



AOTA Critically Appraised Topics and Papers Series

Driving and Community Mobility for Older Adults

**A product of the American Occupational Therapy Association's
Evidence-Based Literature Review Project*

CRITICALLY APPRAISED PAPER (CAP)

Focused Question

What is the evidence for the effect of policy and community mobility programs (e.g., alternative transportation, walkable communities, education, and pedestrian programs) on the participation of the older adult?

Freund, K. (2002). *Pilot testing innovative payment operations for independent transportation for the elderly* (Final Report for Transit-IDEA Project 18). Washington, DC: Transportation Research Board.

PROBLEM STATEMENT (JUSTIFICATION OF THE NEED FOR THE STUDY)

State the problem the authors are investigating in this study.

This study was conducted to identify solutions for continued community mobility following driving cessation. Because state and local municipalities will likely not be able to financially support transportation systems for the elderly, the investigator developed systems of reimbursement for alternative transportation and tested the financial viability. The goal is to make these systems self sustaining: to maintain community mobility while not financially draining any individual entity. The project utilized multiple stakeholders to meet the needs of older adult community mobility by capitalizing on the interdependence among those seniors needing transportation, family members concerned about aging relatives, and the businesses that derive revenue from consumers getting to stores. The older adults themselves were involved through participation and payment in the system. Adult children were given the opportunity to provide transportation for their aging parents while not investing their personal time. Finally, community merchants were involved because they financially benefit when older adults frequent their businesses.

RESEARCH OBJECTIVE(S)

List study objectives.

The purpose of this study was to pilot test the economic sustainability of an adult child payment and merchant payment system for alternative transportation designed for older adults.

DESIGN TYPE:

Nonrandomized control trial

Level of Evidence:

II

Limitations (appropriateness of study design):

Was the study design type appropriate for the knowledge level about this topic? *If no, explain.*

Yes

No

✓ The control and experimental groups were not mutually exclusive, to the extent that some participants had to be moved from the control to the experimental group due to contamination. The actual methodology differences between the control and experimental groups was unclear.

SAMPLE SELECTION

How were subjects selected to participate? Please describe.

Convenience—volunteers

Inclusion Criteria

Senior riders aged 65 and over

Exclusion Criteria

NR

NR = not reported.

Sample Selection Biases: *If yes, explain.*

Volunteers/Referrals

Yes

No

Attention

Yes

No The program involves active participation and payment by some parties. The fact that these individuals volunteered to participate and even spent money may bias how much they utilize the services.

Others (list and explain):

SAMPLE CHARACTERISTICS

N = 13 merchants, 256 seniors

% Dropouts

#/(%) Male

#/(%) Female

Ethnicity

Disease/disability diagnosis

Check appropriate group:

<20/study group	20–50/study group	51–100/study group <input checked="" type="checkbox"/>	101–149/study group	150–200/study group
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Sample Characteristics Bias: If no, explain.

If there is more than one study group, was there a similarity between the groups?

Yes

No N/A

Were the reasons for the dropouts reported?

Yes

No

INTERVENTION(S)—Included are only those interventions relevant to answering the evidence-based question.

Add groups if necessary.

Group 1

Brief Description	Adults participating in the Ride & Shop Program
Setting	Portland, Maine, area
Who Delivered?	Independent Transportation Network (ITN) staff, volunteer and paid program drivers, as well as 13 participating area merchants
Frequency?	As needed
Duration?	6 months

Group 2

Brief Description	Older adults participating in the Ride & Shop Program
Setting	Portland, Maine, area
Who Delivered?	Independent Transportation Network staff, volunteer and paid program drivers, as well as 13 participating area merchants
Frequency?	As needed
Duration?	6 months, first 2 months served as control

Intervention Biases: *Explain, if needed.*

Contamination

Yes

No

Co-intervention

Yes

No

Timing

Yes

No

Site

Yes

No

Use of different therapists to provide intervention

Yes

No All study participants, both control and experimental groups, were exposed to the program, and the author admits some “spillover.” Also, one must consider the timing of this study: It was conducted in the fall and into winter, when more gift shopping is occurring but also when seniors may have been less likely to travel due to the cold Maine weather.

MEASURES AND OUTCOMES—Included are measures relevant to answering the focused question.

Name of measure:

Number of rides taken

Outcome(s) measured (what was measured?):

A count of times the Ride & Shop program was used, as well as the number of stickers distributed

Is the measure reliable (as reported in article)?

Yes

No The numbers of stickers that serve as refund vouchers for using the service did not match the number of rides given. The author noted that stickers may have been distributed to nonmembers or participants in the control group during the control period for later use.

NR

Is the measure valid (as reported in article)?

Yes

No

NR

How frequently was the measure used for each group in the study?

Ongoing through the course of the study

Measurement Biases

Were the evaluators blinded to treatment status? *If no, explain.*

Yes

No

Recall or memory bias? *If yes, explain.*

Yes

No

Others (list and explain):

Limitations (appropriateness of outcomes and measures) *If no, explain.*

Did the measures adequately measure the outcome(s)?

Yes

No

RESULTS

List results of outcomes relevant to answering the focused question.

Include statistical significance where appropriate ($p < 0.05$).

Include effect size if reported.

- Rides to participating merchants were greater in the experimental group; $X^2 = 3.84, p = .05$.
 - Survey results also revealed overall satisfaction with the Ride & Shop program by merchants as well as older adult study participants.

Was this study adequately powered (large enough to show a difference)? *If no, explain.*

Yes

No

Were appropriate analytic methods used? *If no, explain.*

Yes

No The investigator should have conducted a cost-benefit analysis in order to demonstrate the economic sustainability of such a program as indicated in the program objectives. The analyses reported in the article were primarily descriptive measures from surveys rather than statistical analyses of the actual program. Data collection would need to be conducted in a manner more exclusive between the control and experimental groups and for a longer period of time in order to effectively demonstrate the impact and sustainability of this program.

Were statistics appropriately reported (in written or table format)? *If no, explain.*

Yes

No

CONCLUSIONS

State the authors' conclusions that are applicable to answering the evidence-based question.

The author reports that stakeholders are willing participants in a community-based transportation alternative such as one proposed in the Independent Transportation Network. The investigator concluded that merchant participation programs generate older adult use of alternative transportation as well as business with the participating merchants, resulting in a successful, sustainable program.

Were the conclusions appropriate for the Study Design (Level of Evidence)? *If no, explain.*

Yes

No

Were the conclusions appropriate for the statistical results? *If no, explain.*

Yes

No The author states conclusions about economic sustainability, yet the data and analyses do not address financial independence, only use.

Were the conclusions appropriate given the study limitation and biases? *If no, explain.*

Yes

No See above

IMPLICATIONS FOR OCCUPATIONAL THERAPY

This section provides guidance about clinical practice, program development, and other implications of the study findings as they relate to the focused question.

It is difficult to determine if the innovative program described and studied in this article could be successful and sustainable due to the reporting. If such a program were successful, the implications for practice would be as follows:

The Independent Transportation Network could serve as a legitimate transportation alternative for clients who are no longer able to drive yet still need and desire to be mobile in the community. It would be important for the occupational therapist to understand the application process and operation and limitations of the area program when making recommendations for specific clients. An efficient referral pathway should be established to expedite transition to driving cessation without gaps in community mobility.

Another role for occupational therapy with such a program is through consultation. Occupational therapists could work with the ITN in the modification of programs for clients with dementia and other cognitive deficits who need a more structured, supervised use of the system. Additionally, ITN operates with a large number of volunteers who use their own automobiles. Occupational therapists could be involved with the training/orientation of new volunteers and staff in the areas of sensitivity training, transfer training, transportation safety, and seat belt use with drivers and passengers for injury prevention.

This work is based on the evidence-based literature review completed by Wendy B. Stav, PhD, OTR/L, SCDCM.

CAP Worksheet adapted from: Critical Review Form – Quantitative Studies ©Law, M., Stewart, D., Pollack, N., Letts, L., Bosch, J., & Westmorland, M., 1998, McMaster University. Used with permission.

For more information about the Evidence-Based Literature Review Project, contact the American Occupational Therapy Association, 301-652-6611, x 2052.



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Contact: copyright@aota.org