Source: ISS ©

Walkability study in Essen: Testing measurements and assessment methods at macro and micro level

Minh-Chau Tran

RESTEN

M

Institute of City Planning and Urban Design, University of Duisburg-Essen, www.uni-due.de/staedtebau/



Promotion of active mobility through health-oriented urban design in Essen?

2001: **1/3** trips in Essen on foot 2011: **1/4** trips in Essen on foot

Constant of the owner

39 % of short trips in Essen (1-3 km) are covered by private cars

(The City of Essen 2012: Household survey on mobility)

City shapes mobility shapes city...

Source: ISS ©



Study: GIS-based measurements at macro level and Walk Audits at micro level



Question: Do results on macro level match with results on micro level?

Study: GIS-based measures on macroscale – selection of seven areas for microscale study

Walkability Index for Essen (WAI)

2017

UNIVERSITÄT





Study: GIS-based Walk Audits on microscale



Integrated Walkability Audit on Microscale (IWAM)

1.0 For mixed-used areas





On site data collection (physical features and urban design qualities) from segment to segment Synchronization Location (georeferenced) Photo documentation Scoring

ArcGIS interface



Study: GIS-based Walk Audits on microscale



Rüttenscheid 00001 02 03 04



Altendorf 0.0408.005 0.17 8.255 8.54



Study: GIS-based Walk Audits on microscale

Currently: Development of the IWAM GIS-Toolbox

ArcGIS Toolbox for **automatization** of data preparation for a Walk Audit and for calculation of its results

All variables, scores, weighting, criteria are editable

Repetition of audits in other areas needs only a short time preparation



207

UNIVERSITÄT

Slide 8 | 19 Sept. 2017 | Minh-Chau Tran | University Duisburg-Essen ICC International Cycling Conference 2017 – Bridging the gap between research and practice



Conclusions and Outlook

Raising awareness and informing

Community Street Audits, Pedestrian-Checklists

Target group specific views, needs, limitations, perceptions of the route

Research: Gaining scientific knowledge on methods

Practice: Using analysis results for decision making and as basis for prioritization of measures

Participation tool

Walk Audit with seniots in Essen ISS ©

Conclusions and Outlook

- WAI as a benchmark
- IWI > small-scale research necessary
- Surveys/observations provide with further information, e.g. about safety
- Small-scale data: a) characteristics of the built environment, b) residents, their health and where they live, c) behavior patterns in everyday life

A human-oriented street is a health-promoting street.



References:

Federal Statistical Office 2016: Regional Atlas, Figures from 2015 The City of Essen 2012: Household Survey on Mobility in Essen 2011

Team Minh-Chau Tran, Alexandra Caetano, Justyna Luczak, Caroline Manz, Fatemeh Nouri, Marisela Soto Salas, Yeganeh Soudi I Institute of City Planning and Urban Design (ISS), University of Duisburg-Essen, Prof. J. Alexander Schmidt

conductory one.

für Bildung und Forschung **KLIMA**

ESSEN

WERKSTADT

STADT ESSEN UNIVERSITÄT

UISBURG

Photo: Justyna Luczak