CRIME IN PUBLIC TRANSIT SYSTEMS:
AN ENVIRONMENTAL DESIGN PERSPECTIVE

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ABSTRACT

Crime on public transit is receiving increasing attention in the United States. This paper reviews security precautions taken in the planning of bus operations. Also included is a statistical analysis of criminal incidents occurring over a ten-year period on the Southern California Rapid Transit District of Los Angeles. The analysis shows that crime on transit has increased about in proportion to transit ridership, and that it is concentrated in both space and time. Crimes occur mostly on routes which traverse areas having high crime rates in general. Although most transit crimes occur at hours when ridership is high, the rates of occurrence are disproportionately high during the evening hours. Bus drivers experience much higher rates of exposure to criminal incidents than transit passengers. The transportation environment is really a complex of many dissimilar environments, and a variety of strategies is required to meet the needs posed by diverse environments.

Introduction

Streets, transit stops, stations, and vehicles comprise a large part of the everyday physical environment. Sometimes busy, secure and patrolled; and sometimes isolated and apparently dangerous, we must traverse such environments in travels between home and work, on shopping trips, or in social and recreational activities. The very unfamiliarity of a subway station or bus stop in comparison with homes and workplaces can add to our sense of insecurity, especially if we have recently heard about a murder or robbery. Exposure rates to crime may be low at any particular location and at any specific time of day. Nevertheless, publicity given to crimes, unfamiliarity with the environments through which we travel, and dreadful physical and
emotional consequences of becoming a victim combine to make crime one of the principal concerns of the traveling public.

Surveys in Chicago have shown that those most likely to be captives of public transit — the carless poor, elderly, and minority segments of society — perceive the highest levels of crime. However, affluent whites cite crime more often as a reason for not riding public transit (Carnegie-Mellon University, 1975, p. 19). The degree to which perceived insecurity is a determinant of transportation mode choice is unclear. Security concerns are legitimate in many instances. On the other hand, professed fear of crime may also be a rationalization — supporting a decision to drive based primarily on reasons of comfort, convenience, and reliability rather than security.

During the early 1970's, surveys were conducted in four cities in order to ascertain both the incidence and perception of crime on public transit (Carnegie-Mellon University, 1975, p. 15). The results were inconclusive and conflicting. Some of the studies were fraught with methodological flaws, such as biased questionnaires and low response rates. However, the authoritative report published by Carnegie-Mellon University, following an Urban Mass Transportation Administration (UMTA) workshop on transit security, concluded that:

> It is readily evident, even from the limited knowledge which exists, that patrons' perception of transit crime significantly affects their daily ridership patterns. It is also clear that these perceptions are not necessarily related to the actual level of crime but rather appear to relate to the total environment in which an individual lives (Carnegie-Mellon University, 1975, p. 17).

In 1971, the American Transit Association attempted to analyze the scope of transit crime and vandalism on a national basis. The Vandalism and Passenger Security (VAPS) research team contacted more than 60 cities. Questionnaires yielding useable results were completed by 37 United States and 4 Canadian systems. The magnitude of the effort was laudable. Unfortunately, the validity and reliability of the data derived from the massive effort are questionable. This is due not only to the logistical problems of conducting such a large-scale study, but also to the embryonic state of the art of reporting and recording transit crime statistics.

Recognizing that efforts to make transportation environments more secure are carried out in relative ignorance of the actual patterns of crime, we conducted an analysis of the incidence of crimes on the Southern California Rapid Transit District. This analysis shows, among other findings, that crime on transit has increased about in proportion to transit ridership, and that it is concentrated in both space and time. Crimes occur principally on routes which traverse areas having high crime rates in general. Although most transit crimes occur at hours when ridership is high, the rates of occurrence are disproportionately high during the evening hours. The analysis