



METPEX

Deliverable 5.4 A “TRANSPORT SERVICES QUALITY AND ACCESSIBILITY EVALUATION MANUAL”

Publishable summary

Coordinator:

Professor Andree Woodcock, Coventry University

Tel.: +44 (0) 2476 158349 Email: A.woodcock@coventry.ac.uk

Author:

Responsible partner: POLITO

Participants: COVUNI, ITENE, ZHAW, VTM

Tel: +39 011 090 5638 marco.diana@polito.it

Duration of Research:

Project duration: November 2012 – October 2015

Deliverable duration: August – September 2015

WEBSITE

WWW.METPEX.EU

Grant Agreement no: 314354 Project Full Title ‘A Measurement Tool to determine the quality of the Passenger Experience’



Summary & Purpose

- Providing guidance on how to run an **assessment exercise** of the traveller's experience by appropriately selecting a subset of satisfaction rating questions from the METPEX survey tools and computing the related quality indicators.
- Presentation of **all indicators** defined during the project.
- **Benchmarking** the results obtained when computing the indicators with the values obtained for the eight METPEX test sites.

Approach (1)

The purpose of this Deliverable is to give stakeholders a **manual** on the use of the METPEX tool through the computation of a set of indicators defined during the project.

Steps of the procedure:

1. Choice of the **set of indicators** that is needed to measure the perceived quality for the specific evaluation perspective of interest (mode of transport, users group, journey phase, quality issue)
2. Identification of the list of **satisfaction rating questions** related to such set of indicators, found among the 92 indicators described in the manual

Approach (2)

4. **Compute** the indicators on the basis of the results of the survey, getting a mean score for each indicator, ranging from 1 (minimum satisfaction level) to 5 (maximum satisfaction level)
5. **Benchmarking** of the the results against those obtained in the test sites during the project
6. Use of the METPEX survey tool for **eliciting answers** for the above list of questions

Examples to clarify all the procedures are provided in the Deliverable

An example of indicator calculation (1)

Let us assume that the goal is to assess quality issues of passengers travelling by **bus**.

- a. A **mode-specific** evaluation exercise is appropriate: go to the manual chapter 2 and look for indicators related to “Bus service”
- b. **Three** relevant indicators can be found: “BUS1: Reliability”, “BUS2: Ticketing and other issues” and “BUS3: Comfort on board”

BUS1	Reliability	C_i
v62	Reliability of services	0.223
v57	Punctuality	0.233
u18	Time the journey took was as promised	0.263
v61	Reliability at off peak times	0.197
u19	Transport availability was adequate for my needs	0.170
v48	Notification on timetabling changes	0.147
u11	The quality of pre-trip information before I started my journey was good	0.155
u8	Provision of information on arrivals and departures was adequate for my needs	0.122
u10	The quality of travel information available during journey was good	0.111
v73	Value for money of services was good	0.125

An example of indicator calculation (2)

BUS2	Ticketing and other issues	C _i
v1	Ability to buy one ticket which covers different forms of transport	0.354
v29	Easiness of connections with other modes of transport	0.239
v23	Comprehensibility of ticketing structure	0.184
v60	Range of fares offered	0.161
u61	Provision of public transport only lanes	0.182
u17	Ticket purchasing process was easy to follow	0.159
u3	Design of transport stops was adequate for my needs	0.124
u15	Support for intermodal (e.g. different forms of transport during same journey) travel was provided	0.088

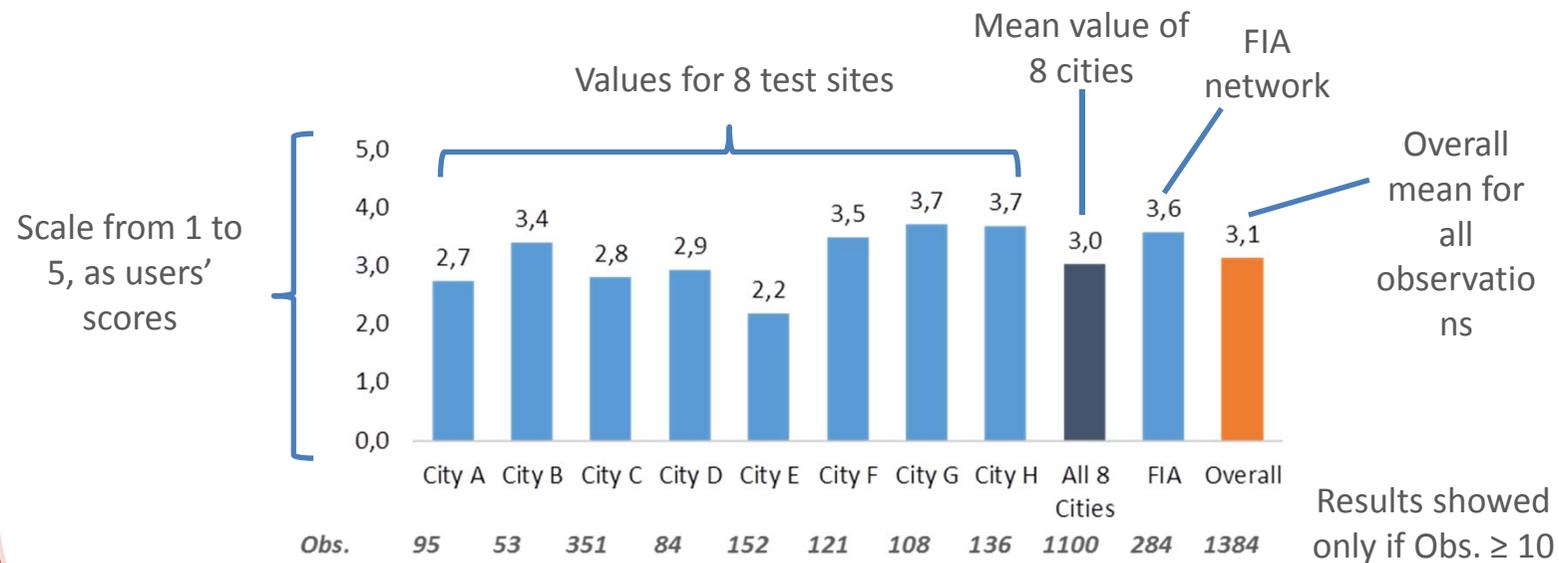
BUS3	Comfort on board	C _i
v44	Level of noise	0.365
v43	Level of crowding	0.303
v8	Air temperature and ventilation inside vehicles	0.209
v20	Cleanliness of vehicles	0.200
v70	Speeding and driving behaviour	0.168
v68	Shelter provided from weather	0.142
v38	Helpfulness of customer facing staff	0.120

An example of indicator calculation (3)

- e. Design of a **satisfaction survey** comprising 25 questions in total (10 from BUS1, 8 from BUS2, 7 from BUS3 from the previous three tables), following a 5-point satisfaction rating format.
- f. Implementation of the survey involving a sample of **bus riders**
- g. **Computation** of the three indicators on the basis of the answers obtained to those 25 satisfaction ratings (technical example provided in the Deliverable)
- h. Outcome for the sample: **mean score** for each indicator, ranging from 1 (minimum satisfaction level) to 5 (maximum satisfaction level)

Benchmarking values of single indicators

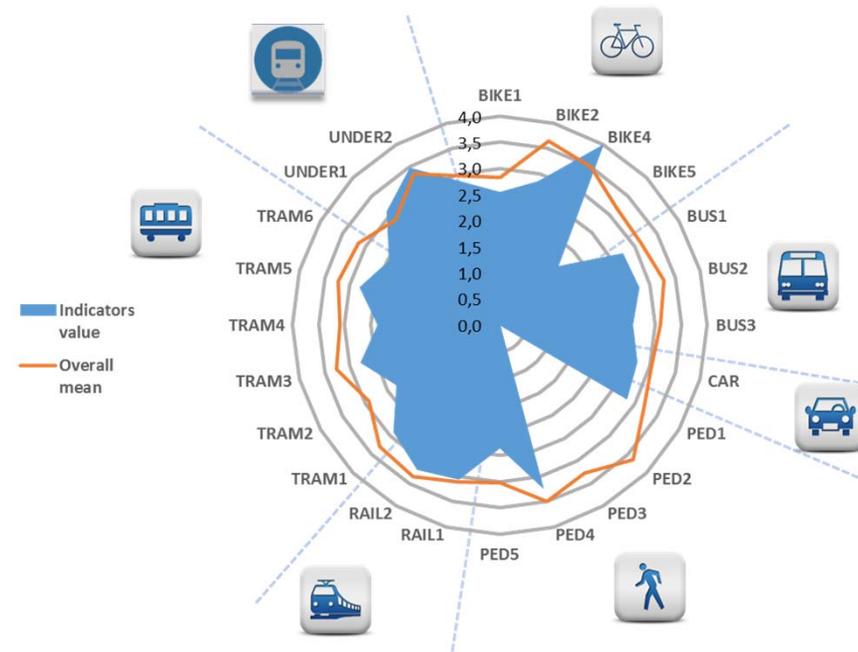
Bar charts of the results obtained from the METPEX test sites, which could be used for comparison, are available for all indicators. Here is an example for **BUS 1**.



* The indicator is not shown for samples inferior to 10 observations

Jointly considering several indicators: city quality profiles

Values of all **indicators** pertaining to different travel modes, users groups, journey phases or quality issues can be jointly considered through **radar graphs**.



Results

Stability analysis results state that when the number of observations available in the test site is sufficiently large, the definition and the structure of the factors coming out from a city are **comparable** with those from the total dataset.

Some **differences** are still noticeable: city-specific factors (geographical position, dimensions, number of inhabitants, transports provision...) influence the identification of the indicators when considering only specific test sites.

Some variables come to be a sort of **common baseline** in the composition of the indicators, irrespective of the portion of dataset under consideration.

Conclusions & Further Study

Through the extensive testing of indicators it is possible to say that they can give a sound **initial assessment** of the **perceived quality** of different transport services according to:

- perspectives of different **users groups**
- focus on specific **quality components**
- focus on **phases** of the journey experience.

Such assessment can be matched against the results that were found for the different METPEX test sites (**benchmarking study**).

Future work: running a **confirmatory factor analysis** to amend some of these indicators or to make them more fit to specific evaluation instances, on the basis of some expert judgment.