

TECHNICAL NOTE

**Application of gestalt psychology
in highway design process**

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subm. 13th June 2005

approv. after rev. 5th July 2005

Abstract

Gestalt Psychology is one of those theories which may be useful in engineering design process, especially in road designing. This theory explains the process of organisation and recognition of objects in the space observed by the driver. The universal Gestalt laws may explain some unsolved problems of road visualisation and perception from psychological side. The main Gestalt laws suggest, that perceptual inter-relations in the visual field are in some way regular, which may aid the process of designing safe and aesthetic solutions in the dynamic space of road system.

This research considers only those Gestalt laws, which may be applicable to traffic engineering, to explain the perceptual process of the road environment.

Keywords – Road design, spatial perception, Gestalt psychology, Gestalt Laws

1. Introduction

The first psychologists and founders of Gestalt Psychology were Max Wertheimer, Wolfgang Köhler and Kurt Koffka, working in early 1900. Their main assumption was the postulate that "the whole is greater than the sum of its parts". This means that the objects in environment are perceived by individuals as a whole. The presumption was that the structure of the whole could be modified by local changes. It was suggested that the perceived interaction within the visual field was influenced by so-called "laws".

Gestalt psychology has a relation to aesthetics, since art pervaded the interest of the founders of this psychological orientation [4]. The very first problem and question they stated was: if the genuiness of a work of art gains through its own formal appearance, what are the conditions of the stimulus produced by the artists that induces such qualities?

Gestalt defines the shape, not only the form. The difference between the shape and the form is that the Gestalt (shape) is the whole appearance of a unit, concerning its form, texture, character, functions, etc., while form only gives information about the shape's external contour, and not about its character. Using the term gestalt with regard to road environment is much recommended, and the theorem of gestalt psychology can be useful in explaining process of organisation and recognition of road view observed by the driver.