# Social Work Practice with the Transportation-Handicapped Psychiatrically Ill

BRENNEN TAYLOR

Wayfinding training with the transportation-handicapped psychiatrically ill who travel by bus to urban community mental health services is discussed. Information from environmental wayfinding theories is used to teach psychiatric clients how to travel on public buses. Guidelines are provided for this type of training. Public bus transit combined with wayfinding training is seen as the most effective way to promote compliance with deinstitutional services.

Enactment of the Urban Mass Transportation Act (UMTA) and the Community Mental Health Centers Construction Act (CMHC) was critical in the development of America's mental health movement. UMTA eased restrictions that existing transportation systems imposed on handicapped populations. It introduced "transportation handicapped," defined as any person incapacitated by illness who is unable to ride mass transit without special facilities, planning, or design (*1*,*2*). CMHC included a policy of discharging numerous patients from mental hospitals and maintenance of those persons in less restricted environments outside hospitals. The effectiveness of deinstitutionalization was predicated on factors such as economics, idealism, legal developments, and the advancement of antipsychotic medication (*3*). These laws were implemented by human service organizations to foster normal living practices among handicapped persons who had been assessed for community-based services. Specialized transportation, the intraurban passenger transit systems that serve specific riders while retaining the convenience of a private automobile, was made available to facilitate access to treatment for the travel disabled. It proved to be effective during the formative stage of deinstitutionalization among clients who, because of economic or psychosocial constraints, had no other travel options. The mix of specialized transportation, public bus transit, and wayfinding training programs provided by human service organizations strongly influences the use of community mental health services by the travel handicapped (*4*–*8*).

The benefits of specialized transportation in the movement to deinstitutionalize the psychiatrically ill have generated a renewed interest in the role of public transportation in mental health. The helping profession (psychiatry, psychology, social work, and nursing) has recently identified three transit-related issues that significantly increase clients' compliance with community mental health services (*9*). First, UMTA was extended to the institutionalized chronic psychiatrically ill undergoing deinstitutional services. This population totals about 900,000 (*10*). Second, human service providers are becoming increasingly concerned about the limits of specialized transportation in the community mental health movement. Such training services as wayfinding and public bus riding represent a better goodness-of-fit to the goals of normalization (*11*). Last, the helping profession has realized that the convergence of clinical practice, public transportation, and environmental psychology is necessary for the relocation of travel-disabled people into the community (*12*).

A historical theme of specialized transportation relates to architectural barriers that hinder access to services. However, psychosocial barriers are of equal importance to the travel disabled. Clinicians in the helping profession seek to reduce or eliminate psychosocial barriers through public bus travel training programs. Travel training, often referred to as wayfinding or orientation and mobility training programs, represents another method of enhancing normalization (*13*). These programs develop a person's ability, both cognitively and behaviorally, to reach destinations in the environment (*14*).

Recently social work has begun to provide services to the transportation-handicapped psychiatrically ill who participate in community mental health services. The purpose of social work is to enhance the psychological and social functioning of the psychiatrically ill through measures of prevention, restoration, and remediation. Social work practice is defined as a responsible intervention (*15*) and seeks to

> (*1*) enhance the developmental, problem solving, and coping capacities of people; (*2*) promote the effective and humane operation of systems that provide resources and services to people; (*3*) link people with systems and opportunities; and (*4*) contribute to the development of social policy.

These activities are conducted within the Social Work Code of Ethics and are made available to clients within the parameters of individualization, self-determination, confidentiality, acceptance, a nonjudgmental attitude, and controlled emotional involvement. The premise of social casework, a one-to-one social work practice technique, is to help a client make a better adjustment to life situations, address a problem, fill a need, or receive a service. It is a temporary relationship for achieving specific client goals and can take the form of various therapeutic interventions (*16*).

Wayfinding training has been demonstrated to be an effective social work practice intervention with the transportation-

Department of Social Work, Salisbury State University, Camden and College Avenues, Salisbury, Md. 21801.

handicapped psychiatrically ill. This population includes persons who suffer from emotional and mental disorders that interfere with their capacity to execute daily living activities. They also encounter difficulty traveling stairs, carrying weight of up to 10 pounds, prolonged walking and standing, and moving in crowds. These persons usually require mental health care for extended periods. Moreover, they lack the necessary skills to negotiate public transportation. Their inadequate wayfinding and public bus riding skills result in high outpatient treatment dropout rates. In essence, psychosocial and architectural barriers reduce the transportation-disabled's capacity to travel by any mode (*17–20*). Psychiatric clients who engage in independent public bus travel to community mental health services often operate in an uncertain world because of various social skill deficits (*21*). Wayfinding programs that incorporate travel training procedures and use public bus transit systems put into effect deinstitutionalization with greater specificity.

The purpose of this paper is to provide an overview of social work practice with the transportation-handicapped psychiatrically ill involved in community mental health services at Barney Neighborhood House (BNH) psychosocial program. BNH's clients come from St. Elizabeths Hospital and the greater Washington, D.C., area. The program primarily serves an adult population of 45 clients who have been institutionalized for five years or longer and have been diagnosed as schizophrenic. Social skill training is used to teach clients daily living skills for their return to the community. Wayfinding training is conducted by an outreach social caseworker. Clients are taught to develop techniques for community travel, develop and facilitate support systems for travel, and to negotiate public bus transportation. The outcome of wayfinding training is the ability to travel independently. There are three parts to this paper. First, a summary of wayfinding theories as they relate to travel behavior is presented. Second, wayfinding theory is applied to the transportation-handicapped psychiatrically ill and demonstrated by means of a public bus seating diagram. Last, guidelines for this service are presented.

## ENVIRONMENTAL PSYCHOLOGY WAYFINDING THEORIES

Environmental psychology has developed extensively as an applied science. Ecological psychology, environmental perception, and environmental cognition have been used interchangeably in the literature to describe environmental learning. Environmental psychology is an evolving area of applied psychology that combines and analyzes the human transactions, interrelationships, and actions with pertinent aspects of the socio-physical surroundings (*22–25*). Conceptually, the environment is represented by an array of interrelated elements in a dynamic matrix. It consists of social and physical components. The former include people, their characteristics, behaviors, and relationships. Institutionally, the social component consists of laws, policies, religion, and an ecological climate dimension that derives from interaction of these elements with the perceptual framework of constituencies. Physically, the environment encompasses the natural and manmade, operationally defined by categorization of space. Small- or micro-scale environments include table-top model spaces that can only be observed or manipulated from the outside. Medium-scale or navigable environments are spaces large enough to permit travel within but still can be viewed in their entirety from a single vantage point. Finally, large-scale environments are spaces in which a traveler can move around and occupy multiple viewing locations to extract all of the spatial information needed to generate a complete representation. Environments shape and are shaped by human behavior. Physical environments are at the same time social and cultural environments (*26*). Essentially, environments are tools that can be modified, abandoned, or destroyed if social or other goals are not achieved (*27,28*).

Environmental psychology has developed a number of theories that explain human wayfinding in large-scale environments. The literature stems from geography and psychology, which view wayfinding as one expression of cognitive mapping (*29*). A review of relevant wayfinding theories indicates that wayfinding is acquired through information processing. For example, it is posited that wayfinding behavior is predicated on a traveler's decision making. A traveler's action is largely determined by his or her organized spatial knowledge. That knowledge contains the residue of past experience, accommodates current sensory information, and varies widely in range, relative to specific senses. Sight is the most important sense for wayfinding among visual persons. The oval visual field has boundaries that extend about 180° laterally and 140° vertically. About 90 percent of human knowledge about the environment is received through the eye. A person moving along a distinct path encodes, decodes, interprets, and uses visual cues for wayfinding. Movement from one geographical point to another involves opening up the vista ahead while closing the vista behind. The placement of these vistas in order results in understanding the structure of the environment. Technically, a traveler sees, learns, and navigates the environment not solely with the eyes but also in a travel mode with the eyes-in-the-head-on-the-body-resting-on-the-ground (*30–32*).

The human environment transactions of wayfinding have also been conceptualized as a frontier outpost. Four human responses to continued and persistent uncertainty in an enveloping environment are theorized. Wayfinding in a new environment requires that a traveler process information, consolidate new ties within the environment, dissolve bonds with the old environment, and form a social network so that the new environment serves as a point of reference for future life space activity (*33*). The life space or life world is developed through a traveler's movement, rest, and encounter within the environment. Movement helps a traveler to assimilate unfamiliar places into a world of familiarity. Rest anchors a traveler in his or her autobiographical travel knowledge. Encounter involves the learning of routes. In general, a traveler who demonstrates the tendency toward environmental merger acquires independent wayfinding. Noticing and heightening contact with the environment is associated with a person's positive mental health.

However, during transit a traveler may tend toward environmental separateness. This is characterized by a traveler's becoming oblivious to an environment, which results in inadequate route learning (*34*). Environmental separateness is correlated with but not restricted to mental illness. Moreover,

cognitive deficits influence wayfinding learning within a wide range of mobile-handicapped populations. Starks (*20*) notes its impact on wayfinding training as follows:

> Poor attention reduces the individual's ability to memorize routes, make transfer and recognize disembarkment points. Poor visual acuity creates difficulties in distinguishing bus numbers, route names, and color codes. Conceptual problems involve the abstract notions of time and distance and create difficulties in comprehending fixed-routes, schedules, fares, and transfers. Inadequate verbal skills, including poor speech ability and a lack of transit related vocabulary, reduce the retarded individual's ability to request information or assistance. Social incompetence results in inability of the retarded to comport themselves in public because of a lack of knowledge about what constitutes appropriate behavior. In addition, being under a time pressure to make decisions can cause a retarded individual to disintegrate in a social situation, such as that occasioned by riding a public bus. Diminished self-esteem, based on the retarded individual's unwillingness to expose his or her handicap in public, can cause a lack of assertiveness necessary to seek assistance when required. Spatial difficulties include a lack of geographical awareness. Retarded people's lack of awareness of the immediate environment served by public buses reduces their capacity to travel independently by any mode: bus, walking or taxi.

In summary, UMTA and CMHC contributed to the development of wayfinding training programs for the transportation handicapped. The helping profession has drawn on clinical practice, transportation, and environmental wayfinding theories to assist the handicapped psychiatrically ill in traveling to community mental health service centers by means of public buses. Clinical practitioners have found that independent travel requires a degree of spatial information processing that ranges from the simple to the complex. The travel-disabled client may see his or her destination, develop rote learning to travel a certain path, or develop a cognitive map for wayfinding (*35–37*). Currently, wayfinding services represent the most effective way of providing access to community-based programs to the transportation handicapped.

## PUBLIC BUS APPLICATION: PSYCHIATRIC CLIENTS

Training the transportation-handicapped psychiatric client to use public buses for transit to community services is a recent development. Public-bus fixed-route transit services have been the primary form of public transportation in most urban areas. These services are designed to transport large numbers of passengers along corridors of high demand at a relatively low cost per passenger. Urban areas tend to be served by radial, grid, radial criss-cross, and trunk line with feeder network systems. Each of these transit systems has its advantages and disadvantages, to which passengers must adjust (*38*). However, the seating arrangements of transportation-handicapped psychiatrically ill persons on public bus transit for wayfinding learning have been largely unexplored. Theoretically, a public bus represents a medium-scale environment with a dynamic culture. Thus, wayfinding training occurs on and in a medium-scale environment (bus) within a large-scale environment (community) that facilitates environment learning of bus riding and travel skills during locomotion along a specific fixed-route system. The public bus culture carries travelers with a wide range of attitudes and behaviors influenced by numerous factors. Some of those factors include time of travel, number of persons in the life world, weather conditions, and adjustments to one's life circumstances. The interplay of these and other factors is germane in using public buses for wayfinding training. Outreach social caseworkers' knowledge of the merits associated with public bus seating sections serves to enhance clients' travel learning. (See Figure 1.)

The seating preference for psychiatric clients' learning should be the center, front, then rear of the bus. This is predicated on a client's psychosocial functioning. However, during peak demand the bus environment may become difficult for clients' wayfinding learning. Noise and motion sickness may result in a client's disorientation and lead to a feeling of being geographically lost when mental images fail to correspond to the real world (*39*). The inability of a psychiatric client to associate current community location with a destination that is out of immediate perceptual range results in his or her being lost. This is accompanied with fatigue, frustration, irritability, and panic. All of these factors detract from clients' wayfinding learning. Outreach social caseworkers use a combination of supportive strategies, ranging from time outs to discontinuing the training, to prevent the onset of psychiatric episodes. The following are suggested guidelines for wayfinding training with the transportation-handicapped psychiatrically ill (Taylor, 1990, unpublished):

1. A thorough assessment of clients' senses is a prerequisite for wayfinding training. An impairment in any of them creates learning barriers that will have to be accommodated during the training. Clients' accurate environmental orientation is a critical factor for this type of learning.
2. The social casework relationship is core to effective wayfinding training. It determines whether a client will risk learning independent travel to urban community mental health centers by means of a public bus.
3. Wayfinding training should be undertaken on the basis of a psychosocial assessment and the functioning of the client. Designing programs for individuals should proceed from the simple (rote learning) to the complex (cognitive mapping).
4. Wayfinding training is most effective on a one-to-one basis that incorporates travel-training procedures. It should be given in the order of nonrush hour, semipeak demand, and peak demand hours.
5. Outreach social caseworkers should provide wayfinding training on a grid-type bus route network if possible. Clients learn independent travel more efficiently when the number of transfers is reduced.
6. Coordination of wayfinding services must include the client as a core participant. The client, community mental health program, and the sheltered setting must be assigned tasks to promote compliance with services.
7. Any change in clients' psychotropic medication during the training needs to be reported to the outreach social caseworker doing the training. New strategies may need to be devised to continue the training.
8. Clients should be seated next to the window of the public bus on the side closest to the sidewalk heading toward the destination. The optimal and semioptimal bus areas are pre-

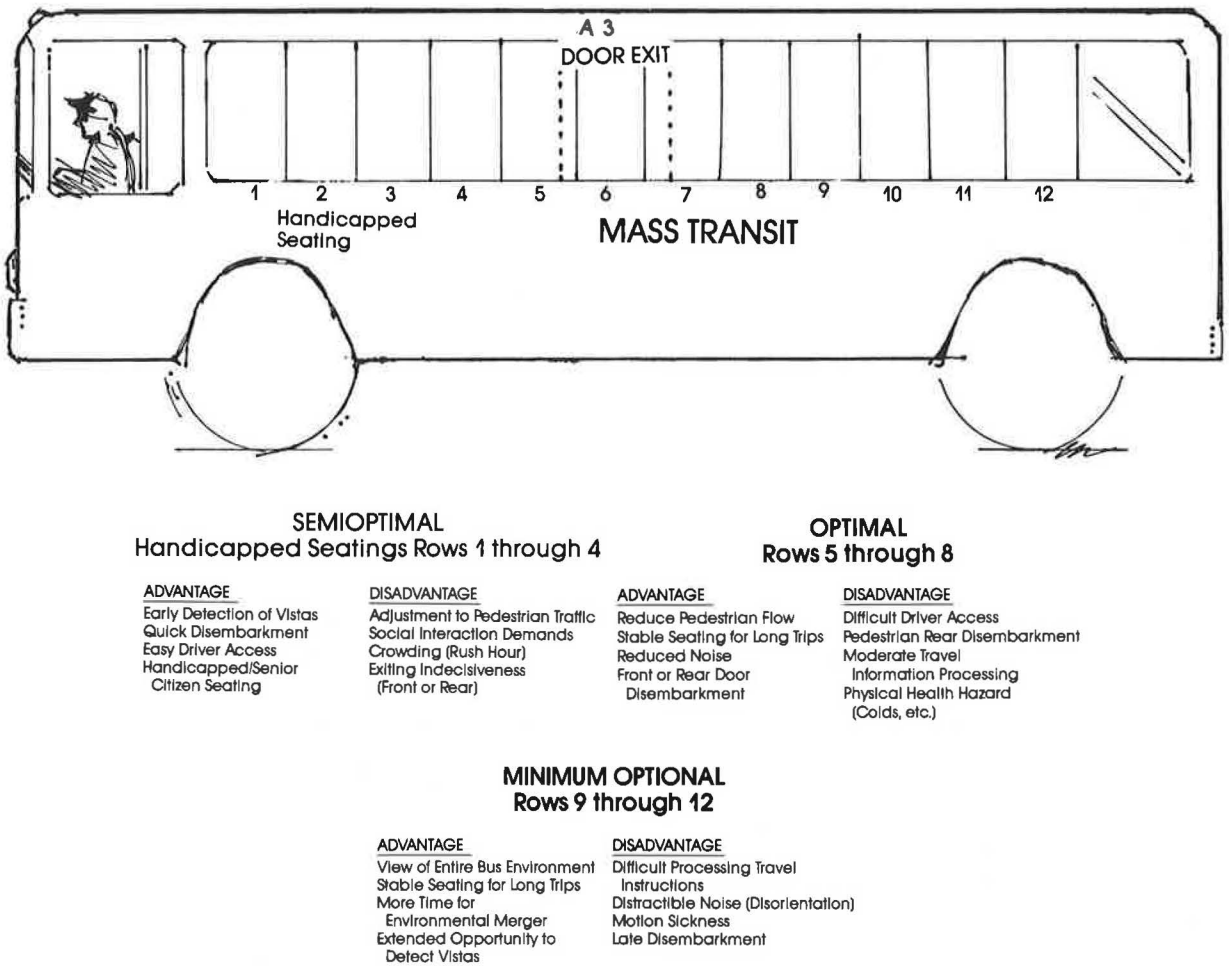


**FIGURE 1 Public bus seating of the transportation-handicapped psychiatrically ill.**

ferred for client seating. Prolonged sitting or standing in these areas is desirable to seating throughout the minimal section based on clients' psychosocial functioning.

9. Social work practice principles must be modified during wayfinding training in a public bus environment.

## CONCLUSION

The convergence of knowledge between UMTA, CMHC, and clinical practice continues to extend deinstitutionalization of the psychiatrically ill. A shift from specialized transportation to public bus transit coupled with wayfinding training has increased compliance of the transportation-handicapped psychiatrically ill with outpatient services. Wayfinding training represents a frontier outpost of learning in that a comprehensive knowledge base does not exist on the social work practices with the transporation-handicapped psychiatrically ill. There is, nonetheless, a major implication drawn from its contents. A core premise of deinstitutionalization is to promote living skills required for a normal life according to the least restrictive alternatives available. Specialized transportation, despite its limitations, remains a viable transit mode to transfer psychiatric clients into the community. Yet, normalization is likely to occur more efficiently with greater client use of wayfinding programs on public bus transit. The transportation-handicapped psychiatric clients' social, emotional, and psychological attachment to the amenities associated with specialized transportation poses a significant threat to the use of public bus transportation. There exists a need to investigate whether transportation-handicapped persons are becoming institutionalized toward a particular mode of transit. This knowledge would assist the helping profession to design community mental health services, which enables psychiatric clients to have access to services by multiple travel modes. Determining the interactions among human experience, human behavior, and the physical environment and what effects they have on wayfinding learning of specific travel modes by psychiatric clients is likely to substantially change deinstitutional services in an increasingly mobile society (*40*).

## ACKNOWLEDGMENT

The study reported in this paper was supported by members of Barney Neighborhood House; Harry Strothers, Martha Harris, Marikay Crangle, Libby Collins, and Ann Taylor of Salisbury State University School of Education and Professional Studies; and Martha K. Baum of the University of Pittsburgh School of Social Work.

## REFERENCES


1. *Urban Mass Transportation Act of 1964 as Amended through February 1988 and Related Laws*. UMTA, U.S. Department of Transportation, 1988.
2. D. P. Middendorf, K. W. Heathington, F. J. Wegmann, M. W. Redford, A. Chatterjee, and T. L. Bell. *NCHRP Report 261: Cost-Effectiveness of Transportation Services For Handicapped Persons*. TRB, National Research Council, Washington, D.C., 1983, pp. 7–13.
3. U. C. Gerhart. *Caring For the Chronic Mentally Ill*. F. E. Peacock Publishers, Inc. Itasca, Ill. 1990, pp. 3–14.
4. *Para-Transit: Neglected Options For Urban Mobility*. Urban Institute, Washington, D.C., 1976, pp. 7–9.
5. A. Saltzman. Marketing Functions in Human Service Agency Transportation. In *Transportation Research Record 973*, TRB, National Research Council, Washington, D.C., 1984, pp. 9–14.
6. C. Shallbeer. Ride Sharing: Private and Public Roles and Responsibilities. In *Transportation Research Record 213*, TRB, National Research Council, Washington, D.C., 1981, pp. 26–31.
7. S. Rosenbloom. The Mobility Needs of the Elderly. In *Special Report 218: Transportation in an Aging Society: Improving Mobility and Safety for Older Persons*, Volume 2. TRB, National Research Council, Washington, D.C., 1988, pp. 21–71.
8. *Project Action: Reconnaissance Survey of Selected Transit Agencies*. National Easter Seal Society and UMTA, Washington, D.C., 1989.
9. J. W. Callicut and P. J. Lecca (eds.). *Social Work and Mental Health*. Free Press, New York, 1983.
10. H. H. Goldman and R. W. Manderscheid. Chronic Mental Disorder in the United States. In *Mental Health, United States, 1987* (R. W. Manderscheid, S. A. Barrett, eds.), DHHS Publication No. (ADM) 87-1518, U.S. Department of Health and Human Services, 1987.
11. B. Taylor. Social Skills Travel Training in Social Work Practice. *Social Casework*, Vol. 69, No. 4, April 1988, pp. 248–252.
12. B. Taylor and A. Taylor. Social Casework and Environmental Cognition: Mobility Training for Community Mental Health Services. *Social Work*, Vol. 34, No. 5, 1989, pp. 463–467.
13. R. L. Welsh and B. B. Blasch (eds.). *Foundations of Orientation and Mobility*. American Foundation for the Blind, New York, 1980.
14. R. Passini and G. Proulx. Wayfinding Without Vision: An Experiment with Congenitally Totally Blind People. *Environment and Behavior*, Vol. 20, No. 2, March 1988, pp. 227–252.
15. *NASW Standards For the Classification of Social Work Practice*. Policy Statement #4. National Association of Social Workers, Silver Spring, Md., 1981.
16. F. P. Biestek. *The Casework Relationship*. Loyola University Press, Chicago, Ill., 1957.
17. J. N. Balog and R. J. Pawlak. Paratransit and Bus Accidents Involving Elderly and Disabled Passengers: Evacuation and Rescue Problems and Solutions. In *Transportation Research Record 973*, TRB, National Research Council, Washington, D.C., 1984, pp. 14–22.
18. J. S. Sylph, H. E. Ross, and H. B. Kedward. Social Disability in Chronic Psychiatric Patients. *American Journal of Psychiatry*, Vol. 134, December 1977, pp. 1391–1394.
19. G. W. Shannon, R. L. Bashshur, and J. E. Lovett. Distance and the Use of Mental Health Services. *Milbank Quarterly*, Vol. 64, No. 2, 1986, pp. 301–330.
20. J. K. Starks. Mobility Training for the Retarded: An Issue of Public Transit Accessibility. In *Transportation Research Record 830*, TRB, National Research Council, Washington, D.C., 1981, pp. 21–25.
21. S. Kaplan and R. Kaplan. *Cognition and Environment Functioning in an Uncertain World*. Praeger Publishers, New York, 1982.
22. K. Lewin. *Field Theory in Social Science Selected Theoretical Papers*. Harper and Row Publishers, New York, 1951.
23. R. G. Barker. *Ecological Psychology Concept and Methods for Studying the Environment of Human Behavior*. Stanford University Press, Stanford, Calif., 1968.
24. I. Altman and M. M. Chemers. *Culture and Environment*. Brooks/Cole Publishing Company, Monterey, Calif., 1980.
25. D. V. Canter and K. H. Craik. Environmental Psychology. *Journal of Environmental Psychology*, Vol. 1, March 1981, pp. 1–11.
26. D. L. Weatherford. Representing and Manipulating Spatial Information From Different Environments: Models to Neighborhood. In *The Development of Spatial Cognition* (R. Cohen, ed.), Lawrence Earlbaum Associates, N.J., 1985, pp. 41–70.
27. R. K. Conyne and R. J. Clack. *Environmental Assessment and Design: A New Tool For Applied Behavioral Scientists*. Praeger Publishers, New York, 1981.
28. C. B. Germain (ed.). *Social Work Practice People and Environment: An Ecological Perspective*. Columbia University Press, New York, 1979.
29. R. M. Downs. Mazes, Minds, and Maps. In *Sign Systems for Libraries Solving the Wayfinding Problem* (D. Pollet and P. C. Haskell, eds.), R. R. Bowker Company, New York, 1979, pp. 17–32.
30. J. R. Gold. *An Introduction to Behavioral Geography*. Oxford University Press, New York, 1980.
31. K. Hewitt and F. K. Hare. Man and Environment: A Conceptual Framework. Association of American Geographers, Washington, D.C., 1973.
32. J. G. Gibson. *The Ecological Approach to Visual Information Processing*. Houghton Mifflin Company, Boston, Mass., 1979.
33. D. Ley. The Black Inner City as Frontier Outpost: Images and Behavior of a Philadelphia Neighborhood. Association of American Geographers, Washington, D.C., 1974.
34. D. Seamon. *A Geography of the Lifeworld Movement, Rest and Encounter*. St. Martin Press, New York, 1976.
35. W. Goodman. *Mobility Training for People With Disabilities*. Charles C. Thomas Publishers, Springfield, Ill., 1989.
36. S. Kaplan. Cognitive Maps in Perception and Thought. In *Image and Environment Cognitive Mapping and Spatial Behavior* (R. M. Downs and D. Stea, eds.), Aldive Publishing Company, Chicago, Ill., 1973, pp. 63–78.
37. D. Roos. Paratransit. In *Public Transportation, Planning Operations and Management* (G. E. Coray and L. A. Hoel, eds.), Prentice Hall, Englewood Cliffs, N.J., 1979, pp. 142–155.
38. R. W. Koski. Bus Transit. In *Public Transportation, Planning Operations and Management* (G. E. Cray and L. A. Hoel, eds.), Prentice Hall, Englewood Cliffs, N.J., 1979, pp. 120–141.
39. R. J. Loomis and M. B. Parsons. Orientation Needs and the Library Setting. In *Sign Systems for Libraries Solving the Wayfinding Problem* (D. Pollet and P. C. Haskell, eds.), R. R. Bowker Company, New York, 1979, pp. 3–17.
40. C. J. Holahan. *Environmental Psychology*. Random House. New York, 1982.