

**14th International Conference on Walking and Liveable Communities WALK21
Munich 2013**

Pre-conference Workshop

Tuesday, 10 September 2013, 9.30 am - 4.00 pm

Department for education and sports (Referat für Bildung und Sport)
Bayerstrasse 28, Room E.038

***Measuring Walking (part V):
Indicator Sets & outlining Pedestrian Data Charter
Towards internationally standardised monitoring methods of walking and public space***

***First suggestions of indicators and methods
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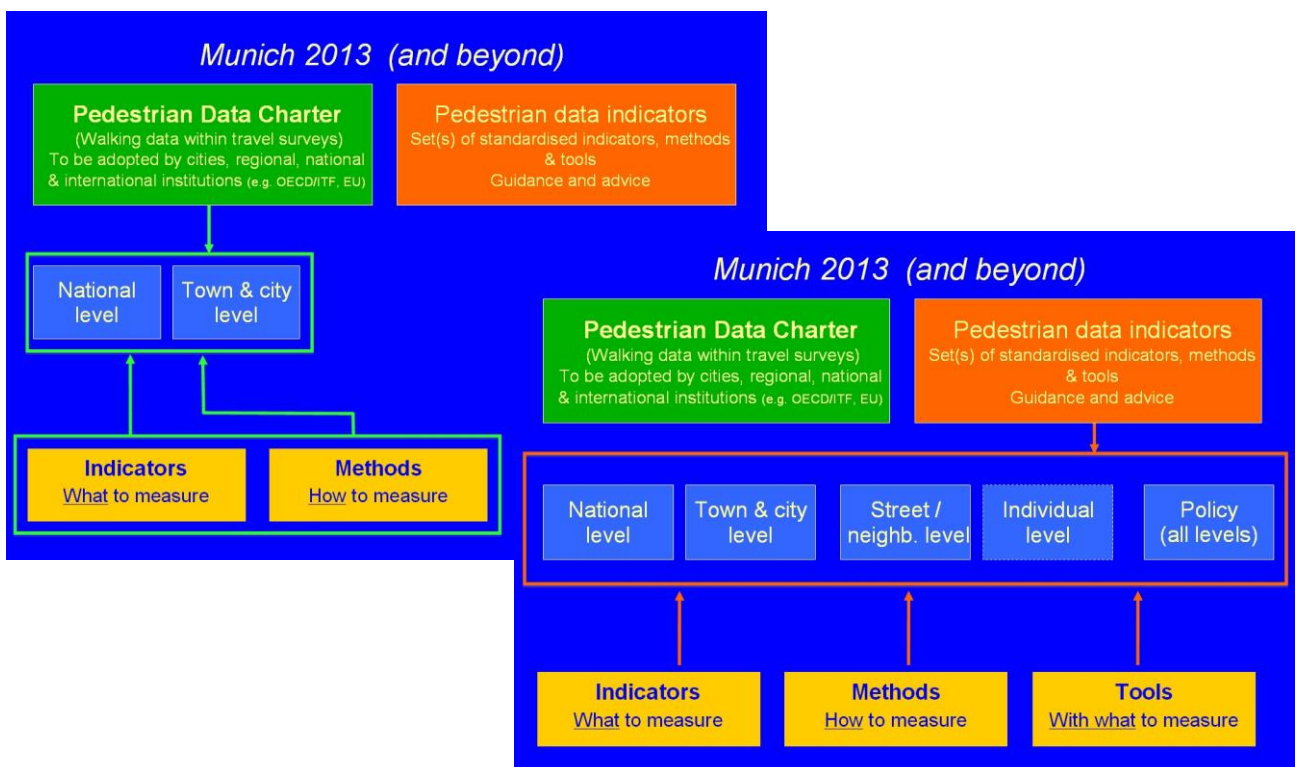
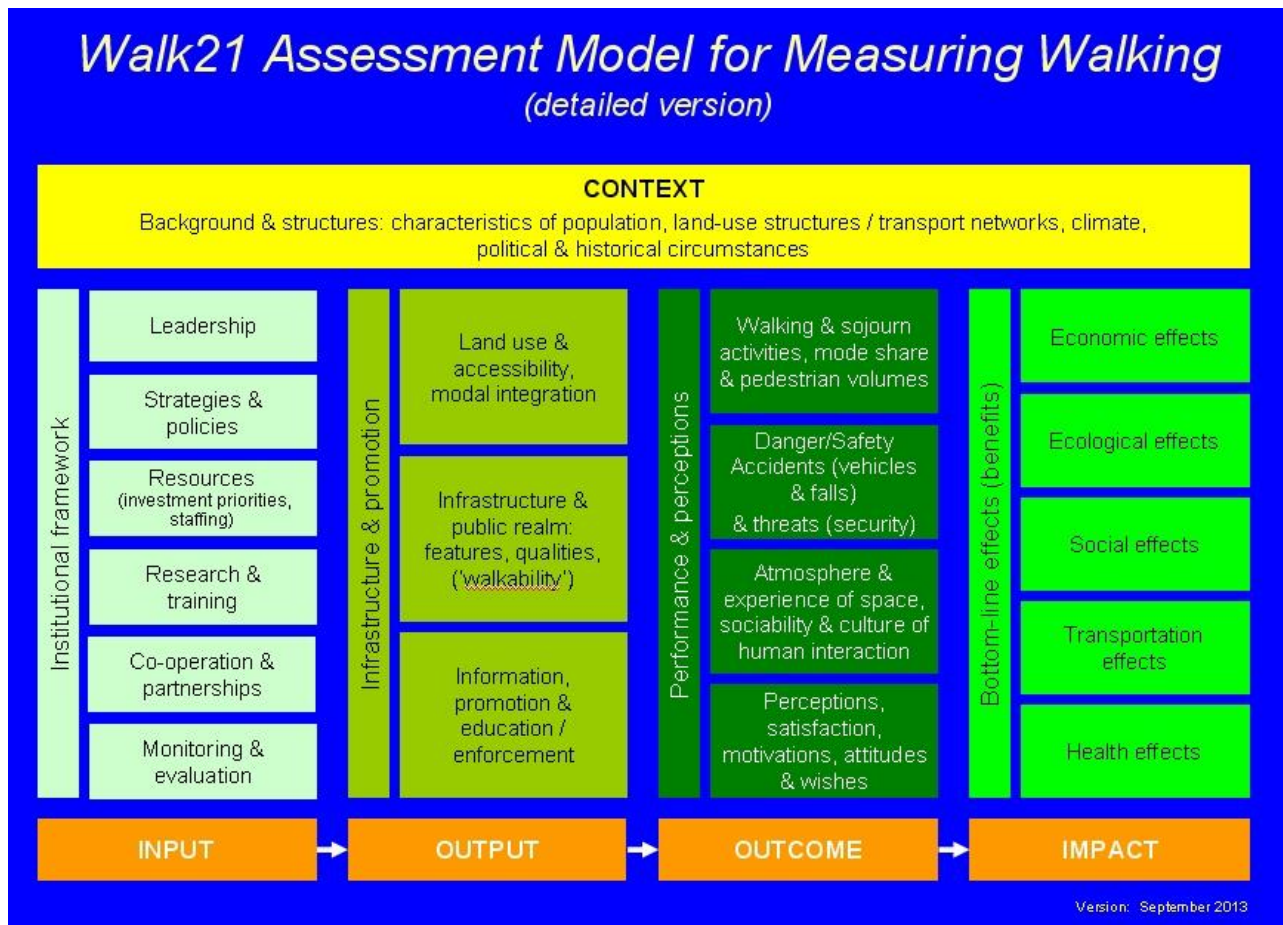
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1. WHERE WE STAND

1.1 CONCEPT OVERVIEW



1.2 LIST OF KEY PERFORMANCE INDICATORS (OR ELEMENTS TO CREATE THEM)

Based on the framework of the Assessment Model a list of key performance indicators or elements necessary for creating them has been developed (status: June 2010).

	Main Criteria	Key performance indicators (or elements for creating them)
Input: Institutional framework	Leadership	<ul style="list-style-type: none"> • Politicians and (senior) officials <ul style="list-style-type: none"> • Extent to which politicians and (senior) officials take a lead and direction in supporting walking and public space improvements • Sensitivity and awareness of walking and public space issues • Content and form of communication about walking and public space
	Strategies & Policies	<ul style="list-style-type: none"> • Walking strategy & integration of walking in other strategies <ul style="list-style-type: none"> • Presence and quality (content) of a walking and public space strategy • Presence and quality of strategies/policies closely related to walking e.g. land-use, health, transport/mobility, social integration, environment => Degree of integration between these different strategies/policies: coherence, conflicts • Policy principles supporting walking (e.g. polluter pays, 'true cost' approaches, 'complete streets', 'vision zero' etc.) • Implementation procedures <ul style="list-style-type: none"> • Type of implementation programmes / action plans • Type and degree of integration within 'Input' level, i.e. between policies and resources • Legal framework <ul style="list-style-type: none"> • Laws, norms & regulations; supportiveness of legal framework for implementation
	Resources	<ul style="list-style-type: none"> • Funding (incl. infrastructure investments, promotion, maintenance, research etc.) <ul style="list-style-type: none"> • The level and continuity of funding for modes/projects ... <ul style="list-style-type: none"> a) with adverse effects on walking; b) for rectifying poor walking situations and c) to genuinely improve walking conditions / public spaces • Staff <ul style="list-style-type: none"> • Number and qualifications of staff, their seniority and training, motivation, career path • Position and power of walking unit within administration
	Research & Training (Education)	<ul style="list-style-type: none"> • Funding <ul style="list-style-type: none"> • Research and monitoring (funding) procedures in place (yes/no) • Resources allocated (funds, staff, share of resources for walking and other modes) • Institutional setting <ul style="list-style-type: none"> • Research institutions (staff, position, funding, etc.), coordination with other research areas (on national level), position and power within administration of monitoring unit • Education: students & professionals = continue education (engineers, health, architects); walking and design of public space included in curriculum • Approach <ul style="list-style-type: none"> • Type of research: basic as well as applied research – creating new insights & monitoring
	Co-operation & Partnerships	<ul style="list-style-type: none"> • Co-operation within and between government agencies ('vertically' and 'horizontally') <ul style="list-style-type: none"> • On / between all government levels (local, state, federal) • Between different departments (transport, health, environment, etc.) • Between different tasks (e.g. planning, maintenance, regulation, promotion, monitoring) • Public involvement / citizen participation in decision making, consultation <ul style="list-style-type: none"> • Procedures, degree of decision-making powers • Co-operation and dialogue with stakeholders outside government/administration <ul style="list-style-type: none"> • NGO's, advocacy groups, economic interests (developers, retailers etc.), 'friendly forces' and potential opponents

	Main Criteria	Key performance indicators (or elements for creating them)
Output: (institutional) products & activities	Land-use & modal integration	<ul style="list-style-type: none"> • Land-use <ul style="list-style-type: none"> • Land-use: functional mix; mixture and density of uses • Space allocation and distribution (e.g. green space, walking vs. other transport space) • Distances, (macro-) accessibility & connectivity <ul style="list-style-type: none"> • Distances to amenities / provisions / destinations ('walkscore' / 'walkshed'), • Accessibility and connectivity (macro level) • Modal integration <ul style="list-style-type: none"> • Integration of walking with other modes, especially with public transport, cycling, car-share • Accessibility of facilities at interchanges
	Infrastructure & public space	<ul style="list-style-type: none"> • Walking network <ul style="list-style-type: none"> • Length, density and extension of footpath network e.g. according to type/category: sidewalks, greenways/trails, other stand-alone footpaths, pedestrian areas, pedestrian priority areas, shared space • Connectivity, permeability, detour factors, micro accessibility • Space (unobstructed) <ul style="list-style-type: none"> • Space allocated to pedestrians and sojourners, e.g. sidewalk width • Amount of open spaces, spaces to relax, to stop, sit and/or stand • Size of designated clear path, unobstructed walkways (opposite: density of obstructions) • Seeing distances, visual perspectives (vistas) • Pedestrian scale buildings & usages <ul style="list-style-type: none"> • Type of ground floor usage / frontages (shops, cafés, etc.), diversity, uniqueness • Dimensions of buildings and facades (human/pedestrian scale), quality; e.g. number or proportion of buildings with human scale front structures on street • Proportions of building height to street width • Aesthetics of buildings, e.g. allowing a sense of history and context ('landmarks') • Quality of environment, provisions <ul style="list-style-type: none"> • 'Green' and 'blue' on the street, i.e. trees, green areas, (accessible) water, fountains etc. • Micro-/climate moderation and protection: sun, heat, rain, wind • Seats provided: formal (benches) or informal (ledges), or in outdoor cafés; arrangement of seats (conducive to watching and interacting with other people) • Availability of toilets and other services • Street lighting, security <ul style="list-style-type: none"> • Street lighting generally, pedestrian level street lighting & its quality: 'warm' light • Windows facing the streets, ground floor shops light up (no closed shutters) • Number of people & activities in street spaces at night • Crossings / road danger (safety) <ul style="list-style-type: none"> • Number, location and quality of crossings: well marked, distances minimal, no detours (neither vertically nor horizontally) • Traffic lights timed to needs of pedestrians: calculated crossing speed, waiting times • Crossings and traffic lights equipped for mobility and sensory impaired pedestrians • Street(s) with speed limit(s) lower than 30km/hr (20mph) or traffic calmed streets (e.g. proportionate to all streets); actual speeds driven (V85) above 30 km/hr • Vehicles (illegally) parked obstructing space and overview for pedestrians • Wayfinding (orientation and signage) <ul style="list-style-type: none"> • Orientation/navigation intuitively possible, 'legible' street design, clear vistas • Wayfinding system in place for major destinations in area, • Tools are easy to follow and consistent (maps, signage), 'landmark' orientation

	Main Criteria	Key performance indicators (or elements for creating them)
Output: (institutional) products & activities (continued)	Infrastructure & public space	<ul style="list-style-type: none"> • Pollution & disturbance by motor traffic <ul style="list-style-type: none"> • Noise level: e.g. proportion of street length or population exposed to traffic noise above certain levels; or: percentage of population feeling disturbed by traffic noise (day/night) • Air pollution: e.g. proportion of street length or population exposed to pollution above certain levels • Intrusive motorized traffic: volume and composition of motorized traffic; number of on-street parking spaces in proportion to streets length or surface area • % f car free routes? • Maintenance <ul style="list-style-type: none"> • State of good repair (no holes and other stumbling elements, lights functioning) • Cleanliness e.g. negatively measured as waste left on the ground per m2, dog poop • Snow removed from walkways and transit stops in winter time (degree, efficiency, time)
	Information, promotion & education/enforcement	<ul style="list-style-type: none"> • Information / communication <ul style="list-style-type: none"> • about services and offers by public authorities and private actors • about achievement and improvements made • Promotion and marketing <ul style="list-style-type: none"> • Number and scale of promotional activities for walking • Incentives / reward programmes for pedestrians • Efforts to create a culture of walking and a culture of respect and tolerance between users of public space / road users • Media coverage of walking (& related issues) • Education and law enforcement <ul style="list-style-type: none"> • Driver education and enforcement of rules e.g. re speeds, parking • Education re infrastructure accessibility / design for all (e.g. for private investors) • Co-operation with third parties <ul style="list-style-type: none"> • Programmes together with third parties, NGO's, civil society, private companies etc. (e.g. events, services, communication etc.)

	Main Criteria	Key performance indicators (or elements for creating them)
Outcome: Performance , behaviour & perceptions	Walking activity, mode share pedestrian volumes & activity in public realm	<ul style="list-style-type: none"> • Walking activity / levels of walking <ul style="list-style-type: none"> • Daily walking trips (stages), distance and time walked per person (according to age, gender, social status etc.) • Mode share of walking (in relation to other modes) • People walking for exercise (leisure walking: hiking etc.) • Walking levels/intensity contributing to physical activity (WHO recommendations) • Children walking to school (unaccompanied) • Pedestrian volumes & density <ul style="list-style-type: none"> • Number of pedestrians per hour (according to day and night time, diff. seniors and kids and if they walk alone) • Density (crowdedness): number of pedestrians per meter street/path width (Fruin) • Activity in the public realm; route choice <ul style="list-style-type: none"> • Number of people in public spaces, activities performed (according to age, gender, social status, type and activity, groups day and night time, are seniors and women by their own present; kids playing, recording if they are accompanied) • Intensity of use: average number per 100 m2 • Time spent in public spaces, type of night activities • Route choice & flows • Car-related information <ul style="list-style-type: none"> • Number of cars per household (share of car-free households) • Short car trips (proportionate to all car trips; short = below 1km / 3 km)
	Accidents & threats (safety & security)	<ul style="list-style-type: none"> • Road danger (safety) <ul style="list-style-type: none"> • Traffic accidents with pedestrians (involving at least one vehicle): killed and severely injured pedestrians (relative to population and time walked) • Percent of users who witnessed directly or indirectly a traffic accident in the area during the last 5 years • Actual and/or perceived speeds being driven by motor vehicles • Single pedestrian accidents <ul style="list-style-type: none"> • Number of falling and stumbling accidents: Killed and severely injured pedestrians (relative to population and time walked) • Security <ul style="list-style-type: none"> • Density of crime; threats, attacks, harassments • Number of people on street at night (according to gender and age), type of night activities
	Atmosphere of space & culture of human interaction	<ul style="list-style-type: none"> • Sociability & human interaction <ul style="list-style-type: none"> • Social aspects: sociability, social interaction, conflicts (people showing affections, spontaneous friendly interactions; eye-contact between strangers; smiles etc. but possibly also conflicts and hostile encounters) • 'Mood' of space created by users • Culture of human interaction between street users, e.g. respect shown by car drivers towards pedestrians • Number and type of local activities (flea-markets, concerts, etc.) • Sensory aspects: sounds, smell, tactile impressions etc. • Appropriation of space by users
	Perceptions, satisfaction & wishes	<ul style="list-style-type: none"> • Perceptions & satisfaction <ul style="list-style-type: none"> • Personal satisfaction, happiness, comfort ,measuring the smiles' • Mental well-being, emotional responses in space • Motivations & attitudes towards walking <ul style="list-style-type: none"> • Motivations and barriers to walking • Attitudes and general image of walking, awareness • Expectations & wishes <ul style="list-style-type: none"> • Expectations, hopes, wishes and visions; e.g. expected quality by user

	Main Criteria	Key performance indicators (or elements for creating them)
Bottom-line effects (benefits)	Economic effects	<ul style="list-style-type: none"> • Individual economic impacts <ul style="list-style-type: none"> • Cost savings re transportation • Collective economic impacts <ul style="list-style-type: none"> • Cost savings: e.g. in terms of infrastructure, health, accidents and pollution • Increased efficiency and effectiveness of mobility • More retail activity (shoppers) • Less unemployment • Possibly higher real-estate and rental prices (for shop owners, residents etc.) (= > adverse effects)
	Ecological effects	<ul style="list-style-type: none"> • Individual ecological impacts <ul style="list-style-type: none"> • Smaller individual carbon footprint • Collective ecological impacts <ul style="list-style-type: none"> • Energy savings (fuel) and savings of other resources • Reduced pollution, CO2 emissions, carbon footprint • Less climate change effects • Reduced noise • Reduced land-use • Reduced severance (better connections for people and animals) • Reduced sealed surfaces => more permeability, flooding prevention • Increase of ecological diversity
	Social effects	<ul style="list-style-type: none"> • Individual social impacts <ul style="list-style-type: none"> • More autonomy, independent participation in social life (children, people with disabilities, elderly persons etc.) • People feeling socially more included • Collective social impacts <ul style="list-style-type: none"> • Increased social inclusion, more community cohesion, • More social equality; democracy: participation for everyone in social life possible • More peaceful interactions, less criminal offences
	Effects on transportation (system)	<ul style="list-style-type: none"> • Individual transportation impacts <ul style="list-style-type: none"> • Time savings • Collective transportation impacts <ul style="list-style-type: none"> • Less need for transportation space • Less congestion, higher efficiency • Infrastructure cost savings
	Health effects	<ul style="list-style-type: none"> • Individual health impacts <ul style="list-style-type: none"> • Mental health: improvements in mental well-being => less stress, more happiness • Physical health: improvements in physical well-being • People live longer (healthier) • Collective health impacts <ul style="list-style-type: none"> • Lower health costs • Fewer health inequalities

2. CITY/TOWN LEVEL INDICATORS

2.1 LIST OF POTENTIAL / SUGGESTED INDICATORS ON CITY / TOWN LEVEL

The following list contains the suggested indicators for city/town level as input for the debate. It was the objective to take indicators from all pillars of the assessment model although quantitative data is not always available. It is suggested to start with these indicators, enlarge the list and refine them as time goes on. In the chapters 2.2 following methods for collecting the data are suggested. It is just as important to agree on the methodology as it is to agree on the indicator itself if our objective of harmonisation and comparability shall be reached.

A	Main Criteria	Key performance indicators (or elements for creating them)
Input: Institutional framework	Leadership	<ul style="list-style-type: none"> No indicator suggested yet, difficult to measure
	Strategies & Policies	<ul style="list-style-type: none"> Walking strategy & integration of walking in other strategies <ul style="list-style-type: none"> Walking and public space strategy in place (yes/no) Efforts to integrate other strategies/policies like land-use, health, transport/mobility, social integration, environment with walking/public space (yes/no)
	Resources	<ul style="list-style-type: none"> No indicator suggested yet, as funding and staff allocations are very difficult to come by
	Monitoring & evaluation	<ul style="list-style-type: none"> Monitoring/evaluation scheme for walking in place (yes/no)
	Research & Training	<ul style="list-style-type: none"> No indicator suggested yet as data is difficult to come by
	Co-operation & Partnerships	<ul style="list-style-type: none"> Public involvement / citizen participation in decision making, consultation <ul style="list-style-type: none"> Public participation scheme re walking and public space in place (yes/no)

B	Main Criteria	Key performance indicators (or elements for creating them)
Output: (institutional) products & activities	Land-use & modal integration	<ul style="list-style-type: none"> Land-use <ul style="list-style-type: none"> Land-use: functional mix; mixture and density of uses Space allocation and distribution (e.g. green space, walking vs. other transport space) Distances, (macro-) accessibility & connectivity <ul style="list-style-type: none"> Distances to amenities / provisions / destinations ('walkscore' / 'walkshed'), Accessibility and connectivity (macro level)
	Infrastructure & public space	<ul style="list-style-type: none"> Walking network <ul style="list-style-type: none"> Length of footpath network per km² of city area. e.g. according to type/category: sidewalks, greenways/trails, other stand-alone footpaths, pedestrian areas, pedestrian priority areas, shared space Crossings / road danger (safety) <ul style="list-style-type: none"> Street(s) with speed limit(s) lower than 30km/hr (20mph) or traffic calmed streets (e.g. proportionate to all streets) Traffic lights timed to needs of pedestrians: calculated crossing speed, maximum waiting times
	Infrastructure & public space	<ul style="list-style-type: none"> Noise & Pollution by motor traffic <ul style="list-style-type: none"> Noise level: e.g. proportion of street length or population exposed to traffic noise above certain levels; or: percentage of population feeling disturbed by traffic noise (day/night) Air pollution: e.g. proportion of street length or population exposed to pollution above certain levels Alternatively: proportion of streets with speeds below 30 km/hr/traffic calmed streets
	Information, promotion & enforcement	<ul style="list-style-type: none"> No indicator suggested yet – budget?

C	Main Criteria	Key performance indicators (or elements for creating them)
Outcome: Performance, behaviour & perceptions	Walking activity, mode share pedestrian volumes & activity in public realm	<ul style="list-style-type: none"> • Walking activity / levels of walking <ul style="list-style-type: none"> • Daily/yearly walking trips, distance and time walked per person • Mode share of walking (in relation to other modes) • Children walking to school (unaccompanied) • Walking levels/intensity contributing to health (WHO recommendations) • Time spent in the public realm <ul style="list-style-type: none"> • Time spent in public spaces • Car-related information <ul style="list-style-type: none"> • Short car trips (proportionate to all car trips; short = below 1km / 3 km)
	Accidents & threats (safety & security)	<ul style="list-style-type: none"> • Road danger (safety) <ul style="list-style-type: none"> • Traffic accidents with pedestrians (involving at least one vehicle): killed and severely injured pedestrians (relative to population and time walked) • Single pedestrian accidents (falling/ stumbling) <ul style="list-style-type: none"> • No data yet for this important indicator
	Atmosphere of space & culture of human interaction	<ul style="list-style-type: none"> • No indicator yet, difficult to define for town/city level
	Perceptions, satisfaction & wishes	<ul style="list-style-type: none"> • Perceptions & satisfaction <ul style="list-style-type: none"> • Security: proportion of people who feel safe during daytime and in evening/night hours

D	Main Criteria	Key performance indicators (or elements for creating them)
Bottom-line effects (benefits)	Economic effects	<ul style="list-style-type: none"> • Collective economic impacts <ul style="list-style-type: none"> • Financial health benefits based on walking data (=> Health Economic Assessment Tool by WHO) plus disbenefits
	Ecological effects	<ul style="list-style-type: none"> • No indicator yet; definitions need to be specified, data difficult to get. Percent of green space in the city?
	Social effects	<ul style="list-style-type: none"> • Individual social impacts <ul style="list-style-type: none"> • Indirectly: proportion of streets with speeds below 30 km/hr (actual or posted?)
	Effects on transportation (system)	<ul style="list-style-type: none"> • No indicator yet; definitions need to be specified, data difficult to get – complaints? Proportion of public transport trips on time?
	Health effects	<ul style="list-style-type: none"> • No indicator yet as many influences on health (e.g. BMI not suitable) - km walked?

2.2 SUGGESTED METHODS TO GATHER DATA FOR INDICATORS ON CITY / TOWN LEVEL

INDICATOR GROUP A

INPUT

A 2 STRATEGIES & POLICIES

Main Indicator

A 2.1 Walking and public space strategy in place – yes / no?

Main Indicator

A 2.2 Efforts to integrate other strategies/policies such as land-use, health, transport/mobility, social integration, environment with walking/public space – yes / no?

Main Indicator

A 2.3

PURPOSE

These indicators provide a measure about the commitment of a public body to

DEFINITIONS

Strategy / policy: Any binding (?) document which

DATA BASE AND/OR RECOMMENDED METHODS TO COLLECT DATA

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METHODOLOGICAL QUALITY LEVELS ¹

When giving the results, there should always be an indication of how the data was collected. Three rough levels can help to categorize the quality:

Lowest Quality

-

Mid-range Quality

.....

Highest Quality

-

FURTHER DATA

Further data that could be collected and would be helpful for the interpretation

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POTENTIAL COMPARABILITY PROBLEMS / OBSTACLES / OPEN QUESTIONS

¹ Quality in terms of accuracy of data, fitness to needs and usefulness

INDICATOR GROUP B**OUTPUT****B2 INFRASTRUCTURE / PUBLIC REALM QUALITIES****Main Indicator****B 2.1 Length of footpath network per km² of city area****Main Indicator****B 2.2 Proportion of streets with speeds limit lower than 30 km/hr (20 mph)****Main Indicator****B 2.3****PURPOSE**

These indicators provide a measure about the extension of the infrastructure and some of its qualities

Footpath length: This indicator provides a measure of how much space is devoted to walking compared to other transportation modes and how extensive and dense the walking network is.

Speed limits: According to research this is quite a good indicator for many aspects that improve the quality of the environment for pedestrians: safety, noise, air quality, liveability, security and autonomy, e.g. for the elderly and children.

DEFINITIONS

Footpath length per km²: The length of footpaths in the city measured against the city area in square kilometres (without water bodies and, if applicable, large agricultural or unused lands within city limits).

Footpaths are: sidewalks, greenways (including parks and hiking trails on city territory), other 'stand-alone' footpaths, pedestrianised areas, shared space with a speed limits of 30 km/hr or lower

Questions:

- Include neighbourhood streets without sidewalk provided there is a speed limit of 30km/hr or below and there are not more than 300 vehicles per hour?
- If there are sidewalks on either side of the street – count both sides? Or only one?
- Zebra-crossings, crossings at traffic lights and other protected crossings: Should they be included? Or only those that are protected?
- Only include network links that are publicly accessible (24/7) without any restrictions? They do not necessarily need to be owned publicly?

Proportion of streets with low speeds: see indicator description of EcoMobility Shift: "Percentage of the total distance of the city's streets and squares that are car free or where there is a speed limit of 30 km/hr or below that is enforced, or is self-enforcing by means of physical measures." Motorways are not included. Shift: "The distance of a square is the sum of the length of its sides".

In a number of countries the speed limit is not a legal but a recommended one. It is suggested to include both in the survey. Also in some countries streets are traffic calmed without a respective signal. If traffic calming leads to the effect that cars usually don't drive more than 30 km/hr, the respective streets should be included in the sample of 30 km/hr streets.

DATA BASE AND/OR RECOMMENDED METHODS TO COLLECT DATA

The data should be retractable from the GIS data base of the city.

METHODOLOGICAL QUALITY LEVELS

When giving the results, there should always be an indication of how the data was collected. Three rough levels can help to categorize the quality:

Lowest Quality

- A recommended speed limit (legally not binding)

Mid-range Quality

In between low and high quality – to be defined

Highest Quality

- A legally binding speed limit, at best also enforced and/or traffic calmed so speeds over 30 km/hr are almost impossible

FURTHER DATA

Further data that could be collected and would be helpful for the interpretation

- The data can be split up into categories, e.g. proportion of streets with speed limits below 30 km/hr; between 31 and 40 km/hr, between 41 and 50 km/hr and above 50 km/hr

POTENTIAL COMPARABILITY PROBLEMS / OBSTACLES / OPEN QUESTIONS

Speed limits

- Real speeds driven are or perceived speeds more important than the limits as such. So the better indicator would be the actual speeds driven (V85) below/above 30 km/hr or the perceived speeds by pedestrians. But this data is hardly available

Footpath length

- The length of footpaths is difficult to measure because the definition of footpath is not always clear. Should it also include the road network since people may also walk along there, even if there is no sidewalk; what about such situations on neighbourhood streets?
- The network actually used by pedestrians is much larger since walking is not linear – people walk everywhere and in all directions. So the length of footpaths can only serve as an approximate figure
- This indicator says nothing about the quality of the links (which may be very important)
- In suburbs with poor connectivity, the length of footways is likely to be higher than in better connected neighbourhoods, thus, the measure may not give a proper ranking and could be counter-productive.
- What do we do with squares and other extended areas? (See the definition in the EcoMobility Shift project) Do we measure both sides of a street if there is a sidewalk in both of them?
- Something to do with ease/danger of crossings?

INDICATOR GROUP C**OUTCOME****C1 WALKING AND SOJOURNING ACTIVITY, MODE SHARE****Main Indicator****A 1 Average daily – or yearly? – walking trips per person**

Further Indicators

A 1.1 Average daily/yearly time walked per person (based on trip stages)**A 1.2 Average daily/yearly distance walked per person (based on trip stages)****Main Indicator****A 2 Mode share of walking based on trip stages**

Further Indicators

A 2.1 Mode share of walking based on trip times**A 2.2 Mode share of walking based on trip distances****A 2.3 Share of walking trips and time spent walking in own neighbourhood****Main Indicator****A 3 Share of children walking to school**

Further Indicators

A 3.1 Share of children walking to school independently**A 3.2 Share of children getting to school by active modes (walking & cycling)****Secondary Indicator****A 4 Proportion of persons exceeding walking levels recommended by WHO****Secondary Indicator****A 5 Share of short car trips measured against all car trips (short = below 1km / 3 km)**

Further Indicators

A 5.1 Share of short public transport trips against all pt trips**Main Indicator****A 6 Time spent in public space for sojourning activities**

PURPOSE

These indicators provide a measure of how much travel is undertaken on foot and what the potential for further walking trips is

DEFINITIONS

Average daily walking trips: Absolute number of stages / trips made by city residents on foot per day (or year) including those made in wheel chairs and with other aides for persons with disabilities.

Mode share of walking: Percentage of walking stages measured against stages made by all other modes of transport.

Share of children walking to school: Percentage of children walking to school (accompanied by an adult or not) measured against all other modes used to get to school.

Walking Levels: Percentage of city residents which exceed the recommendations of WHO simply by walking, meaning at least 30 minutes of (moderate) walking a day with intervals of at least 10 minutes at a time or 150 minutes of walking per week.

Sojourning activities: Time in minutes of all activities which take place in an outdoor public space or publicly accessible space i.e. a park, street café, on a market etc. Not included are activities in a private garden.

Short car trip: Percentage of car trips up to 1 and/or 3 km measured against all car trips. Only everyday trips are counted, without holiday trips.

Stage: Each trip consists of one or more stages. A stage is the part of trip made with the same means of transport. Walking is considered as a means of transport. Whenever the means changes, a new stage starts. Also when changing between public transport modes, e.g. from bus to bus or bus to train. The minimum length of a stage is 20, 30 or 50 meters ???.

Trip: A trip begins whenever someone starts to move with a destination and/or purpose in mind (eg work, round-walk). A trip ends when the destination is reached, the purpose of the trip changes or if someone stays for more than an hour at the same place.

Example: a trip to work may consist of three stages: 1) bike from home to public transport stop, 2) ride on pt and 3) walk to office. To achieve trip data, the stages are aggregated based on mono- and multimodal trips: e.g. 1) walking all the way, 2) walking combined with pt, 3) walking combined with car etc.

Purpose: Individual stages but also the stages which are aggregated to trips are made for a specific purpose. Usually the following stage/trip purposes are distinguished: work, education, shopping / errands, business trip, leisure, service/accompaniment

The returning trip home is usually attached to the main purpose or when several trips were made on the same journey to the purpose where most time is spent.

DATA BASE AND/OR RECOMMENDED METHODS TO COLLECT DATA

Trips and Mode Share

Usually the data comes from a household survey based on a representative population sample (on national, regional or city level) which focuses on mobility/travel behaviour. It preferably includes:

- On city/town level the trips of all residents without those visiting the place, i.e. tourists or in-commuters; if national data is available, commuters and visitors could be included (likely without tourists though).
- all seasons (gathered year round), all purposes and all days of the week
- stages which then are aggregated to trips
- a minimal distance threshold of 20, 30 or 50 meters or below or time wise of 1 minute or less?
- If data on time is available: It should be split-up into the health-relevant categories of 10 min walking time minimally per stage/trip and 30 min per day and or 150 min per week

Children Walking to School

- The share of children walking to school can be gained by a special analysis of a travel survey, provided it covered also children
- The alternative is a hands-up survey in a representative sample of kindergartens, primary and secondary schools
- When analysing children's travel it is not just important to record the mode but also if they can come to school independently of an escorting adult.
- The age group of the children should comprise those from kindergarten (preferably the age of around 4 years), those in primary school (preferably around the age of 7/8 years) and secondary school (preferably those around 12/13 years)

In Annex A1 is an example of how and what data can be collected in a hands-up survey

Sojourning Activities

- The time spent for sojourning activities usually has to be gathered in a survey (phone, written, online etc.)

METHODOLOGICAL QUALITY LEVELS

When giving the results, there should always be an indication of how the data was collected. Three rough levels can help to categorize the quality:

Lowest Quality

- Household survey on one working day during one season only (e.g. spring) and only one purpose (e.g. work trips)
- An approximatively representative sample of residents based on the adult population (16 or 18+)
- Based on trips i.e. door-to-door travel which means that walking stages in multimodal trips are usually attributed to other modes; only full/main walking trips are recorded this way.
- The minimal distance recorded is above 100 meters or 5 minutes
- School survey: hands-up of non-representative sample of schools/children; only modes not independency asked

Mid-range Quality

In between low and high quality – to be defined

Highest Quality

- Household survey which includes all seasons (gathered year round), all purposes and all days of the week
- A representative sample of all residents including those difficult to reach (speaking other languages) and children (preferably from birth) are included.
- Based on stages which then are aggregated to trips
- The minimal distance recorded is 20 meters or less; 1 minute or less respectively
- School survey: Representative sample of kindergarten, primary and secondary schools including information on the independence.

FURTHER DATA

Further data that could be collected and would be helpful for the interpretation

- If the trip purposes are easily available, they can be integrated into the comparison as well
- If socio-demographic variables are easily available, they can be integrated, in particular according to age groups and gender
- If people can be asked if they were “captive” walkers or not (do they have alternatives?)
- If people can be asked about their ability to walk

POTENTIAL COMPARABILITY PROBLEMS / OBSTACLES / OPEN QUESTIONS

- Trip distances are usually estimates and can vary substantially from real distance
- Proxy interviews with children, re independence maybe not always truth
-

EXAMPLES FOR DATA COLLECTION

Annex A1: Hands-up School Survey

Source: own categories based on Hand Up Scotland

Instructions and definitions for teachers

There are two versions possible. One asks the children: How do you normally travel to school? The second one asks: How did you get to school this morning. *Which is to be preferred?* The categories are in both cases the same.

This survey helps to compare how children travel to school in different parts of the world. The results will be sent back to you and your children when the survey is completed.

Please ask your children one morning when they arrive in school how they got here. Choose a regular morning when it does not rain and when there are no special events going on. Do not choose a particular campaign day, e.g. walk to school day or something similar. We want a representative picture of an average school day.

Please indicate exactly how the children got to school that morning. In order to take into account the characteristics of the different modes, particularly in terms of the children's autonomy, there is a differentiation within each mode. The differentiation is important. We use the following definitions:

Walking:

- a) without adult accompaniment: when the child walks to school on his/her own without any adult escort. The child may be walking with other children or alone.
- b) with adult accompaniment: this includes escorts by a parent, neighbour etc. and also all forms of 'Walking School Busses'. If the child has been escorted only part of the way, it is recorded here.

Cycling:

- a) on his/her own: when the child comes with his/her own bicycle without adult escort or supervision.
- b) as passenger (incl. attached trailer): If the child is escorted by an adult or is brought as a passenger on an adult's bike, in a cargo-bike or trailer etc.; all forms where the child has not done the journey independently.

Scooter / skates children using inline skates, skate-boards or similar devices are counted here

Park & Stride this means the child is driven part way and walks the rest (unaccompanied)

Private motor vehicle:

- a) as passenger (car, motorcycle): when the child has been brought by car or motorcycle; also if only part of the journey, it is registered here.
- b) as driver (own use): this category only applies to the oldest age group if the child has used his/her own motorized vehicle (most likely a motor-cycle) to get to school.

Public transport:

- a) bus, tram, metro, ferry etc.: all forms of public transit vehicles that the child uses on his/her journey to school. This may be with or without adult accompaniment. Usually, on both ends of these journeys there is a walking stage involved, but the trip is only recorded here.
- b) school bus, taxi: these modes are usually door-to-door (without a walking stage involved) and there is always an adult present (as driver).

Other: Please indicate if they use any other means of transport to get to school (e.g. on horseback).

If a child in your class is absent on the day of the survey, just leave the information out.