This topic is "practice ready." ☐ **Yes** ☐ **No**

Traffic Impact Assessment Tool Work Zone for Work Zone using Real Time Travel Time Data

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Abstract

An accurate assessment of work zone impacts can help improve work zone safety and mobility. The estimation of traffic impacts caused by WZs has received noticeable attention in the past decades because congestion causes significant delays and increased user costs. A thorough assessment of the traffic impacts of a WZ site can help practitioners to anticipate and mitigate possible mobility concerns. A variety of software tools are available to estimate work zone mobility impacts, including planning software such as Quick Zone and custom spreadsheets and microscopic simulation packages such as VISSIM and CORSIM. These software programs generate mobility measures such as delay and queuing as output and are used for planning and scheduling WZs. However, validation of traffic impact assessment software has been a challenge due to the lack of field data necessary for the validation. To overcome this challenge, a data mining approach can be used to assess the travel time (TT) impacts of WZ. With this approach, historical data can be mined for different types of WZs to identify trends in average TTs, TT reliability, and other measures. This paper developed a prototype system using historical traffic and TT data for WZs. Real-time TT data powered by RITIS and previous WZ histories

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in St. Louis, Missouri area were utilized for this research. The developed system will help sketch planning and does not require the same level of calibration as the existing software tools to produce accurate estimates of traffic impacts of WZs.

Keywords: Travel Time Impact — Work Zone — Tool — Real Time Data