

## 摘 要

偵測器之數目與位置在裝有自動號誌與高速度交叉口臨近段，已為一些研究人員研究過。偵測器運作對號誌黃燈時間與疑慮判斷區 (Dilemma Zone ) 出現的關係亦被研究過。幾種裝置多點偵測器的方法咸認是對交通控制問題的解答。本研究利用電腦模擬方式比較四種多點偵測器裝置方法彼此間對車輛延滯相對的評估。單點與多點偵測方法之比較係利用10個與型交叉口其偵測器裝置前後實地測試之結果。測試項目包含車輛延滯及交通肇事二項。除此之外，實地測試之結果亦與電腦模擬之結果同時作比較。研究結果均藉圖表與統計值表達。

## ABSTRACT

The number and location of detectors on intersection approaches with actuated signal controllers and high traffic approach speeds has been studied by a variety of researchers. The relationship of detector activity to amber signal intervals and the presence of dilemma zones has likewise been investigated. Several procedures for locating multiple detectors on such problematic intersection approaches have been proposed as solutions to traffic control problems. Four multiple detector placement methods are compared, through computer simulation, with each other in a relative evaluation of their effects upon vehicular delay. Single point detection schemes are compared with multiple point detection through before and after field tests at ten typical field sites. Measures of effectiveness studied through the field tests include vehicular delay as well as accident experience. Vehicular delay statistics produced through computer simulation are compared with those obtained through field observation. Graphical as well as statistical analyses are utilized to present research results.

Key Words: multiple detectors, vehicular delay, accidents, traffic simulation