

**INTERFACE OF GEOGRAPHIC INFORMATION SYSTEMS AND
TRAFFIC SOFTWARE**

by

JYOT B. DESAI

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ABSTRACT OF THE THESIS

Interface of Geographic Information Systems and traffic software

By:

Jyot Desai

Thesis Director:

Dr. Manish Parashar

Thesis Co-Director:

Dr. Kaan Ozbay

Traffic at an intersection is the day to day problem. To optimize the signal timing and traffic control, Synchro is used. To overcome limitations of Synchro, we develop a software interface that locates the intersections actual on the map, while the traffic optimization is being carried out in Synchro. The focus of the thesis is to develop a map with the help of given database, run geo spatial query to show intersections on the map and data flow, i.e. how data is moving through different steps. I introduced a web-based architecture for this software, to run the software from the World Wide Web. The potential users are solely New Jersey Department of Transportation personnel and the authorized traffic consultants. There is upto the minute work about Synchro that is also provided. How one develops a map and performs geo spatial query is described next in the thesis. The data flow, importing – exporting from Synchro, how it is performed and the user interface design is also discussed. I conclude the thesis with conclusion and future work along with appendices.

Acknowledgement

I am very thankful to **Dr. Manish Parashar** and **Dr. Kaan Ozbay** for their support throughout my career at Rutgers, the State University of New Jersey in performing this research work. This documentation is focusing on the interface of GIS based mapping and a traffic software Synchro. The challenge in this project is that it is a real world project, sponsored by NJDOT (New Jersey Department of Transportation). The software is going to be used by NJDOT personnel and traffic consultants.

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