

HIGHER TECHNICAL INSTITUTE

CIVIL ENGINEERING DEPARTMENT

DIPLOMA PROJECT

TRAFFIC ENGINEERING

(TRAFFIC ANALYSIS)

C / 878

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Title: Traffic Engineering- Traffic Analysis

Objectives :

1. To state general traffic problems in urban areas.
2. To state methods of traffic analysis.
3. Study and analyze an assigned case.
4. To present corrective measures of the case study.

Terms and conditions

The case to be investigated has been assigned by the project supervisor.
(Intersection of Gavrielides)

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Summary

The objective of this project was to perform a general study on traffic engineering and traffic analysis. From the theoretical point of view, a research was performed on the road traffic problems in urban areas (Part I) and methods of traffic analysis were stated (Part II). The main problems analysed were those of congestion, delay, capacity, level-of-service, parking, accidents and pollution. Some general solutions of those problems ~~were also stated~~. As far it concerns the traffic analysis, different methods of traffic surveys and censuses were explained. The methods of studies, were those that concern the problems mentioned before and are mainly applicable in built-up areas.

On the practical part (Part III), an assigned case, that of the intersection at the traffic lights of Gavrielides had to be studied. At that particular intersection, at almost all the times of the day there is congestion. On top, there are a considerable number of accidents, which are mainly causing only damages. The purpose was to analyze the intersection and present possible corrective measures based on drawings, statistics, experience and study at the place of the intersection. The drawings were obtained from the Publics Works Department and the statistics from the Police Headquarters.

INTRODUCTION

The definition adopted by the Institution of Civil Engineers is that, "Traffic Engineering is that part of Engineering which deals with the traffic planning and design of roads of frontage development and of parking facilities and with the control of traffic to provide safe, convenient and economic movements of vehicles and pedestrians"

Traffic Engineering is a part of Engineering that has arisen from the whole revolution of technology and generally from the civilization. In fact, Traffic Engineering has arisen from the moment when the first vehicles were invented and as a consequence the need for designing roads was a must. Nowadays, the continually increase of vehicles and therefore of the volume of traffic, demands more than just simple designing. The congestion on roads has to be relieved and the accidents to be reduced; that is the aim of an engineer.

To do so, some other important criteria have to be considered in order to fulfill the purpose of a road design. Those are,

the pollution of the environment; something, which has become a must and a significant consideration nowadays,

the economic criteria; the budget should not be exceeded and the road should work on the advantage of the economy and also consider

the present and future capacity; a road should never be designed to satisfy the present needs or even the near future ones, since the pressure on the roads is continually increasing.

Consider must be taken to the wishes of the drivers about the direction that they would like to follow and move their goods. That is why data should be collected and traffic studies should be performed. The other reason of carrying out censuses and surveys is to obtain statistics about the exact travel of each vehicle, or for a certain area. All these aim to a perfect transportation and design policy of urban roads.

A road is designed to serve the travelling public. In consequence this serves some important parts of life and generally of society. People, especially those coming from rural areas are getting benefits by transportation. They have the free choice to go anywhere they want. By means of travelling, social development is achieved as well as

economic development. Resources, including energy, can be transported in different areas of the city, or even of the country. Also, people are able to recreate themselves in any manner, or anywhere they want to. On top, protection can be obtained in the sense of an indirect or direct way. Enviromental health and housing are also getting benefits. One thing, of great importance, that is facilitated from transportation is education. People have the ease access to any school. From all these, the whole society is the one who gets the more benefits. All these reflect to it.

In conclusion, a road is of great importance from all points of view and should therefore be treated with the respective attention.