Improvement of the Traffic Safety in the Local Community by Upgrading of the Planning Documentation Through the Annex of the Law on Planning and Construction

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Abstract: By reviewing The Act on planning and construction we can make a note that traffic as well as the safety does not have the appropriate place in the same act. Being unjustifiably disregarded in comparison to the other areas, traffic and its safety were respectively not given the clear definitions by this frame act as well. On the other hand, the existing legal regulations that directly define the area of traffic: The Act on traffic safety on the roads and the Act on Roads do not likewise provide clear definitions, conditions and the way of making planning documentation predominately. This condition allows and brings to the following: making of the bad planning and technical documentation respectively, surpassing of traffic engineers in the process of making planning and technical documentation, difficulties in the work of the local community units which eventually bring to the degradation of the traffic science resulting in the decrease of the traffic safety in the local community unit. In order to execute the systematic solution to the problem as well as the establishing the traffic science to the appropriate, leading position in the mission of the traffic development of the local community unit it is necessary to clearly define the way of making and implementation of the planning and technical documentation with the obligation of engagement of traffic engineers. After all the necessary actions being taken together with the agreement with the Ministry in charge it is necessary to make an annex to the Act on planning and construction in the purpose of enhancing the safety of the traffic. This way of solving this problem is the only right way for traffic and its safety to be placed to the belonging position in The Act on planning and construction and the way for the local community units to get the appropriate and usable planning and technical documentation.

Key words: traffic, traffic safety, documentation improvement, roads.

INTRODUCTION

The aim of any local community and the significant institutions in charge with the area of traffic should by all means be the maintenance of the satisfactory level of the traffic safety as well as the constant work on and investment in the existing traffic safety.

Reaching of the set goal can be achieved in a quality manner by solving the elementary problems first. They represent the making of the according and quality legal regulations in all the areas that are directly or indirectly connected to the traffic safety and appropriate conduction of the above mentioned.

By working in the area of space planning, urbanism and construction as well as the traffic in the frames of the legal regulations of The Republic of Serbia, I have noticed numerous problems connected to their conduction and implementation in the everyday practice.

Regarding the large amount of the noticed problems it is impossible to dedicate them the equal amount of time in this paperwork; therefore for the purpose of this paperwork I have chosen single problems that have the equal importance in many areas.

This work gives the short survey of the acts that directly or indirectly influence the traffic safety are in the scope of its jurisdictions; a comparative presentation and analysis of the legal regulations were done; certain examples from the practice were given with given guidelines for the solution of the recognized problems finally.

The problems of technical documentation is important as well as from the point of view of the urban planning and projection but also from the point of view of construction of objects and the area of the traffic projection. By all means there is a huge dependence between the mentioned areas and the most significant problem that is necessary to be solved is the safety of the traffic.
The disadvantages of the technical documentation are seen in the sense of its content, type and the scope of quality and the skilled workers who deal with it, making, controlling and conducting it.

**METHODOLOGY OF THE WORK**

In order to be able to give the retrospective of the aforementioned problems and to reach to the right conclusions it is necessary to make the analysis of the existing state of the planning and technical documentation, as well as the analyses of the local community units and traffic safety.

For the purpose of this work the following has been conducted:

- Retrospective and the analysis of the legal and sub-legal regulations
- Retrospective of the state and the analysis of the planning and the project documentation within the local community units
- Analysis and the retrospective presentation of the state of the traffic safety in the local community units, as well as the
- Comparative analysis of the state of the planning documentation as well as the state of the traffic safety.

**Retrospective and the analysis of the legal and sub-legal regulations**

In the frame of the analysis of the legal and sub-legal regulations for the purposes of this work the adequate articles of the legal and sub-legal documents of The Republic of Serbia are included:

- The Law on planning and construction
- The Law on Roads
- The Law on traffic safety on roads
- The book of regulations on traffic signalization

**The Law on planning and construction**

The Law on planning and construction is defined in the way that its basic role is definition of conditions and manners of a urban space arrangement, arrangement and usage of a plot and construction of the object; surveillance over the implementation of the articles of this act as well as the inspection surveillance; as well as the other significant questions important for the urban space arrangement and the exploitation of the plot and construction of the objects.

Through the principles of the arrangement and usage of the space it has been defined that the planning, arrangement and usage of the space is based on the principles of: sustainable development through integral approach in planning; equal territorial development; rational exploitation of the site by subvention of urban and rural restoration and reconstruction measures; rational and sustainable usage of the non-renewable resources and optimal usage of the renewable resources; protection and sustainable usage of the natural wealth and immobile cultural wealth; prevention of the technical-technology accidents; protection from fire and explosions, protection from the natural accidents, removal of the climatic changes causes; planning and arrangement of the space for the needs of country’s defense; adjustments to the European regulations and standards in the area of planning and space arrangement; improvement and usage of the information technologies that contribute to the better efficiency and economy of the public management work at the construction affairs; public participation; preservation of the cultural heritage and tradition; preservation of the specificity of the area; horizontal and vertical coordination.

The Law also defined documents of space and urban planning which are: planning documents, construction of the aerial planning documents; urban-technical documents, Strategy of the sustainable urban development of The Republic of Serbia, and National architectural strategy.

In the part of planning documents The Law on planning and construction recognizes the aerial and urban plans such as:

- The Regulation plan of the Republic of Serbia
- Regional aerial plan
- Aerial plan of the local municipality unit
- Aerial plan of the special purpose area

While the urban plans are:

- General urban plan
- General Regulation plan (GRP)
- Detailed regulation plan (DRP)

According to the Law, the GPRs and DRPs elaborate the traffic conception from the planning documentation of the higher rank through the more detailed representation and description of the solution with the defined regulations of construction and arrangement. By the rules within plans it has been defined that besides regulations on construction of the objects, the arrangement rules and demarcation of the public urban areas through pre-plotting and plotting to determine corridors and capacities of the traffic infrastructure.

This Law also defines the content and the type of technical documentation such as:

- Technical documentation is the set of projects that are made in the purpose of: establishing the concept of the object, elaboration of the conditions, the manner of objects construction and for the needs of objects maintenance.
- Technical documentation contains measures providing that the object in the whole, or in its every single part is to be appropriate for the specified purpose and also, that in the economically acceptable time of usage satisfies the following basic demands: capacity and stability; fire protection; hygiene; health and the environ-
ment; safety and acceptability in usage; noise protection, economical usage of the energy and heat conservation and sustainable usage of the resources.

- Types of the technical documentation are: general project (GP), preliminary solution (PS), preliminary project (PP), construction permit project (CPP), conduction project (CP) and the project of the made object (PMO).
- As the part of this Law another important document has been defined, and these are location conditions which by definition are granted on the basis of: insight to the planning document, or separate, or by the side of the proprietors of the public authorities.

**Analysis of the Law on planning and construction**

As it can be noticed from the quotation of the principle of the Law on planning and construction in the area of traffic and traffic safety it is not given to the importance as in the case of the area of the preservation of the immobile cultural wealth, protection of the environment, fire protection etc. even though those areas have also been defined by the special acts as well as the safety in traffic.

If we go into the further analysis of the planning and project documents, as well as of the technical documentation of the lower rank we can also see that traffic and its safety is mentioned nowhere.

For the making of the planning documents there is no condition of obligation in participation of the traffic engineer. Also, making of the planning documents and the remaining technical documentation is not conditioned by the making of the necessary analyses, studies and strategies in the area of traffic.

When issuing the conditions for the construction permits and making of the planning and project documentation the local municipality unit guides itself on the basis of the Law on planning and construction and issues all the condition permits based on the planning document or based on the conditions of the Controller of the road. In this case, the Controller of the road mainly does not possess the planning document, and in the case it possess it, it is inadequate from the point of view of the traffic, meaning the Controller of the Road is forced to regulate its own traffic area conditions according to the Law on Roads and the Law on safety of the traffic on the roads.

**The Law on roads**

The Law on Roads gives clear definitions such as:

- The Controller of the road is trusted with the execution of the public authorizations that are related to: issuing the condition permits for the making of the technical documentation for the construction and reconstruction of the traffic connections, setting up the linear and infrastructural object, issuing the approval for maintenance of the sport and other exhibitions of the road, emergency traffic permits, issuing approval for redirecting of the traffic to the public road in case of making construction, reconstruction work, maintenance and protection of the public road.

- Traffic-technical conditions contain: mark and number of the main road; name or number of the section of the public road; starting and ending stationary of the section of the public road traffic-technical conditions are issued for; general terms, special conditions, cadaster sections of the part of the public road the traffic-technical condition permits are issued for.

- Planning, projection and construction of the public roads is made in the manner that planning and technical solutions are adjusted to the latest know-how of the projection and construction of the public roads to the demands of the traffic safety, demographic and economic principles and standards for the justifiable assessment of their construction, regulations on environment protection and regulations that set up the agricultural fields.

- Within regular maintaining of public roads of the controller of the road it is necessary to make the traffic project that contains the instruments of the security of the working zones at the regular maintenance of the public road; in the case of rehabilitation of the public road the controller of the public road needs to file for a demand for decision on technical regulation of the traffic that has a traffic project as the constituent part, and in the occasion of the urgent maintenance, the controller of the public road has the obligation to provide a traffic project that contains the instruments of securing the zones of the work on the urgent maintenance of the public road.

- The regime of traffic during the time of the construction work at the maintenance by definition is the constituent part of the solution of the traffic project if the work is done in the manner that the traffic on the public road is stopped.

- At the special conditions of the construction and reconstruction of public roads when constructing and reconstructing public roads it is defined that the construction and reconstruction of public road is performed in the accordance to the Law that arranges planning and construction in the accordance to the Law on roads.

**Analysis of the Law on roads**

From the above mentioned it can be seen that the Law on Roads, as well as the Law on planning and con-
struction do not define the type of the technical documentation but state the need for the making of the traffic project and calls themselves upon the Law on planning and construction where it is stated that construction and reconstruction is performed in the accordance to the Law that sets the planning and construction and in the accordance to the Law on Roads.

**The Law on roads traffic safety**

The Law on road traffic safety states that:

- Enterprises, some other legal entity, or an entrepreneur that projects, constructs, reconstructs, maintain and control roads has the obligation to perform so in a manner that provides safe flow of the traffic

- Sports and other exhibitions on the road can be performed when the territorial organizational unit of The Ministry of Internal Affairs in charge issues a permit for the same exhibitions, and in the case the exhibition is taking place on the territory that has two or more organizational units in charge, the permit is issued by the Ministry of Internal Affairs.

- The surveillance over the traffic on roads, the direct control over the participants and vehicles in the traffic, the control over the suspense traffic signalization at the site of the work or where the occurring road embankments that jeopardize the continual and safe traffic in the manner of respect of this Law and regulations that are brought based on it, is by rule done by The Ministry of Internal Affairs.

- Technical regulation of the traffic includes all the measures and actions that set the regime of the traffic in regular conditions and in the conditions of the work on roads, specifically redirecting and conducting of the traffic in regular conditions and in the conditions on the work on roads, and specifically directing and conducting of the traffic, conducting of velocities in the function of density of the traffic continuity, speed limit in the function of the state of the road and weather conditions, determination of the one-way roads and streets, determination of the roads and streets where the traffic is not allowed or it is allowed to the certain type of vehicles, speed limits to the all or certain categories of vehicles, determination of the space for parking and stopping of the vehicles, supply, directing and redirecting of the beneficiaries, determination of the safe and efficient way of traffic regulation at crossroads, determination of the parking and stopping space, supply, directing and redirecting of the beneficiaries and similar.

- For the conduction of the set regime of traffic the traffic a project must be made and traffic signalization must be put on the road according to the project.

**Analysis of the Law on roads traffic safety**

The Law on Road Traffic Safety – ARTS as the founding law that gives the best definition of traffic safety in fact defines that all the actions that are connected to the projecting, construction, reconstruction, and maintenance and controlling of roads of traffic are performed in the manner of safe providing of the continuity of the traffic. From that matter, ARTS has provided a good definition that conditions traffic safety at first place.

On the other hand, neither ARTS, nor other laws contain clear definitions of both planning and technical documents in the area of traffic thus having non-existing accordance to the remaining technical documentation, nor do they provide the manner of conduct and implementation.

I would like to give a special review on a term Technical regulation of traffic that has no clear definition. Technical regulation of traffic by existing definition can be a planning document, but can also be a type of technical-project documentation and therefore in the practice one can come across the terms of Technical traffic regulation plan, Technical regulation of traffic project and Technical regulation of traffic.

By Law the Ministry of Internal Affairs (MIA) was given the obligation of issuing a permit for performing sports and other exhibitions on the road as well as controlling the temporary traffic signalization. The manner of solving this problem can certainly not give the maximum results because the MIA would certainly need to have additional capacities.

**The Rule book on traffic signalization**

The Rule book on traffic signalization states that:

- Traffic signalization is set and marked on the road based on the traffic project in the accordance to the regulations of the Rule book and regulations that set the area of traffic
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- Traffic project is a project of traffic and traffic signalization in the accordance to the regulations set by technical documentation
- Traffic project contains: the front page, the content of the project documentation, the general documentation in the accordance to the regulations; project task verified by the seal and signature of the investor; technical report; bill of quantities and estimates of traffic signalization for the appropriate level of making and setting the traffic signalization, for the appropriate level of making it in the accordance to the regulations set by the technical documentation, the appendix on work and environment protection related to the project for the appropriate level of making it in the accordance to the regulations set by the technical documentation, graphic part of the project and details of the traffic signalization.

Analysis of the Rule book on traffic signalization

The Rule Book on traffic signalization is the only sub-legal document in the area of traffic that defines the term and the content of the traffic project.

The deficiency with this definition of the traffic project is that it only quotes that it is “a project of traffic and traffic signalization in the accordance to the regulations set by the technical documentation” which represents the only, and in the practice, bad connection to The Law on planning and construction.

1. State and the analyses of the planning and project documentation at the Local municipalities units

Project documentation

Based on the accessible information of the local municipality units the survey has been conducted as well as the analysis of the part of the planning documentation at the sample of 152 municipalities at the territory of The Republic of Serbia where traffic engineers were engaged.

In order for comparative data to be analyzed and to retrospect easily the territory of The Republic of Serbia will be sorted according to Nomenclature of Territorial Units for Statistics 1 (NUTS 1): Serbia-North (Vojvodina and Belgrade) and Serbia-South (Sumadija and Western Serbia, Southern and Eastern Serbia, Kosovo and Metohia). The data from Kosovo and Metohia are not available and therefore were not included in the analysis.

At the observed sample at the territory of The Republic of Serbia (without Autonomous Province of Kosovo and Metohia) it has been established that out of the 152 observed municipalities 72 of them (47%) made the planning documentation without the engagement of the traffic engineers, while for the 18 municipalities (12%) the data were not available (Figure 1).

By further analysis of the received data it has been established that 45 municipalities is situated in the region of Serbia-North, while 107 municipalities is situated in the region of Serbia-South.

If we analyze the data from the region of Serbia-North we can see that 10 municipalities (22%) possess the adopted planning documentation where the traffic engineers were engaged, 31 municipalities (69%) possesses planning documentation where traffic engineer participated in the work, while 4 municipalities (9%) represent municipalities with no available data. (Figure 2)

The situation in the region Serbia-South is somewhat different. At the observed sample comprised of 107 municipalities, we can see that 62 municipalities (58%) possess the planning documentation that has been done without participating of a traffic engineer, 31 municipalities (29%) possess planning documentation that has been done by engaging a traffic engineer, and 14 municipalities (9%) has no available information. (Figure 3)

Based on the analyzed data we can come to a conclusion that in the manner of made planning documentation the disadvantageous situation is in the region of Serbia-South because this region has the higher percentage of planning documentation that has been made without engaging of traffic engineers.

If we compare the data between the observed regions we can see that in the overall number of municipalities that have done the planning documentation with-
out engaging a traffic engineer (72 of them), the region of Serbia-North has only 10 municipalities, or 14%, while in the region of Serbia-South there are 62 municipalities, or 86% of the overall number. (Figure 4).

All the received data should be taken with a amount of reservation because the analysis of the work did not include the overall planning documentation.

### Planning documentation

Unlike the planning documentation, the project documentation is not publicly available so the analysis of the project documentation is not possible to conduct in this way, and the very approach to the analysis of the project documentation needs to be different, which surpasses the borderlines of this work.

### 2. Analysis and presentation of the state of safety at the local municipalities units

By analyzing the number of people killed in road accidents at local municipalities in The Republic of Serbia in the period of 2011-2015 observed by regions Serbia-North and Serbia-South without regarding the facts for Belgrade and Autonomous Province of Kosovo and Metohia, we can established that the number of dead people in the region of Serbia-North is 1324, while the number of killed in the Region of Serbia-South is 2900. The analysis has been done without the data from Autonomous province of Kosovo and Metohia because the previous analyses have been made without the data from that autonomous province, and the data for the city of Belgrade were not taken into the consideration because the city of Belgrade represents the whole for itself.
By comparing these ratios we can see that the region of Serbia-North takes occupies 31% in this analysis, while the region of Serbia-South occupies 69% in the overall number of people killed in road accidents. (Figure 5)

3. Comparative analysis of planning documentation made without engaging traffic engineers and the state of traffic safety at local municipalities

If we comparably observe the received results of the planning documentation that has been made without traffic engineer (Figure 4) and results on the number of traffic accidents with the dead by regions (Figure 6) then we can see that the region of Serbia-North has the larger percentage of planning documentation that has been done by engaging of traffic engineers, and the lower number of traffic accidents, while the region of Serbia-South has the larger percentage of planning documentation that has been done without engaging of the traffic engineers and the larger number of accidents. (Figure 7)

Based on this data we can conclude that a connection can be set between traffic accidents (the number of dead) and the quality of making of the planning documentation which brings to the clear conclusion that the lower number of traffic accidents is accomplished by engaging traffic engineers in the process of planning and making the planning documentation.

CONCLUSION

By overall analysis of the previously mentioned we can conclude that:

- The Law on planning and construction as the ground law does not recognize the area of traffic sufficiently
- Strategy of the traffic safety is not included within the law
- There are no necessary and clear definitions about the obligation of engaging traffic engineers on the making and implementation of the planning and project documentation
- There is no obligation in engaging traffic engineers at the appropriate working positions

The consequences of this state most usually are:

- Not engaging the traffic education area and traffic engineers on making of the planning and technical documentation
- Making of the bad planning and technical education that from the aspect of traffic provides unrealistic solutions, economically unjustified, hardly conductive, and sometimes non-conductive
- Difficulty of implementation of the planning and technical documentation at the local municipalities units and usage of the existing documentation in an inadequate manner
- Slow economic development of local municipality units because of the spending of the financial assets on solving the same problems
Bad condition of the traffic safety

If we observe the safety of the traffic and economic development at the country’s level we can see that the attitudes are notably changed as well as relationships towards traffic infrastructure. The Republic of Serbia in the previous period invested and it is further investing the significant assets in the traffic infrastructure by building highways, reconstruction, building of the fast roads etc. which are all in the purpose of economic development and enlargement of the traffic safety. In order to continue the trend of the state politics we have to continue the projection of the traffic safety and economic development also at the local municipalities’ level.

Enlargement of the traffic safety as well as the economic development at the local municipality units can be made by improvement of the planning and project documentation through the upgrading of the Law on planning and construction but also through other laws and sub-legals acts. This is necessary to be done because the planning represents the starting point of the traffic safety and only with the good planning many of the problems and accidents in traffic can be anticipated.

In order execute the adequate improvement of the planning and project documentation the skilled public needs to be engaged when making legal and sub-legal acts with the cooperation and support of the Ministry in charge.

Improvement of the planning and project documentation can be executed only by making of the necessary and clear definitions, by defining of the clear legal procedures and conditioning in the engagement of traffic engineers in making and conducting of the planning and project documentation in the frame of the appropriate laws and sub-legals acts.

The consequence of the improvement of the planning and project documentation should by all means be the larger number of traffic engineers engaged in the making and conduction of the planning and technical documentation which should bring to the making of the adequate and quality planning and project documentation, which should again have the consequence the improvement of traffic safety and economic development of the local community.

REFERENCES


