

Pre-conference Workshop
„Measuring Walking (part IV): Data Collection Methods“
WALK21, The Hague, 16 November 2010

Trip data (travel surveys) A first approach



Daniel Sauter, Urban Mobility Research, Zurich, Switzerland

Key issues with travel surveys

- 1) Large scale / national travel surveys
 - often not adequate to walking (underestimation)
 - no or little local data
 - expensive
- 2) Small scale, project-related / local travel surveys
 - many difficulties to collect information (e.g. sampling)
 - comprehensiveness, precision vs. cost
 - often expensive too

2 objectives:

- => need to define requirements for national surveys
- => find ways to do local surveys: reliable yet inexpensive

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PQN-survey on data availability in Europe

Idea

- to explore type of data available and how it is collected
- information on all levels – national, regional, municipal & project-related

10 countries provided results:

Belgium, Finland, France, Germany, Greece, Italy,
Netherlands, Norway, Spain and Switzerland.

See annex on CD to report B4.2 on Measuring Walking

Further discussion here:

- => Only elements related to walking, not general survey problems
- => What is particularly relevant & important from pedestrian point of view?

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Central issues & possible minimal requirements

- Stages – trips – trip chains – day mobility? (recording & presentation)
- Minimal length of stage/trip (distance, time)?
- Minimal / maximum age? Are children included (by proxy?)
- “Definition” of pedestrian? (e.g. wheelchairs, inline skates, micro scooters?)
- Ability to walk?
- Time of year and days of week – year round?
- Purposes – all or only trips to work/school? multi-purposes?
- How is leisure defined? Walking for health, hiking?

- Non-goal oriented mobility (children)? - travel vs. activity survey?
- Geo-coded routes – handling of small scale pedestrian movements?
- Escorting (e.g. children to school)?
- People transporting/carrying goods?

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General population / travel survey issues

- Data collection by phone, written, face to face, internet?
- Representativeness? Sample size?
- Whole household or selected persons from household?
- People excluded from survey? Re language, mobile phone use, people in institutions?
- Number of people not leaving the house and reasons for it?
- Coding of trips back home (own purpose, related to first trip out or last trip in, purpose where most time is spent etc.)?
- Ownership of drivers license, bus/train pass, vehicle ownership & accessibility (bicycle, motorcycle, car etc.)?

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Definition issues for standardisation

Only residents (local population) or also...
...non-residents (commuters, visitors, tourists from outside city)

Only local trips within city (perimeter/jurisdiction) or...
...trips starting and/or ending within city or...
...all trips – inside and outside of city

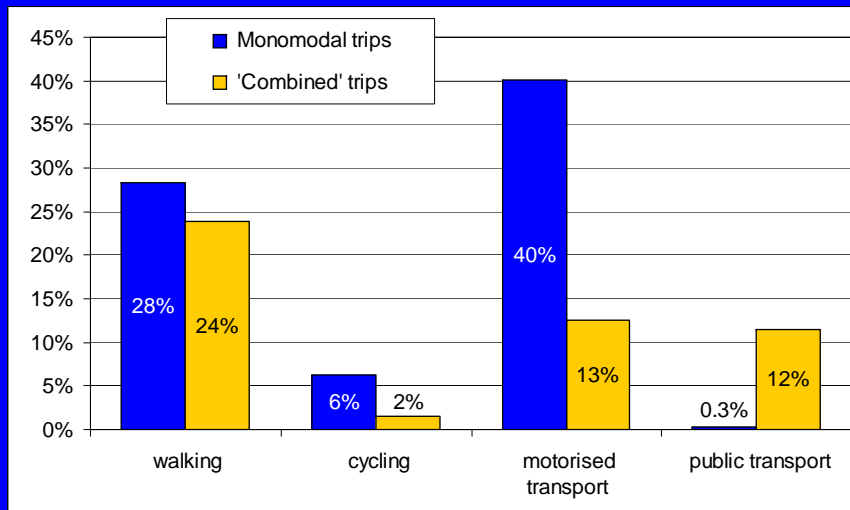
Only everyday trips or also...
...trips on excursions and holidays (staying overnight)?

Trips recorded of...
...one day (yesterday, another?) or...
...several days (how many? weekly diary?) or...
...questions about regular trips / travel patterns

Presentation of results...
...for all of population and/or walkers only
...mean, median, percentiles re distance and time

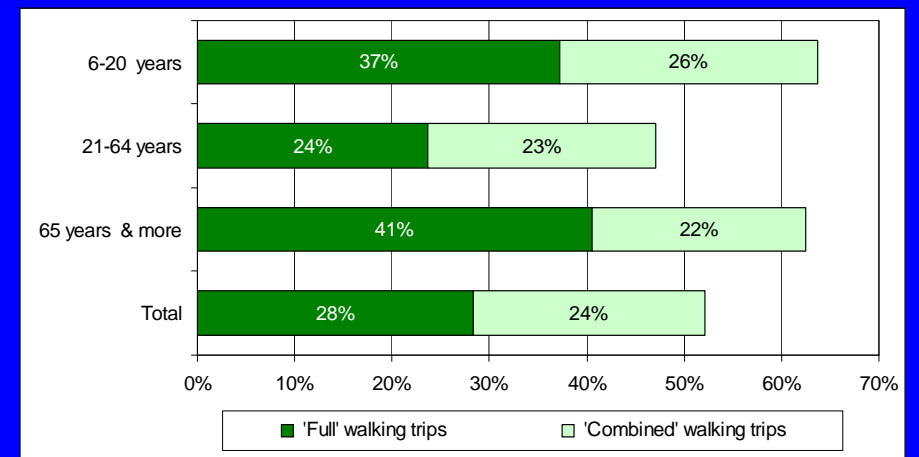
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Example for issue of stages Mono-modal vs. combined trips according to mode (Swiss data 2005)



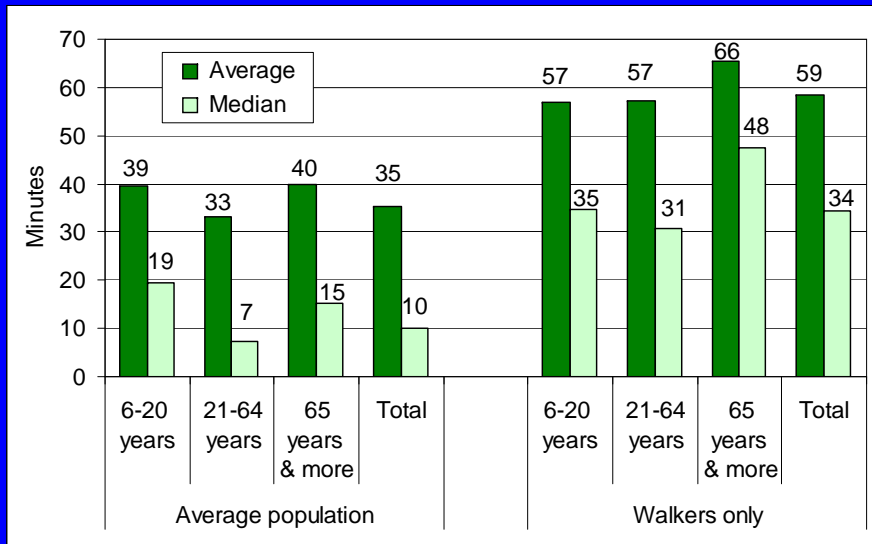
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'Walking-only' (=monomodal) and 'combined' walking trips according to age (Swiss data 2005)



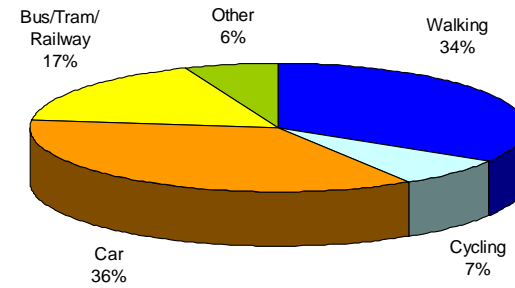
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Mean and median walking time of average population and walkers only according to age (Swiss data 2005)

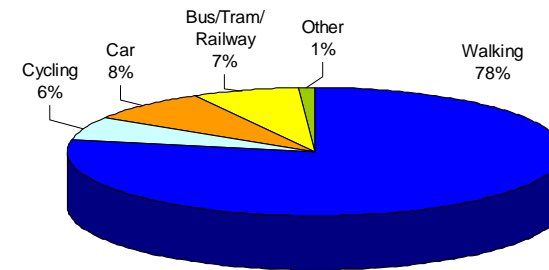


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Distances



Stages



Trips to school

mode share according to distances and stages

(example from 1994)

6 to 9 year old children
Swiss data

However, distances for walking in absolute terms can be useful / desirable e.g. for health

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Types of surveys (trip data collection)

Area-wide / overall surveys

- National surveys
- Regional/conurbation surveys
- Town/city, local travel surveys

Project-specific surveys, usually specific trip purposes:

- Land-use developments: "trip generators" (shopping malls, entertainment centres, housing developments, production or service facilities; GIS info included)
- Commuting to school & work surveys (done at schools / workplace)
- Intercept surveys: data taken en route (only of those being mobile, passing survey location)
- Individual / self-monitoring (health-related; number of walking trips, distance, time; no mode share; GPS loggers/mobile phones)

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Examples of solutions for local travel surveys

- Making Walking Count (phone survey)
- Pedestrian & Bicycling Survey (PABS) (mail survey)
- Trips to school surveys (written / face-to-face)
- Others? (=> to be discussed in subgroup)

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Making Walking Count: MWC

Standardised survey

- phone interviews of 600 persons
- Focus on children and elderly persons (100 each) in sample
- representative for core city and surrounding areas
- recording all trips of yesterday (chronologically, up to 20 trips)
- spread over the week = data for all days of week

- response rates: good
- cost:
~ € 15,000 local data collection
+ € ~9,000 analysis etc.



Making Walking Count: MWC

Questions asked

- Open question where the respondent describes the trip
- Main purpose of the journey e.g. to access transport, walk all the way etc
- Main reason for the journey e.g. work, education, shopping etc
- Time spent for that journey (to the nearest minute)

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Making Walking Count: MWC

Q2. (Journey 1)

Starting at the beginning of the day, what was the first journey you made that included walking ie when you first went out?

Q3. (Journey 1)

What was the main purpose of that journey? READ OUT

- To access public transport eg walk to/from a station or stop
- To access private transport eg walk to/from a parked car/van/motorbike/ vehicle bikes, taxi rank, walk to/from friend's house to get a lift
- Walk all the way to a specific destination (ie no other form of transport involved)
- To go for a walk ie with no other purpose
- Other: (please specify)
- Did not walk yesterday

PROBE TO ENSURE NO TRIPS OVERLOOKED IE CHECK DID NOT GO OUT AT ALL

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Pedestrian and Bicycling Survey: PABS (draft)

Kevin Krizek, Ann Forsyth, Asha Agrawal Mineta Transportation Institute

Recommendation for low-cost survey with standard questions

- mail out / mail back survey
- clustered sample for larger cities (neighbourhoods => individual addresses)
- random sample for towns (=> individual addresses based on mail carrier r.)
- only adults (person with most recent birthday in household)
- trips of the last 7 days
- information about general travel habits/patterns (typical week)
- response rates: <20%; cost: \$ 1.75 per letter, w/o analysis

Websites for download of final report:

Measuring Walking and Cycling Using the PABS Approach: A Low-Cost Survey Method for Local Communities

<http://transweb.sisu.edu/project/2907.html>

<http://www.designforhealth.net/health/PABS.html>

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Pedestrian and Bicycling Survey: PABS (draft)

Most recent time you used each type of travel (multiple categories)

- Passenger or driver in a vehicle
 - Public transit
 - Bicycle (....)
 - Walk
 - Walk to or from public transit
 - Walk to a destination other than public transit
 - Walk for recreation, exercise, or to walk the dog
- ▢ Last 7 days; last month; last 3 months; last year; not used in last year

Number of days walked in the last 7 days (up to yesterday)

- Walk to or from public transit
- Walk to OR from work or school
- Walk to get somewhere OTHER than work, school, or public transit. (for example, to go shopping, see a friend, or eat a meal.
- Walk for exercise or recreation, without having a destination for the trip

Trip to School: Example of questionnaire (1)

Source: PSI "one false move" replication study 2010

Q1 How did you get to school this morning?
(Only tick one box to show the main method used)

- Walked most or all the way
- Cycled
- School bus
- Local bus, tram, train or underground
- Car
- Other, please write in

Q3 How long did it take you to travel to school this morning?
(Only tick one box)

- Less than 5 minutes
- 5 to 15 minutes
- 16 to 30 minutes
- 31 to 45 minutes
- 46 minutes or more

Q2 Who did you travel to school with this morning?

- Travelled on my own
- Parent
- Another adult
- Older child / teenager
- Child of same age or younger

Q4-6 Same questions:
How will you go home today?

Trip to School: Example of questionnaire (2)

Indication of modes

- | | |
|-------------------------|---|
| Walking | a) Walking without adult accompaniment
b) Walking with adult accompaniment; 'Walking School Bus' |
| Bicycle | a) Bicycle on his/her own
b) Bicycle as passenger (incl. attached trailer) |
| Motor vehicle | a) Private motor vehicle as passenger (car, motorcycle)
b) Motorcycle: as driver (own use) |
| Public transport | a) Public transport: bus, tram, metro, ferry etc.
b) School bus, taxi |
| Other | a) Other (please indicate): |

Objectives for sub-working group

- => define requirements for national surveys
- => find ways to do local surveys: reliable yet inexpensive
- => What to standardise?

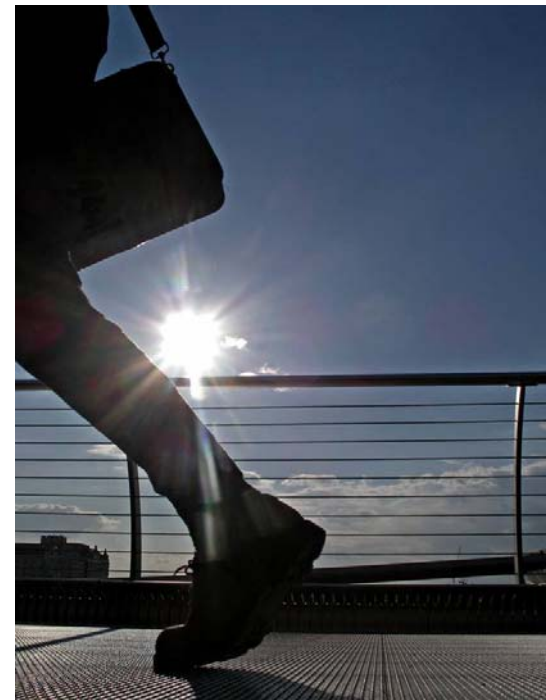
Issues include

- Purposes / type of surveys => method(s)
- Accuracy to measure walking?
- Sample size? Representativeness?
- Time of year, days of the week, months of the year?
- Phone, written, face-to-face, internet?
- Costs?
- Et cetera

Proposal for group discussion

- (Main) purposes / reasons for each methodology => needs?
- Different types within each methodology => most relevant ones?
- Specific issues that need to be addressed => incl. difficulties & possibilities to overcome them?
- Accuracy needed, easiness of application, costs?
- Which elements should be standardised to make them comparable internationally?
- How to document results, make them available for exchange?

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Thank you!

www.measuring-walking.org

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