

## **COLLEGE OF ENGINEERING AND COMPUTER SCIENCE**

### **Should Transit Priority Be Used During an Emergency Evacuation? A Life or Death Decision**

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Washington, D.C. is a high risk target for the United States. Like all capitals, it has many landmarks and governmental offices which could, if attacked pose a problem for the governance of its territories. Additionally, the city is a large economical resource, which accounts for its high commuter populations. The risk of disaster; be it natural or man-made, is then compounded by the high potential for loss of life. The demographics of the area create a unique problem for city planners and officials alike. The high commuter populations compounded by reliance of much of the residential population upon public transit making the development of emergency evacuation strategies unlike any other in the country. The use of transit must be employed to allow evacuation of carless populations which live and work within the city. With only a finite number of available units, buses will be required to make multiple trips in and out of evacuation zones. Therefore, it is within reason that some regional manipulates would want to allow transit priority to hasten trips made by buses. However, studies in the past have shown that during times of high roadway demand, transit priority causes major delays for vehicular traffic. Giving transit priority along evacuation corridors during disaster may have devastating effects on the overall evacuation traffic. The goal of this paper is to quantify the tradeoff that exists between allowing transit vehicle priority during an emergency and make recommendations to decision makes about the best plan of action during an evacuation.