although they did find differences in trip purpose, with women making more household-related (and passenger-serving) trips than men did (Hanson and Johnston 1985, p. 208).

More recent research using 1990 NPTS data has found that although women have shorter worktrips than men, they make far more trips - 3.5 per day in urban areas and 3.6 per day in rural areas compared to 3.3 per day for men. Gender differences in trips per day were sharpest for households with children between six and fifteen; the presence and age of children appears to have a much larger impact on women's trips than it does on men's trips (Rosenbloom 1995, p. 2-32). However, despite the larger number of trips women made, they still travelled fewer person miles than men. Gordon, Kumar and Richardson (1989) do not find any differences in women's worktrip length related to the presence of children, but they do find a significant difference in the number and type of trips made. They speculate that this household-related trip-linking behavior may be an important explanation for women's shorter commutes (Gordon, Kumar and Richardson 1989, p. 508).

A third set of explanations for how women's status as secondary wage earners reduces their worktrip length is related to the structure of the typically "secondary" jobs that women tend to hold. Part-time employees are more likely to have shorter worktrips than full-time employees. Less stable, seasonal and part-time or temporary work does not offer the rewards that would justify long worktrips. However, Hanson and Johnston (1985) find that although women are much more likely than men to work part-time, part-time work is not associated with shorter worktrips - in fact, part-time male workers have worktrips longer than those of men in full-time employment (Hanson and Johnston 1985, p. 201). Gordon, Kumar and Richardson (1989) also found that part-time work status does not explain why women have shorter worktrips.

Thus, although this last explanation may be intuitively attractive, the evidence supporting it is by no means conclusive. This is also an explanation which may have seen the greatest erosion in its validity over time, as women have moved from being secondary or discretionary wage earners to being crucial contributors to the household economy. The evidence on how the age and presence of children affects commuting, however, is mixed.

Women's lower returns to commuting

An alternative explanation of women's shorter worktrips is that typically female jobs offer a very narrow range of salary rewards, irrespective of where they are located. While men may increase their wages by commuting to jobs more distant from residential areas, women will not. According to Madden,

If women had the same job tenure and weekly work hours and, most importantly, the same wages as their male counterparts in the household, their worktrips would no longer be shorter. In fact, they would be longer! (Madden 1981, p. 191)

Rutherford and Wekerle (1988) find that men indeed earn much more per mile travelled than women do, but the distance-income relationship varies for different groups of women (Rutherford and Wekerle 1988, p. 124-5). When women have access to a car, their rate of income gain per mile travelled is nearly the same as that for men using cars. For choice transit riders the gender gap is quite different - men earn dramatically more per mile travelled while women's earnings are affected very little, although similar proportions of both male and female riders work in the CBD (Rutherford and Wekerle 1988, p. 126). Similar disparities are evident for male and female captive riders, although women's earnings improve somewhat compared to those of female choice transit riders. They speculate that the lack of variation in returns to commuting for some women may indicate that some occupations (service and clerical) have relatively constant wage rates across space (Rutherford and Wekerle 1988, p. 129), and thus:

.....a promising structural explanation may be that low marginal gains for females may arise from their concentration in occupations with little variation in income, both at a zonal and an individual level. Thus, even when a women might be willing to travel farther for higher wages, the trade-off simply does not exist because the wages in her occupation are basically fixed (Rutherford and Wekerle 1988, p. 134).

However, while this may be true for choice transit riders, it is not necessarily the case for those driving to work. Variations in wage rates across space may not be constant for all women.

Singell and Lilleydahl (1986) find that when comparisons are limited to full-time workers, wage gains from commuting are approximately equal for male and female employees, holding other factors constant (Singell and Lilleydahl 1986, p. 124). But the gap between men's and women's worktrip lengths cannot be explained by household economics alone. Singell and Lilleydahl find that when a wife earns more than her husband, her worktrip length increases while his falls, but that her worktrip length exceeds his by only a small amount (3%) and is still well below (20%) that of males with similarly high incomes (Singell and Lilleydahl 1986, p. 126). Rutherford and Wekerle (1988) find interesting variations in worktrip length by income. Although the least well paid (42.4% of all women) and the best paid (6.6% of women) have shorter worktrips than men in those income categories, this pattern does not hold for women in the middle groups of the income distribution (including 51.0% of all women), who travel further than men with similar incomes (who make up 45.6% of all men) (Rutherford and Wekerle 1988, p. 122). MacDonald and Peters (1993, p. 40) also find that rural women with moderate hourly earnings have longer worktrips than those with high or low wage rates, suggesting that the relationship between earnings and worktrip length is nonlinear.

The bulk of the evidence reviewed here supports the argument that many women have shorter worktrips because the incremental earnings from more distant jobs will not justify a longer worktrip. However, it is far from clear that this relationship has equivalent effects on all women workers.

Women's jobs are distributed more evenly across space

Another line of research examines the impact of the spatial location of particular types of jobs as an explanation of gender differences in worktrip lengths. Women are concentrated in particular sorts of industries and occupations; the fact that many of these jobs (education, health, clerical, retail and services) are more evenly distributed relative to residential locations than are typically male or gender neutral jobs, may account for the shorter worktrips of women.

Hanson and Johnston (1985) investigate whether female job opportunities are in fact distributed more evenly across the Baltimore metropolitan area, or whether the residential distributions of men and women are different enough to account for observed differences in trip length (Hanson and Johnston 1985, p. 209). They find that working women are more likely (and more likely than men) to live in the city rather than the suburbs, and are more likely to work in the city if they live there (Hanson and Johnston 1985, p. 210). However, they also find that one female-dominated employment sector (administrative support) had a more even spatial distribution of jobs than one male-dominated sector (manufacturing) (Hanson and Johnston 1985, p. 211). In their study of Baltimore, they find that when income is held constant, women still travel shorter distances than men. However, within occupational categories, although men do travel farther than women in every category this difference is statistically significant only for professionals and managers. Furthermore, occupation is related to worktrip length for men, but not for women - although women are concentrated in clerical and service occupations, the worktrips of women in these categories do not differ significantly from those in other occupational categories (Hanson and Johnston 1985, p. 203). However, there are statistically significant differences in the worktrip lengths of women in female-dominated jobs compared to those in non-female-dominated jobs.

Singell and Lilleydahl (1986) provide corroborating evidence. They find that jobs that are female sex-typed have lower commute times than those sex-typed male, irrespective of the gender of the person employed in the job (Singell and Lilleydahl 1986, p. 127). Gordon, Kumar and Richardson (1989) dispute these findings, arguing that gender differences in worktrip length (based on the 1977 and 1983 NPTS) persist across most income and occupational categories (Gordon, Kumar and Richardson 1989, p. 509). Thus, although there is fragmentary evidence that women's worktrips are shorter than men's because women's jobs are distributed more evenly relative to residential areas than men's, there is an insufficiently clear relationship between occupation or industry type and worktrip length. It is difficult to draw firm conclusions on how job type affects commuting patterns.

Spatially segmented labor markets

Explanations based on lower returns to commuting and on the spatial distribution of women's jobs relative to men's have produced conflicting evidence as explanations for women's shorter commutes. More recent research has pursued these arguments in more complex ways. Hanson and Pratt (1992) argue that

Our study clearly demonstrates that space is not a container of different labor market segments but the medium through which different segments are forged. Local labor markets are indeed heterogeneous because of gender, race, and class-based segmentation, as Peck (1989) argues, but they are also spatially segmented through the fine-scaled processes defining labor supply and demand (Hanson and Pratt 1992, p. 404).

A substantial body of research related to this point argues that the delimitation of local labor market areas on the basis of a uniform travel-to-work area is too reductionist - “although spatial proximity may *permit* labor market competition, whether or not such competition actually takes place will depend on the way in which particular local labor markets are segmented” (Peck 1989, 44). Simpson (1987) argues that the job search problem needs to be conceptualized in terms of spatially distinct labor markets (or “islands”) that introduce search or mobility costs into explanations of unemployment and wage behavior (Simpson 1987, p. 121). Thus, job searches are “spatially systematic”. He argues further that job search depends also on skill levels - that more skilled workers will search for opportunities in their specialty over a much wider range than less skilled workers (Simpson 1987, p. 121).

Hanson and Pratt (1992) examine how employers’ and employees’ practices create and maintain local labor markets within metropolitan areas and how these narrowly constrained markets exacerbate segmentation of the labor force (and of metropolitan economies). Their study of Worcester, Massachusetts highlights the problems with relying on city-regions or metropolitan areas to approximate local labor markets: “...the size of these areas does not come close to matching an actual journey-to-work space for anyone, save those in well-paying professional, technical, or managerial positions. For the majority of the work force, the set of job opportunities actually available, or seriously considered, is far more spatially constrained” (Hanson and Pratt 1992, p. 375). Many of the practices they identify are explicitly gendered, as employers design jobs with flexible hours to attract women, and firm location decisions reflect employers’ understanding of how skills and mobility intersect in providing access to the desired labor force (Hanson and Pratt 1992, p. 382). Recruitment and job search strategies too are tailored to specific areas, and work effectively to maintain spatially segmented labor markets. (Hanson and Pratt 1992, p. 384) Hanson and Pratt find that travel time to work varies not only by gender but also by the spatially defined labor market within which people work. Thus, women in two of the older manufacturing districts they studied travelled much shorter distances to work than those in more suburban employment locations (Hanson and Pratt 1992, p. 393). One consequence of these differences in mobility is the significant differences in wage rates among the three local labor markets they study, with wages highest in the suburban market and lowest in the most spatially constrained inner city market (Hanson and Pratt 1992, p. 402).

Rutherford and Wekerle (1988) examine the concept of captive labor markets in a Toronto suburb. They identify four kinds of labor markets, and find that the largest percentage of women workers are found in captive zones (those with low pay but short worktrips) and “worst” zones - those with low pay but long worktrips (Rutherford and Wekerle 1988, p. 132). Zones with long worktrips attract the largest number of women with young children; “worst” zones also have the highest proportion of transit users and captive transit users (Rutherford and Wekerle 1988, p. 133). They conclude that “the local availability of employment may make it possible for some women to work at all” (Rutherford and Wekerle 1988, p. 134).

MacDonald and Peters (1994a) investigate differences between non-metropolitan and metropolitan labor markets in Iowa. They find that non-metropolitan jobs are more likely to be part-time and seasonal, and less likely to provide health benefits. Rural women working in non-metropolitan, local labor markets do have much shorter commutes and thus lower commuting cost burdens (relative to daily pay) than those commuting to metropolitan jobs (MacDonald and Peters 1994a, pp. 180-181). However, the spatially constrained opportunities offered by non-metropolitan labor markets are declining as employment shifts to more diverse metropolitan locations. More women may have to travel beyond the local labor market in the future to stay in the labor force, and commuting will become an increasing burden for them (MacDonald and Peters 1994a, p. 183).

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In urban areas, residential suburbanization has been accompanied by substantial suburbanization of employment - not just in consumer-based sectors like retail but also as an increasing diversity of "back-office" functions are separated off from activities traditionally centralized in the CBD. Some argue this provides an ambiguous set of advantages to suburban women (more likely to be white, married and middle class) - shorter worktrips, but also entrapment in a low-wage local labor market. For instance, Howe and O'Connor (1982) found a high correlation between low average wages and highly feminized work-forces in the suburbs of Melbourne, Australia. Nelson (1986) examines the location of back offices within the San Francisco - Oakland region. She argues that

... back office development has avoided areas that satisfy land and linkage requirements if they do not also satisfy the traditional clerical labor demand for educated and docile female workers. The transfer of jobs from central city low-income, predominately minority female work-forces to higher-income, predominately white suburban female work-forces is not an unfortunate side effect of back office relocation necessitated by land cost considerations - it is one of the major reasons for back office relocation (Nelson 1986, p. 166).

Her research shows quite explicitly how employers themselves participate in the construction of local labor markets defined by short commuting distances for female workers:

To the managers of offices employing large numbers of low-wage clerical workers, a female labor supply associated with areas of growing single-family housing represents a significant lowering of labor costs through reduced turnover, lowered training time, increased productivity, a longer working day, and a reduced chance of unionization. And two important elements of this cost-saving labor supply, its cheapness and attachment to home responsibilities, forfend long commuting distances; therefore firms must locate offices nearby to achieve the potential savings (Nelson 1986, p. 165-6).

Nelson argues that the supply of married, secondary-earner women depends not just on gross job returns, but on women's real or net earnings. If transportation costs are too high working outside the home will not be justified. She quotes a study of married women's participation in the labor force which found that the sensitivity of labor force participation to transportation costs was highest among "current nonworkers for jobs paying the lowest of three earnings levels" (Andrews 1978, p. 18, quoted in Nelson 1986, p. 159). Thus, back office suburbanization increasingly represents a redistribution of job opportunities away from central city workers, in particular low-income minority women, with damaging consequences "not only because of the number of entry level jobs lost, but because these jobs often provide workers with the possibility of entering an internal labor market with bureaucratically regulated advancement, unlike most other low-wage jobs in the central city's growing "service economy" (Nelson 1986, p. 149). McLafferty and Preston's (1991) work on gender, race and commuting in the New York metro area takes up this point. They examine a large sample of service sector workers in the New York metropolitan region and conclude that gender differences in worktrip lengths (measured by time) found for white men and women do not exist for minority men and women. Black and Hispanic women commute as far as black and Hispanic men, and their worktrips are much longer than those of either white women or men (McLafferty and Preston 1991, p. 1), even after controlling for income, occupation and industry. They speculate that the relative scarcity of retail and personal services in minority neighborhoods may require black and Hispanic workers (irrespective of gender) to commute farther to obtain employment in these industries, especially household service jobs located in more distant affluent residential suburbs (McLafferty and Preston 1991, p. 12). For two other producer service industries, distributive and advanced corporate services, racial and race-gender differences in

commuting times may be attributed to the fact that firms are "...able to locate certain functions, such as back offices, to take advantage of a particular labor force. The persistence of the gender and race interaction may result from firms' efforts to locate certain activities near a white, female labor force" (McLafferty and Preston 1991, p. 12).

England (1993) disputes the existence of what she describes as the "spatial entrapment" of women in local, low wage labor markets. Based on in-depth interviews with 30 clerical workers and ten employers in the Columbus suburbs, she argues that job location decisions are too complex to be reduced to the local availability of accessible jobs. She finds that seven of the ten employers did not claim to locate with reference to a preferred labor force, and that many women kept jobs after moving home because they valued the job and felt a longer worktrip was justified. Although there is persuasive evidence that both employers and employees participate in the construction of spatially segmented local labor markets, some women are clearly not "spatially entrapped". Thus far, the evidence suggests that spatially segmented labor markets exist for some, but not all, groups of women workers.

Home and work jointly determine worktrip length

Hanson and Pratt (1988) argue that the home-work link "has been conceptualized in a limited and limiting way that reflects a fundamental, underlying view that the two spheres are essentially separate." (Hanson and Pratt 1988, p. 301). In particular, work is presented as the dominant location, driving the residential location. In its place, they argue for a view of this link that incorporates the importance of home and focuses on the interdependency between the two (Hanson and Pratt 1988, p. 305). Simpson (1987) too argues that a model that considers workplace and residential location jointly explains commuting distance better than models that focus on only one component (Simpson 1987, p. 119). Home and work are interrelated in three principle ways: a) residential location decisions are rarely made solely on the basis of job location; b) job search areas may be significantly constrained by residential locations; and c) residential segregation by race and income may play an important part in shaping labor force participation decisions. Each aspect of this home-work link has different implications for women than for men.

a) Residential location decisions:

Madden argues that two-earner couples are likely to select residential locations according to the specific job location of the husband and a range of potential job locations for the wife; thus, wives in more isolated locations commute further than wives in more central locations, while husbands' commutes do not show this pattern (Madden 1981, p. 190). She finds that suburban residential locations do not prompt men to commute substantially farther but do prompt women to do so (Madden 1981, p. 192). Singell and Lilleydahl (1986) also investigate the extent to which residential location decisions are based on the male head of household's job location (rather than being jointly determined) and thus disadvantage women in the labor market. They find that residential moves tend to benefit men by reducing their worktrips. But only part-time, not full-time, women workers increased their worktrips significantly after a move, which may indicate that residential location decisions in two-earner households are designed to maximize joint net earnings (Singell and Lilleydahl 1986, p. 125). In households where male income dominates, residential location is instead chosen to accommodate family housing demands for more space and a suburban location (Singell and Lilleydahl 1986, p. 126).

Robin Dubin (1991) investigates the effects of firm decentralization on commuting behavior, hypothesizing that individuals with more job and residential mobility will be able to use decentralization to reduce their worktrip length. She finds that women use firm decentralization more effectively than men to reduce their commute time (Dubin 1991, p. 25); similar results are found for sales and service workers, and those travelling by car (as opposed to public transit). Interestingly, she also concludes that white workers have been able to use firm decentralization far more effectively than have black workers.

b) Job search areas:

Drawing on research in Worcester, Hanson and Pratt (1992) show that about two-thirds of their respondents chose their work location on the basis of their residential location. Gender differences are sharp; while 63% of men had chosen employment on the basis of their residential location, 93% of the women interviewed had done so (Hanson and Pratt 1992, p. 306). Reliance on personal contacts and references as a primary job search strategy was more marked for women than for men. Thus, for some groups, "especially women and low-income racial or ethnic minorities, the nature of employment opportunities close to home can play a critical role in the work decision" (Hanson and Pratt 1992, p. 307). Clark and Whiteman (1983) argue that commuting to a growing labor market may not be the optimal choice for residents of a depressed labor market because of constraints on the job search area.

A recent investigation of the economic consequences of racial differences in housing and job location finds that black male workers could improve their economic status by changing job location. The authors conclude that "...racial disparities in [job] information flows would seem to be the more important impediment to suburban employment for black central city residents" rather than an unwillingness to commute a short additional distance to suburban jobs (Hughes and Madden 1991, p. 49). While this survey is limited to male full-time workers, similar job-search area constraints may affect women (especially women heads of household) who are more likely to live in central city neighborhoods.

c) Residential segregation by race and income:

For single parents and single women, minorities, and many low-income households, suburbanization has often remained out of reach. Incomes too low to enable home ownership, suburban environments that are ill-adapted to their needs, or racial segregation and discrimination, have limited the residential choices of many (especially women). However, employment has suburbanized (especially in lower-skilled lower-wage sectors which employ many inner city residents), leading some researchers to identify a "spatial mismatch" between jobs and housing that imposes burdensome worktrips on many inner city residents or keeps many non-suburban residents out of the labor force. While debates over spatial mismatch have focussed largely on the question of "race vs. space", issues of gender, family structure and occupational sector are relevant too. Hanson and Pratt (1992) argue that

Structured housing and labor markets are mutually reinforcing. The fact that Puerto Rican and Vietnamese households come to the central city to find low-cost housing, for example, is not incidental to the structuring of the inner-city labor market (and vice versa). ...the effect is the creation of overlapping islands of labor market segmentation, as each area develops distinctive occupational and labor force characteristics. (Hanson and Pratt 1992, p. 403).

Spatial constraints have been the focus of a long-standing debate about the role of residential segregation in discouraging labor force participation among inner city minorities. A substantial body of research has resulted from Kain's (1968) argument that residential segregation has limited the labor market choices of inner city minorities, as jobs have decentralized to suburban locations (reviewed in Kain 1992). Arguments against the "spatial mismatch" hypothesis have generally phrased the problem as one of "race, not space" (Harrison 1974; Ellwood 1986; Leonard 1987) - that is, racial discrimination against minorities in the labor market is argued to be the factor that limits their employment options, not their residential location as a result of discrimination in housing markets.

Other commentators (Reid 1985; Price and Mills 1985; Ihlanfeldt and Sjoquist 1989) have argued for a more important role for space, and have provided evidence that the earnings of both black and white low-skilled workers have been reduced by job decentralization, but point out that no firm conclusions can be drawn about the effects of race independent from location. Cooke and Shumway (1991) continue this line of reasoning, arguing that confusions over the role of race versus space stem from an overemphasis on race in the spatial mismatch hypothesis. Instead, Cooke and Shumway focus on the fact that low-wage labor (primarily, those in secondary sector jobs in service, retail and clerical occupations) is much less mobile than are low-wage jobs. The spatial mismatch effects observed for minorities, they argue, may be equally strong for women.

A more recent investigation of the hypothesis, based on a longitudinal analysis of 1977 and 1985 AHS data, concludes that some elements of the spatial mismatch hypothesis are not supported by the evidence (Taylor and Ong 1995). The journey to work distances of whites and minorities converged over this period, even for low-skilled workers. Black and Hispanic workers in predominately minority neighborhoods commuted shorter distances than workers in other locations, and length of the worktrip was not significantly related to leaving the labor force over this period (Taylor and Ong 1995, p. 1469). However, there did appear to be a mismatch, resulting from commute mode rather than spatial location. Blacks were much more likely to depend on public transit (as Rosenbloom (1995) also finds) and commute times were much longer for transit users than for those commuting by car (Taylor and Ong 1995, p. 1471). Inner city residence may affect labor force participation primarily through the kinds of modal choice available to residents. Poor households are less likely to be able to afford cars, and parking, safety and insurance rates may make car ownership more difficult than for suburban residents. Although little of this research has focused specifically on women, the issues raised here are relevant components of an explanation that emphasizes how differences in the home-work link result in different worktrip patterns.

During the initial stages of research on gender differences in worktrip lengths, women were more likely to use public transit than men were. Rutherford and Wekerle (1988) compare the worktrip patterns of men and women who are transit captives (and are thus most likely to form local labor pools) with those of workers who are transit users by choice, and those who commute by car. Their study of a Toronto suburb showed that women make up just over two thirds of transit captives (Rutherford and Wekerle 1988, p. 120); they also find that women work closer to home than men, but travel more slowly to work (Rutherford and Wekerle 1988, p. 122). The proportion of transit users who are captives is higher at all levels for women than for men, and declines less rapidly with increasing income for women than for men (Rutherford and Wekerle 1988, p. 123). Hanson and Johnston (1985) find that women workers in Baltimore too are more likely to use public transit than men, and that they spend more time travelling to work than those who commute by car (Hanson and Johnston 1985, p. 208). However, women still travelled much shorter distances than men no matter what mode they used.

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More recent data show that women are now less likely to use public transit than men. Rosenbloom (1995) reports that in 1990, women made only 1.5% of all trips by public transit, while men made 1.9% of all trips by transit. While the use of transit has declined for all groups, it has declined faster for women. Even more significantly, in every income group except the very lowest (under \$5,000 a year) women make more of their worktrips by private vehicle than men do (Rosenbloom 1995, p. 2-25). However, these findings do not apply to black and Hispanic women, who make 8.5% and 7.4% of all trips respectively by transit, and are more likely to use transit than black and Hispanic men (at 8.2% and 6.6% respectively) (Rosenbloom 1995, p. 2-40). The automobile mismatch that Taylor and Ong (1995) identify may apply with greater force to minority women. This would also support McLafferty and Preston's (1991) argument that gender differences in worktrip times observed for white men and women do not apply to minority men and women.

Interesting evidence on the ways in which inner city residence may constrain or indeed prohibit the labor force participation of less-skilled minority women is provided by a unique public policy experiment in Chicago. As part of the settlement of a racial discrimination suit against HUD (the Department of Housing and Urban Development) and the Chicago Public Housing Authority, the Gautreaux Program was set up in 1976 to overcome the consequences of the long term segregation of public housing residents by race. Gautreaux provided existing residents of the Housing Authority (who were overwhelmingly female-headed households with poor educational resources and little or no work experience, and thus high levels of dependence on public assistance) with rental assistance certificates and housing placement services that could be used only in communities with less than 30% minority population. In 1981, the program was expanded to enable other recipients to use their certificates to move to revitalizing city neighborhoods, many of which were predominately minority. Clients are offered units on the basis of their rank on the waiting list, and the majority (95%) accept the first unit they are offered irrespective of location. Popkin, Rosenbaum and Meaden (1993) evaluate the outcomes of these moves by comparing the subsequent labor force experiences of those who moved to suburban locations, and those who moved elsewhere in the city.

Although both groups had similar demographic and human capital attributes, suburban movers were 25% more likely to be employed after the move than were those moving to other city neighborhoods. No job training or placement assistance, transportation or childcare assistance was offered to any of the program participants; this was exclusively a housing assistance program. For those who had never been employed, the difference was even more striking: approximately 50% more suburban movers were employed after the move than were city movers (Popkin, Rosenbaum and Meaden 1993, p. 564). Although it is clear that residential location is not the only factor affecting employment prospects, it emerges from this study as an important reason why many lower-skilled, inner city minority residents do not enter the labor force or do not stay in it consistently. Among suburban movers who remained unemployed, lack of public transportation and the difficulty of affording a car were cited (along with difficulties in arranging childcare) as the most significant barriers to getting a job (Popkin, Rosenbaum and Meaden 1993, p. 570). One other finding is interesting too for how it reflects on other research about the existence of captive labor markets. Although suburban movers clearly benefitted by finding employment, suburban moves did not have any effect on increasing earnings of those employed prior to the move (Popkin, Rosenbaum and Meaden 1993, p. 568). The policy implications of these findings (being supplemented currently by evaluations of federal Moving to Opportunity Programs aimed at replicating the Gautreaux experience) are especially rich, as are the theoretical implications for discussions about local labor markets, the links between residential and workplace location, and women's role in an emerging set of complex spatial divisions of labor.

The friction of distance differs for women with different labor market positions

An alternative approach to understanding the link between labor force participation and the worktrip argues that space poses different kinds of constraints for women with different sorts of human capital and transportation resources. A range of research reviewed earlier in this paper supports the argument that worktrip length increases as household income or earnings increase, but that this is not necessarily a linear relationship. Many have identified women with moderate earnings as those likely to commute the longest distance (Rutherford and Wekerle 1988, p. 122; MacDonald and Peters 1993, p. 40; Rosenbloom 1995, p. 2-29). In addition, Rutherford and Wekerle (1988) found that significant subsets of women do indeed commute longer distances for low pay. Fagnani's (1987) study of mothers in France found that women with a higher socio-occupational status were more likely to commute longer distances than were less-skilled mothers with fewer educational resources (Fagnani (1987, p. 29).

While rural women's labor force participation rates have increased rapidly, current economic restructuring trends have been marked by the movement of many lower wage, less-skilled jobs in retail and services (traditionally "feminized" sectors) away from small towns to the suburban fringes of adjacent metropolitan areas, reflecting rural population declines and greater consumer mobility as well as restructuring within those industries. The impact of these changes is likely to fall heavily on lower skilled women who will be forced to commute longer distances or leave the work-force. MacDonald and Peters (1994b) argue that long distance commuting entails different relative burdens and/ or barriers for low wage, less skilled workers than it does for well-paid career employees who remain in rural areas out of choice. Thus, space becomes either a constraint or an opportunity, depending on the individual worker's position in a segmented labor force. Understanding differentiation in the spatial constraints on the rural work-force is important; conflating the impact of the work trip for all rural-based workers is likely to obscure the existence of a significant barrier to stable labor force participation for some (but not all) workers.

This is the argument investigated in a paper based on data collected in a household survey of 646 rural women in Iowa in 1991. MacDonald and Peters (1994b) examine the proposition that women make employment decisions based on different evaluations of a set of job characteristics. Full-time workers, those in executive, professional or blue collar jobs, and those with higher hourly pay, placed less value on a shorter worktrip and more value on job security, satisfaction and the provision of health benefits (MacDonald and Peters 1994b, p. 729). A cluster analysis was performed, grouping respondents by human capital attributes (experience and education), by earnings, and by the value placed on job security, health benefits and convenience of location in their employment decisions. Three quite distinct groups emerged: one with high human capital attributes and income, who placed a high value on job security and benefits and less on a short worktrip. A second smaller group had average experience, schooling and income but placed little value on job security or benefits. A third group (the largest) had low incomes, less than average experience and education, but valued job security and a short worktrip highly. A comparison of the commuting cost burden among the three groups found that the third had by far the highest cost burden, had much older less reliable cars, and that many were unable to satisfy their preferences for a short worktrip given the metropolitan location of the jobs available to them. Space did indeed have different consequences for different groups of women workers, and spatial constraints were most severe for the low-paid, less-skilled (and predominately younger) group of workers identified in the cluster analysis (MacDonald and Peters 1994b, p. 734).

A comparison of this group of transportation-disadvantaged workers with intermittent labor force participants and those currently unemployed showed many demographic and transportation resource similarities, and the authors speculate that the obstacles faced by some respondents currently in the labor force may keep other rural women out of the labor force or in marginal, episodic employment (or underemployment) available at the local level (MacDonald and Peters 1994b, p. 736). This is the point made by Rutherford and Wekerle (1988) when they argue that "An emphasis on captive labor markets should result in increased attention to the conditions under which some workers have greater mobility than others within the context of the regional economy and an examination of the impact of limited mobility on the employment opportunities of certain classes of workers." (pp. 134-5). While further research is needed to determine how the "friction of distance" differs in its impact on the labor force participation patterns of women in other settings, this approach, like the approaches focussed on the spatial segmentation of labor markets, and the varied nature of the home-work link, promises a more fine-grained analysis of how the relationship between work and commuting differs, not only between men and women, but also among groups of women.

IMPLICATIONS FOR URBAN AND RURAL WOMEN

Do the different labor market structures evident in urban and rural areas have different implications for the relationship between urban and rural women's worktrips and their labor force participation patterns? The bulk of research on this topic has focussed on urban areas, but comparisons of the travel patterns of urban and rural men and women suggest that travel behavior is not that different. While rural women were even more dependent on the car than urban women in 1990, both urban and rural (white) women were more dependent on cars than men (with the exception of urban men's worktrips) (Rosenbloom 1995, p. 2-17). Rural women also made slightly more trips per day than urban women, but both categories made more trips per day (though they covered fewer person miles) than comparable men (Rosenbloom 1995, p. 2-21). There is some variation between urban and rural women in the length of the worktrip by household income category, with rural women in all but the \$5,000-\$10,000 and \$15,000-\$20,000 category travelling further than urban women at each household income category (Rosenbloom 1995, p. 2-26). Rural men travel further to work than urban men in all household income categories except the lowest (below \$5,000).

It is clear that rural dwellers on the whole must travel greater distances than urban workers to participate in the labor market. The spatial structure of labor markets available to rural dwellers differs substantially to those available to urban dwellers; rather than representing an overlapping mesh of labor markets segmented by skill requirements and job rewards, rural dwellers must choose between local non-metropolitan labor markets with limited occupational diversity, more part-time and seasonal jobs with much lower annual earnings, and more distant metropolitan labor markets that offer diversity, job stability and higher rewards, but require significantly longer commutes. As rural America's economy has restructured, more and more workers are travelling longer distances to jobs in metropolitan locations (Fuguitt 1991). The implications for lower-skilled workers (especially women) who will not receive a compensating increase in wages, and who may have difficulty meeting the threshold costs of a reliable car, may be increasing discouragement with labor force participation. Differentials in housing prices between non-metropolitan and metropolitan counties suggest that for those with the fewest household resources, there are significant economic barriers to changing residential location. Many rural women are also part of family farm households, which pose significant non-economic barriers to relocation.

These trends and constraints are similar to those identified in economically disadvantaged inner city neighborhoods. The choice for lower-skilled inner city residents (many of them women) who do not find employment in the CBD, is to undertake time-consuming commutes to new suburban concentrations of jobs. Although the commuting time burden may be eased by investment in a car if threshold costs can be met, those reliant on transit may be forced to remain in a shrinking local labor market with poorer job choices. As the results of the Gautreaux experiment suggest, many are discouraged from labor force participation under these terms. Like rural women from low-income households, there are barriers to residential relocation for poor and minority women, but not only economic ones. Continuing discrimination may limit access to housing in many suburban enclaves (Galster 1991; Massey and Denton 1993).

For higher-income and higher-skilled urban and rural women, distance poses much less of a constraint. In urban areas, middle class suburban women have growing labor markets within easy commuting distance, and appear to have been able to use the decentralization of employment to reduce worktrip length quite effectively. "Spatial entrapment" may not be an appropriate description of the situation of these highly mobile women. Increases in the employment of married women with children over the past three decades may reflect in part the decreasing significance of spatial barriers to combining paid employment with domestic responsibilities. While many middle class rural women appear to have to commute longer distances than their urban counterparts, their good transportation resources and a similar willingness to trade off longer worktrips for better jobs (and in order to maintain a rural life-style) do not suggest that distance poses a meaningful constraint on their labor force participation, as it does for less-skilled rural women.

POLICY IMPLICATIONS AND RESEARCH NEEDS

How will spatial restructuring trends in the future alter the impact that distance has on women's labor force participation patterns? A continuation of current trends towards the metropolitanization and suburbanization of employment will likely exacerbate these class- and skill-based differences. Low-income, low-skilled women will be faced with an increasingly stark choice between investing in a private car and undertaking long commutes, or becoming economically marginalized in stagnant local labor markets. In contrast, a growth in appropriate skill-level CBD employment would improve urban women's options, but it is not clear that CBD employment shifts will provide substantially greater proportions of low-skilled jobs. One element will certainly remain out of the picture - intermediate jobs that low-skilled entry level workers could graduate to in the future. Local economic development in the form of enterprise zones in urban inner cities, or local rural development efforts, aim to reverse the spatial processes at work currently. But intermittent levels of public support for these efforts, and the expense and indirectness of place-based development strategies do not provide much grounds for optimism about a revitalization of local labor markets (Glassmeier and Howland 1995; Fisher 1989).

Telecommuting appears to offer one means of transcending place-based decline and transforming the home-work link, but its practical contribution to resolving spatial friction for less-skilled workers is highly questionable. Handy and Mokhtarian (1993) estimate the extent of telecommuting in California, and conclude it plays a small role in reducing the worktrip one or two days a week for approximately ten percent of employees. Telecommuting's potential is clearly concentrated in a few sectors, and thus offers few prospects to retail or service workers that suffer most from the friction of distance. Instead, it may provide welcome options to precisely the workers who encounter insignificant spatial barriers to labor force participation presently—those in occupations that can be or have

already been decentralized, and who have the white- or pink-collar skills (and perhaps home computing resources) required of telecommuters.

Perhaps the most important implication of research on the relationship between labor force participation and distance is that policy aimed at overcoming the transportation disadvantages of lower-income workers (and prospective workers) may be most effective in the short run. A range of points of intervention can be identified: overcoming the time disadvantage that transit users face, overcoming job search barriers, lowering the threshold cost of a car, or changing residential location. Hughes (1995) outlines three basic strategies to reduce concentrated inner city poverty by addressing employment accessibility. Dispersal (decentralizing the poor population to suburban areas), development (recentralizing employment from suburbs to inner cities) and mobility (connecting the ghettoized poor to suburban job opportunities) may be seen as complementary tools (Hughes 1995, p. 284). He concludes that dispersal has limited potential because it conflicts with existing housing stock investments and would serve few political interests at the local level (in either cities or suburbs). Dispersal is unlikely to be feasible on a large enough scale to significantly reduce the problem of residential concentration. Development strategies, apart from being costly and ineffective, would do nothing to overcome metropolitan segregation and have been widely criticized as relying on a vision of "separate but [un]equal" economic communities (Hughes 1995, p. 288). In support of the mobility strategy, Hughes argues that: "[t]he goal of the mobility strategy is to reconnect the ghetto to opportunity in ways that leverage a variety of local interests. ...The ghetto was once a place of low-cost housing adjacent to entry-level employment. The components of the mobility strategy are designed to restore that connection by exploiting the very incentives created by decentralization" (Hughes 1995, p. 288). The program would have three elements: i) a partnership to connect inner-city residents with suburban employers; ii) a targeted commute that makes suburban destinations accessible, which might include new transit routes, ridesharing, or automobile subsidies; and iii) support services to address issues such as childcare (Hughes 1995, p. 289). Although mobility programs avoid the issue of residential integration and may be vulnerable to many of the criticisms made of dispersal and development strategies, Hughes argues that they represent a politically feasible approach to an apparently intractable set of problems. One thing is clear. Welfare-to-work programs that do not address the spatial barriers that less-skilled women face in participating in the labor force will fail to "reform" the "culture of poverty", and may impose an unacceptable level of punishment on women and their children.

Over and above the policy questions concerning gendered spatial barriers to employment, is there a useful future research agenda on the relationship between the employment and work patterns of urban and rural women? We believe one research path, in particular, requires attention. Recent developments in computer technology for spatial analysis allow for a much broader investigation of work and commuting than has heretofore been possible. What the discussion of work and commuting lacks is a geographically broad time-series analysis of the movement of jobs within the American space-economy and the impact this movement has on the job search behavior and thus commuting and employment patterns of women and men, blacks and whites. Essentially this requires integrating our understanding of labor demand with that of labor supply (and the spatial constraints to that supply). This has been tried for small geographic areas using limited survey data, but because of the obvious workload difficulties, not for wider regions. Such an analysis would provide a much improved understanding of the way labor supply is mediated at the local level by space. It will be useful not only in a better articulation of the relationship between the labor force participation of commuting patterns of women, but will also clarify some related issues, for instance, the current relevance of the spatial mismatch hypothesis to minorities, women and rural dwellers.

In essence, historical business establishment data need to be tied to household structure and commuting data. Geographical information systems technology is probably the most efficient way to provide that link. The problem is that there are no databases ready for the job. Spatial labor demand, or more correctly, where jobs are located currently, is available in one form or another from a variety of establishment databases. Geographically aggregated household structure and commute times are available from the Census of Population. The problem then is to tie, in a methodologically sound manner, knowledge of household structure and commute times to employment location. Obviously, the problem would be much simplified if data on individual persons or individual families were available. Unfortunately, the two databases with such information—PUMS and the National Personal Transportation Survey (NPTS)—are not spatially specific enough to tie to an employment database. The unanswered questions identified in this review require us to redefine data needs to take better advantage of the analytic capabilities of the 1990s.

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