

**KATHARINA MEDINA AZUAGA:**

**„Entwicklung eines Kriterienkatalogs zur Kategorisierung von innerörtlichen Kreisstraßenabschnitten mit dem Ziel einer Verbesserung der Nutzungsqualitäten“**

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**Abstract**

The present BA dissertation is dealing with the development of a criteria catalogue to categorize local county road sections with the objective to improve their exploitation quality. In the context of a first inspection, the local county road sections shall be categorized according to the need for action, in order to minimize the number of sections, which have to be researched in the course of a multi-year construction program of the owner-operated municipal enterprise “Lippe County Roads”. Due to financial limits the prioritization of those sections is favored, which are categorized according to their need for action by means of objective criteria.

First of all a general idea on the duties of the “Public Easement” should be worked out. The county, or, the county free towns are responsible for the public easement of the county roads. Their duties and obligations are related to the construction, the maintenance and the operation of roads and lanes. The improvement and protection of the traffic safety are also subject to the duties of the Department of Public Easement of Roads.

The catalogue of criteria serves to improve the quality of use of the different occupant groups. The occupant groups are the residents, the pedestrians and cyclists as not motorized traffic participants and the public short distance traffic, the moving and stationary traffic and the delivery traffic as motorized traffic participants. Essential demands with respect to the road as a defined space are due to the traffic, the urban development, the ecology and the infrastructure. As they are often requested at the same time, conflicts become unavoidable. The necessity of sufficient traffic safety is of prime importance to all occupant groups. The need of traffic and speed quality must be combined with the requirements of comfort and habitation quality.

The next step specifies the essential factors, which are affecting the quality. In this connection it shows quite plainly that any measures to reduce the requirements of the individual motorized traffic are carried out in favor of the other traffic participants. The quality with respect to the comfort and habitation is based upon the width of the side-strip, the width of the driving surface and the road surface condition. Any deficit regarding the sight, because of missing lights, or bad sight conditions are affecting the traffic safety of all traffic participants.

Multiple data are required for the elaboration of a catalogue of criteria, the expenditure of time for the collection may vary according to the variety of information sources, which can be empiric data, as well as engineer standards and/or technical guidelines.

The subsequent development of a catalogue of criteria is carried out in two steps. In the first instance, a comprehensive catalogue of criteria is being prepared, which is presented by means of a matrix (criteria against sphere of action). The scopes such

as the social practicability/ barrier-free accessibility, the design of the streets as a defined space, environmental safety, traffic volume, traffic safety and cost effectiveness are taken from the guideline for the construction of urban roads (RASt 06) and have to be considered in their entirety. There will be established a separate catalogue of criteria for each occupant group as a supporting input, to be able to categorize the different sections according to the best available technology. Pictures and tables of the most topic Technical Guidelines of the Research Institutes for Traffic and Transportation and the Federal Ministry of Transport as well as the digital infrastructure at the end of each catalogue of criteria serve as an orientation guide and are providing effective benchmarks.

The extent of the comprehensive catalogue of criteria in the light of a first consideration does not allow a short-time categorization, as the collection of data is time-consuming and requires the cooperation of various authorities, such as the Police Department. This is the reason to elaborate a pragmatic catalogue of criteria in a further step. The assessment criteria of the comprehensive catalogue of criteria must be put at the appropriate rate with time and effort and then incorporated to the pragmatic catalogue of criteria. This catalogue should be applied by the road attendants, mainly in the course of their frequent monitoring of the in-town county road sections. The assessment criteria are put against the occupant groups, also by means of a matrix, as the evaluation from the point of view of the different occupants seems to be easy to manage. In a covering note the users of the pragmatic catalogue of criteria are informed about the daily average amount of traffic (also heavy traffic), the 3-years amount of fatal and severe traffic accidents, the taken local  $V_{85}$ -value, or, the environmental benefit for the section to be examined. These data are completed in advance by a specialist engineer. The double-sided pragmatic catalogue of criteria shall be completed by well-defined positive and negative benchmarks, which have to be added to a total number of criteria points afterwards. The relevant traffic safety criteria are uprated, in order to achieve a higher emphasis. If the score is falling below a limit value, there is a need for action.

The application of the pragmatic catalogue of criteria in practice is demonstrated by means of four in-town county road sections, which are determined by the owner-operated municipal enterprise "Roads". Only one section is categorized according to the need for action. An increased requirement of action to improve the utilization quality is arising from missing appliances for not motorized traffic participants and an excessive speed behavior in case of an intensified traffic volume. With the help of the pragmatic catalogue of criteria described in the present BA dissertation an objective evaluation and categorization of several county road sections is possible within a short time.