

# THE OLDER PEDESTRIAN IN SAN FRANCISCO

Frances M. Carp, Institute of Urban and Regional Development,  
University of California, Berkeley

This is a report on the second phase of a study on the use of walking as a means of transportation by older people. San Francisco data confirm conclusions drawn from earlier results in San Antonio and emphasize the need for attention to the problems of the older pedestrian. The consistency of findings in the quite different sites lends credence to the wider applicability of conclusions. Older people commonly depend on their feet to take them places they need and want to go. They perceive advantages for walking—independence, convenience, opportunity to be among people, health, and economy. However, distances are often too great, walkways are poorly constructed and not secure from intrusion by vehicles, and traffic is confusing. The inconveniences and hazards of going on foot are intensified by poor health, inclement weather, and hilly terrain. (Adequacy of diet is inversely correlated with slope of the street of residence.) Walking would better serve the transportation and other needs of older people if walkways were improved, particularly by the exclusion of vehicles from them. In addition, older people need vehicular transportation for medical emergencies and food shopping and also as an option they can exercise in order to maintain, in dignity and independence, life styles of their own choosing.

●ATTENTION to transportation—on the part of both service and research programs—has focused on vehicles. Walking, an alternative for getting from place to place and a necessary adjunct to public transit, has been largely ignored. A long history of medical research documents the health benefits of walking; more recently, ecologists urge its use to reduce environmental pollution. Despite these values, pedestrianism remains a minor transportation theme in the United States.

However, certain population subgroups in this country are highly dependent on their feet to take them places they need and want to go. Older people are one such group (1). For reasons of financial resources and physical condition, automobile driving and the use of public transit are limited among the old (2, 3, 4, 5, 6). The offer of rides with other drivers is inadequate to meet mobility needs (7). Few older people can afford taxis or have a jitney type of service available (3, 6). Therefore, the old are forced to use their feet to take them places.

Unfortunately, this dependence on pedestrianism is accompanied by vulnerability to its hazards. People aged 65 and over contribute a quarter of the nation's pedestrian deaths but constitute only about 10 percent of its population (8). It is not clear to what extent the high fatality rate is due to sensory-motor and other age changes (9) and to what extent it reflects the higher incidence of walking among older people. Attention to the plight of this group, among whom walking is both necessary and problematic, is overdue (1). Investigations using older respondents may cast light also on the lack of enthusiasm for walking among the nonaged, for whom other options are more commonly available.

## BACKGROUND

Study of a 1.3 percent sample of the retired people in San Antonio confirmed the impression that walking is a common form of transportation for older people and showed

clearly that it is not well liked by them (10, 11). The more dependent the person was on his feet to take him places, the more strongly negative was his evaluation of walking as a means of transportation. Most favorable ratings of walking came from people who drove automobiles everywhere they went.

The disadvantages of pedestrianism were many. Most of the places the retired people needed or wanted to go were beyond walking distance from their homes. For many, health problems impeded walking, particularly in the intense Texas heat. Fears were common—fear of falling, being hit by a car, being attacked, becoming lost. Nevertheless, walking was seen to have significant potential advantages not only for reasons of health and economy but also for reasons of sociability, independence, and convenience. Incidence of walking and evaluation of it varied according to characteristics such as location of the person's residence in the urban-suburban complex, the predominant ethnicity of the neighborhood, the person's sex and health, and the composition of the household in which he lived.

### DESCRIPTION OF STUDY

The present study is an extension of the earlier one and a test of the generality of its findings. Data were collected in San Francisco, a city quite different from San Antonio in topography, climate, and population composition.

#### Subjects

Respondents were selected on the basis of census figures to represent by ethnicity and sex older people in the 5 health department districts. The composition of the 899 subjects, a 1.3 percent sample of the population of the city aged 65 and over was as follows:

<u>Ethnic Group</u>	<u>Number</u>
Black	107
Chinese-American	138
Spanish surname	76
"Other" white	578

Other ethnic groups were not included in the sample because of the small numbers of people in them and because of the lack of specificity about them in census figures.

#### Data Collection

Information was obtained in individual interviews in respondents' homes. Data collection instruments were translated into Spanish and Chinese; interviewers were assigned to subjects of similar ethnicity; and interviews were conducted in the language or dialect preferred by each respondent. In addition to typical interview questioning, an activity and food diary was recorded, each respondent described himself and was described by his interviewer through use of an adjective checklist, and the revised set of 11 mobility and transportation apperception pictures (available from the author) was administered. Interviewers rated steepness of the sidewalk by matching the view of the respondent's residence from across the street with one of a set of drawings of residential streets varying in slope; and they rated quality of housing by comparing the respondent's residence with a set of photographs compiled for this purpose.

### RESULTS OF STUDY

#### Dependence on Walking

The San Francisco data strongly support earlier conclusions in regard to the dependence of older people on their feet to take them places they need and want to go. Walking was even more common among San Francisco people aged 65 and over than it was among retired people in San Antonio; the frequency is as follows:

<u>Frequency</u>	<u>Respondents (percent)</u>
Daily	57
2 or 3 times a week	24
Once a week	9
Less often	10

Nearly 60 percent used their feet to take them some place every day, and more than 80 percent made several walking trips each week. Less than 5 percent "never" went places on foot, and nearly 40 percent said they walked to all or most of the places they went.

### Problems With Walking

Though it was common, walking was not popular as a means of transportation among the older residents of San Francisco. As in Texas, the more a person walked, the less he liked it as a means of getting places. The most sanguine evaluations of walking came from people who generally went places in cars and who walked with pets or for their own exercise or pleasure.

The following specific difficulties were voiced:

<u>Difficulty</u>	<u>Respondents (percent)</u>
Destinations too far	83
Depends on weather	78
Hills	72
Fears	65
Tired, feet hurt	55
Takes too long	52
Health problem	37
Traffic confusing	36

As in San Antonio, the most commonly mentioned problem was that places they needed to go were too far from their homes for them to walk. Some destinations were at such distances that no attempt was made to go. Others were at sufficient distances that the trip was overly time-consuming, and the walkers became weary and footsore.

The hills were a problem for many. The city lies on a cluster of hills, and many residential and downtown streets are steep. Respondents' ratings of satisfaction with walking correlated significantly with interviewers' judgments of street slope. The old people mentioned the exertion of going up and down. Other factors complicate the problem. San Francisco lots are narrow, so that driveways may occupy half their width. As a result, sidewalks constantly change in grade from lot line toward the street. Therefore, the walker has 2 kinds of grade to contend with: the fairly constant slope of the street behind and ahead, and the irregular pattern of slope from side to side.

The intrusion of automobiles into pedestrian territory further complicates the walker's problem. Parking space is scarce in most parts of town. Cars parked in driveways usually cover the sidewalk because of the absence or very small size of front yards. A car so parked is an obstacle that ordinarily can be circumvented only by stepping out into the street, where there may be moving vehicles, and by renegotiating the curb to regain the sidewalk. If there is sufficient space to detour on the house side, there are likely to be 2 sharp grade changes where the driveway enters the garage.

One of the mobility and transportation apperception pictures (No. 10) portrays a car parked across the sidewalk. Responses to it were revealing. The large majority of respondents (88 percent) clearly were emotionally involved in their response to this picture, and the effect expressed was negative for all but 6 percent of them. The predominant affective tone was fear (45 percent). One story in 5 dealt with death or injury. Less frequent than fear was a reaction of anger (29 percent). Resentment was revealed

even more broadly by the score on blame attribution than by that on dominant emotion. Most (94 percent) of the stories were clearly extrapunitive from the point of view of the pedestrian. Usually the driver of the parked car was at fault; less often, "they" who failed to make such parking illegal were at fault. Only 1 percent of the stories placed any blame on the pedestrian, and few (5 percent) failed to assign blame. Clearly, the intrusion of automobiles into pedestrian territory is a matter of widespread and serious concern among older walkers.

Responses to picture 11 revealed another aspect of this painful vulnerability. This picture shows pedestrians crossing at a street corner in a safety lane and an automobile turning right and headed toward them. The amazing thing about stories to this picture is the very high percentage (90 percent) of those scored "withdrawal": The pedestrian would turn back—either from that attempt to cross the street or from the entire trip—out of fear of the vehicle. Nearly all (95 percent) of the stories blamed the driver for creating a dangerous and frightening situation. Only 2 percent cast any blame on the pedestrian. Once more, emotional tones were negative, and fear (42 percent) and anger (10 percent) were the common reactions. Ten percent of the stories included death or injury. Vulnerability of pedestrian territory to invasion by automobiles is a serious problem to older pedestrians. Walkways should be designed to give walkers freedom from this fear.

Some pedestrians (36 percent) found traffic confusing. The number and diversity of signs and signals make it difficult to know what to do. When lights are involved, there is pressure for speed, which greatly emphasizes the difficulty for an older person, of a perceptual-motor task such as crossing a busy street according to a timing device (9). There is another element in this matter of traffic confusion. In many residential areas, vehicle-control signs seem inconsistent from one block to another: a 4-way stop on one corner, no stop on the next, a north-south stop on the third, and an east-west stop on the fourth, perhaps followed by a corner with a 1-way stop. Often, the distribution of stop signs does not seem to conform to differences in street slope or to any other logic. Pedestrians are not so much worried about their own behavior in such situations as they are apprehensive lest the inconsistency in signaling lead to driver error that imperils them.

In addition to fears of being hit by an automobile and falling, there were fears of being mugged and of losing one's way. As in San Antonio, the older people did not think others would give them assistance, or even information.

More than a third of the respondents said they had health problems that made walking—as transportation—inadvisable or difficult. This figure is only slightly higher than the national average for older people who have health problems that might interfere with mobility (1). The difference may be due to the topography of San Francisco. For example, walking up steep hills may tax people with relatively mild heart dysfunctions or minor arthritis.

Weather is an important conditioner of the entire pedestrian situation. More than three-quarters of the respondents mentioned that damp and cold accentuate the drawbacks of having to go places on foot. Weather is an important determinant of the "go-don't go" decision. On a dry, sunny day the hazards of walking, and the physical and time drain, may be overbalanced by the need or desire to reach a destination. However, when the fog rolls in or the rains come, the streets are slippery, and it is cold, anticipations of the trip on foot may outweigh any benefits, and the person may stay at home. Considering the impact of weather on the valence of walking in San Antonio and in San Francisco, one must wonder about the older pedestrian during winters in New England and the Midwest.

### Walking to Various Destinations

Any form of transportation is a means to an end rather than an end in itself. Therefore, it is useful to look at the incidence of walking and the assessment of it in terms of its use to reach various places people need and want to go. Destinations of walking trips are as follows (the number of respondents is 899, but the number of respondents who made each type of trip varies):

<u>Destination</u>	<u>Respondents (percent)</u>	<u>Trip-Makers (percent)</u>
Food	69	75
Friends and acquaintances	41	46
Religious services	31	44
Park	29	42
Medicine	31	38
Out to eat	20	25
Other shopping	20	23
Other recreation	20	21
Doctor	14	15
Other relatives	8	14
Children	6	10

Of the San Francisco respondents, 3 in every 4 made trips to the grocery store and did so on foot. In San Antonio, slightly fewer than a third did so. Grocery shopping is the instance of widest divergence between people in the cities in regard to the use of feet as means of transportation. The difference may be due to the higher incidence of scattered shopping districts and neighborhood stores and the much greater compactness of San Francisco.

Although it is apparently possible for a very high percentage of older San Franciscans to fetch their groceries on walking trips, there is little in the data to indicate that they are pleased with this arrangement. The few who "prefer" this means of obtaining necessary supplies do so because the alternatives are to give up their independence by becoming burdens on neighbors or relatives or to go into institutions.

All of the pedestrian problems are intensified when the walker is also a load-bearer. Visibility is reduced, balance is altered, fatigue occurs more quickly, and the several problems in regard to keeping one's footing become more acute. Yet the majority of San Francisco's old carry their groceries home. Older citizens are badly in need of door-to-door transportation to grocery stores or of inexpensive and dependable delivery service to bring the groceries to them. It is hoped, that communities will provide both, so that older people can enjoy the right of exercising options (12). Both options should include the availability of a strong person to carry the bundles into the house. This is of particular importance in a city like San Francisco, in which the kitchen is normally a full flight of stairs above the street level, even in single-family dwellings or wherever upstairs living quarters do not have elevator service.

Reactions to picture 12, which shows a person standing at the top of a flight of stairs, headed toward them, were distinctly different from responses to the 2 pictures of pedestrian-vehicle interaction. This picture was less evocative of strong emotional involvement, and more than half the stories were told in a matter-of-fact way. Responses were almost unanimously (98 percent) impunitive: No one was to blame for the situation. Anger was rare (1 percent). The most common effect was fear, which was expressed in more than a quarter (28 percent) of the stories. Ten percent mentioned death or injury.

Quite unlike the stories to the pedestrian-crossing picture, there were few cases of withdrawal (1 percent): It was impossible for the story character to avoid the use of the stairs. Some (5 percent) stories had a compromise solution: The person would phone the friend instead of going to see him, or ask a neighbor to bring the groceries. However, the large majority (87 percent) use some direct approach: The person might put off the trip until tomorrow or wait until the light or weather was better; and he might be careful to use the handrail and go slowly and carefully, but sooner or later he would take the trip down the stairs. Many stories included his anticipation, with chagrin, of the return trip when he would be tired and perhaps loaded down with groceries.

The importance of providing food-delivery service is underlined by the finding that the nutritional adequacy of the older pedestrian's diet is significantly and inversely correlated with the slope of the street that runs in front of his house (14). The steeper the slope is, the less adequate the diet is. The tendency of little old ladies to exist on

toast and tea may be less due to mental deterioration or ignorance of nutrition than to their inadequacies as transport vehicles. Meat, milk, fruit, and vegetables not only are costly, but also make heavy and bulky armloads.

Less than a quarter of other shopping was done on foot. The same disadvantages occur as with grocery shopping, with the important exception that life depends on fairly frequent replenishing of food supplies, while shopping for most other items can be delayed or even foregone. To put off grocery shopping only means that a larger and heavier package will have to be carried. The main reason older people shop for food as often as they do is to keep the load small. Most would prefer to shop only once a week. On the contrary, most older people would like to shop more often for items other than food or to just go to town to "window wish" and believe they would do so if they had transportation for this purpose.

Sociable visits are vital in the life styles of older persons. This was the most common trip purpose in both San Antonio and San Francisco, including all travel modes. Nearly half (46 percent) of the San Francisco respondents who paid visits to friends, neighbors, and acquaintances usually went on foot. This is similar to the number in San Antonio (42 percent). Generally, old people are quite content with walking to see friends in the neighborhood, but lack of another mode of transportation for friendly visits means that they cannot see old friends who live at any distance. As people age, this tolerable distance probably diminishes. Older people say they would pay more visits to friends and would much enjoy being able to do so if transportation were available to make it possible.

Walking to religious services was somewhat more common in San Francisco than in San Antonio, perhaps again because of the greater dispersion of the Texas city and the consequent distance between churches. Older church-goers would prefer to live within walking distance of the religious institution of their choice; and those who do so find this a highly satisfactory state of affairs. However, for the majority, the distance is too great. As in the San Antonio transportation study and in others (13), the lack of concern with their plight on the part of church people was a source of deep hurt. Institutions of religion would benefit their older members greatly by attention to their needs for transportation to services.

A large proportion of older San Franciscans walked to a park—nearly a third of the total group and more than 40 percent of those who used parks. Living within walking distance of a park was a major consideration to these old people. However, they would prefer having vehicular transportation to the park, unless they lived very near, because walking in the park was much more pleasant than on the city streets.

More than a third of the old people fetched their medicines on foot. This was not out of preference but due to lack of an automobile and of money to pay for a taxi or to trade at a drugstore with delivery service. The situation was aggravating but not serious for diet supplements and medications for chronic conditions. However, walking was extremely unsatisfactory during illness. Older people are badly in need of door-to-door transportation or a delivery system they can afford, or both, to bring them medicines and other drug items.

A small minority (15 percent) walked to their physicians' offices simply because most doctors are in medical centers outside of residential neighborhoods. Most older people would much prefer to have a doctor within walking distance. They can manage the yearly visit for a checkup, but one of the most common worries is over the lack of suitable transportation to the doctor or hospital in case of a medical emergency. Availability of such medical-emergency transportation would do much for the peace of mind of many older people.

Relatively small numbers usually walked to visit members of their families. This is largely due to the fact that few older people live within walking distance of their children and other relatives and to the fact that families provide transportation for this type of visit far more than they do for any other trip purpose. Older people who walk for family visiting usually are content with this state of affairs, glad to be close by.

A quarter or less of the people who went out to eat or to a play or to other entertainment went on foot. These were for the large part residents of the central city. One of the advantages of living downtown is access to restaurants and places of entertainment.

For most people, distances to restaurants and theaters are too great for walking. Those who do not have other means of transportation simply cannot go.

### Potential Advantages

Despite the serious disadvantages of walking, which were voiced by large numbers of respondents, going on foot was seen by San Franciscans, as it was by San Antonians, to have significant potential values. Responses were as follows:

<u>Advantage</u>	<u>Respondents (percent)</u>
Good for health	92
Inexpensive	90
Independent	85
Convenient	82
Contact with people	81

For destinations within a reasonable distance, and when walkways are reasonably safe, walking is often preferred. Not only is it good for one's health and inexpensive but also it allows the older persons to maintain their independence—not to become a burden on others and to come and go where and when they please. Another significant value of walking is the opportunity it provides to be among other people. Under favorable conditions, walking is considered convenient: There are no waiting, no parking, no traffic problems.

### IMPLICATIONS

Even in a hilly city such as San Francisco, most older people look with favor on walking when conditions are favorable, that is, when distances are not too great and walkways are safe. The strongly negative reaction to walking is to dependence on it as a means of getting places under existing conditions. Many destinations are beyond comfortable walking range and walkways are not safe, particularly from vehicles. Furthermore, the necessity to go on foot, even when the weather is bad, even if bundles must be carried home, and even when one is not well, is onerous. Some older people have health problems that make walking inadvisable. However, the problem for most older people is not walking but the absence of alternatives for some trip purposes and in certain situations.

Two types of action are called for. Conditions for the pedestrian must be improved so that he has good footing on walkways that are safe from intrusion by vehicles. Where vehicles and walkers must share territory, directions should be clear and unambiguous. When timing is involved at crossings, intervals must be adequate to allow slower pedestrians to feel they can get across safely. Generally, decisions regarding the design and management of city streets and sidewalks should be influenced by the needs of the pedestrian as well as those of the automobile driver. City planning should take into account the possibility of providing access, by foot, from residences to services. Walking, then, would better serve the needs of old people and quite possibly also those of other age groups.

Even with such improvements in pedestrian facilities, it is unreasonable to expect older people to depend on their feet for all trip purposes and at all times. Vehicular transportation must be provided for medical visits. Either vehicular transportation must be provided to drug, grocery, and other stores, or delivery of necessary commodities must be made to them. It is hoped that both will be developed. People enjoy exercising options, and needs vary. For example, when one is ill, delivery service is more appropriate. However, many old people suffer loneliness; and when they feel well, the opportunity to be among other people in the course of a shopping expedition may be an important benefit.

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