Smart Network Smart Decision: The Next Generation Transportation Management System
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INTRODUCTION

• Background
According to the report from federal highway administration, work zones account for nearly 24 percent of non-recurring congestion, or 482 million vehicle hours of delay. Besides traffic delay, it also has adverse impacts on traveler and worker safety. In 2017, work zone fatalities reached a high of 799. More than 37,000 people are injured in work zone related crashes each year. In the age of the smart city, people pay more attention to the quality of life by adopting emerging concepts like autonomous vehicles, micro-mobility, etc. However, as transportation researchers, we care about the baseline of our life that is delivering useful traffic information and minimize the negative impacts by making transportation management systems smarter.

• Why is it needed?
The system brings a revolutionary solution to perform the regular transportation management tasks in an automated and responsive method. By adopting this specially designed system, the effectiveness and efficiency of a management decision would be largely improved to avoid the unexpected traffic congestion.

• Who it will help?
Rising smart cities need a dynamic and non-blocking traffic flow. The department of transportation at all levels in those smart cities need this system to help them make decisions no matter in the U.S. or other countries.

OBJECTIVE
The proposed system is a next-generation transportation management system for the predictive planning decision. It consists of four main components which include sensible network infrastructure, capable computing power, impressive visual guidance as well as robust simulation engines. Aside from inherent features such as high performance, interactivity, and usability, the whole system is deployed on the cloud and supported by a mother platform (the Utopia Platform) which ensures its compatibility and extensibility. Overall, the system framework is specifically designed to meet the large-scale management demand in the area of big data and artificial intelligence.

BIography

• Roles of Participants
  • Government / agency
    • TMP distributor
    • Decision maker
    • Technicians
    • Communicator
  • Contractor
    • Budget
    • TMP practitioner
    • Software
    • Profit / Quality-base
    • Contract / On-call
    • Communicator

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