

What Type of Pedestrian Are You?

Walking Patterns and Route Preferences of Shoppers

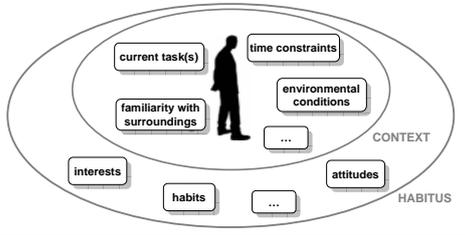
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Introduction

Determinants of human spatio-temporal behavior



Human route decision processes and information preferences depend on various parameters (physical, emotional, cognitive, or lifestyle related factors). [1] [2] [3]

Promoting walkable environments and encouraging occasional walkers to increase their walking activities requires comprehensive knowledge about pedestrians' needs and desires.

This contribution presents the results of interviews conducted during two empirical phases.

Goals

- to determine a **pedestrian typology** based on qualitative interpretative and quantitative statistical data
- to identify **characteristic attributes**
- to **describe type-related requirements** concerning the design of urban space

Methodology

“Across-method” Triangulation [4]

Shopping scenario

Heuristic Phase

- Unobtrusive observation in indoor and outdoor environment
- Inquiry: self-assessment of walking behavior
 - Brief, standardized interviews
 - 130 interviews (30 outdoor, 100 indoor)
 - Descriptive and inferential statistics
 - Cluster analysis
- Identification of initial types of spatio-temporal behavior

Key Attributes

Deductive Phase

- Pedestrian tracking using localization technologies (GPS, Bluetooth)
- Combination with inquiry data (intentions, preferences, lifestyle attributes)
 - Semi-standardized interviews
 - 221 interviews (51 outdoor, 170 indoor)
 - Descriptive and inferential statistics
 - Cluster analysis
- Catenation of empirical results

Initial Typology

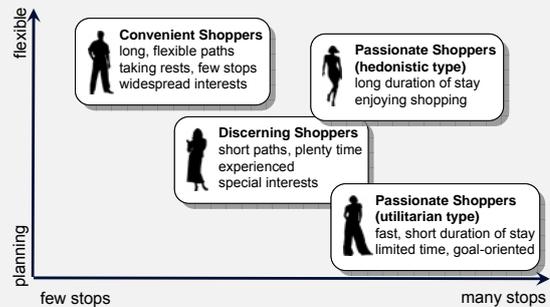
Extensive Typology

Model of Pedestrian Mobility Styles

Deductive Phase

Clustering Results: 4 clusters

Clustering based on motion-related features reported in interviews in the outdoor environment (shopping street)



- Convenient type:** enjoys nice environments (attractive, green, with rest areas)
- Discerning type:** similar to convenient type, but less sensitive to longer paths and weather conditions, safety/security important
- Hedonistic type:** convenience less relevant, little traffic and safety/security important
- Utilitarian type:** prefers calm environments (little traffic, few people, rest areas) + short paths; attractiveness less important

Conclusions

- In **brief interviews** safety/security as well as orientation issues are most important.
- In **detailed interviews** other characteristics gain more importance; type-related differences appear.
- Pedestrians are apparently not fully aware of which characteristics are most important for them;** preferences are related to behavior types.

References

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Heuristic Phase

Clustering Results: 4 clusters

- Most determining factors are related to personal characteristics (e.g. curiosity, anxiety)
- Motion-related and environmental characteristics are of less importance in self-perception profiles
- Security and orientation are the most important attributes
- Similarities and differences identified in the clusters are small: persons are hardly aware of factors influencing their behavior

self-confident and flexible but goal-oriented, more males, middle-aged, medium level of education

Young, highly educated swift, curious, modern, planning, and self-determined

more females, balanced age and education, varying walking preferences

Predominantly females, curious and fun oriented, weak orientation skills