Indicators of Sustainable Transport and Its Application in the Czech Republic

Key words: Sustainable transport, Region, Indicators, Local Agenda 21, Czech Republic
Research domain: Transport sustainability and environment

Abstract:
Transport is one of the key development factors of society. Sustainable transport is most frequently defined as: "transport satisfying mobility needs of the present generation without limiting mobility of future generations" (White paper European Transport policy, 2001). The growing demand for mobility comes into conflict with the negative impacts of transport on the environment and human health. There is a need to optimize the transport system in the way of sustainable development, because of ever growing transport demand. It is also appropriate to take into account the environmental friendly transport modes. The modern transport system should be sustainable in social and environmental terms.
Indicators of sustainable transport should be easily understandable, measurable, quantifiable, accessible, comprehensive, sensitive to changes over time, independent, standardized and clearly defined. A correctly chosen indicator has to allow evaluation of the success of processes due to sustainable development and provide the basis for assessing progress of region/municipalities in the context of sustainable development. Individual indicators usually characterize only selected features of the local sustainability. This is the reason why it is preferable to follow a set of complementary indicators. Indicators of sustainable transport are defined on international, national, local and project levels. Each of these levels has its own specific requirements concerning sources and outputs. This paper deals with the assessment of transport and defining indictors at various levels with a focus on regional and local levels in the Czech Republic. Indicators are used in the assessment process of the advanced Local Agenda 21, where sustainable transport is one of the key issues.

1. Introduction

Transport planning requires a set of indicators that reflects appropriate economic, social and environmental goals and impacts. An indicator set that focuses too much on one impact category can result in suboptimal decisions (Litman, 2012). Indicator sets for comprehensive and balanced analysis should include indicators from each of the major categories of issues. For example, it is important to have indicators of transport cost efficiency (economic), equity and liveability (social), and pollution emissions (environmental). The range of indicator sets is an important issue (Litman, 2008). Litman and Burwell (2006) in Bojković et al. (2011) suggested that: "a smaller set of indicators using easily available data is more convenient to use but may overlook important impacts; a larger set can be more comprehensive, but may have unreasonable data-collection costs". Policy analysis and planning require accurate information for guidance. This is particularly important for the sustainability planning, which takes into account diverse, indirect and long-term impacts. The sustainable transportation indicators are an important tool for better transportation planning. The selection of suitable

and quality indicators is also very important. Indicators of Sustainable transport (IST) are useful for identifying trends, predicting problems, setting targets, evaluating solutions and measuring progress (Litman, 2012) and are often necessary, because verified scientific models to fully describe interactions between transport activity and environmental impacts are not available or because simplifications are otherwise needed (Joumard & Gudmundsson, 2010). In addition, indicator definition is necessary for the assessment of achieved results in the progress towards sustainable transport (Baier, 2005). Planning activities rely on indicators (standardized information suitable for analysis) for guidance, just as people rely on senses such as sight, hearing and touch (Litman, 2008). The importance of transport in sustainable development in the Czech Republic is monitored at national, regional, and local levels.

Indicators of sustainable transport are used in the newly approved (2012) methodology (LA 21 below). The first municipality in the Czech Republic which is undergoing the assessment of category "A" is the town of Chrudim. The results of this first assessment will help improve the whole implementation process of LA 21 in the CR. This paper is going to focus more closely on the sets of indicators of sustainably transport for local level. The underlying data for the assessment were obtained mainly from the assessed municipalities that monitor them in their normal course of business (e.g.: transport performance by public transport, the share of low-emission vehicles, share of cycle paths…). This information has been verified and supplemented by field survey. The aim of this paper is to inform about the implementation status of LA 21 and describe the newly developed assessment methodology for the category "A" LA 21 in the Czech Republic with a focus on transport. Another aim is to present the assessment results of LA 21 that will be described on an example of the town of Chrudim. It is therefore a methodological contribution to a newly originating LA 21 assessment in the CR.

2. Background

Local Agenda 21 is a local-government-led, community-wide, and participatory effort to establish a comprehensive action strategy for environmental protection, economic prosperity and community well-being in the local jurisdiction or area[1]. In the European context, Czech Republic is one of the countries that were late in implementing LA 21. Sweden and the UK emerged as the most prominent of the pioneers. In the UK, formation of LA 21 was caused by a suppression of local authorities by Margaret Thatcher. In Sweden, the LA 21 process began in early 1996. In both countries, however, the LA 21 process was lately stopped or replaced by other policy approaches. A key role for the functioning of LA 21 is played by (Kern et al., 2004):

1. Capacity of towns – rich towns start the process of LA 21 sooner than poor communities.
2. Government support – financial and political
3. The existence of institutions supporting the propagation of LA 21 and the exchange of information.

[1] http://www.gdrc.org/uem/la21/la21.html

LA 21 and the indicators of sustainable transport are at the national level in the Czech Republic embedded in the Framework for Sustainable Development (FSD), and environmental and transport yearbooks (Jedlička et al., 2011). They concern, e.g.: number of public logistic centres, consumption of individual fuels (tonne/year) and share of transport on total emission pollutants (%). At regional level, a set of indicators is defined based on Planning Analytical Materials (PAM), Spatial Development Principles (SDP) and Sustainable Development Analyses (SDA). They concern – e.g. fragmentation of landscape by transport, land use, and the impact of noise on population. At local level, the sustainable transport is implemented within Local Agenda 21, which is based on Aalborg Commitment (1994). Agenda 21 emphasizes the role of sustainable development indicator to help decision-making (Haghsheans & Vaziri 2011). In 2006, the Ministry of Interior adopted LA 21 as one of official methods for improving state administration quality. The quality assessment LA 21 is an inseparable part which ensures transparency of the assessment of municipalities procedures when implementing LA 21 (Jedlička & Dostál 2012).

3. Methodology

3.1.Process of assessment for LA 21 "A" category

The key material for the assessments of LA 21 in the Czech Republic is the "Sustainable Development Audit", for which municipality (with the use of indicators) documents its positive development according to Sustainable Development (SD) principles. The audit contains a verbally – numerical self-assessment for individual areas (see Table 1) as well as a verbal justification of the standpoint. The aim is to create material for the statement on SD status. The audit is a complex material providing information and an inventory check of SD by municipality itself.

Table 1 Self-assessment of an applicant for category "A" LA 21

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

Another step is a justification procedure of the "Audit" by an expert team. The aim is to verify conclusions of the "Audit", so that they could be used as a trustworthy material for granting category "A". The justification can stop the whole process and recommend postponement due to deficiencies. The opposition team evaluates the completeness and accuracy of the "Audit" and its formal correctness. The opposition team focuses on the identification of weak points, where the assessment needs to be finalized, and compares the situations in individual areas in municipality jurisdiction with general good practices and the general situation in the Czech Republic and abroad. If possible, the opposition team

determines the limit values (e.g. legislation limits) for further assessment. Subsequently, an candidate complements, submits data and make them more accurate. The formal outcome is a standpoint to each of the given issues:

- **Satisfactory condition of the issue in relation to SD** – no objections (municipality is excellent in the given issues in the Czech Republic)
- **Satisfactory condition of the issue in relation to SD** – with objections (with comments on a given condition which needs to be met to achieve "A" LA 21)
- **Unsatisfactory condition of the issue in relation to SD** (with comments by an expert whether municipality exerts sufficient activity to improve the situation)

The resulting standpoint is used as a professional material for the working group (WG) LA 21. WG is established by the Government Council for Sustainable Development and is chaired by minister of the environment. Furthermore, it consists of representatives of ministries, regional authorities, local authorities, Healthy Cities of the Czech Republic Association, national natural environment protection, non-government non-profit organizations, and academic community. The outcome is the decision whether municipality meets the criteria of category "A" or not. In category "A" a municipality needs to prove that its development runs in accordance with SD, and that there is a constant improvement or no aggravation of a desirable situation. A production of a detailed "Audit" of a given municipality takes place in ten areas (see Table 3). The aim of the assessment is to create a standardised assessment procedure at the local level which allows monitoring and comparing individual municipalities in terms of quality. The main assessment principles are (Jedlička & Dostál 2012):

- Assess situation and trends within SD issues
- Municipality submits an "Audit", which is subjected to justification procedure
- Key and supplementary indicators given by the methodology (can be changed) are assessed
- Key indicators must be available from open sources
- Indicators have no limit values. They are assessed by an examiner in a broader context
- Category A is graded by stars (lowest A* and highest A*****)

In the long-term horizon, the conditions for granting category "A" are stricter in relation to good practice standards and improvement of SD condition in municipalities in the Czech Republic and foreign countries. Granting category "A" is conditioned by:

- Municipality needs to meet issue No. 1 unconditionally – Public administration and regional development
- Assessment result "unsatisfactory" can occur with one issue at the most
- With at least one more issue, municipality needs to document excellent results within the Czech Republic

"A" category is internally classified (with the number of stars) according to the progress rate reached within sustainable development. "A*" meets the basic criteria mentioned above. "A*****" municipality meets all ten issues of SD without objections (see Table 2).

Table 2 Overview of criteria for granting individual levels of A category

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

3.2.Rating structure for LA 21 "A" category

The assessment of quality of processes LA 21 consists of ten issues (see Table 3) based on Aalborg Commitment (1994). Their assessment is to prove that the municipality development runs according to the principles of sustainable development.

Tab 3 Assessment issues of LA 21

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

The assessment of quality of processes classifies municipalities into four basic categories "A" (highest) – "D" (lowest). Each category has its indicators which assess the realization LA 21 in a given municipality[2]. The basic categories are:

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***

[2] http://ma21.cenia.cz/Dokumentykesta%C5%BEen%C3%AD/tabid/94/language/cs-CZ/Default.aspx

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 comittee***

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 comittee every three years.***

3.3.Definition of indicators in issue 4. Transport

When developing indicators of sustainable transport it is very important to pay attention to their suitability for a given issue. According to Joumard and Gudmundsson (2010), the following are considered as the basic criteria of indicator:

- the importance of an indicator
- how well indicators provides an early warning of potential problems
- how well it demonstrates a move towards or away from sustainability
- how well it detects long term effects
- how the responsibility of the transport sector is in the considered impact evaluated by the indicator' and
- how well the indicator shows the contribution of the transport sector in the considered impact

Within the methodology for the assessment of LA 21 processes, the issue of "Transport" is divided into five partial areas, compatible with other methodologies for sustainable transport assessment. These areas provide a comprehensive framework for assessing sustainable transport within the assessed municipalities. A set of indicators was created for each area by a team of experts (see Table 4). It is obligatory for each candidate municipality to evaluate all key indicators. Additional indicators are just kind of hint and may be replaced by other ones, or entirely omitted. Instructive questions (see Table 5) serve as a support for the awareness of the problems and opportunities and should be answered by municipalities as a part of their self-assessment. This process of self-assessment serves to determine how well the municipality recognizes its weaknesses and strengths and compare the results with the assessment by an expert team.

Table 4 Sustainable transport indicators according to the Methodology for cat. "A" LA 21

Area (partial area within an issue)	*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/inhabitant)**
	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 (partial area within an issue)	*Number, title of IST (key indicators in bold)*
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, injured/100km)
	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)

Table 5 Instructive questions according to the methodology for cat. "A" LA 21

Area (partial area within an issue)	*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	Is there a transport plan and was it assessed in terms of its impacts on the environment?

Area (partial area within an issue)	*Instructive questions*
transport impact on the environment and population health	Does municipality evaluate the impacts of transport on the environment?

4. Results

4.1.General assessment of Czech municipalities

In the Czech Republic, no municipality is currently granted the highest category "A" (see Table 6). In 2013, the town of Chrudim is undergoing the assessment procedure for category "A". The towns of Chrudim, Kopřivnice, Litoměřice, Prostějov and Vsetín, the microregion Drahanská vrchovina, and the small municipality of Křižánky are at the highest level in the Czech Republic in the implementation of LA 21, and therefore they are included in the category B. They are self-governing units with an approved FSD and the system of financial support for the implementation of LA 21. They also have established internationally recognized indicators that are monitored. Exchange of experience in LA 21 takes place under the supervision of a certified LA 21 coordinator. Only two statutory towns are involved in the process of LA 21 assessment. The town of Ústí nad Labem, which ranks in the category "C", achieves the highest level. The "C" category was also applicable for the Moravskoslezský region and Vysočina region. In the assessment of LA 21, mostly municipalities (55) and small municipalities (8) are involved. Most applicants for starting the process of LA 21 assessment can be found in the categories of small municipalities and municipalities. This is because it is easier and less costly to implement the principles of LA 21 in smaller municipalities. Another reason is that, unlike in large towns and large administration units, citizens in smaller municipalities have a closer relation to happenings in their communities.

Table 6 Category of entities registered in LA 21 Database[2]

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

4.2.Chrudim

Chrudim has 23 000 inhabitants and the area of the town is 33 km^2. Chrudim is a pioneer in the implementation of LA 21 in the Czech Republic. Currently Chrudim is the only candidate for category "A". The assessor at the pilot "Audit" produced SWOT analysis of the issue "Transport" in the town of Chrudim (see Table 7). The analysis is to point out the possibilities of further development and potential in the area of LA 21 implementation or the current or possible complications within these activities. The SWOT analysis was prepared by

a team of experts and submitted to the assessed municipality. It serves the given municipality as a guide for what can be improved and supported and, on the other hand, what to avoid and which are the problems to prevent. A detailed assessment can be found in the description of the five specific areas (see Table 8).

Table 7 SWOT analysis of the issue "Transport" in Chrudim

INTERNAL CONDITIONS **Strengths** - 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	INTERNAL CONDITIONS **Weaknesses** - better interconnection of cooperation with investment and financial department
EXTERNAL CONDITIONS **Opportunities** - 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	EXTERNAL CONDITIONS **Threats** - 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

Table 8 shows an example of a self – assessment of LA 21 "A" level candidate. The town of Chrudim presents its activities concerning the area titled "Low-emission vehicles"(see Table 5). The table presents the instructive questions in detail. In the second column there are answers to these questions drawn up by the town of Chrudim. The third column contains the assessment of particular indicators on the basis of underlying data. The last column contains a self-assessment by the municipality (assessment range is from +2 to -2) in respect of the process of LA 21 implementation. This table and other documents serve as a basis for an expert assessment that, unfortunately, has not yet been prepared. Whole assessment will be completed in September 2013. Generally it can be said that the town of Chrudim makes an effort to promote environmentally friendly vehicles with the highest EURO standards. The efforts concern public transport, ICT for the town, organizations controlled by the town, as well as organizations providing services for the town. A deficiency is the absence of CNG vehicles as well as the absence of CNG stations within the administrative district of the town.

Table 8 Example of self-assessment of the state of LA 21 prepared by the town of Chrudim

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. 100% share of performance of the total veh/km by municipality contracted with operators	+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.
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. 13 company vehicles are used for business trips. An electric bicycle, private bicycles and seasonal public transport tickets are available. Regarding the vehicles owned by organizations founded by the municipality, the proportion of rides by low-emission vehicles is approx. 30 %.	4.3.2. Proportion of EEV performance in the total transport performance of vehicles owned by municipality and its founded organizations. 100 % share of the total sum of km driven by vehicles owned by municipal authority. 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. Vehicles with small engine capacity are purchased in order to reduce fuel consumption and reduce emissions.	It has not been assessed by the municipality due to the absence of the phenomenon	
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	

5. Discussion

This chapter compares the level of implementation of LA 21 in transport in the highest rated Czech town of Chrudim with four selected cities in Germany. The study of Baier (2005) that evaluates the implementation of LA 21 in transport planning in four German cities. (Erfurt - 206 000 inhabitants, Görlitz – 55 000 inhabitants, Herdecke – 27 000 inhabitants,

Lörrach – 48 000 inhabitants). Taking into the account the similar number of inhabitants, three of these towns were used for a comparison with the town of Chrudim.

The first compared aspect is the transport infrastructure. Chrudim has a radial-concentric shape of the transport infrastructure. Transit traffic is not bypassed; it runs through the centre, which complicates the traffic situation, traffic jams occur and noise and pollution increase. Görlitz and Herdecke have a fan-shaped infrastructure. Görlitz is a German and Polish "twin town" where the state border modifies the town shape. The key west-to-east transit is guided to a motorway bypass. Less significant north-to-south traffic flow runs through the town centre. In Herdecke, long distance transit is guided to a motorway. The town of Lörrach has a strip-shaped infrastructure. Transit traffic is again guided to a motorway. Therefore, the comparison shows that Chrudim, in contrast to the German towns, has a problem with transit traffic which causes traffic jams in peak hours. Traffic situation is better organized in the German towns, which contributes to better living environment for people, reduced risk of traffic jams, and the reduced number of road accidents in the towns.

Another comparison aspect is the integration of LA21 into transport planning of individual towns. In Görlitz, there is a separate Local Agenda 21 Office, which is independent on the municipal bodies. It deals with the sustainability in transport and in specific cases discusses with the municipal bodies representatives who use traditional planning methods. This type of planning can be called as "Initiative" parallel structure (Baier, 2005).

In contrast to Görlitz, Chrudim has LA 21 integrated directly in the process of its transport planning. The town council appoints a person responsible for the involvement of LA 21 in specific negotiations in the field of transport planning. Furthermore, "Commission for Health City and LA 21" is established. The commission regularly meets six times a year, and even several times a month in urgent cases. The meetings involve the town inhabitants as well as local key stakeholders, and the town council representatives. The structure of LA 21 integration is similar to the one in Herdecke. This town has Local Agenda 21 Office, supervising sustainable development in transport, established within its bodies. In Herdecke as well as in Chrudim, the issue of LA 21 is dealt with by the form of workshops only in specific situations. Transport planning has close and long-term relations with LA 21 in both towns. In both towns the public is involved in the solutions for the issues of LA 21. This type of planning is called "Integrated" structure (Baier, 2005).

The town of Lörrach is also classified as "Integrated" structure. Regarding the integration of LA 21, the town is ranked among the best compared towns. In contrast to the previous towns, long-term proven and stable modules within municipal bodies are established (e.g. Module rail tracks, Module city centre…). Their personnel are appointed by politicians, administration staff, associations, stakeholders, and the media. These modules are working all the time and it is their responsibility to see to following the principles of LA 21. The involvement of the public is at a very high level.

6. Conclusions

The aim of this paper was to report on the state of implementation of LA 21 and to describe the process and structure of the newly developed assessment methodology of the "A" category of LA 21 in the CR with a focus on transport. This has been carried out using

appropriately selected indicators of sustainable transport. The paper presents interim results from the ongoing assessment of the town of Chrudim.

In the Czech Republic, a system of multi-level assessments of sustainable transport according to the principles of LA 21 is in use. Municipalities are assessed with the use of sets of indicators, which need to be standardised, appropriately selected, so that they would be satisfactory for the assessment of the current situation and they would direct their future development. Within the issue "4. Transportation", sets of indicators and instructive questions have been prepared for each partial area. With the use of these tools, a municipality prepares its own self-assessment, and is also assessed by an expert team. In total, 82 applicants have been registered in the Czech Republic – 25 municipalities rank in the "D" category, 38 in the category "C" and 7 in the category "B". No municipality in the country has yet been ranked in the category "A". The only town where the procedure for awarding the highest category is under way is Chrudim. The town has prepared its self-assessment of LA 21. Based on the provided data and field survey, an expert team prepared a SWOT analysis. Overall assessment and opinion on awarding the "A" category to the town of Chrudim is not yet available. LA 21 is gaining ground in the Czech Republic, particularly in the middle-size municipalities (20 – 50 000 inhabitants). So far, LA 21 is not included in agendas of individual departments. The promotion of the system of integrated planning is a great task for local policies in the Czech Republic for the future.

7. References

Baier, R. (2005): Quality Targets and Indicators for Sustainable Mobility. BSV Büro für Stadt- und Verkehrsplanung. Dessau. 53 p.

Bojković, N. , Macura, D., Tarle S. P., Bojović, N. (2011): A Comparative Assesment of Transport Sustainability in Central and Easter European Counries with Brief Reference to the Republic of Serbia. International Jounal of Sustainable Transportation. Taylor and Francis. London. p. 319 – 344

Haghshenas, H., Vaziri, M. (2011): Urban sustainable transportation indicators for global comparison. Ecological indicatos. Elsevier. 15. P. 115 – 121

Charter of European Cities & Towns Towards Sustainability - as approved by the participants at the European Conference on Sustainable Cities & Towns (1994): Aalborg. Denmark. 5 p. (http://ec.europa.eu/environment/urban/pdf/aalborg_charter.pdf 28. 2. 2013 14 :00)

Jedlička, J., Dostál, I., Adamec, , V. (2011): Sustainable Development and Transport. Transactions on Transport Sciences. CDV. p. 151 – 164. ISSN 1802-9876.

Jedlička, J., Dostál, I. (2012): Sustainability in transport in local Agenda 21. Doprava, zdraví a životní prostředí: sborník příspěvků. CDV. p. 21 – 30. ISBN 978-80-86502-41-0.

Joumard, R., Gudmundsson, H. (2010): Indicators of environmental sustainability in transport. Institut national de recherche sur les transports et leur sécurité. Lyon. 422 p. ISBN 978-2-85782-684-2

Kern, K., Koll, C., Schophaus, M. (2004): Local Agenda 21 in Germany: an inter and intranational comparison. Discussion Paper SP VI 2004-104, Wissenschafts zentrum Berlin für Sozialforschung. Berlin. 37 p.

Litman, T. (2008): Sustainable Transportation Indicators. Transportation Reseach annual meeting. 13 p. http://www.vtpi.org/sustain/sti.pdf 1.3. 2013 9:00

Litman, T. (2012): Well Measured: Developing Indicators for Sustainable and Livable Transport Planning. Victoria Transport Policy Institute.Victoria. 96 p.

Metodika hodnocení kategorie „A“ místní Agendy 21 (2012). Národní síť Zdravých měst ČR. 28 p.

Strategický rámec udržitelného rozvoje České republiky (2012): Ministerstvo životního prostředí. 96 p. ISBN: 978-80-7212-536-4

White paper European Transport policy for 2010: time to decide. Brusel: EC, 2001, 124 p.