

INDICATORS ON STREET & NEIGHBOURHOOD LEVEL

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Why a difference between National/City and Street/Neighbourhood indicators?



...there are a variety of treatments...



... there are a variety of functions...



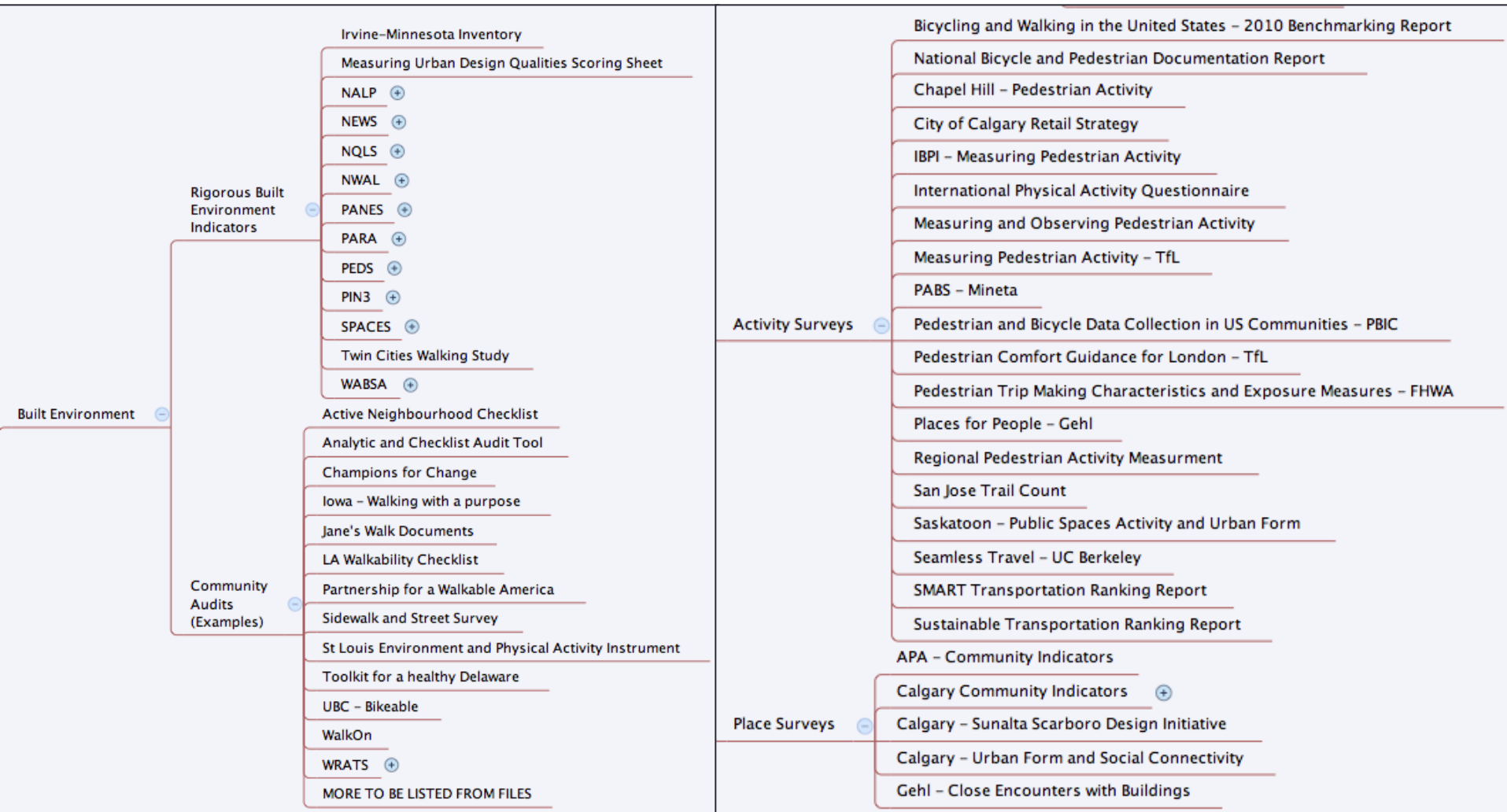
... there are a variety of



Streets and Places needs to be context sensitive



North American Scan (2012)

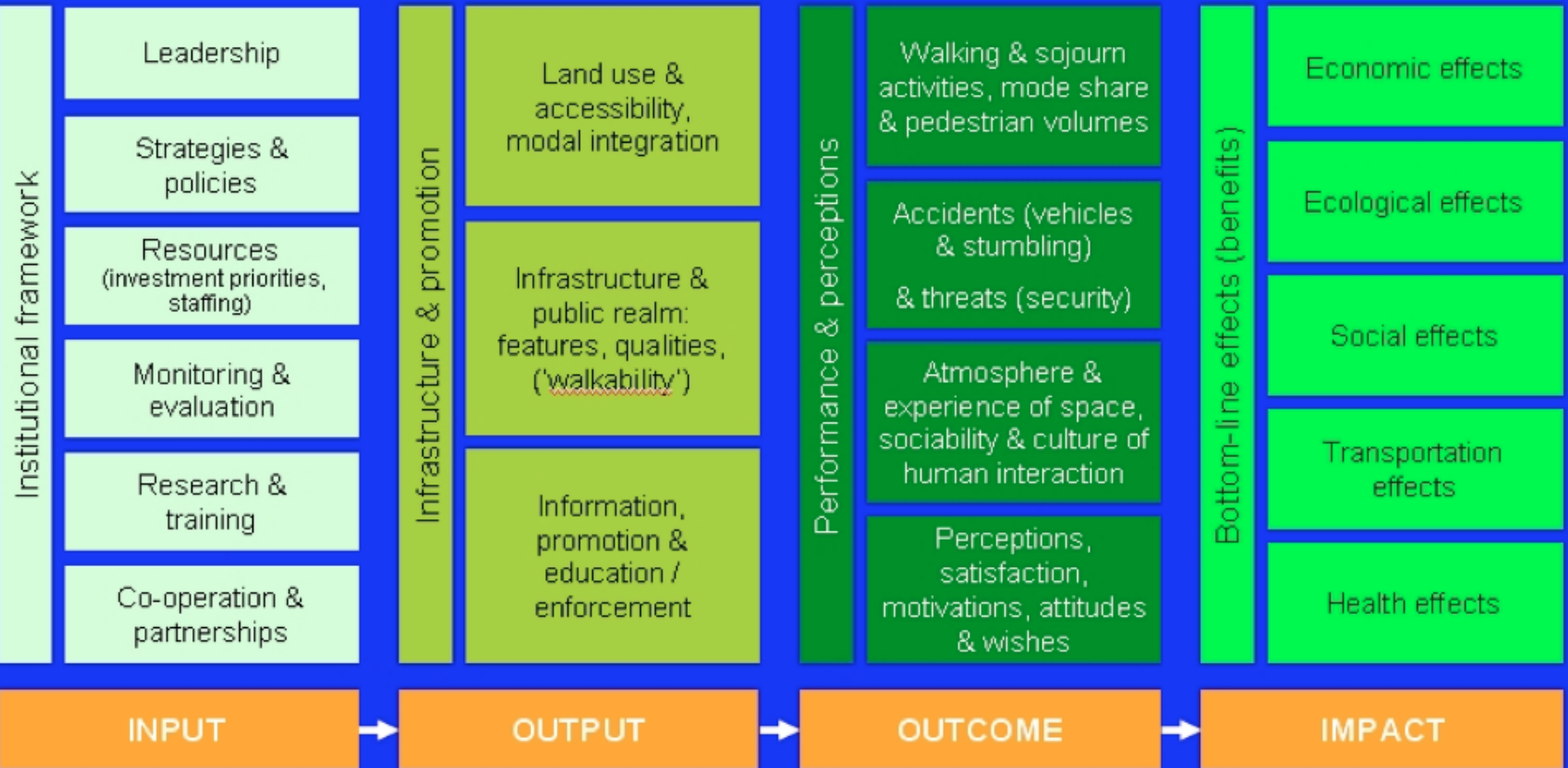


What we want to discuss

- Approach for incorporating Street & Neighbourhood Level indicators
 - At the community level, rigorous built environment level, project level
 - Standardized vs Suggested vs _____
 - Best Practices, Guidelines, _____
- What are the appropriate indicators?
- How do we operationalize these indicators?

CONTEXT

Background & structures: characteristics of population, land-use structures / transport networks, climate, political & historical circumstances



Input: Institutional Framework

Main Criteria	Key performance indicators (or elements for creating them)
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
Strategies & Policies	<ul style="list-style-type: none"> • Walking strategy & integration of walking in other strategies <ul style="list-style-type: none"> • Policy principles supporting walking (e.g. 'complete streets') • 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
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 ... • a) with adverse effects on walking; b) for rectifying poor walking situations and c) to genuinely improve walking conditions / public spaces
Research & Training (Education)	
Co-operation & Partnerships	<ul style="list-style-type: none"> • 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

Output: Infrastructure & Promotion

Main Criteria	Key performance indicators (or elements for creating them)
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 • Distances, (macro-) accessibility & connectivity <ul style="list-style-type: none"> • Distances to amenities / provisions / destinations ('walkscore' / 'walkshed'), • 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')

Output: Infrastructure & Promotion

Main Criteria	Key performance indicators (or elements for creating them)
Infrastructure & public space	<ul style="list-style-type: none"> • 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

Output: Infrastructure & Promotion (cont)

Main Criteria	Key performance indicators (or elements for creating them)
Infrastructure & public space	<ul style="list-style-type: none">• Pollution & disturbance by motor traffic<ul style="list-style-type: none">• Intrusive motorized traffic: volume and composition of motorized traffic; number of on-street parking spaces in proportion to streets length or surface area• 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">• 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.)

Outcome: Performance and Perceptions

Main Criteria	Key performance indicators (or elements for creating them)
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">• Mode share of walking (in relation to other modes)• People walking for exercise (leisure walking: hiking etc.)• 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 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)

Outcome: Performance and Perceptions

Main Criteria	Key performance indicators (or elements for creating them)
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) 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

Outcome: Performance and Perceptions (cont)

Main Criteria	Key performance indicators (or elements for creating them)
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

Impacts: Bottom-line Effects (Benefits)

Main Criteria	Key performance indicators (or elements for creating them)
Economic effects	<ul style="list-style-type: none"> • Collective economic impacts <ul style="list-style-type: none"> • More retail activity (shoppers) • Possibly higher real-estate and rental prices (for shop owners, residents etc.) (=> adverse effects)
Ecological effects	<ul style="list-style-type: none"> • Collective ecological impacts <ul style="list-style-type: none"> • Reduced noise • Reduced severance (better connections for people and animals) • Reduced sealed surfaces => more permeability, flooding prevention
Social effects	<ul style="list-style-type: none"> • 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	