



**Center for the Commercialization of  
Innovative Transportation Technology**

**Project Title:** Video Traffic Analysis for Abnormal Event Detection

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**Abstract:**

We have developed statistical approaches for the detection of abnormal video events for surveillance applications. We propose to extend such approaches and apply them towards the classification of vehicle trajectories in roadway video data for analysis and mitigation of traffic congestion. With the proposed approach, traffic information will first be analyzed off-line in an automated fashion. We will examine both the behavior of each vehicle independently but also its interaction with other vehicles. The effect of abnormal events onto incoming traffic will be a central objective of the investigation. Our goal is to provide the foundations of a system that will allow the off-line analysis of video data. The results of the off-line analysis could be utilized in two major ways: (i) by transportation officials to consider revising transportation rules and regulations and (ii) in developing on-line technologies for tracking the most disruptive abnormal events and minimizing their effect in creating congestion, via, for example, deployment of emergency vehicles, timely response of transportation agencies, and roadside information display systems.