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CENTRUM DOPRAVNÍHO VÝZKUMU

Indicators of Sustainable Transport and Its Application in the Czech Republic

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CDV

ECTRI
European Conference of Transport Research Institutes

FERSI
Road Safety Research

Introduction

- Indicators of sustainable transport
  - necessary for comprehensive and balanced analyses of ST
  - balanced set of indicators
  - important tool for transport planning
  - based on documents (FSD, SPD…)
  - used in the new metodology (2012) for determination of category „A“ of LA 21 in the CZ
  - first pioneers – UK, Sweeden (rich towns, financial and political support)

Methodology

- Process of assessment for LA 21 „A“ category
  1. *SD Audit*
     - *self-assesment*
     - indicators, verbally-numerical self-assessment
     - material for the statement of SD
     - complex material made by municipality itself

2	Very positive development, i.e. significant improvement of the situation
1	positive development, i.e. improvement of the situation
0	stagnation, no development, the situation neither improved nor aggravated
-1	negative development, i.e. aggravation of the situation
-2	very negative development, i.e. significant aggravation of the situation

Methodology

2. Expert team justification of the Audit

- verify the aim of the Audit
- completness, formal correctness and accuracy
- weak points
- justification can be stoped
- comparison with good practice
- Outcomes:
  - satisfactory with no objections
  - satisfactory with objections
  - unsatisfactory

Methodology

3. Working group

- established by the Government Council for Sustainable Development
- composition:
  - minister of the environment
  - repersentatives of ministries
  - regional and local authorities
  - representatives of other included organizations
- WG - highest level
- WG grants or denied cat. „A“

Methodology

- Rating structure for LA 21 „A“ category

Number	Issue
1.	Public administration and regional development
2.	The environment
3.	Sustainable consumption and production
4.	Transport
5.	Population health
6.	Local economy and businesses
7.	Education and upbringing
8.	Cultural and local traditions
9.	Social environment
10.	Global responsibility

Methodology

- multilevel assessment

Category	Description
Applicant	every municipality that is interested in matters concerning LA 21 must register on LA 21 website
D	presentation of activities LA 21 (web, news), cooperation of public administration and private and commercial sectors, ***annual updates of key document is required***
C	official body of public administration for LA 21, official document to LA 21, education and awareness to sustainable development and LA 21, assessment of process LA 21, financial support of LA 21 by public administration, regular public forum for Sustainable Development (SD)/LA 21 for municipality development , ***annual updates of key document is required***
B	approved FSD, official partial conception in compliance with FSD, system of financial support for LA 21, external sources for LA 21 realization, determining and monitoring of Sustainable Development indicators, monitoring of internationally recognized indicators, certified coordinator LA 21, exchange of experience in the field of LA 21, ***annual defense of category "B" before the committee***
A	the highest level of LA 21 realization, official body of public administration for monitoring of SD condition, quality management of public administration, practical application of SD principles, ***defense of category "A" before he committee every three years.***

Methodology

- Standpoints of ET:
  - satisfactory
  - satisfactory with objections
  - unsatisfactory

Level	Issue No.1 with assessment "satisfactory without objections"	Number of other issues with assessment "satisfactory without objections"	Max. number of issues with assessment "unsatisfactory"
A*	yes	0	1
A**	yes	2	0
A***	yes	4	0
A*****	yes	6	0
A******	yes	9	0

Area	Number, title of IST (key indicators in bold)
Area 4.1 Support of public transport and other alternative transport modes (pedestrian, cycle) /infrastructure	**4.1.1. Proportion of low-floor vehicles in public transport (%)**
	4.1.2. Barrier-free roads (km)
	4.1.3. Equipment of cycle infrastructure (km)
	4.1.4. Equipment of public buildings with the infrastructure for cyclists (%)
Area 4.2 Reduction of the necessity to use Individual Car Transport (ICT) and support of alternative transport modes /traffic demand management /	**4.2.1. Usage of public transport (number of trips/1 person)**
	4.2.2. Availability of public transport services (verbal expression)
	4.2.3 Preparation and implementation of mobility plan or a similar strategic document (verbal expression)
	4.2.4 Established system of regulated parking and traffic (yes/no)
Area 4.3 Low-emission vehicles	**4.3.1. Proportion of Enhanced Environmentally friendly Vehicles (EEV) in the total volume of contracted performance within city public transport and other transport service (%)**
	4.3.2. Proportion of EEV performance in the total transport performance of vehicles owned by municipality and its founded organizations (%)
Area 4.4 Road safety	**4.4.1. Proportion of primary school students involved in road safety prevention programmes (%)**
	4.4.2. Road accident rate (number of dead and injured persons/100 km)
	4.4.3. Removal of hazardous spots. Freely accessible sports grounds in municipality (%)
Area 4.5 Reduction of transport impact on the environment and population health	**4.5.1. Strategic transport plan including assessment of the impact on the environment (yes/no)**
	4.5.2. Implementation of measures to reduce transport impact in regard to municipality strategic documents. (yes/no)
	4.5.3. Mobility and local passenger transport (various units: number of trips/day, time of trip, type of trip, type of vehicle, average distance/person/type of trip, average distance/person/type of vehicle)

Area	Instructive questions
Area 4.1 Support of public transport and other alternative transport modes (pedestrian, cycle) /infrastructure	Are the activities for supporting for assisting infrastructure (bicycle stands, lock cages, cycle paths and cycle routes, pedestrian infrastructure, infrastructure for the disabled, etc.) implemented?
	How does public transport work in municipality (creation – preservation of links to individual transport modes, terminals, transport hubs), satisfying inhabitants' needs (transport to schools, transport to work)?
	How does stationary traffic work (pedestrian zones, parking, P&R, K&R, B&R)?
	How are the economic tools used (tolls, parking fees, charged entry)?
	What Integrated transport plans are used?
Area 4.2 Reduction of the necessity to use ICT and support of alternative transport modes /traffic demand management	How is the infrastructure built (priority traffic lanes, priority of public transport vehicles at signalled junctions, building cycle paths, pavements, priority cycle lanes, infrastructure for the impaired, cycle routes signing)?
	How is public transport performance increase supported (number of passengers, number of passengers per inhabitant)?
	How is public transport comfort improved (low-floor vehicles, information boards, transport assistance, information for the blind, availability of stops)?
Area 4.3 Low-emission vehicles	What is the role of EEV in the local public transport?
	What is the proportion of EEV owned by municipality or its founded organizations?
	What is the situation concerning the infrastructure of petrol stations for alternative fuels (electricity, CNG, etc.)?
	Are EEV taken into account at tenders for provision of services for municipality?
Area 4.4 Road safety	What traffic calming measures are applied on the infrastructure (lighting and safe pedestrian crossings, refuges, road narrowing)?
	How are prevention activities provided (meetings with municipal police, traffic police, traffic playgrounds, safe journey to school, special drivers' training – besides professional exams)?
	Is there a recording of equipment and facilities of problematic localities on the transport infrastructure?
Area 4.5 Reduction of transport impact on the environment and population health	Is there a transport plan and was it assessed in terms of its impacts on the environment?
	Does municipality evaluate the impacts of transport on the environment?

Results

- General assessment of Czech municipalities
  - small municipality – Křižánky („B“)
  - municipality – Chrudim („B“ candidate for „A“)
  - city – Ústí nad Labem („C“)
  - microregion – Drahanská vrchovina („B“)

Municipality type	Category			
	B	C	D	Applicants
Small municipality	1	1	6	44
Municipality	5	33	17	20
Statutory town/city		1	1	
Microregion	1		1	8
Region		2	1	4
Total	7	38	25	82

- Chrudim
  - 23 000 inhabitants, 33 km^2
  - pioneer between Czech municipalities
  - procedure of awarding cat. „A“ is under way
  - assessment will be completed in September 2013

Area 4.3 Low-emission vehicles			
Instructive questions	**Development and current situation**	**Indicators and data**	**Self - assessment statement**
What is the role of EEV in the local public transport?	6 new low-floor buses (Euro 5).	4.3.1. Proportion of EEV in the total volume of contracted performance within public transport and other transport service.	+2: very positive development, i.e. significant improvement of situation. The condition of vehicle fleet is good. 100% environmentally friendly transport. With municipal authority, we try to promote the use of EEV. The employees use an electric bicycle for short business trips within the town.
		100% share of performance of the total veh/km by municipality contracted with operators	
What is the proportion of EEV owned by municipality or its founded organizations?	Vehicles in the ownership of municipal authority undergo regular technical inspections and emission measurements. The meet EURO 5 standard. Their age is 3 years. The proportion of EEV is 100 %. Based on the initial environmental examination, it was found that the amount of emission produced by car transport is not a significant aspect.	4.3.2. Proportion of EEV performance in the total transport performance of vehicles owned by municipality and its founded organizations.	
	13 company vehicles are used for business trips. An electric bicycle, private bicycles and seasonal public transport tickets are available.	100 % share of the total sum of km driven by vehicles owned by municipal authority.	
	Regarding the vehicles owned by organizations founded by the municipality, the proportion of rides by low-emission vehicles is approx. 30 %.	30% other organizations	
What is the situation concerning the infrastructure of fuel stations for alternative fuels (electricity, CNG, etc.)?	There is no CNG fuel station, the nearest one is in the city of Pardubice.	It has not been assessed by the municipality due to the absence of the phenomenon	
	Vehicles with small engine capacity are purchased in order to reduce fuel consumption and reduce emissions.		
Are environmentally friendly vehicles taken into account at tenders for provision of services for municipality?	Vehicles with the latest valid emission standard are purchased. Vehicles with small engine capacity are purchased. Based on technical and financial possibilities, the purchase takes into account the environmental requirements. The municipality has EMAS prepared. The age of vehicle fleet of the municipal authority is approx. 3 years.	It has not yet been assessed by the municipality because of a complicated statistical survey	

Results

INTERNAL CONDITIONS **Strengths**	INTERNAL CONDITIONS **Weaknesses**
- synergy of belief and work of elected municipal authorities and administrative system of municipal authority - professionally competent and strong system of transport department and coordination workplace of Healthy Cities association - variety of forms and instruments for communication with public - ability to develop and gradually adapt urbanistic functional structure of municipality	- better interconnection of cooperation with investment and financial department
EXTERNAL CONDITIONS **Opportunities**	**EXTERNAL CONDITIONS** **Threats**
- better use of EU funds - improved „self promotion“ and cooperation with the county and other municipalities around - increased interest of the whole business sector of improving conditions of life quality in town - creation of an Integrated Transport System – improved accessibility	- current legislation defects in public contracts (preference of the lowest price over quality) - reduction of allowance from the state budget due to economic recession - disregard of the problems with road network organization in administration of the Road and Motorway Directorate of the Czech Republic - failure to create of an Integrated Transport System – deterioration in the accessibility

Results

- First comments from experts:
  - effort to promote environmental friendly vehicles
    - Public transport
    - ICT for the town
    - Vehicles of the town service organizations
  - absence of CNG vehicles and CNG stations
  - absence of bypass (18 000 veh./day) – responsibility of Ministry of Transport

Conlusions

- Czech Republic is one of the countries that were late in implementing LA 21
- assessment with help of the indictors of sustainable transport since 2012
- multi-level of LA 21 is in use
- set of indicators of ST, set of instructive questions
- in total 82 applicants
- 25 municipalites in „D“ cat., 38 in „C“, 7 in „B“
- Chrudim as a candidate for cat. „A“
  - self-assessment (Audit), SWOT analyses, first comments from expert
  - the end of he assessment in September

Thank you for your attention

