CITIZEN SAFETY

and

BUS TRANSIT

A study of the relationship between personal safety and bus transit usage in the Metropolitan Washington Area

METROPOLITAN WASHINGTON COUNCIL OF GOVERNMENTS

CITIZEN SAFETY AND BUS TRANSIT

A STUDY OF THE RELATIONSHIP BETWEEN
PERSONAL SAFETY AND BUS TRANSIT USAGE
IN THE METROPOLITAN WASHINGTON AREA

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16. Abstracts This report investigates the role which personal safety considerations play in citizen use of bus transit. The major work elements include a survey of related research and studies, analysis of transit crime reported by bus drivers, investigation of actual incidences occuring at bus stop intersections and a survey of public attitudes about transit related crime and anti-social behavior. The report documents the current methods of transit crime reporting and identifies obstacles to the provision of thorough accounting and reporting transit crimes. Major related issues such as passenger victimization, public perceptions of transit crime levels vs. actual reported incidence levels and prerequisites to maintaining the public confidence are discussed in conjunction with recommendations for agencies involved.

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INTRODUCTION

In October 1973, the Urban Mass Transportation Administration of the Department of Transportation, awarded funds to the Metropolitan Washington Council of Governments to study the relationship between public bus transportation and public safety in the metropolitan Washington area.

Public bus transportation has played an increasingly important role in meeting the transportation needs of the metropolitan Washington area over the past few years as indicated by the action of local, state, and federal officials in assuming public responsibility for bus transit throughout the Washington transit zone. Citizens of the metropolitan Washington area, as well as the rest of the nation, have also expressed concern about street crime over the past few years and this concern has become a factor in personal preferences for residential location, schooling, recreational activities and transportation requirements.

This study has been undertaken because of this important, if not crucial role, that bus transportation plays in the metropolitan area and its possible relation to public concern about crime.

In the near future, bus transportation will play an expanded role as the METRO rapid rail transit system begins operations and buses provide the important feeder linkages between METRO stations and residential and commercial areas. Encouraging increased bus ridership will be a key factor in the healthy operation of both the METRO bus system and the METRO rapid rail system.

This study addresses the question of whether concern for personal safety in the use of bus transportation discourages ridership. In undertaking the study, actual events and incidents

reported by bus drivers, actual reported crime at some intersections associated with bus stops, and a sample opinion survey to gauge the level of public concern for safety were utilized to determine the potential obstacles for effectively dealing with bus safety and security incidents. This report summarizes the major activities undertaken in this study and sets forth some conclusions and recommendations about citizen safety and bus transit in the metropolitan Washington area.

II. SUMMARY

Survey and Review of Related Research

The American Transit Association, in a major work entitled, "Vandalism and Passenger Security", devoted an entire chapter to research in the area of public attitudes toward transit security issues. While two of the studies included in this chapter dealt extensively with rapid rail transit, the remaining four studies dealt particularly with public attitudes about bus transit. These four studies and the 1971 study, "Reduction of Robberies and Assaults of Bus Drivers", form the basic background for staff research.

A review of the conclusions and recommendations of this previous research reveals:

1) A combination of active measures (no cash carried by driver, exact fare, radios) and passive measures (driver training, community rapport, particularly among disadvantaged citizens) are required to reduce assaults on bus drivers and improve passenger security.

2) Transit crime can strongly influence patronage depending on the interrelation of many variables (crime volume on route, transportation alternatives, hour of the day, etc.)

3) Transit crime tends to have a greater influence on rail transit use than on bus transit use.

4) Transit crime appears to have some influence on all age and sex classifications.

5) There is insufficient data to establish the influence of crime on bus ridership.

Relationship of Previous Research to the Current Study

Unlike previous research efforts, the present study investigates all of the major factors which effect the relationships between bus transit, crime, and the citizen in the Washington area. These factors include:

1) Actual reported on-bus incidents.

2) Reported incidents that occur at local bus stop intersections and bus stop approaches.

3) Incidents observed by bus riders.

4) Attitudes of bus riders and non-riders about bus related personal safety.

Actual Bus Incidents Reported by Drivers

Incidents reported by bus drivers indicate an extremely low level of nuisance and menacing behavior on METRO buses. Almost all reported incidents occur in the District of Columbia. The current driver reporting system emphasized driver related incidents and does not systematically focus on passenger victimization.

Reported Crime by Bus Stop Intersections in the Sample Jurisdiction of Alexandria

Many bus riders and potential bus riders consider the bus stop and approaches to bus stops as part of the bus ride. No effective method of retrieving bus related crime data from local police departments exists. The City of Alexandria contains the socio-economic characteristics and crime patterns which make it possible to use Alexandria statistics as an incomplete sample of the Washington region served by bus transit.

Major bus routes in Alexandria and stops along those routes at intersections were identified, and, utilizing Alexandria Police Department reported crime data, the following comparisons were made:

a) Comparison between intersections in various parts of the city (in regard to crimes occurring there);
b) Comparison between types and amounts of crime occurring along block faces in various parts of the city; and
c) Comparisons between crimes occurring at intersections where known bus stops exist and corresponding data for their respective blocks.

The analysis indicates that the types of crimes most likely to affect transit users at bus stops (i.e. person-to-person crimes) are no more frequent at bus stops than at other intersections, and may be less frequent than those types of crime occurring along the block face. These data address crime types, and, by inference, the potential riders which those crimes effect. While this data is not directly applicable to the potential victimization of Alexandria bus users at bus stops, it indicates that citizens at bus stops are no more likely to be victimized than citizens at other locations and may, based on these available data, have a reduced potential for victimization.

Bus Safety Attitudinal Survey

The Attitudinal Survey was conducted in a two-part implementation during the months of March and April, 1974. In March, 12,000 questionnaires were mailed to a random sample of metropolitan Washington area residents, who may or may not be actual riders, and in April, 1,400 questionnaires were distributed to actual bus passengers in transit.

Based upon the attitudinal sample of residents in the metropolitan Washington area;

a) concern for personal safety is not a priority concern among Washington residents,
b) when compared to METRO driver incident reports, respondents appear to have observed incidents on buses which were not reported to the driver,
c) in contrast to the reported crime data in the City of Alexandria, respondents indicated that bus stops were the most likely location for incidences of robbery and assault to occur, particularly during the night time.

CONCLUSIONS

A systemized method of determining the nature and extent of personally threatening incidents associated with bus riding does not currently exist in the metropolitan Washington area.

Driver reported bus related incidents which might threaten personal security are at a low level.

Based on a sample jurisdiction, incidents which might threaten personal security at bus stop intersections are at a low level.

There appears to be a low priority of concern among bus riders and non-bus riders about bus related personal safety.

Personal safety is a concern to both riders and non-riders but may not be a significant inhibition to public bus riding in the metropolitan Washington area.

RECOMMENDATIONS

1) No direct public action should be taken to reassure citizens about personal safety on buses. Such action might generate a concern that does not currently exist.

2) Reporting systems which provide a clearer picture of passenger victimization should be developed so that trends in bus transit personal safety can be monitored easily and action, if required, taken quickly.

3) Continue to aggressively seek bus transit improvements in non-safety related areas such as bus cleanliness, areas related to safety such as non-rush hour scheduling, time table accuracy and improved information responses to telephone inquiries, and crime exposure situations such as lighting at bus stops. Such a comprehensive improvement program would reduce residual concern for personal safety, particularly during evening non-rush hours and weekends.

III. SURVEY AND REVIEW OF RELATED RESEARCH

The initial step to be taken in implementing the study design involved a review of previous studies done on citizen attitudes toward bus related personal safety.

The most recent and comprehensive work done on public attitudes in relation to transit safety has been conducted by the American Transit Association (ATA) in its report entitled, "Vandalism and Passenger Security". Chapter VIII of the comprehensive V.A.P.S. report contains a description and discussion of six surveys conducted across the country which attempted to gauge public attitudes on safety in the use of public transportation. While two of these studies deal extensively with rapid rail transit systems, the remaining four studies deal particularly with public attitudes on bus transit. These four studies and a study of robbery and assault of bus drivers prepared for the Oakland, California transit authority form the basic background for the bus safety study conducted by the Council of Governments. The following pages provide a review of these related studies and present the conclusions reached in each study and the overall conclusions and recommendations made by the staff about the relationship between public bus transportation and citizen attitudes on personal safety.

"REDUCTION OF ROBBERIES AND ASSAULTS OF BUS DRIVERS"*

This federally funded study, originating in 1968, provides a two-fold approach to the problem of robberies and assaults of bus drivers. Contributions by four transit properties provided data inputs reflecting a cross-section of the transit industry (thus providing a national scope), and also provided a participating advisory council of transit representatives, to insure the widest possible applicability of results.**

The report, completed in 1970 and released in 1971, consists of two major sections dealing with the scope of the transit crime problem and its resolution, and technological and operational methods available to deal with transit crime.

Volume II: The Scope of the Crime Problem and its Resolution.

The objective of this volume was to look at robberies/assaults in a social context, (e.g. local transit operations, attitudes, and styles of bus drivers) and the way in which the administration of justice and police agencies respond to various threats to transit vehicle security.

The guidelines for maintaining a proper balance between generality and specificity were derived by investigating the limitations imposed by the transit industry for recommendations suitable for implementation. Certain areas were seen as more amenable to change, and these became points of reference for research priorities. As a consequence, the research had five phases:

1. Operator Phase

The data for this phase was obtained both through questionnaires and interview techniques, and indirectly through observations in the field. It was felt that the bus driver was the best source of information about the variety and frequency of crime on buses and changes in these variables over time. The effort was to document the fears, the apprehensions and the "facts" from the drivers themselves.

2. Offender Phase

The purpose of this phase was to collect and systematize data about robbers and offenders who committed crimes on buses. Several assumptions were made at the outset:

a. The quantitative and qualitative assessment of the bus robber universe is unobtainable.

* Reduction of Robberies and Assaults of Bus Drivers, Vol. I, II, & III. Alameda-Contra Costa Transit District, Oakland, California.

** Advisory Council: Transit Properties represented:
1. AC Transit, Oakland, California
2. Seattle Transit System
3. Atlanta Transit System, Inc.
4. Chicago Transit Authority

b. Common-law crime categories provide the least ambiguous and the most easily applicable determinates of inner-city deviant behavior.

c. Adjudicated robbers are the most realistic approximation of the entire group of violators.

d. Convicted offenders are the most accessible for research purposes.

e. There is generally sufficient official records information available about convicted offenders.

Under these assumptions, the study of the offender represents a study of the "exit level" in the administration of criminal justice.

3. Community Phase

The sampling of passenger attitudes was done through the use of a survey questionnaire distributed by drivers in the Seattle Transit System. The survey was done city-wide, and all respondents were over the age of 12. There were three waves of distribution on the survey, each achieving consecutively higher rates of return. Community attitudes were also obtained through survey interviews with individuals from many walks of life: poverty office directors, school principals, teachers and coaches, housewives, working class males, social workers who worked primarily with youths, and youths from potentially delinquent gangs. These interviews were sometimes taped or transcribed from notes on to tape for presentation and consistency in format.

4. Police Phase

The investigation of police operations was completed by using a modified "systems approach" seeking to analyze differences in police operations in the five study cities. Three different methodological approaches were used: interviews, analysis of existing police data and distribution of questionnaires. This phase of the study investigated the "entry level" into the criminal justice system.

5. Criminal Justice Phase

Data was collected about other aspects of the system of criminal justice in each of the study cities.

Research staff members did interview various persons involved in the administration of criminal justice: probation officers, research personnel, judges, etc. These interviews supplemented the data collected in the police and the offender phases of the research.

Volume II: Conclusion

While the immediate needs of the transit industry were the major concern, the study also focused on relationships between crime as a national phenomenon, and transit crime as one aspect of that national phenomenon.

The conclusions reached in Volume II were several, and may be summarized as follows:

- Robberies and assaults on bus drivers are only one aspect of a broad spectrum of anti-social behavior which occurs on mass transportation. These types of behavior are threatening to both passengers and drivers and must be dealt with by attempts to increase the security and, hence, improve the attractiveness of urban mass transportation to the public.

- The problem of robbery of bus drivers in most cases has been virtually eliminated by the ready-fare system. The possibility of this forcing robbers to look elsewhere for cash may effect a rise in passenger robbery.

- Bus robbers were largely young black males with limited experience in crime. Expediency of target with insured reward of considerable amount and the minimal risk were sources of impetus for the crime.

- There was a minimal risk of being injured by a robber. In three cases of murder, drivers had shown similar resistence patterns.

- The problem of "assault" on buses is more sweeping than companies realize. Frequency with which this occurs has caused many drivers to accept this risk as part of the job.

- Most driver assaults arise from interactions between drivers and passengers. Generally, the more complex the system of fares, zones, and routing, the higher is the probability that conflict will arise.

Volume II: Recommendations*

Probably the most pertinent recommendation made in Volume II was that a study (or studies) of public perceptions of crime on urban mass transportation systems be pursued. This specifically would consist of a comparison of public perceptions with the actual level of criminal, deviant, and disruptive behavior; or a study of the etiology of public perceptions.

*Volume II recommendations are reproduced in their entirety in Appendix D.

Volume III: Technological and Operational Methods

The objective of this volume was to determine which technological and operational methods are most promising for reducing robberies and assaults.

Existing and advanced methods were examined and efforts made to devise new techniques. Evaluations were made on the basis of technical and operational characteristics and on the basis of cost-benefit analysis.

The following criteria were developed to assess the effectiveness of the alternative methods:

- The primary yardstick for countermeasure effectiveness should be reduction in the number of robberies, assaults, and resulting injuries to bus drivers. Countermeasures to reduce the financial impact of robberies and assaults are of much less importance.

- Countermeasures involving the arming of drivers, use of chemical or mechanical disarming devices by drivers, and protective shields for drivers are not likely to be acceptable for implementation, regardless of effectiveness.

- The net cost of any countermeasure must be a relatively small portion of total property expenditures.

Volume III: Conclusions

The research team found some of the technological devices to be only marginally useful. Among these are alarm systems, two-way radios, bus locators, weapons such as guns or chemical sprays, tape recorders, and nonphotographic tracing aids, and periodic police surveillance.

Volume III: Recommendations

There were three recommendations for countermeasures, in addition to exact fares, which appeared promising:

1) Physical barriers, such as shields between drivers and passengers, particularly when accompanied by turnstiles for fare enforcement.

2) Use of paid riders as monitors on high-traffic, high-risk runs, such as school trips.

3) Use of cameras on low traffic runs to record each passenger who boards.

CONCLUSIONS:

In spite of the thorough investigation which is recorded in these comprehensive studies, the final analysis, (found in Volume I) suggests that a combination of technology (active measures) as well as passive measures, such as improved driver training and intensive community efforts, particularly among the disadvantaged, is necessary in order to achieve maximum effectiveness in this area.

"VANDALISM AND PASSENGER SECURITY"* - CHAPTER VIII

The Vandalism and Pasenger Security (VAPS) project, is perhaps the most ambitious effort to date to attempt to obtain indications as to possible relationships between transit riding patterns and passenger attitudes toward transit crime and vandalism in the United States.

A. MILWAUKEE ATTITUDE STUDY

The purpose of the study, as one segment of the overall research design, is to determine whether any relationship can be established between transit riding patterns and passenger attitudes toward transit crime and vandalism on one bus route in Milwaukee, Wisconsin. Specifically, the primary purpose is to test the hypothesis that transit crime and vandalism adversely influence passenger patronage of this one route. A secondary purpose of the Milwaukee study is to take note of any other factors found to be influencing passenger patronage of the route.

This study assumed that the effect of on-bus crime and vandalism on transit usage is caused by experience with and beliefs about such acts. It was proposed that the existence of this effect be measured by identifying the following relationships:

1) The effects of experience with on-bus crime and vandalism on users and non-users of public transportation on a particular route.

2) The effect of beliefs about vandalism and crime on users and non-users and the nature of those beliefs.

3) Comparison of the effects of experience and belief relative to on-bus crime vandalism on users and non-users.

4) Transit usage by those having no experience with crime and vandalism.

5) User and non-user perception of crime and vandalism.

6) Personal security analyzed in relation to other service characteristics.

7) Survey results analyzed according to land use and socio-economic characteristics.

The initial work for the passenger attitude study started in the fall of 1971 when the ATA selected Milwaukee as one of the urban centers to be included in the nationwide Vandalism and Passenger Security Project.

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* Vandalism and Passenger Security - 1973. American Transit Assn.

Milwaukee was selected for a case study for several reasons:

1) The ATA was already working in the area in connection with a comprehensive transit study.

2) Marquette University's Urban Transportation Program expressed interest and offered to cooperate.

3) Milwaukee and Suburban Transport Company (M&ST) had experienced 1,677 reported incidents of vandalism and crime during 1971.

4) M&ST management agreed to help with the project.

A bus route was selected for the test which serves a diverse area embracing factories, shops and schools that draw riders covering a wide range of age, occupation, and racial characteristics.

A tentative list of topics of inquiry was drawn up. Among these were:

1) Number of transit users and non-users for whom crime and vandalism might influence decisions to use or not to use the route.

2) Ranking of crime and vandalism as negative factors in relation to other influences on passenger patronage, such as fare level and frequency of service.

3) Number of transit users reluctant to use the route at certain hours of day or night for fear of crime and vandalism.

4) Analysis of the composition of passenger ridership on the route by sex/age characteristics.

The survey essentially provides information derived from the study of one day on one bus route in one U.S. city.

The combined total response to the two questionnaires (handed out on buses and mailed) was 649 out of approximately 2,000 distributed or a 32.5% return.

Findings and Conclusions

It was concluded that the data developed by the survey do not tend to confirm the hypothesis that incidents of transit crime and vandalism have a major influence on passenger ridership on that route.

Recommendations

It was recommended that surveys along similar lines be conducted on bus routes in other urban centers with a view to accumulating evidence that may prove or disprove the foregoing hypothesis with regard to urban mass transit in the United States in general.

B. WASHINGTON, D. C. ATTITUDE STUDY

The objectives of the Washington, D.C. Attitude Study, conducted in 1972 were the same as those set forth in the Milwaukee Attitude Study. Again the specific purpose was to test the hypothesis that transit crime and vandalism adversely influenced passenger patronage of one bus route, this time in Washington, D.C. A secondary purpose was to take note of any other factors found to be influencing passenger patronage of the route.

The questionnaire was basically the same as the one used in the Milwaukee study. Unlike the Milwaukee study, where some of the questionnaires were mailed to selected addresses, all of the questionnaires were distributed by hand. Most of those distributed were given out on buses in transit, but some were handed out in shopping centers and department stores along the route.

The Pennsylvania Avenue/Wisconsin Avenue bus route (hereafter called Route #30, for convenience, although it has several other numbers depending on the destination in the southeast section of the city), one of the longest within the District of Columbia, was chosen because it is representative of virtually all types of Washington ridership:

1) Route #30 runs from the extreme northwest corner of the city through the center of the city to alternate destinations, in the extreme southeast corner, requiring approximately one hour and ten minutes for transit in its longest version.

2) It either passes or links with connections for several major universities and other institutions of higher education.

3) It passes several high schools and junior high schools of varying racial ratios.

4) It serves residential areas of affluence and of lower income.

5) It runs through shopping centers of various types, including luxury-stores, "mod" Georgetown stores, old-line department stores, and small neighborhood shops.

6) It carries tourists to downtown attractions.

7) It transports government employee commuters.

8) It serves city areas that are largely white racially, areas that are largely black, and areas that are racially mixed.

Of the 4,037 questionnaires distributed, there were 2,054 responses, or 50.88% of the total distribution were returned.

Findings and Conclusions

The VAPS staff found that "crime and vandalism were clearly matters of concern" and "these factors influence the attitudes of an important portion of the ridership". The study points out that

patronage on the route is relatively unchanged by this concern but "that 53.27% of respondents said they had no other means of transportation". Given the relatively high percentages who thought "Personal Security Poor", who had witnessed or personally experienced Vandalism or Robbery/Assault, and who stated there were times at which they preferred not to take the bus because of personal security, indications are strong that crime and vandalism are among the factors that affect decisions regarding ridership of Route #30. Thus, the study supported the hypothesis that transit crime and vandalism adversely influence passenger patronage of one bus route in Washington, D.C., and as a result, this route serves areas representative of the entire city. The VAPS staff concluded that crime and vandalism adversely affect passenger patronage on all main transit routes in the District of Columbia.

Recommendations

The ATA recommended that surveys along similar lines be conducted on bus routes in other urban centers with a view to accumulating evidence that may prove or disprove the hypothesis that transit crime and vandalism adversely affect passenger ridership on this one bus route or other bus routes in Washington, D.C.

C. BALTIMORE PATRONAGE STUDY

The purpose of this study, conducted in August, 1972, was to determine whether a well publicized criminal incident (armed robbery of a driver and passengers on a Baltimore City bus) would adversely affect patronage on the bus route where the incident occurred.

The survey staff compared patronage figures for the same day of the week three weeks prior to the incident, and one week after the incident to determine the effect of the criminal incident on bus patronage.

Findings and Conclusions

The survey team discovered that several other factors which might have affected bus patronage on the route were also at work during the survey period.

The report concluded that there was a small decline in patronage in the survey period following the incident but that the patronage figures could not be verified. The staff further concluded that; "A number of independent variables were present that could have influenced passenger ridership patterns both positively and negatively. No decisive conclusion is possible. The hypothesis that there is a functional relationship between transit riding patterns and passenger perceptions toward transit crime is neither accepted nor rejected by this study."

D. CHICAGO MARKETING AND QUALITATIVE OPINION STUDIES

The Chicago Marketing Study, conducted along with a separate qualitative opinion study, was implemented by an independent marketing research company, Market Facts, Inc. The object of the research was to develop a marketing program aimed at improving the Chicago Transit Authority's (CTA) transit services and the project included a survey of passenger attitudes which consisted of personal household interviews with approximately 200 respondents throughout the CTA service area. It should be noted that neither this nor the Qualitative Opinion Study dealt solely with bus transit, but included opinions on subway and elevated rapid transit as well.

Marketing Study

The Marketing/Attitude Survey was conducted by interviewing people with regard to their experiences with CTA facilities. All respondents were read six statements after each of which they were asked whether they agreed, disagreed, or neither agreed nor disagreed with the statements. Out of the six, only one statement had to do with personal security; that was:

> "There is no reason to be concerned about riding the CTA during the day."

Agreement with the statement varied with frequency of ridership. The more frequently a person rode the CTA the more often he agreed with the statement that there was no reason for concern when riding the CTA during the day.

Findings

The Marketing/Attitude Survey found that personal safety is not a major influence on patrons' decisions concerning ridership on CTA.

Qualitative Study

The Qualitative Study was conducted with four groups of CTA riders and non-riders - three groups of women and one group of men - each of which consisted of eight to ten non-black Chicago residents between ages 20 and 60. All sessions were audio and video tape recorded. Respondents were encouraged to describe situations in which they had accepted or rejected use of CTA. Findings were not tabulated as such and what follows are general attitudes which were perceived throughout the sessions.

Findings

Some of the elements of the CTA that create special apprehension seem most apparent to the interviewed riders of the elevated and/or subway systems. Most respondents felt that personal safety is the major concern of passengers and non-passengers of the CTA; convenience is a secondary consideration. According to the statements of these respondents, bus transportation was felt to be much safer than rapid rail transit because the bus driver is viewed as a sort of authority figure, capable of stopping the vehicle or summoning aid in case of trouble.

Generally, buses appear to the respondents to be the least anxiety-provoking form of public transportation. Bus stops, unless they are in quiet, dark, deserted areas, seem fairly safe as compared to subway platforms. The on-board situation brings with it an almost complete relaxation of any defenses raised in waiting. The bright lighting on buses and the fact that they are occasionally more neighborhood oriented than subways, helps create a sense of familiarity and security that, along with the other considerations, makes the bus eminently preferable to the respondents interviewed.

E. CHICAGO TRANSIT AUTHORITY SECURITY STUDY

Under a grant approved by the Urban Mass Transportation Administration in December, 1972, the City of Chicago undertook a program for demonstrating and testing the effectiveness of crime prevention devices with a view to promoting public transportation. The Survey Research Laboratory (SRL) of the University of Illinois was selected to conduct the second of three major work elements, Perception of Crime on Mass Transportation. SRL drew up a questionnaire for the general objective of ascertaining people's use of, and attitudes toward, the Chicago Transit Authority. The questionnaire was used for 1,586 interviews by telephone to a statistically random sample of all private households with telephones in Chicago. The final questionnaire consisted of 45 questions, of which 2 dealt with personal security.

Findings

The survey found that conditions under which the public felt most secure while using the CTA were while riding the bus, while going from home to the bus or el-subway stops, and while riding the el-subway. Conditions under which people felt least secure were while on stairs, rampway or tunnel to el-subway platform, while waiting on the el-subway platform, and while waiting in the el-subway stations. The three preferred conditions under which they would have felt more secure would have been if they had seen more police officers on el-subway platforms and trains, if they had known quick assistance was available from CTA personnel or the police; and if a policeman and police dog were assigned to each bus or el-subway train during non-rush hour periods.

"VANDALISM AND PASSENGER SECURITY" - CHAPTER VIII

CONCLUSIONS

Based on the VAPS research studies just described, the following tentative conclusions were made:

1. Transit crime and vandalism can exert strong influence on passenger decisions concerning use of urban mass transit but with many variations depending on the volume of crime and/or vandalism in the area served by a particular route, the transportation alternatives available to the passengers, the hours at which they must ride, and numerous other factors.

2. In general, and subject to deviations according to local conditions transit crime and vandalism are more likely to influence passenger decisions concerning ridership on rapid transit than on buses alone.

3. Riders are more likely to view with serious concern the potentially menacing aspects of rowdyism such as verbal threats and vandalism than "nuisance" aspects such as the pushing and shoving involved in horseplay.

4. Riders' concern is likely to be more intense when they personally witness crime or serious acts of rowdyism than when they are not personnaly involved.

5. With those who are reluctant to ride urban mass transit because of personal security considerations, the hours least favored for riding are those after 7:00 p.m.

6. On the basis of the present studies, no firm conclusion is possible regarding attitudes toward transit crime and vandalism according to age/sex characteristics. However, findings suggest that transit crime and vandalism have a potential influence on all classes of riders regardless of age or sex, although possibly not in the same degree.

7. It is extremely difficult to establish that a given change in ridership is caused by a single factor such as crime or vandalism. In any situation a combination of factors is likely to be present that can so influence ridership as to make it all but impossible to determine the degree of influence of any one factor.

IV. THE RELATIONSHIP OF PREVIOUS RESEARCH TO THE COG STUDY OF CITIZEN SAFETY AND BUS TRANSIT

The findings and research methodologies of previous research efforts in bus safety were analyzed in developing the methodology for the COG study of citizen safety and bus transit.

The major distinction between this study and those previously conducted is that the current effort approaches the problem of personal safety on public bus transportation as a multi-dimensional problem. The primary assumption which has been made is that the dimensions of the transit security question extend beyond the physical domain of the bus itself to those locations which the citizen personally associates with using the bus system.

This study attempts to investigate the implications of this assumption by utilizing the following methodology:

1) Analysis of actual incidence data reported was obtained from the Washington Metropolitan Area Transit Authority (WMATA). The identification of the typical crime, frequency of all incidences, and the actual degree of seriousness reflected in the reported data are of importance.

2) Analysis of crime data for bus stop intersections along various bus routes in the metropolitan area. (This data was to be obtained from each jurisdiction with appropriate data retrieval facilities.)

3) Utilization of citizen attitudinal surveys:

   a) Direct Mail Questionnaire: to be mailed to 12,000 metropolitan Washington residents, selected randomly by computer (both bus riders and non-riders), and

   b) Hand Distributed Questionnaire: to be handed out on buses along specific routes in the metropolitan area. (Respondents are actual bus riders.)

4) Integration and analysis of all data for action recommendation in regard to the bus safety issue.

The methodology outlined above was chosen for the purpose of identifying in as much depth as possible the actual incidents associated with bus transit and the related issues and comments integral to an understanding of passenger perception of personal safety as it relates to transit buses. The end goals of integrating the information and providing sound recommendations for action are facilitated by this methodology.

Methodology for the Attitudinal Survey

Previous studies of bus security have employed attitudinal surveys in the investigatory process. To date there is no indication that attempts have been made to investigate the types of incidences occurring at stops or intersections in communities served, nor do these studies incorporate actual report data from their respective transit authorities.

There are several points of distinction between previous attitudinal studies and the current study. Previous surveys of passenger security have;

1) emphasized secondary purposes in attempting to identify other factors influencing passenger patronage, aside from personal security considerations,

2) relied generally on one-route, non-random distribution patterns, in identifying those routes as "representative" of the particular metropolitan area in question,

3) dealt primarily with incidences which would effect passengers while in transit,

4) Used non-random samples.

The current attitudinal survey*, on the other hand, had a two-part implementation phase. The first phase involved a survey mailed to a random sample of 12,000 metropolitan Washington residents. The second phase, the same questionnaire printed in a self-mailing return format, was distributed to 1,400 actual transit users (i.e. was distributed by hand, on buses, while in transit). This dual phase method of

*There was only one questionnaire devised, and it was utilized in both phase one and phase two. Henceforth, we shall refer to an attitudinal study, and not attitudinal studies, although the respondent populations may vary distinctly.

dissemination was designed, a) to avoid relying solely upon a non-random sample from a route chosen on the basis of its representativeness, b) to involve as many metropolitan Washington residents as possible, and c) to attempt to provide infrequent or non-riders with a channel for input.*

The route chosen for the hand-administered survey was selected with a specific criteria, similar to the criteria utilized in previous studies to choose a route representative of other metropolitan areas.** However, in the current study, the biases of this approach are offset to some degree by the implementation of the direct-mail survey to a statistically random sample.

The three routes which were chosen for the hand-out portion of this survey were chosen so as to;

1) represent a significant cross-section of the socio-economic levels existing in the metropolitan area,

2) encompass links with major institutions, and the federal employment areas in downtown Washington, D.C.,

3) service residential areas of affluence and lower income,

4) service areas with predominantly black, predominantly white, and racially mixed populations,

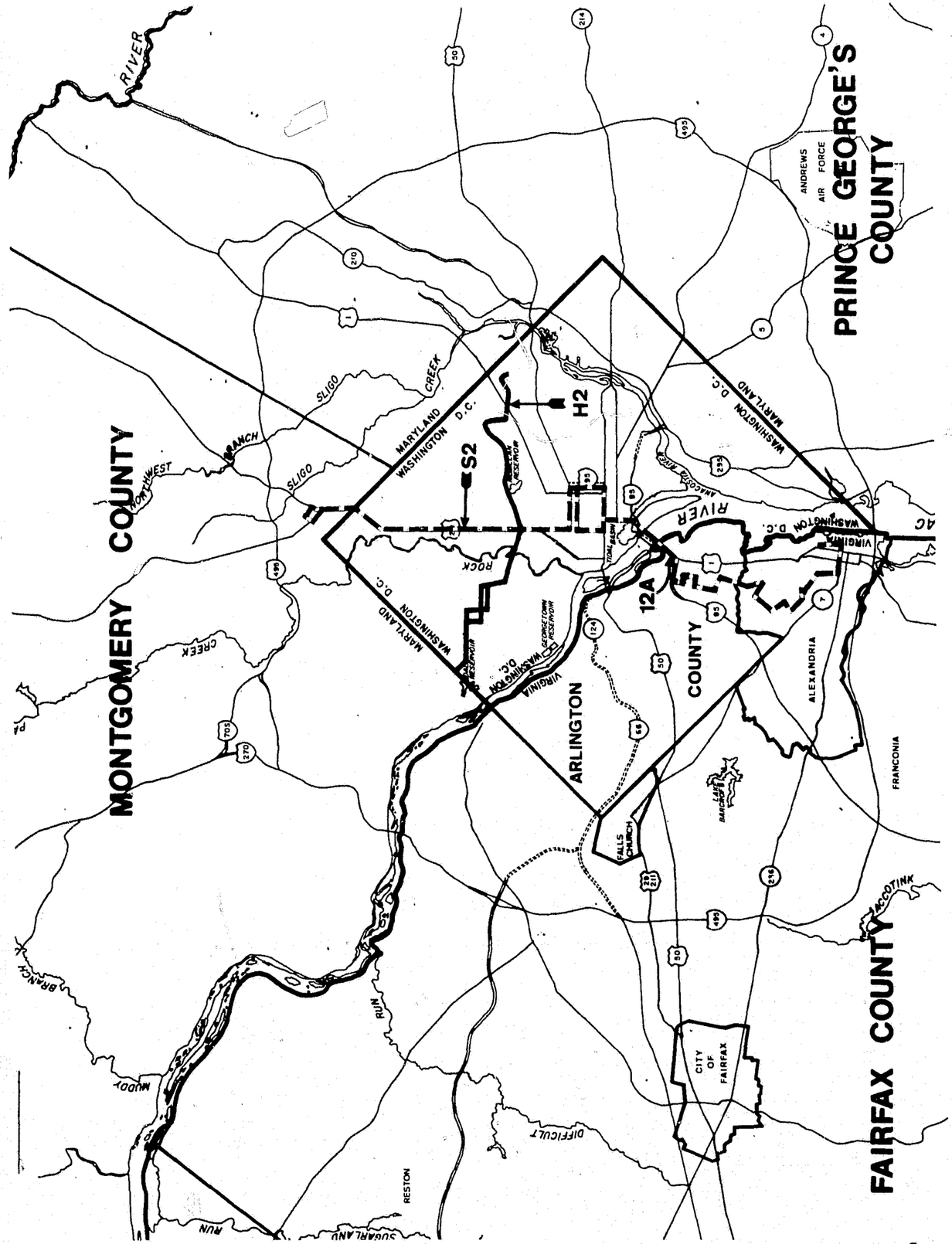
5) sample both commuter populations as well as District of Columbia residents (see Mass Transit Policy Planning, by William J. Murin, for a discussion of the distinctive needs of these respective groups),

6) take into account shopping areas and the commercial concerns particular to both urban and suburban Washington, D. C.

Another singular characteristic of this survey is that it deals in a more detailed fashion with the topic it seeks to investigate, that is, the impact of personal safety considerations for riders on METRO buses. Previous related studies have mingled questions of personal safety with an entire assortment of other ridership problems.

* Non-riders, if their reason for not riding is due in part, or in whole to fear/concern for personal safety, are precisely those people whose opinions should be documented.

** Vandalism and Passenger Security - 1973. Washington, D.C. Survey.



The approach taken here represents an effort to assess the problem in terms of behavior orientations of the metropolitan Washington bus riding public. Specifically, it attempts to address whether fear or concern for personal safety on the part of the public is manifested in patterns of non-ridership for significant and identifiable portions of the resident population.

In line with the scope of this investigation and in light of the specified intentions, the focus of the questions themselves were different from previous studies. They reflect a perspective which views the bus system as a sub-system of the community which it serves. The logical extension of this perspective is that crime trends in the community are related to bus operations and thereby to the patronage of the bus system, including bus stops and access routes used by citizens to arrive at bus stops. These considerations have been made in the design of the attitudinal survey, and are reflected as well in the intersection data analysis. The survey attempts, among other things, to discover location-specific aspects of transit related crime as perceived by communities which are served. Two previous studies of citizen perceptions of crime have been done in the Washington area, one of which related directly to bus transit safety. As mentioned earlier, the researchers in this study, ATA, found crime to be a significant consideration for riders on the "#30" route(s) which runs across town from Friendship Heights to Anacostia. Several questions were drawn from this survey and with modifications utilized in the present survey.

The second study, "A Study of Citizen's Reaction to Crime in the District of Columbia and Adjacent Suburbs", while not directly related to transit safety, does provide some insights into the perspective area residents have toward themselves, their communities, and crime.

"Crime" was rated by respondents as being among the top three problems facing the United States (1972). When citizens were asked what would make them feel safer in their neighborhoods, they ranked "More Policemen on Foot" number one, and "More Street Lights" as number two. It is interesting to note that 11.8 and 14.6 percent of those interviewed ranked "Knowing that the Crime Rate was Down" as the first and second (respectively) most important items which would make them feel safer in their neighborhoods.

The impact of publicized crime trends seems to play a role in people's perceptions of themselves as potential victims of crime. This has implications for those who would ride buses within the metropolitan area, as well as for transit officials seeking to establish good rapport between the citizen and the bus system.

V. WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY: ACTUAL INCIDENCE REPORTS BY DRIVERS

To determine the nature and extent of actual reported offenses which occurred on public buses in the Washington area, the Washington Metropolitan Area Transit Authority (WMATA) provided security reports on bus incidents occurring through the period January 14 - December, 1973.

The Security Division of WMATA categorizes the incidents occurring on metrobuses according to the following categories:

1) Robberies of Metro bus employees
2) Assaults of Metro bus employees
3) Disorderly student incidents
4) Other incidents

For the period January 14 - December, 1973 there was a total of 110 reported incidents: 11 robberies, 35 assaults, 18 disorderly student incidents, and 46 other incidents (including stolen company vehicles, traffic incidents, damaged fareboxes, etc.).

In most of the case descriptions the incidents do not involve passengers as victims, but report driver victimization. There are, however, a few cases of robbery where riders and drivers alike, on a particular bus, were victimized. While the victims most often were bus drivers, the perpetrators tended to be young, black males. Most of the incidents took place in the District of Columbia, although the reporting area extends throughout the metropolitan bus service area.

Assaults on bus drivers occurred both on the actual routes and in service areas. In many cases, weapons of some sort were involved. Only two reported incidences directly involved passenger victims: one passenger was assaulted with a knife and one group of passengers (all on the same bus) was robbed.

Window breakage was a common incident, especially among the student offenders.

There were also many assaults without actual weapons where objects such as stones, bottles, umbrellas or fists were used by the attackers.

The total number of (actual) bus incidents appears to be low when considered with regard to such factors as the size of the METRO fleet, the number of vehicle miles, and the number of revenue passengers involved. This total is dwarfed even further if consideration is given to the amount of crime affecting the areas within which the transit already operates (as documented by the FBI Uniform Crime Reports). However, these types of judgments are complicated by the nature of the transit-crime reporting area, and the reporting system itself. More importantly, there are two factors related to the incident data which are integral to assessing the extent of transit crime and its effects. They are as follows:

1) Victimization

There is no assurance that incidents which occur on buses, but are not observed by the driver, are reported to the driver. The driver is not a law enforcement official and the passenger may choose to report the incident to the police or not report it at all. This is likely to occur in pickpocketing cases where the citizen becomes aware of the theft only after leaving the bus. In such a case, even if the citizen is relatively sure the theft took place on the bus, it is highly unlikely that the bus driver would ever be informed about the incident.

2) Demonstration Effect

There is no method available within this reporting system, or in any similar reporting system, to determine the effect of an on-bus incident on other passengers who observe it or who hear of it from acquaintances or who read about it in terms of perception of personal safety. Therefore, the true impact of the incident itself on bus patronage cannot be measured.

DISPLAY 2:

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

INCIDENT DATA

JANUARY 14 - DECEMBER 1973

	73/74 Jan-14	73/74 Feb.	Mar.	April	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total
ROBBERIES	0/4	1/3	1	0	2	0	1	2	0	0	3	1	11
ASSAULTS	4/1	1/5	5	1	1	2	3	4	0	5	6	3	35
DISORDERLY STUDENT INCIDENTS	0/3	6/0	7	0	0	0	0	0	0	2	2	1	18
*OTHER INCIDENTS	2/2	3/5	2	3	12	3	2	5	2	3	6	3	46
TOTALS	6/8	11/13	15	4	15	5	6	11	2	10	17	8	110

*Stolen company vehicles, traffic accidents, damaged fareboxes, etc.

NOTE: Compilation of offenses since the take-over by WMATA.

VI. REPORTED CRIME BY LOCAL BUS STOP INTERSECTION

One method utilized to better determine the number of actual reported incidents related to bus transit involved the use of reported crime data from local police departments in the metropolitan area. While it is evident that criminal incidents within a local jurisdiction, whether they occur at bus stop intersections or elsewhere, are of equal concern and require equal response by the local police department, it is also clear that many citizens associate the local approaches to a bus stop intersection, and the bus stop itself, with the use of public bus transportation. There are several factors which substantiate the citizen's view that bus stops are an extension of bus riding when considered in terms of personal safety. An individual would not necessarily stand at an intersection at a particular time of day unless waiting for a bus. A person might feel apprehensive about a particular area, but must walk through that area in order to reach a bus route. Data was sought from local police departments in an attempt to assess the actual incident risk involved in the non-bus riding portion of bus patronage.

At present, there is no effective method of retrieving reported crime data which relates to bus transit. A passenger who had been robbed at a bus stop might report the incident to the driver of the bus if he rode the bus, but there is no guarantee that the actual police report would, in the end, contain any specific reference to the fact that the crime occurred at a bus stop, much less which bus route or bus number. Moreover, even if there were an indication to that effect, it is highly unlikely that the information would be transferred to the data retrieval systems commonly used in local police departments. The only way in which to track down bus related crime is by referring directly back to the original officer reports. This type of procedure was not possible. Consequently the staff chose a number of bus routes and proceeded to identify exact locations of bus stops along those routes.

The format of the data needed presented a problem for many jurisdictions. Fortunately, the Alexandria Police Department had the data retrieval system which could provide the pertinent crime statistics for the identified Alexandria bus stop intersections. Although it would have been preferable to obtain intersection data

from all jurisdictions, Alexandria is, in many ways, representative of the entire metropolitan area within the beltway.

The City of Alexandria is not a suburban jurisdiction in the usual sense in which that phrase is used. In age it compares with the District of Columbia and Arlington County, and it is already developed to a high degree. It was only in the recent past that the western part of Alexandria has begun to assume the suburban role of a bedroom community, with residents working in the District of Columbia, in Arlington, and in other parts of the metropolitan area. The population is extremely diversified in terms of occupational criteria, racial mixture, and age composition. Crime patterns in the City of Alexandria are similar, on a smaller scale, to those patterns found throughout the metropolitan area. There is a wide variation in crime levels within the city, just as there is a wide variation in socio-economic characteristics, and poorer, denser deteriorating high crime areas are interspersed with relatively crime free, more stable and economically advantaged areas. Given that these two types of populations are side-by-side in one jurisdiction, and both are potential users of the same transportation facilities, bus stops could become a gathering point for a wider population, and therefore may represent a location for an exchange of crime.

In light of this diversity of crime patterns and social and economic conditions existing throughout Alexandria, it was determined that its data would reflect an adequate cross-section of the metropolitan area.

The Alexandria Police Department provided the COG staff with statistics for crimes reported at the intersections in that jurisdiction, as well as reported crime along block faces. These statistics provide a basis for comparisions along several lines:

1) Comparison between intersections in various parts of the city,
2) Comparison between types and amounts of crime along block faces in various parts of the city,
3) Comparison between crimes occurring at intersections where known bus stops exist and corresponding data for their respective blocks.

The report statistics consisted of three parts: Part I offenses reported, Part II offenses reported, and a final section on arrests and citations issued. These data were made available for intersections (i.e. bus stops) along two bus routes in Alexandria: the 12A route* and the 28A route.** These two routes connect Alexandria with the District of Columbia and with Arlington.

The results of the comparisons listed can be summed up in the following fashion:

1) There is little difference in the type of reported crime at intersections, regardless of where the intersections are in the city.

2) Block face data varies greatly in volume and type across the city.

3) The crimes reported at intersections differ both quantitatively and qualitatively from those reported along the block face.

Two examples from the data gathered shall be used to illustrate the above comparisons.

Along King Street east of George Washington Street, the block data shows a variety of reported crimes (burglary, larceny, rape, etc.). However, the data for the specific intersections show that the majority of the crimes occurring there were traffic-related. Auto theft (a Part I offense) was reported at several intersections, but for the period January through March, 1973, there were no reported person-to-person crimes of opportunity at any of the intersections east of Washington Street along King Street. Both petty larcenies and robberies were frequently reported in the block data for this area.

While in some cases the actual volume of reported crime/arrests might be higher where the nature of the arrests made does not immediately relate to personal safety considerations for transit riders who might be standing at a particular stop.

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* The 12A route runs from 14th and Constitution to 600 North Royal Street in Alexandria, via the Pentagon, the Aurora Highlands (South Arlington), and central Alexandria. The end of the route is only a few blocks from the Potomac in southeast Alexandria.

** The 28A route runs from Hunting Towers in Alexandria to Seven Corners in Arlington.

In another section of Alexandria, adjacent to Jefferson Davis Highway, where there is a high volume of reported crime (relative to other parts of the city), the crime at intersections is almost intirely traffic-related crime. The block data, however, reveals a wide variety and high volume of crime. The statistics show that even in a "high crime" area the immediate bus stop area does not accrue a high volume of person-to-person crime which might affect bus riders.

While these report data show qualitative differences between incidences occurring at intersections and those along the block, several other considerations must be incorporated into this analysis. First, the initial attempt to separate the report data into intersection and block categories may imply an element of isolation which does not exist in reality. These areas necessarily overlap. However, the degree to which incident exchange has an impact on the reported data is not known, and cannot now be measured. Secondly, while the prospective passenger may appear to be relatively secure in the intersection area, the approach to those intersections could be along streets which may create threatening situations, unless the passenger simply transfers from one bus to the other at that particular bus stop or intersection.

In spite of these considerations, the fact remains that these data represent the closest measure of actual bus stop related crime which is currently available. In this case the fact that the data initially were not gathered by police with this issue (bus related crime) in mind is reflected in the many considerations which have been made. It should also be noted that this data can not reflect any bus stop related victimization which may occur and is not reported to the police.

VII. BUS SAFETY ATTITUDINAL SURVEY

The data to be analyzed in this section of the report was generated through the implementation of an attitudinal survey. A questionnaire was mailed to a random sample of metropolitan Washington residents in February, 1974. In April, 1974 a control group of transit users was queried, using the same instrument. (See Appendix A.) The results are discussed in subsequent pages and recommendations are presented at the end of the section. Additional demographic and ridership characteristic data are contained in Appendix B.

Age and Sex

The total sample consists of 2,991 records: 1,525 of which are male respondents, and 1,418 of which are female respondents (a three percent discrepancy in the total number of records and the sum of the male and female records is accounted for as non-response to the item requesting the sex of the respondent).

The sample had a slightly larger proportion of males than females: 50% (1,525) as compared to 47% (1,418), respectively.

The most highly represented age group was composed of individuals between the ages of 25 and 34 years. Twenty-seven percent of the total sample fell into this age group. Among all males in the sample, 28% were aged 25 to 34 years, and these represented the largest group in any one age category. The same is true of the female portion of the sample, of which 28.9% were age 25 to 34.

The second largest age groups appearing in this sample were the 35-44, and the 45-54 age groups, each of which contained 18% of the total population.

Over one-half of the total sample falls between the ages of 25 and 54 (64%). Of the remaining half, 19% falls in the older age ranges of 55 to 65, and 13% falls into the 11 to 24 age ranges.

The age/sex distribution of the on-bus component of the sample is similar to that found in the random sample. The largest group of respondents fell between the ages of 25 and 34. The second most represented age group was the 20-24 year olds, who constituted 21% of the total hand-out population.

Bus passengers who were surveyed were split with 54% of them age 11 to 34 and 46% age 35 to 65 and over. Females outnumber males, constituting 58% (as compared to 42%) of the sample. The total numerical response from the hand-out survey was 339.

Frequency of Ridership

Females tended to ride more frequently than males, with 39% of all female respondents identifying themselves as frequent riders and only 29% of all males indicating thus.

Men, on the other hand, dominate the "never ride" category. Forty-two percent (42%) of all male respondents state that they never ride, whereas only 30% of all the women state that they never ride. Respectively these groups comprise 21% and 14% of the total sample.

TABLE 1.

SEX	FREQUENCY (days/week)	NUMBER	PERCENT OF SAMPLE	PERCENT TOTAL MALES/FEMALES
Male	4-7 days	447	14%	29%
Male	1-3 days	121	4%	8%
Male	1 day	306	10%	20%
		874	29%	
Male	Never	643	21%	42%
		643	21%	
		1,517	50%	
Female	4-7 days	551	18%	39%
Female	1-3 days	196	6%	19%
Female	1 day	242	8%	17%
		989	33%	
Female	Never	420	14%	30%
		420	14	
		1,409	47%	
		2,962	97%	

Location of Respondents

The District of Columbia is represented by 26% of the sample, Maryland residents constitute 38%, and Virginia residents constitute 32% of the sample. The non-response category contained 1% of the total population.

The relatively higher proportion of response from Maryland may represent a bias in favor of the more secure areas of the region. Concomitantly, there may be an under-representation of the more crime conscious District of Columbia residents (see Appendix B, Table 5).

Further breakdown of the Virginia and Maryland responses provides information by specific local jurisdictions within these states. In Maryland, the largest number of responses came from Montgomery County (21%), while in Virginia, Fairfax County had the highest response, representing 15% of the total sample. Table 2 represents a display of respondents by local jurisdiction.

TABLE 2

Jurisdiction	Percent Total Sample
District of Columbia	26%
Alexandria	6%
Arlingtion	9%
Fairfax County	15%
Falls Church	less than 1%
Loudoun County	less than 1%
Virginia Total - 38%	
Prince George's County	17%
Montgomery County	21%
Maryland Total - 38%	

Response to location items reflects a distinct difference in ridership patterns with respect to frequency of ridership and location of the respondent. Over 53% of all respondents from Maryland indicated that they never ride the bus, with 19% stating that they ride the bus frequently (4-7 days a week).

In the District of Columbia, this pattern is nearly reversed as 55% of the respondents from this area indicated that they ride 4-7 days a week, and only about 10% indicated that they never ride the bus.

Response from Virginia seems to represent a different pattern of ridership from either of the two previously mentioned jurisdictions. Thirty-four percent (34%) of these respondents indicated that they ride 4-7 days a week, with a nearly equal amount (38%) stating that they never ride. Twenty (20%) percent of the Virginia respondents indicated that they ride less than one day a week, and 8% ride 1-3 days a week. The following table displays the data for frequency of ridership by the location of the respondent.

TABLE 3

	4-7 Days	1-3 Days	Less than 1 Day/Week	Never	% of Total Sample
District of Columbia	55%	17%	18%	9%	26%
Maryland	19%	8%	19%	54%	38%
Virginia	34%	8%	19%	38%	32%
					96%
				Non-Response:	4%

Mode of Transportation

The two types of trips for which the highest percent of respondents in the sample "normally use" the bus are the trip to and from work and personal business trips. Thirty-six percent (36%) of the total sample responded that their trip to or from work was made by bus. Forty-nine percent (49%) use other forms of transportation (walk, car, bicycle, car pool) for the work trip, and 66% stated that a car was available for travel to and from work.

TABLE 4

TRIP PURPOSE OR TYPE OF TRIP BY TRANSPORTATION MODE

	% Use Bus	% Use Other	% Total	% Car Available
WORK	36%	49%	85%	66%
SHOP	18%	68%	86%	75%
SCHOOL	11%	39%	51%	43%
RECREATION	12%	67%	79%	73%
PERSONAL BUSINESS	20%	65%	86%	74%

Only 11% of the total population indicated that the bus was the mode of transportation normally used to travel to or from school. Thirty-nine percent (39%) responded that they normally use other forms of transportation to travel to or from school. Approximately half of the sample stated that travel to and from school was one type of trip which they did make. Since only 2% of the sample is between the ages of 5 and 19, the majority of these respondents are college level students.

The data presented in Table 5 show that a greater percentage of female respondents than male respondents use the bus. This seems to hold true for each purpose listed.

TABLE 5

TRIP PURPOSE BY BUS USAGE

MALE (Total 1,525)	Number Using Bus Transportation	Percent of Total Males
WORK	470	30%
SHOPPING	139	9%
SCHOOL	160	11%
RECREATION	119	8%
PERSONAL BUSINESS	193	13%
TOTAL	1,081	71%

FEMALE (Total 1,418)	Number Using Bus Transportation	Percent of Total Females
WORK	561	40%
SHOPPING	375	26%
SCHOOL	171	12%
RECREATION	213	15%
PERSONAL BUSINESS	387	27%
TOTAL	1,707	120% *

The 120% total for females indicates that proportionately more women than men normally use bus transportation for the purposes which are listed. Concomitantly, a greater percentage of males are more prone to use other transportation and to have a car available than are females in this sample.

* Each respondent was asked to note each type of trip, creating an optimum level of 500%.

TABLE 6.

OCCUPATIONAL COMPOSITION OF SAMPLE RESPONDENTS

		Male	Female	Total
I.	Professional	672 (22%)	320 (11%)	992 (33%)
II.	Administrators and Managers	154 (5%)	69 (2%)	223 (7%)
III.	Sales	62 (2%)	28 (1%)	90 (3%)
IV.	Clerical	64 (2%)	435 (14%)	499 (17%)
V.	Craftsman	49 (2%)	12 (0%)*	61 (2%)
VI.	Operatives, except Equipment	8 (0%)*	2 (0%)*	10 (0%)*
VII.	Equipment Operatives	8 (0%)*	0 (0%)*	8 (0%)*
VIII.	Laborers	7 (0%)*	3 (0%)*	10 (0%)*
IX.	Service Workers	39 (1%)	264 (9%)	303 (10%)
	Sub-Total	1063 (35%)	1133 (38%)	2196 (73%)
	Unknown**	430 (14%)	265 (9%)	695 (23%)
	TOTALS	1493 (49.9%)	1398 (46.7%)	2891 (96.6%)
			Non-response =	100 (3%)

* Indicates that response in this category was less than 1%.

** Occupation "unknown" reflects the fact that 23% of the respondents answered this question with a "class of worker" designation, that is government, public administration, self-employed, etc. rather than an occupational designation.

There was a 3% non-response to the item requesting the occupation of the respondents, and while 74% of the population provided their occupational titles, another 23% indicated their class as workers rather than their actual occupation.

The two largest occupational groups represented are the professional and the clerical workers, respectively, comprising 33% and 17% of the sample. Service workers (primarily domestic workers and housewives) comprised another 10% of the sample.

Laborers, craftsmen and equipment operatives of all types combined represent only about 4% of the total sample.

Whereas 22% of the total sample consisted of male professionals, only 11% of the sample was female and professional. For females in general, clerical work was the most frequent occupation.

Clerical workers, among all the occupations, indicated the most clear cut predisposition for riding. Fifty-six (56) percent of all clerical workers identified themselves as frequent riders, that is they rode the bus 4-7 days per week. Only 23% stated that they never ride the bus.

The least disposed to ride were the professional workers, sales workers, and service workers. Within these groups 41%, 56%, and 43% respectively, indicated that they never ride.

TABLE 7.

OCCUPATION BY FREQUENCY OF RIDERSHIP
(DAYS Per Week)

	4-7 Days	1-3 Days	Less than 1 Day	Never	Total
I. Professionals	292 (29%)	91 (9.2%)	201 (20%)	408 (41%)	992 (100%)
II. Managers and Administrators	81 (36%)	14 (6.2%)	32 (14%)	96 (43%)	223 (100%)
III. Sales	24 (27%)	2 (2%)	13 (14%)	50 (56%)	89 (99%)*
IV. Clerical	279 (56%)	41 (8%)	61 (12%)	115 (23%)	496 (99%)*
V. Craftsmen	6 (10%)	6 (10%)	12 (20%)	37 (60%)	61 (100%)
VI. Operatives except Equipment	3 (30%)	1 (10%)	1 (10%)	4 (40%)	9 (90%)*
VII. Equipment Operatives	3 (38%)	0 (0%)	0 (0%)	5 (62%)	8 (100%)
VIII. Laborers	3 (30%)	2 (20%)	3 (30%)	2 (20%)	10 (100%)
IX. Service Workers	71 (23%)	36(12%)	54 (18%)	137 (45%)	298 (98%)*

* Discrepancy is accounted for as Non-response to "Frequency of Ridership" question.

TABLE 8.

TIME OF DAY RESPONDENTS USE BUS TRANSIT*

	MALE	FEMALE	% TOTAL
MORNING RUSH	41.4%	45.4%	43%
EVENING RUSH	37.9%	40.4%	39%
NON-RUSH	17.1%	32.5%	25%
NIGHT TIME	9.7%	9.3%	10%
DO NOT RIDE	42.9%	29.1%	36%

Forty-three percent (43%) of the total population indicated that their bus trips normally occur during the morning rush hour. Only 10% responded that they normally ride at night and thirty-six percent (36%) responded that they do not ride the bus. Fifty-one percent (51%) of the night riders were from the District of Columbia.

In each time category, a greater percentage of District of Columbia residents indicated making bus trips than residents of Virginia or Maryland. Fifty-three percent (53%) of all respondents from Maryland stated that they do not ride the bus.

Of the three jurisdictions, Maryland respondents are the least likely to ride.

In terms of sex, more females than males tend to ride the bus during all hours, except during the night time. Slightly more males than females normally ride during the night, whereas 43% of all males state that they never use the bus, only 30% of all women indicated that they never ride.

Along with the fact that women tend to ride more frequently, it is also apparent that they ride more often than men during most times of the day. (Male respondents have a slight edge on night riding.) In light of this, it is not surprising to note that more women than men indicated having personally observed the various types of anti-social behavior during the day. On the other hand, more males than females indicated having observed anti-social acts or events during the night time.

*There is a possible 100% for each time category.

Major Transit Problems: Respondent Results

In questionnaire item Number 5, respondents were asked to rank order transit related problems. Given a list of ten such transit problems (plus a "No problems" and an "Other" choice), respondents were first requested to choose the four major problems, and then to assign to them a rank of one through four. Response from the total sample and the random portion of the sample resulted in the same rank ordering: * (See Appendix B).

Place Rank	Problem	Weighted Percentage Response Total Sample	Random Mail-out
1st	Infrequency of Service	142	155
2nd	Inconvenience of Routes	130	148
3rd	Takes Too Long	93	103
86	Too Crowded	86	90

Among transit users surveyed in the hand-out segment of the sample, the major problems identified were substantially different, although not related to personal security.

Place Rank	Problem	Weighted Percentage Response Hand-out Segment
1st 1st	Too Crowded	141
2nd	Infrequency of Service	123
3rd	Buses Are Not on Time	96
4th	Dirty Buses	76

* Response on this item shows that a decreasing percentage of respondents participated in the rank-ordering process. Among males, participation ranged from a response of 85% in ranking one or the other problem in first place to a low of 46% in ranking the fourth place problem. The same general trend is displayed by female respondents who participated in the ranking exercises 85% of the time for rank order number one, 75% of the time in identifying the second order problem, and so forth at the rates of 62% and 50% for the ranking of the third and fourth place problems. For the population as a whole the highest degree of participation was achieved for the first, i.e. most serious problem (achieving 86% participation), with the second most, third most, and fourth most (or least among the four choices), serious problems illicited responses among 76, 63, and 48% of the population responding to the questionnaire. (See Appendix C).

The mail-out survey respondents also indicated concern for service problems, particularly the infrequency of service and inconvenient routes. The more immediate concerns of actual passengers which were expressed involve overcrowding and dirty buses.

The fact that the respondents to the mail-out survey ranked "Inconvenience of Routes" among the four major problems with bus transportation is emphasized by the fact that 16% of this group mentioned the "Lack of Routes in (their) Area" as the condition most needing improvement. Another 16% stated that "More Frequent Service" was a major improvement which they would like to see made.

The alternative relating to personal security in this item, "Crime/Threats on Your Personal Safety by Others", did not emerge as a major problem with bus transportation. Approximately 10% placed it among the four major problems. Three percent (3.3%) ranked "Crime/Threats on Your Safety by Others" as the Biggest Problem. It was ranked second by 2.4% of the sample, third by 2.7% and fourth by 1.9% of the sample.

Accordingly, the results of this item reflect significant concern with the service elements and a lesser degree of concern for the personal security element of bus transportation. The data does not imply that it is a major factor in determining ridership.

Ten percent (10%) of the total sample did place "Crime/Threats on Your Safety by Others" among the four major transit problems. This group, when compared to the total sample:

- has a higher percentage of females than males;
- rides the bus less frequently (42.8% say they never ride, as compared to 34% of the total sample), and
- has a proportionately lower percentage of respondents from Virginia and higher percentage from the District of Columbia, and Maryland.

Forty-three percent (43%) of those who rank crime among the major concern are residents of Maryland, 23% are Virginia residents, and 34% are residents of the District of Columbia. The total sample distribution is broken out with 38% Maryland, 26% District of Columbia, and 32% Virginia residents.

Anti-Social Behavior: Respondent Concern, Vulnerability and Personal Observance.

Three other items proyide some additional depth to the issue. Respondents were requested to indicate from a series of events* 1) those which they had personally observed and when (night or day), 2) those which concerned them (might prevent them from riding the bus), and 3) those which they felt were most likely to happen to them. (See Appendix C).

For the purposes of this study, the events listed in questionnaire items 7, 8, and 9 shall be classified according to whether they represent annoying behavior or menacing behavior. This classification is imposed in order to emphasize the nature of the various events as well as the actual occurrence of the events themselves. It seems important to know whether actual crimes (i.e. robbery, vandalism, assault) are more or less threatening than other events which, while they may be annoying and aggravating, are not crimes in the legal sense. Moreover, it may prove significant to inquire as to the impact of location for the rider or potential rider, in terms of the vulnerability dimension of the issue.

The following definitions shall apply to the classification of an event as either annoying or menacing.

Annoying events: Events which, while markedly anti-social in nature, evince a low threat level, and prove to be more of an irritation, aggravation or nuisance than a threat to person or property. These events make the process of transit usage less pleasurable. They are not crimes subject to legal action, and in the strictest sense do not involve a forboding confrontation. These events listed on the questionnaire are as follows: pushing and shoving, swearing, drunkenness, vulgar/indecent behavior and generally annoying behavior.

Menacing events: Events which directly intimidate, threaten, and/or harm transit users. They are marked by an element of confrontation and/or have an air of imminent danger or molestation. Their special characteristic is that they may be defined more readily than annoying behavior in terms of victim and perpetrator. These events are as follows: robbery, vandalism, spoken (verbal) threats, and assault.

Annoying events were more often observed by respondents in this sample than the menacing events listed. They were observed more often during the day than during the night.

*The types of events displayed ranged from highly threatening incidences such as robbery and assault, to annoying types of events such as swearing, or pushing and shoving.

Generally, incidences of menacing types of events were reported with only one-third the frequency of nuisance events. They were reported observed with approximately the same frequency at night as during the day.

In previous chapters the level of actual incidents occurring on Metrobuses was investigated. For the calendar year of 1973, a total of 110 incidents were reported by drivers: 11 robberies, 35 assaults, 18 disorderly student incidents, and 46 "other" incidents. Response on the questionnaire shows that a total of 355 incidents of menacing behavior were "personally observed" by respondents during the day, and 508 incidents were observed during the night time. Out of the 863 total reports, 47 were robbery or assault and 816 were either spoken threats or vandalism.

It appears that many events are being observed by passengers, but going unreported to drivers. While the number of robberies and assaults reported to drivers and those reportedly observed by respondents are remarkably similar, the comparisons are not direct. There is no way of knowing how many of the incidents reported by drivers were witnessed by respondents in this sample. There is no way to link the driver reports to the answers provided by respondents on the questionnaire.

Analyzing these groups of events according to their influence on ridership, it seems that while menacing events are less frequently observed, they do have an influence on ridership decisions, particularly during the evening and night time hours. (See Figures 3 and 4.)

The response on item nine seems to indicate that certain events, and types of events are location-specific and to some extent time-specific. Respondents were asked to indicate where* and when* they felt the events previously mentioned were most likely to happen to them.

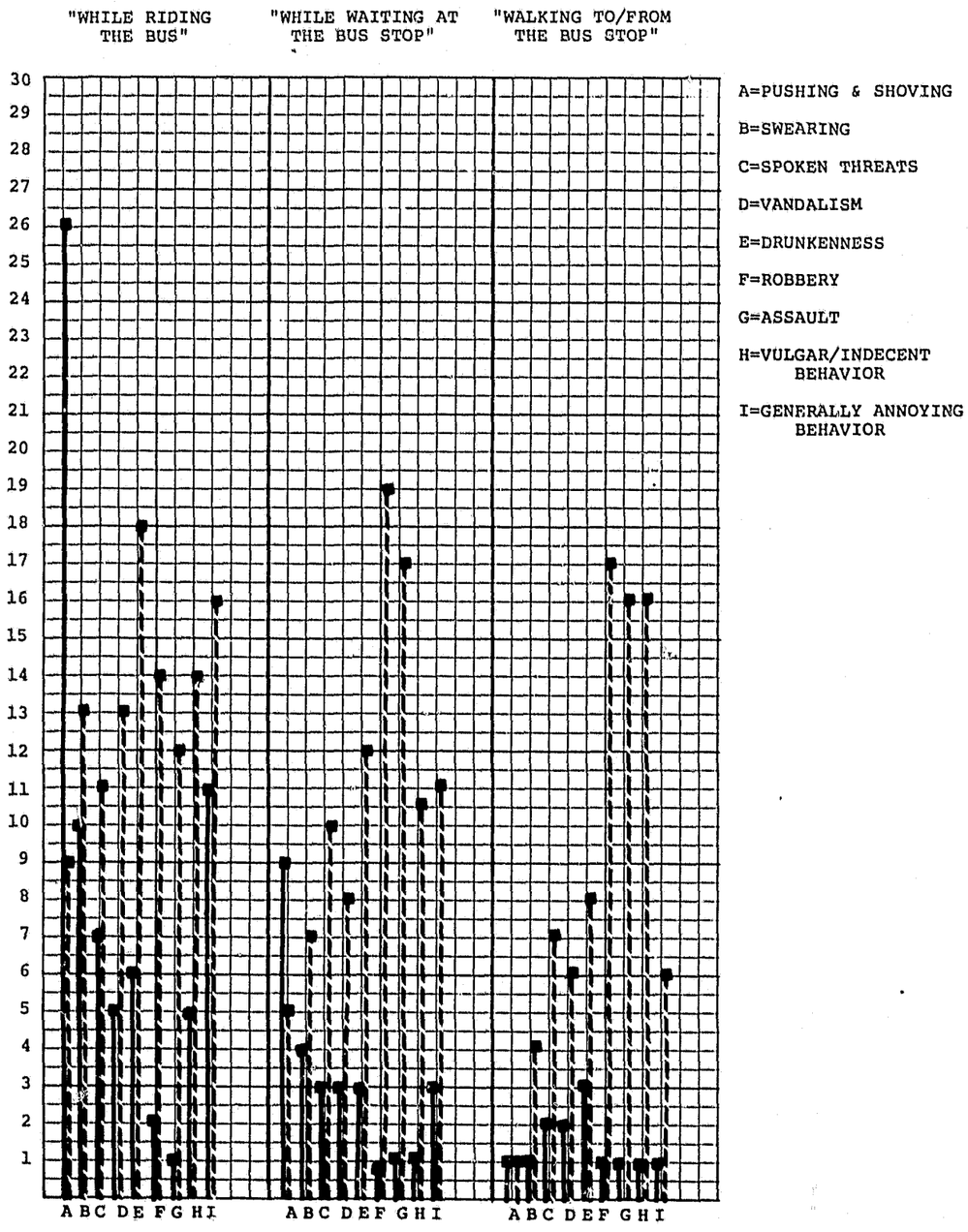
Twenty-six percent (26%) of the sample responded that pushing and shoving was likely to happen to them during the day while riding the bus. This was the largest percentage of response for any one event. Slightly over 1% of the total sample responded that robbery and assault were likely to happen to them while riding the bus during the day. This figure changes to a significantly higher percentage of 14% who felt that robbery and assault were likely to happen to them during the night time. Concern about these two events has the quality of being to a large extent location-specific as well as time-specific.

*Where: While riding the bus, while waiting at the bus stop, while walking to/from the bus stop; When: During the day or the night.

FIGURE 1:

TOTAL FILE PERCENTAGES: % RESPONDING "EVENT LIKELY TO HAPPEN"

DAY: | NIGHT: ¦

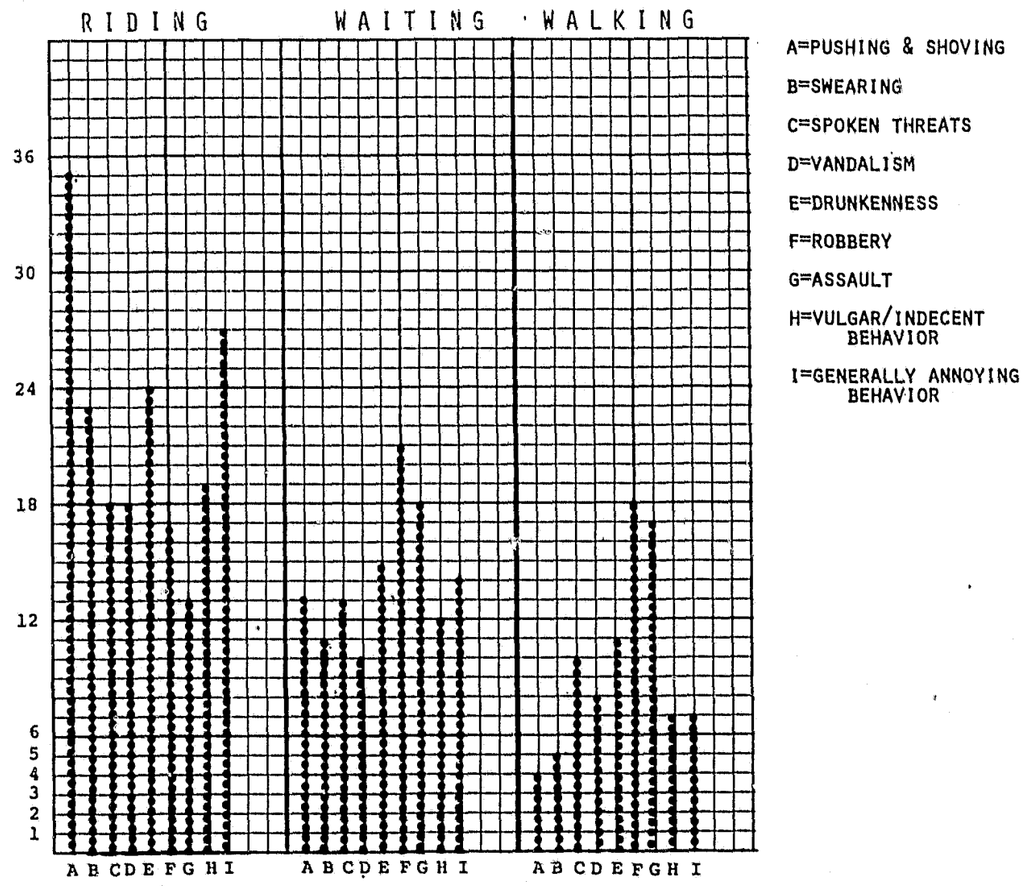


Summary responses to Question 9.

FIGURE 2:

TOTAL SAMPLE PERCENTAGES: % RESPONDING THAT CERTAIN EVENTS ARE "MOST LIKELY TO HAPPEN"

NIGHT OR DAY

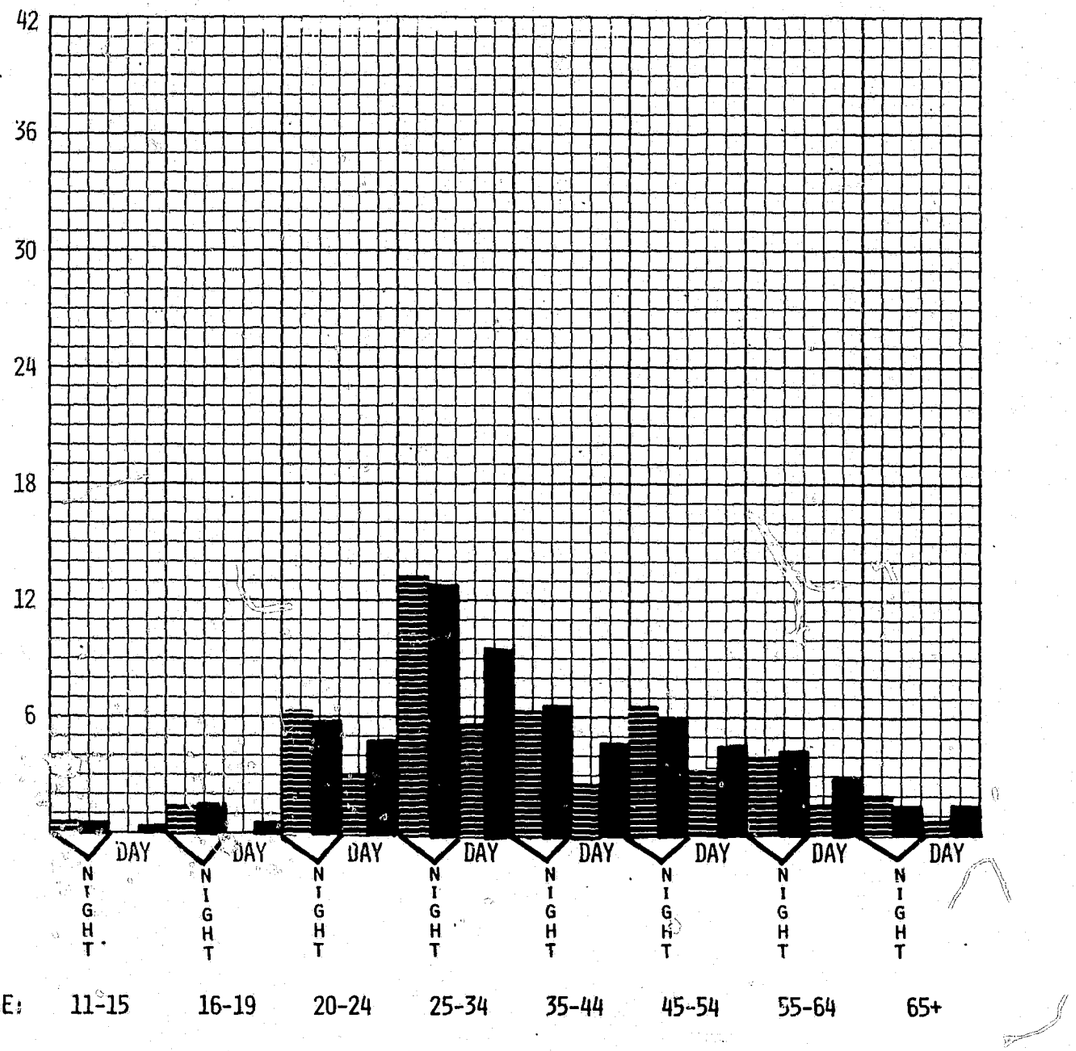


Summary responses to Question 9.

FIGURE 3:

TOTAL SAMPLE: PERCENTAGE CONCERNED ABOUT...EVENTS BY AGE AND TIME OF DAY

MENACING ANNOYING

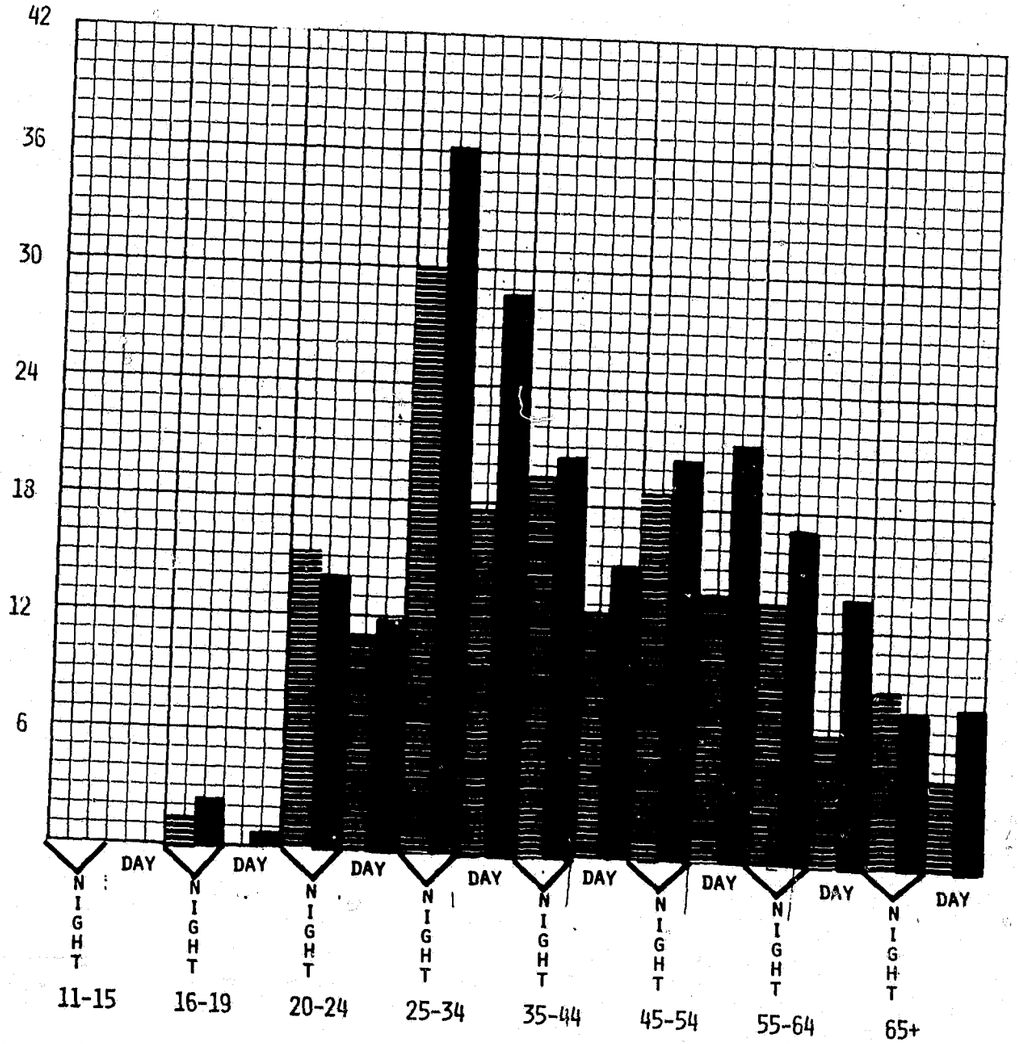


Summary responses to Question 8.

FIGURE 4: RESPONDENTS RANKING "CRIME" MAJOR TRANSIT PROBLEM:

PERCENTAGE CONCERNED ABOUT...EVENTS BY AGE AND TIME OF DAY

MENACING: ANNOYING:



Summary responses to Question 8.

For a significant proportion of the sample, it is of particular concern during the night while waiting at the bus stop.

Pushing and shoving, on the other hand, is more specifically related to the actual bus ride, and judging by the number of respondents who state that it is "likely to happen" during the day time, it is also more particular to day time riding than to night time riding.

The pattern revealed by responses to the question of where certain events are most likely to happen implies that, a) for all of the events except robbery and assault, the actual bus ride seems to be the most common situation in which events are likely to occur, b) that bus rides taken at night seem to have a greater potential for all types of anti-social behavior to occur, (both menacing and annoying events were seen as likely to occur by a relatively high percentage of the respondents, in comparison with their perceived likelihood at other locations), c) with the exception of robbery and assault, the other events listed concern the greatest numbers of respondents while riding the bus, and the least numbers of respondents while walking to the bus stop, d) a greater number of respondents state that robbery and assault are likely to happen to them at the bus stop as opposed to the actual ride or the walk to the bus stop. (See Figures 1 and 2.)

In regard to respondents who placed "personal safety" among the four major problems, the number who state that the events are likely to happen are nearly doubled in each case. These same respondents were nearly three times as likely to indicate having witnessed annoying or manacing behavior as compared to the response from the total sample. This group was also much more likely to state that they were concerned about both the menacing and annoying events listed. (See Figures 3 and 4.)

Open-Ended Responses:

Other Concerns

An open-ended question was included as a follow-up to three major items dealing with the types of incidences occurring on, or in relation to buses. The response on this item which asked, "Do you have any concerns about riding the bus that you have not already mentioned? If so, please describe:" was the lowest response of any item on the survey. Twenty-six percent (26%) of the sample responded with some concern which they felt needed to be mentioned. In the development of coding

categories, seventeen (17) different categories of response were identified, seven of which related in some manner to transit security.

The most common response (containing only 6% of the total responses) dealt with service aspects as follows:

"Lack of routes (service) in my area or inadequate service; Buses do not go where I need to go; Buses do not run often enough to my area to service my needs."

This was the major response, and less than two percent (2%) of the sample mentioned security related issues as an "unmentioned" concern.

A separate analysis of this item from respondents from the hand-out component of the sample suggests that bus riders have a greater awareness of personal safety considerations in bus riding. Among those who were actual passengers, five percent (5%) mentioned "Poor security while riding on buses; fear of robbery and/or assault, and other anti-social acts" as a concern they needed to mention. This concern for personal security is interesting in light of the fact that, a) proportionately more actual bus riders surveyed stated having observed all types of events than respondents in the random sample, and b) in spite of this they were less inclined to see these incidents as inhibitive to their usage of transit than were respondents in the larger random sample. (The absence of alternative modes indicated by response on other items may reduce the availability of deferred riding as a solution.)

Improvements Needed

The second open-ended question requested that respondents indicate what they would like to see done to improve their bus rides. Response on this item was much higher than on the previous open-ended question. The overwhelming response consisted of service related improvements (scheduling, routing, information, express buses, and comfortable buses). Sixteen percent (16%) of the total population suggested that the most needed improvement was more frequent service. Less than nine percent (9%) of the sample surveyed mentioned any type of security-related improvements needed.

In a follow-up question, 63% of the sample responded that if their suggested improvements were followed, they would ride the bus more often. Another 10% stated that it would not effect their rider-ship, and 27% made no response.

Summary of Results

Results from the survey of public attitudes about, and perception of transit safety show that:

1. Concern for crime and threats to personal safety does not rank among the four major transit problems chosen by survey respondents.
2. The major transit problems as seen by the sample respondents were related to service characteristics. Actual riders who were surveyed had significantly different concerns which reflected the more immediate involvement with patronage. Whereas the random sample respondents were concerned about "Convenience of Routes", and "Frequency of Service", the riders who were surveyed stated that "Overcrowding" and "Dirty Buses" were major transit problems.
3. A comparison between the reports from the transit authority and the events observed by the total sample reflects considerable discrepancy, with the implication that respondents have witnessed menacing behavior which has gone unseen, and hence unreported by the drivers. (It is virtually impossible to make an estimate of the percentage of these which may be reported to police, ex post facto.)
4. Respondents indicate that the most likely situation in which annoying behavior (which is not legally punishable) is likely to occur is during the day while riding the bus. However, the most likely situation for menacing, (i.e. criminal incidences) to occur is while waiting at the bus stop during the night time.
5. Bus patrons sampled stated having observed more incidences of menacing behavior during the day than during the night time.
6. While menacing behavior is more commonly witnessed during the day, this appears to be a function of increased patronage. The same menacing events, while less frequently observed at night, are reported by respondents to be significantly threatening to prevent them from riding.
7. The areas where the need for improvement was most felt were the service areas, a result which follows from the high ranking of service problems by the survey respondents.

FINDINGS AND CONCLUSIONS

FINDINGS

Previous studies have concluded that concern for personal safety can, under some circumstances, play a major role in determining passenger riding behavior. That bus riding behavior, is to some extent a function of many environmental and social variables has been a point of general consensus among these studies. The precise relationship between transit safety considerations and such variables as, a) the volume of crime and vandalism occurring in the area served by the transit authority, b) the nature of crime in that area, c) public confidence in policing effectiveness, d) time of day when transit users are most inclined to use public transportation, and e) the types of reporting mechanisms available for transit related crime, is not known.

The data obtained from the Washington Metropolitan Area Transit Authority Security Division indicates that the actual level of reported incidences is relatively low. Moreover, these reports point out that the bulk of the assaults and robberies are perpetrated against drivers (although passenger assaults and robberies are not specifically categorized).

Local crime statistics relating specifically to transit crime are not readily available.

Data gathered relative to crimes occurring at bus stop intersections in a sample jurisdiction reflect that crime is no more prevalent at this location than at other locations. Moreover, it appears that person-to-person crime, that relating most highly to the transit user's situation is reported less frequently at intersections than at on-street locations on the block face. Accordingly, the data seem to imply that the safer of the two spots may be the intersections, and by implication, the bus stop.

Based upon a random sample of residents in the metropolitan Washington area;

a) concern for personal safety does not rank among the four major problems with bus transportation.

b) when compared to METRO driver incident reports, respondents appear to have observed incidents on buses which were not reported to the driver,

c) respondents indicated that while bus stops were the most likely location for incidences of robbery and assault to occur, particularly during the night time, the data from Alexandria does not indicate a large number of these types of offenses.

CONCLUSIONS

A systemized method of determining the nature and extent of personally threatening incidents associated with bus riding does not currently exist in the metropolitan Washington area.

Driver reported bus related incidents which might threaten personal security are at a low level.

Based on a sample jurisdiction, incidents which might threaten personal security at bus stop intersections are at a low level.

There appears to be a low priority of concern among survey respondents (both bus riders and non-bus riders) about bus related personal safety at this time.

Within the limitations of this sample, it appears that personal safety is not a significant inhibition to public bus riding in the metropolitan Washington area.

RECOMMENDATIONS

° No special public action needs to be taken to reassure citizens about personal safety on buses at this time.

An analysis of actual reported bus related incidents, criminal activity which could be associated with bus stops in a sample jurisdiction, and the priority concerns of a sample population of bus riders and citizens who do not ride the bus indicate that personal safety is not a priority concern in bus transportation. It may be counter-productive to generate concern about personal safety by assuring the public that their concerns on this area are groundless. If concern for personal safety in buses should increase for some reason in the future, any public announcements to reassure bus patrons should be coordinated between the transit authority and local police departments for maximum effectiveness. Respondents to the attitudinal survey noted that they <u>believed</u> bus stops were the place where the greatest potential for victimization existed, making the inclusion of local police departments, which are directly responsible for law enforcement at bus stops, essential in any public campaign of this nature.

° Continue to aggressively seek bus transit improvements, particularly improvements in non-rush hour time-table accuracy, bus cleanliness, and bus stop improvements, such as adequate lighting. Such an improvement program would reduce residual concern for personal safety, particularly during evening non-rush hours and weekends.

During the past year, METRO has been able to stabilize bus patronage, however, the many citizens who began utilizing buses during the energy crisis appear to have returned to other modes of transportation. This portion of the population appears to have an easy alternative choice of transportation. The obvious challenge to the system is to convince this portion of the public that METRO bus is a better, more efficient and safer mode of transportation. The

sample population surveyed responded that their concerns about bus transit dealt mainly with dirty buses, infrequency of service, inconvenience of routes and other service problems. The transit authority has, through facility design and lighting, attempted to assure that passengers will feel a sense of security in using the METRO rapid rail system. The same sorts of techniques should be applied to indirectly increase passenger perceptions of security in using bus transit, particularly in view of attitudes reflected in this study about feelings of security while waiting at bus stops.

At this time, bus service improvements are not only the best method for increasing patronage, but also provide an indirect but substantial assurance to citizens about personal safety in utilizing bus transit.

- Reporting systems which provide a clearer picture of passenger victimization should be developed so that trends in bus transit personal safety can be monitored easily and action, if required, taken quickly.

The driver incidence reports that are currently available accurately reflect the nature and extent of bus driver-related incidents. However, passenger victimization is not so fully treated. In the past year, LEAA has conducted several studies on crime victimization and in most cases has found that victimization is much higher than the reported crime rate for a given jurisdiction. It can only be assumed that the same holds true for incidents related to bus transit. In a local community, when crime reaches the point where it can no longer be tolerated by society as a whole, steps will be taken such as increasing police manpower. In a bus transit system however, the transit authority must become and remain aware of the extent and nature of passenger victimization. Once the incident rate rises above an acceptable level, passengers will begin to take corrective action, (i.e. stop riding the bus) which would be disasterous to any transit system.

Three basic information systems are needed:

1) While the Transit Authority currently maintains a patron reporting system through its consumer affairs function, relocation, expansion and redefinition of the bus incident portion of the reporting system under the METRO Police Reporting Board is recommended as the METRO Police Force becomes operational. This will provide the Transit Authority with a functional method of monitoring trends in bus patron victimization.

2) Local police departments should consider the inclusion of a "bus related" category to their automated data systems so that events which are associated with bus transit on officer field reports will be noted as such in the reporting and information retrieval systems.

3) The Transit Authority and local police departments should exchange, on a regular routine basis, information about trends which develop in bus transit victimization. The reporting systems noted above should facilitate quick, coordinated and joint action to meet any future problems which might arise.

Such a set of reporting systems would also be cost effective. Minimal costs would be involved to implement these reporting systems which would provide a clear barometer of personal safety on bus transit and make future comprehensive studies on this subject unnecessary..

In the near future, Metrobus will assume the role of providing the critical linkage between residential areas and rapid rail transit stations. An accurate reporting system of passenger victimization would also be very beneficial in assessing safety concerns on these feeder buses. One of the previous studies on bus safety concluded that the public is more concerned about personal safety on rapid transit than on bus transit. This may not prove to be the case in the Washington area but, with an accurate, effective passenger victimization reporting system, authorities would be in a much stronger position to assess whether a loss of patronage on particular bus feeder lines was related to concern for safety in bus transit or was more related to some condition which existed on the METRO rapid rail system.

APPENDIX A
SAMPLE QUESTIONNAIRE

1. Please give your:
City and County_____, State _____, Zip Code _____

2. For each type of trip listed below, please check the means of transportation which you *normally use* (bus or other), and whether you have a *car available* for each type of trip.

	BUS	OTHER	CAR AVAILABLE
Work	____	____	____
Shopping	____	____	____
School	____	____	____
Recreation	____	____	____
Personal business	____	____	____

3. How often do you ride the bus? (Please check one)

____ 4-7 days a week
____ 1-3 days a week
____ Less than one day a week
____ Never

4. During what times of the day do your bus trips normally occur? (You may check more than one).

____ Morning rush hour
____ Afternoon rush hour
____ Daytime, non-rush hour
____ Night time
____ I do not ride the bus

5. Please indicate on the following list, the biggest problems with bus transportation (circle no more than four of the letters). Circle answer "k" if you feel that there are no problems with bus transportation.

a. Too crowded
b. Dirty buses
c. Crime/Threats on your safety by others
d. Infrequency of service
e. Inconvenience of routes
f. Takes too long
g. Costs too much
h. Discourteous bus drivers
i. Buses are not on time
j. Bad weather
k. "no problems"
l. Other _____

6. Please rank your choices from question five, *from the biggest problem to the less serious problem*. Place the letters in the numbered blocks provided for you below.

1 ☐ Biggest problem 2 ☐ 3 ☐ 4 ☐ Less serious problem

If you choose "k" above, you may complete this questionnaire simply by answering question 10. Please return this in the enclosed envelope, and deposit it in the nearest mailbox. No postage is required. Thank you for your help.

7. Which, if any of these events have you personally observed, and when did they occur?			8. Which of these events concern you (prevent you from riding the bus during the day or night?)	
Night	Day	EVENTS	Night	Day
		Pushing and shoving		
		Swearing		
		Spoken threats		
		Vandalism		
		Drunkeness		
		Robbery		
		Assault		
		Vulgar/Indecent behavior		
		Generally annoying behavior		
		None of the above		

APPENDIX B

Night	Day			
		Pushing and shoving		
		Swearing		
		Spoken threats		
		Vandalism		
		Drunkeness		
		Robbery		
		Assault		
		Vulgar/Indecent behavior		
		Generally annoying behavior		
		None of the above		

9. Please indicate the place and time of day when (in your opinion) these events are most likely to happen to you:

EVENTS	While riding bus		While waiting at bus stop		While walking to bus stop	
	Night	Day	Night	Day	Night	Day
Pushing and shoving						
Swearing						
Spoken threats						
Vandalism						
Drunkeness						
Robbery						
Assault						
Vulgar/Indecent behavior						
Generally annoying behavior						
None of the above are likely to happen						

10. Please indicate your sex, age, and occupation:

_____ Female
_____ Male _____ Age Occupation _____

11. Do you have any concerns about riding the bus that you have not already mentioned? If so, please describe: _____

12. What would you like to see done to improve your bus ride? _____

13. If the actions that you have suggested were taken, would you ride the bus more often? _____ Yes _____ No.

THANK YOU VERY MUCH FOR YOUR TIME AND ASSISTANCE.

Table 1.

AGE BY SEX FOR TOTAL SAMPLE, RANDOM MAIL-OUT SUB-GROUP, "CRIME" SUB-GROUP, AND HAND-OUT SUB-GROUP

Age	Sex	TOTAL SAMPLE Number	TOTAL SAMPLE Percent	RANDOM SAMPLE Number	RANDOM SAMPLE Percent	CRIME ONLY Sub-Group Number	CRIME ONLY Sub-Group Percent	Hand-Out Component Number	Hand-Out Component Percent
11-15	Male	8	0	3	.1%	0	0	5	1%
11-15	Female	7	0	6	.2%	1	.5%	1	0
		15	0						
16-19	Male	20	0	8	.3%	1	.5%	12	3%
16-19	Female	36	1%	18	.7%	2	.6%	18	5%
		56	1%						
20-24	Male	120	4%	97	3.7%	14	4.3%	23	6%
20-24	Female	193	6%	144	5.4%	19	5.9%	49	13%
		313	10%						
25-34	Male	420	14%	381	14.4%	36	11.2%	39	11%
25-34	Female	410	13%	372	14.0%	43	13.4%	37	10%
		830	27%						
35-44	Male	348	11%	332	12.6%	31	9.6%	16	4%
35-44	Female	204	6%	181	6.8%	24	7.5	23	6%
		552	18%						
45-54	Male	307	10%	283	10.7%	32	10%	24	6%
45-54	Female	236	7%	210	7.9%	26	8.1%	26	7%
		543	18%						
55-64	Male	192	6%	174	6.6%	25	7.8%	18	5%
55-64	Female	172	5%	151	5.7%	28	8.7%	21	5%
		364	12%						
65+	Male	91	3%	84	3.2%	14	4.3%	7	1%
65+	Female	122	4%	102	3.9%	13	4.0%	20	5%
		213	7%						
		2,886	96%	2,547	96.2%	320	96.4%	339	88%

Table 2.

FREQUENCY OF RIDERSHIP: TOTAL SAMPLE RESPONSE

Frequency	Number	Percent of Total Sample
4-7 days	1,016	33%
1-3 days	320	10%
Less than 1 day	555	18%
Never	1,081	36%
TOTAL	2,972	99%

Non-Response: 1%

Table 3.

FREQUENCY OF RIDERSHIP BY LOCAL JURISDICTION

County	4-7 Days/Wk	1-3 Days/Wk	Less than 1 Day/Wk	Never	Total	Percent of Total Sample
Alexandria	106	18	23	46	193	6%
Arlington	110	25	67	73	275	9%
District of Columbia	444	139	143	76	802	26%
Fairfax	106	36	89	235	466	15%
Falls Church	5	0	4	9	18	Less than 1%
Loudoun	0	0	0	2	2	Less than 1%
Montgomery	130	52	129	319	630	20%
Prince George's	92	41	86	297	516	17%
County Unknown	23	9	14	23	69	3%
TOTAL:	1,016	320	555	1,080	2,971	97%

Non-Response: 3%

Table 4.

BUS TRIPS BY TIME OF DAY, SEX

Time of Day	Males		Females		Total	
	Number	% of Sample	Number	% of Sample	Number	% of Sample
Morning Rush	632	21%	645	22%	1,294	43%
Evening Rush	578	19%	574	19%	1,167	39%
Non-Rush Day	261	9%	461	16%	735	25%
Night Time	149	5%	133	4%	286	10%
Do Not Ride	655	22%	414	14%	1,085	36%
TOTAL	2,275	76%	2,227	74%	4,567	153%

Table 5.

RANKING OF "CRIME" AS RIDERSHIP PROBLEM BY LOCAL JURISDICTION

County	Number Ranking Crime In:				Total	Percent of Total Sample
	1st Place	2nd Place	3rd Place	4th Place		
Alexandria	6	6	6	2	20	Less than 1%
Arlington	6	3	4	5	18	Less than 1%
District of Columbia	37	28	25	17	107	3%
Fairfax	8	7	11	3	29	Less than 1%
Montgomery	17	10	24	18	69	2%
Prince George's	27	18	12	13	70	2%
County Unknown	2	3	2	0	7	Less than 1%
TOTAL	103	75	84	58	320	10%

APPENDIX C

Table 1. Bus Transportation Problems by Rank:

- Percentage Response by Total Sample
- Percentage Response by Respondents in Random Mail-out Sample
- Percentage Response by Actual Riders Surveyed in Hand-out Component

Table 2. Time of Day Events Are Most Likely to Happen: Total Sample Percentages

Table 3. Time of Day Events Are Most Likely to Happen: Percentage Response by Random Sample Respondents

Table 4. Time of Day Events Are Most Likely to Happen: Percentage Response by Transit Riders Surveyed

Table 5. Time of Day Events Are Most Likely to Happen: Percentage Response by Those Who Placed Crime Among Major Transit Problems

Table 6. Identification of Crime as a Ridership Problem by Frequency of Ridership

Table 7. Improvements and Other Concerns: Response by Total Population, Random Mail-out Sub-Group, and Bus Riders Sampled

Table 1

BUS TRANSPORTATION PROBLEMS BY RANK: WEIGHTED PERCENTAGE RESPONSE

Problems	Percentage Response by Total Sample				Total Weighted Score Per Problem
	% 1st Place (x4)	% 2nd Place (x3)	% 3rd Place (x2)	% 4th Place (x1)	
A. Too Crowded	12% (48)	7% (21)	6% (12)	5% (5)	86
B. Dirty Buses	2% (8)	5% (15)	5% (10)	7% (7)	40
C. Crime/Threats on your safety by Others	3% (12)	3% (9)	3% (6)	2% (2)	29
D. Infrequency of Service	16% (64)	18% (54)	10% (20)	4% (4)	142
E. Inconvenience of Routes	19% (76)	13% (39)	6% (12)	3% (3)	130
F. Takes too long	9% (36)	10% (30)	11% (22)	5% (5)	93
G. Costs too much	6% (24)	6% (18)	6% (12)	6% (6)	60
H. Discourteous bus drivers	1% (4)	1% (3)	2% (4)	3% (3)	14
I. Buses are not on time	6% (24)	8% (24)	6% (12)	5% (5)	65
J. Bad Weather	1% (4)	3% (9)	3% (6)	5% (5)	24
K. "No Problems"	1% (4)	0% (0)	0 (0)	0 (0)	4
L. Other	8% (32)	3% (9)	2% (4)	1% (1)	46
Unweighted Percentage Totals	84%	75%	62%	47%	

Table 1 (Continued)

PERCENTAGE RESPONSE BY RESPONDENTS IN RANDOM MAIL-OUT SAMPLE

Problems	Percentage Response by Total Sample				Total Weighted Score Per Problem
	% 1st Place (x4)	% 2nd Place (x3)	% 3rd Place (x2)	% 4th Place (x1)	
A. Too Crowded	13% (52)	7% (21)	6% (12)	5% (5)	90
B. Dirty Buses	2% (8)	6% (18)	6% (12)	7% (7)	45
C. Crime/Threats on your safety by Others	4% (16)	3% (9)	3% (6)	2% (2)	33
D. Infrequency of Service	17% (68)	20% (60)	11% (22)	5% (5)	155
E. Inconvenience of Routes	22% (88)	14% (42)	7% (14)	4% (4)	148
F. Takes too long	10% (40)	11% (33)	12% (24)	6% (6)	103
G. Costs too much	7% (28)	6% (18)	6% (12)	7% (7)	65
H. Discourteous bus drivers	1% (4)	1% (3)	2% (4)	3% (3)	14
I. Buses are not on time	6% (24)	8% (24)	7% (14)	5% (5)	67
J. Bad Weather	1% (4)	3% (9)	4% (8)	6% (6)	27
K. "No Problems"	1% (4)	0% (0)	0% (0)	0% (0)	4
L. Other	8% (32)	3% (9)	2% (4)	1% (1)	46
Unweighted Percentage Totals	92%	82%	68%	52%	

Table 1 (Continued)

PERCENTAGE RESPONSE BY ACTUAL BUS RIDERS SURVEYED IN HAND-OUT COMPONENT

Problems	Percentage Response by Total Sample								Total Weighted Score Per Problem
	% 1st Place	(x4)	% 2nd Place	(x3)	% 3rd Place	(x2)	% 4th Place	(x1)	
A. Too Crowded	21%	(84)	11%	(33)	9%	(18)	6%	(6)	141
B. Dirty Buses	6%	(24)	7%	(21)	10%	(20)	11%	(11)	76
C. Crime/Threats on your safety by Others	3%	(12)	2%	(6)	2%	(4)	1%	(1)	23
D. Infrequency of Service	17%	(68)	12%	(36)	7%	(14)	5%	(5)	123
E. Inconvenience of Routes	3%	(12)	7%	(21)	5%	(10)	2%	(2)	45
F. Takes too long	7%	(28)	9%	(27)	7%	(14)	3%	(3)	72
G. Costs too much	8%	(32)	5%	(15)	6%	(12)	6%	(6)	65
H. Discourteous bus Drivers	1%	(4)	2%	(6)	3%	(6)	4%	(4)	20
I. Buses are not on time	12%	(48)	9%	(27)	7%	(14)	7%	(7)	96
J. Bad Weather	2%	(8)	3%	(9)	4%	(8)	5%	(5)	30
K. "No Problems"	0%	(0)	0%	(0)	0%	(0)	0%	(0)	0
L. Other	3%	(12)	4%	(12)	1%	(2)	1%	(1)	27
Unweighted Percentage Totals	82%		71%		61%		50%		

Table 2.

TIME OF DAY EVENTS ARE MOST LIKELY TO HAPPEN

TOTAL SAMPLE PERCENTAGES

Events	Riding Bus			Waiting at Bus Stop			Walking to Bus Stop		
	Night	Day	Total	Night	Day	Total	Night	Day	Total
Pushing and Shoving	9%	26%	35%	5%	9%	13%	2%	2%	4%
Swearing	13%	10%	23%	7%	4%	11%	4%	1%	5%
Spoken Threats	11%	7%	18%	10%	3%	13%	7%	2%	10%
Vandalism	13%	5%	18%	8%	3%	10%	6%	2%	8%
Drunkenness	18%	6%	24%	12%	3%	15%	8%	3%	11%
Robbery	14%	2%	17%	19%	1%	21%	17%	1%	18%
Assault	12%	1%	13%	17%	1%	18%	16%	1%	17%
Vulgar/Indecent Behavior	14%	5%	19%	11%	1%	12%	7%	1%	8%
Generally Annoying Behavior	16%	11%	27%	11%	3%	14%	7%	1%	8%
None of the Above is Likely to Happen	46%	52%	98%	49%	60%	109%	55%	65%	120%

Table 3

TIME OF DAY EVENTS ARE MOST LIKELY TO HAPPEN

PERCENTAGE RESPONSE BY RANDOM SAMPLE RESPONDENTS

Events	While Riding Bus			Waiting at Bus Stop			Walking to Bus Stop		
	Night	Day	Total	Night	Day	Total	Night	Day	Total
Pushing and Shoving	10%	28%	38%	5%	9%	14%	2%	2%	4%
Swearing	14%	11%	25%	8%	4%	12%	4%	2%	6%
Spoken Threats	12%	7%	19%	11%	3%	14%	8%	2%	10%
Vandalism	14%	5%	19%	8%	3%	11%	6%	2%	8%
Drunkenness	20%	6%	26%	13%	4%	17%	9%	3%	12%
Robbery	16%	2%	18%	21%	1%	22%	19%	1%	20%
Assault	13%	1%	14%	19%	1%	20%	18%	1%	19%
Vulgar/Indecent Behavior	15%	5%	20%	12%	2%	14%	8%	1%	9%
Generally Annoying Behavior	18%	12%	30%	12%	3%	15%	8%	2%	10%
None of the Above is Likely to Happen	51%	56%	53%	53%	65%	118%*	59%	71%*	130%*

* This percentage represents a total from the "Night" and "Day" categories, and hence could reach a maximum of 200%.

Table

TIME OF DAY EVENTS ARE MOST LIKELY TO HAPPEN

PERCENTAGE RESPONSE BY TRANSIT RIDERS SURVEYED

Events	While Riding Bus			Waiting at Bus Stop			Walking to Bus Stop		
	Night	Day	Total	Night	Day	Total	Night	Day	Total
Pushing and Shoving	11%	35%	45%	4%	12%	16%	1%	2%	3%
Swearing	13%	14%	27%	5%	3%	8%	3%	0	4%
Spoken Threats	9%	9%	18%	7%	2%	8%	5%	1%	6%
Vandalism	11%	4%	16%	6%	2%	8%	4%	1%	5%
Drunkenness	20%	10%	30%	11%	4%	16%	7%	3%	10%
Robbery	11%	4%	15%	17%	2%	19%	14%	1%	14%
Assault	8%	2%	10%	13%	1%	14%	14%	1%	15%
Vulgar/Indecent Behavior	14%	9%	23%	9%	1%	10%	8%	0	8%
Generally Annoying Behavior	21%	14%	34%	10%	2%	12%	7%	1%	7%
None of the Above is Likely to Happen	45%	54%	98%	52%	66%	118%	60%	71%	131%

Table

TIME OF DAY EVENTS ARE MOST LIKELY TO HAPPEN

PERCENTAGE RESPONSE BY THOSE WHO PLACED CRIME AMONG MAJOR TRANSIT PROBLEMS

Events	While Riding Bus			Waiting at Bus Stop			Walking to Bus Stop		
	Night	Day	Total	Night	Day	Total	Night	Day	Total
Pushing and Shoving	15%	44%	59%	9%	17%	26%	4%	4%	6%
Swearing	34%	24%	58%	17%	11%	28%	10%	5%	15%
Spoken Threats	31%	21%	53%	24%	11%	35%	19%	8%	28%
Vandalism	31%	12%	43%	17%	8%	25%	13%	5%	18%
Drunkenness	39%	14%	53%	25%	9%	35%	18%	9%	28%
Robbery	33%	8%	41%	43%	3%	45%	38%	1%	39%
Assault	28%	2%	22%	38%	1%	39%	34%	1%	35%
Vulgar/Indecent Behavior	34%	8%	44%	25%	3%	27%	18%	1%	19%
Generally Annoying Behavior	38%	17%	55%	23%	4%	27%	15%	1%	17%
None of the Above is Likely to Happen	30%	37%	67%	38%	54%	92%	46%	63%	108%*

* This percentage reflects a total from the "Night" and "Day" categories, and hence could reach a maximum of 200%.

Table 6.

IDENTIFICATION OF CRIME AS A RIDERSHIP PROBLEM

BY FREQUENCY OF RIDERSHIP

Frequency	Number	Percent of Total Sample N=2,991	Percent of Respondents Identifying Crime N=320
4-7 Day/Wk	81	2%	25%
1-3 Day/Wk	37	1%	12%
Less than 1 Day/Wk	65	2%	20%
Never	137	4%	43%
TOTAL	320	10%	100%

Table

IMPROVEMENTS AND OTHER CONCERNS: RESPONSE BY TOTAL POPULATION, RANDOM MAIL-OUT SUB-GROUP, AND BUS RIDERS SAMPLED	% Response Total Sample N=2,991	% Random Sample N=2,645	% Response Riders" Sample N=346
More express service, more direct service between my home and work; make routes more direct, without the need for transfers.	5%	5%	2%
Bus stop closer to my home; create a bus route that runs closer to where I live.	1%	1%	0%
Police patrol of buses, direct contact via radio with police or some agency of protection; more protection on buses.	2%	2%	2%
Police patrol of bus stops, protection at bus stops.	0%	0%	1%
Newer, more comfortable buses, repair air conditioners; take old broken-down buses off the roads.	0%	0%	1%
Buses should be cleaned up; wash the windows on the buses; make buses cleaner pollution-wise.	2%	2%	3%
More frequent service; more buses; more frequent service on weekends and holidays.	16%	14%	29%
Establish bus lanes in the city and all main four-lane traffic roads.	1%	1%	0%
More convenient kiss-and-ride stations.	0%	0%	0%
More mid-route origins; more routes that run between suburbs servicing shopping centers and major business districts.	2%	2%	1%
Service on time; buses running at the correct intervals, not behind or ahead or schedule; faster service.	5%	5%	5%
Posted Routes; better information on routing, scheduling and costs; make route and schedule information more accessible; more operators to give out information.	4%	5%	2%
Reassess present routes and schedules; make routes more convenient; study present traffic flows and re-route buses so that they run where heavy traffic flows are.	4%	4%	2%
Quicker method of paying; quicker, more efficient and orderly method of boarding bus, i.e. queing up.	0%	0%	0%
More visible bus number and route destination on front, sides, and back of bus.	0%	0%	0%

Table (Continued)

	% Response Total Sample N=2,991	% Random Sample N=2,645	% Response "Riders" Sample N=346
Better ventilation system on buses; buses smell bad; fumes on buses are nauseating; fix buses so that the passengers do not suffocate.	1%	1%	0%
More time allowance on transfers.	0%	0%	0%
Extend rush hour service, either in terms of the number of buses or in terms of the length of time of rush hour service, i.e., earlier in the morning, later in the evening.	1%	1%	0%
Shelter at bus stops; protection from inclement weather.	1%	1%	1%
Drivers should be more polite and helpful. Drivers are too reckless, drive the bus as though it is a hotrod. Drivers should be trained with a public service orientation, and should be given more authority.	4%	4%	7%
Reduce cost; create a new fare structure; make family passes available so that entire families can afford to ride, make weekly, monthly passes available at a discount for passengers who must ride every day.	4%	4%	8%
Implement more and/or different routed "in my area".	4%	4%	1%
Make Buses more safe and confortable.	3%	3%	4%
Change the present system of transportation; reinstall the trolleys. Institute a dial-a-bus, mini-buses or more specific chartered buses. Get double-decker buses as in England.	1%	1%	0%
Eliminate overcrowding; put more buses on the routes so that they are not too crowded; make more frequent service so that the buses are not so crowded causing the buses to pass you by at the stop; or if you do get on you don't have to stand all the way.	2%	2%	4%
Satisfied with the service, no complaints.	1%	1%	0%
TOTAL RESPONSE	65%	64%	73%

Table (Continued)

	% Response Total Sample N=2,991	% Random Sample N=2,645	% Response "Riders" Sample N=346
Reckless driving.	1%	1%	1%
Fear of street crime in the bus stop area.	1%	1%	1%
Vandalism, in the fringe parking lot or on buses.	0%	0%	0%
Fear of street crime in route to the bus stop and at the bus stop.	0%	0%	0%
More parking facilities for kiss-and-ride and park-and-ride passengers.	0%	0%	0%
Lack of information on routing and service; can't find out where or when the buses in my area run; information operators at METRO never answer the phone; cannot find out where or how schedules may be obtained.	3%	3%	1%
Bus stops are too dark; no lighting at bus stops.	0%	0%	0%
Bus drivers do not ask people to move back; bus drivers don't/won't/can't enforce rules regarding smoking, transfers, boarding, paying; lack of enforcement power for drivers.	0%	0%	0%
Overcrowding due to lack of buses, bad scheduling and the like.	2%	2%	3%
Poor security while riding on buses; fear of robbery and/or assault, and other anti-social acts.	0%	1%	0%
Driver discourteous, not helpful or not himself informed so as to be of assistance to passengers. Passes you up when he sees you running for the bus, pulls away and leaves you waiting.	2%	2%	3%
Discomfort caused by smokers, fumes from the exhaust, lack of air conditioners, and lack of adequate ventilation. (Cannot open windows that are stuck, or in other cases, close open windows when it is cold.)	3%	3%	3%
Lack of routes (service) in my area or inadequate service; buses do not go where I need to go; buses do not run often enough to my area to service my needs.	6%	6%	3%
Buses take too long; buses not on time; buses run in convoys causing passengers to miss not one, but several and forcing them to wait long periods of time.	3%	3%	0%

Table (Continued)

	% Response Total Sample N=2,991	% Random Sample N=2,645	% Response "Riders" Sample N=346
Need for bus shelters; protection from inclement weather while waiting at the bus stop.	0%	1%	0%
Bus ride costs too much; fares are too high; it is cheaper to drive my car; it is cheaper to car pool; I cannot afford the bus fares.	2%	1%	2%
Passengers are not courteous to one another; smoking, drinking, pushing, crowding, swearing, etc. School children are extremely rude, swearing, playing radios, etc.	2%	2%	3%
TOTAL RESPONSE	26%	27%	20%

APPENDIX D

RECOMMENDATIONS FROM "REDUCTION OF ROBBERIES AND ASSAULTS ON BUS DRIVERS"

General Recommendations

1. A continuing program of research into the special aspects of urban mass transportation should be supported.

2. The threats of criminal acts and of disruptive behavior has an effect upon the ridership of urban mass transportation systems. The crucial nature of this public service, and the fragile nature of its economic well-being must be publicly recognized. All reasonable efforts should be made to protect the riding public from both the risk of being criminally victimized and personally offended by disruptive behavior. Our findings suggest a number of different methods which may be utilized to achieve these ends.

3. A systematic study of public attitudes toward urban mass transportation should be undertaken. This should be done in a number of cities in order that the findings will not be biased because of atypical situations which exist in a particular city.

4. A number of different areas for fruitful research have been suggested in this study. Among these are the following:

a. vandalism -- its trend over a period of time; its general characteristics; community differences in both rate and character; the apparent causes; a comparative analysis of different anti-vandalism strategies.

b. the ecology of the transit vehicle -- an experimental study of the degree to which changes in the design of the interior of transit vehicles effect changes in social behavior.

c. public perception of crime on urban mass transportation systems -- a comparison of public perceptions with the actual level of criminal, deviant, and disruptive behavior; a study of the etiology of public perceptions, i.e. personal experience, the experiences of personal friends, acquaintances, etc. or the stories related by the mass media.

d. factors relating to high morale among drivers of urban mass transportation vehicles -- study of morale and its apparent changes over a given period of time; differences in morale among drivers in the same company, by age, length of service, by geographical and time assignment; the relationship of "situational factors" and driver morale; the relationship of high morale to effective community relations.

Recommendations Addressed to the Transit Authority

1. Steps should be taken to develop an effective management information system capable of yielding timely and accurate information about various criminal and disruptive encounters which take place upon transit vehicles. This endeavor should combine the services of a management information specialist and a criminolgist. Such a system should be capable of retrieving needed information for different levels of management personnel. It should be capable of extracting information not only about the nature of the encounter (crime), but also about the type of interactions which took place, the number of different parties involved, the actual location on the vehicles in which the encounter took place, etc.

2. Transit companies should re-examine both their selection and their training programs for drivers. This should be done with a view of improving the interactions and the relationships between drivers and the public they serve. An end product of such a re-examination should be either the identification of an existing instrument or the development of a psychological instrument capable of screening out those drivers who will predictably have trouble with the general public.

In the training programs, greater emphasis should be placed upon techniques which assist the drivers in making proper choices between alternative modes of behavior in "trying" situations. Drivers must be given explicit assistance in developing these proper responses. In the development of such a training program the experience of present personnel should be "captured" and utilized as a training resource.

A substantial part of the training program should be devoted to preparing drivers to deal effectively with the public.

3. Short re-training programs should be periodically scheduled for all drivers in a company, such programs focusing upon the matter of personal interactions, dealing with the public, the difference in community life styles, etc.

4. Companies should develop systems whereby the drivers are recognized and rewarded for their ability to deal with the public. This should be given as much prestige as is conferred by winning "safe-driving awards."

5. Companies should explicitly address the problem of the public's fear of criminal victimization. The public must constantly be reassured that urban mass transportation is a safe public facility to use. The major problem in regard to the riding public is not the actual number of victimizations, but the widespread belief that crime is "rampant" and that the public is easy prey for the criminal.

Companies should make a conspicuous display of the use of certain "anti-crime measures." This must be done carefully and subtly or the

publicity program may have the reverse of its intended effect, i.e. it may call attention to a "magnified" crime problem.

Certain "anti-crime" programs should be directed toward the entire company operation, i.e. city-wide. Others should be directed at reassuring riders of particular "high risk" routes. Again, this must be done with caution in order not to give the impression that it is discriminatory toward certain low-income neighborhoods. Rather, such a program should be directed at reassuring the potential riders who reside in low-income neighborhoods.

6. Continued efforts should be made to reduce the assault problem on buses. This should be done in cooperation with drivers and drivers unions since drivers are the principal victims of such attacks. Both "hardware" and "software" approaches to the problem should be considered.

We recommend that transit companies review their fare structures, special fare schedules, zone structures in order to assure maximum clarity among drivers and passengers. Confusion, ambiguity, inconsistencies, and unnecessary complications all contribute to conflict-generating situations. Inevitably, drivers are confronted with angry and impatient passengers.

So also should transit companies re-examine their systems for expediting the boarding and de-boarding of passengers at bus stops. The use of queue lines or railings should be used to maintain orderly lines and to establish position in waiting lines.

7. Both transit companies and drivers unions should take steps to have cooperative and cordial relationships with police organizations and their personnel. This must be done in such a way as not to compromise the functional integrity of either organization.

For their part, transit companies and driver unions should jointly examine policies relating to the willingness of companies to prosecute offenders and give necessary information to the police.

8. Each transit company should designate at least one of its personnel to have primary responsibility for liaison with police authorities. This person need not have these duties as his sole responsibility. In smaller companies, these particular duties can be combined with certain related duties, such as the handling of insurance claims.

In larger companies, when the workload of such responsibilities becomes great enough, the hiring of a person with local police experience would seem advisable. This person can handle not only liaison responsibilities but also handle other, related industrial security functions.

Only in the largest of companies does it seem advisable to organize a separate, specialized transit police force. Such a force seems advisable under the following set of circumstances:

a. When the demand for these types of services clearly exceeds the capability of the local police force;

b. when the number of attacks upon persons and property grow to the point of threatening the economic and social well-being of the public transportation system.

Caution should be exercised, however, in the decision to establish such a specialized transit police force. Cost-benefit and administrative considerations should be determining factors.

In times of particular need, it may be just as advantageous for the transit system to hire off-duty policemen to perform protective services.

9. Although the relationship between community attitudes and various attacks upon the personnel and property of transit companies was not always clear, there is some evidence which suggests that there is such a connection. Certainly, in some cities, the transit company is seen by some persons as being a part of the overall white establishment which is exploiting the Black community. (Among the five cities studied, there was great variation in these attitudes.)

The public service character of urban bus companies makes it advisable for transit companies to take extra steps to demonstrate fairness. At times, it may actually be necessary to develop programs to counter allegations of unfairness, inadequate service, exploitation, etc. Obviously, such an information campaign will not be effective if the allegations are correct.

Hiring policies, policies governing promotions of operating personnel, and decisions about levels of service to various neighborhoods are three crucial areas of company decision-making. Decisions in these three areas are particular bellwethers. Segments of the community will often make judgments about the company's fairness on the basis of decisions in these areas.

It is obvious that transit companies must avoid making any decision, adopting any policy, or initiating any program which can be construed as being discriminatory.

10. Transit companies should adopt community relations programs. The term "community relations" is not synonymous with the term "public relations." Rather than being directed at the merchandising function, community relations is directed specifically at the development of public confidence and the establishment of communication patterns which will keep both the public and the company apprised of situations which might become problematic.

11. The transportation of school children represents a special problem for transit companies. Cooperative programs between the company and the schools should certainly be established. Students and student-leaders should not be excluded from planning and participating in these programs. Rather, their involvement should be encouraged. Perhaps, this type of program should even include such aspects as having students "adopt" their favorite driver. "Driver of the Month" awards, decided by student constituencies are another suggestion.

Wherever possible, regular drivers should be assigned to "school trippers" in order to establish consistent patterns of authority, and to stabilize standards of expected conduct.

The use of "school aides" should also be investigated for its operational and economic feasibility.

The relationship of "community relations" and problems associated with schools is obvious. Schools and their students represent one of the "significant others" with whom transit companies must deal. The satisfactory resolution of "school problems" should have a positive effect upon driver morale and upon community relations, generally.

Recommendations Addressed to Drivers and Driver Organizations

1. Drivers should participate in an analysis and review of company regulations which affect the conduct and discipline of drivers. The trade union or driver association appears to be the most logical vehicle for driver participation.

In making this review and analysis, particular attention should be paid to those rules and regulations which are most problematic for drivers in their relationships with the riding public. For example, schedules are often adopted without formally consulting drivers. Insistence upon adhering to these schedules may create avoidable problems -- for both drivers and the riding public. There are other examples in the area of fare collection, control over passengers, etc.

Some rules and regulations are patently unenforceable. Enforcement is often on a selective basis, and is often interpreted by many drivers as a device for "selective" and discriminatory discipline.

The management of any large-scale operation obviously requires certain rules and regulations. Just as obviously, no set of regulations can cover every conceivable situation. Labor and management may very well be able to determine cooperatively which areas of conduct should be subject to regulation.

Experimentation with driver representation on disciplinary boards or panels may also prove helpful in dealing with cases arising out of circumstances not adequately covered by rules and regulations.

The point must be made that rules and regulations in some companies result in driver confusion and dilemmas in dealing with the riding public. In fairness to drivers and in order to diminish morale-destroying influences, steps should be taken to simplify these rules and regulations. In this realm, driver participation in drawing up "the rules of the game" would appear to be helpful.

2. Drivers in one or two companies throughout the nation should participate with management in the study of driver attitudes, beliefs, and practices. Again, the trade union or driver association appears to be the logical vehicle for driver representation.

Drivers, as well as transit management, have a stake in such a study. As the data of this study clearly demonstrates, the attitudes, beliefs, behavior, etc. of one driver can have an adverse effect upon other drivers in the same city. Drivers often suffer from a negative stereotype which some fellow driver has helped to create. In the self-interest of drivers, and in the interest of urban mass transportation, generally, such a study would be beneficial.

The results of such a study should be used thereafter in both the selection and the training process for drivers.

3. Employee organizations should examine the advantages of stabilizing assignments to trips. Efforts should even be made to give extra-board men the opportunity to work the same trips as frequently as possible.

The comments made in relationship to school trips are just as valid in regard to other assignments. Drivers working the same trips consistently have a better opportunity to develop cordial working relations with passengers.

APPENDIX E

COMPARATIVE STATISTICS FOR INDEX CRIMES IN THE METROPOLITAN AREA*

Table 1. Percentage Distribution of Total D. C. SMSA Crime Index by Major Jurisdiction.

Table 2. For Index Offense of Murder; Rate per 100,000 Population as Compared Among Jurisdictions in the Washington, D. C. SMSA, in 1971, 1972, and 1973.

Table 3. For Index Offense of Rape; Rate per 100,000 Population as Compared Among Jurisdictions in the Washington, D. C. SMSA, in 1971, 1972, and 1973.

Table 4. For Index Offense of Robbery; Rate per 100,000 Population, as Compared Among Jurisdictions in the Washington, D. C. SMSA, in 1971, 1972, and 1973.

Table 5. For Index Offense of Aggravated Assault; Rate per 100,000 Population, as Compared Among Jurisdictions in the Washington, D. C. SMSA, in 1971, 1972, and 1973.

Table 6. For Index Offense of Burglary; Rate per 100,000 Population, as Compared Among Jurisdictions in the Washington, D. C. SMSA, in 1971, 1972, and 1973.

Table 7. For Index Offense of Larceny; Rate per 100,000 Population, as Compared Among Jurisdictions in the Washington, D. C. SMSA, in 1971, 1972, and 1973.

Table 8. For the Index Offense of Auto Theft; Rate per 100,000 Population, as Compared Among Jurisdictions in the Washington, D. C. SMSA, in 1971, 1972, and 1973.

* Metropolitan Washington Council of Governments, Department of Public Safety, Serious Crime in Metropolitan Washington; 1973, May 1.1974.

Table 1:

PERCENTAGE DISTRIBUTION OF TOTAL D.C. SMSA CRIME INDEX BY MAJOR JURISDICTION 13/

JURISDICTION	1973	1972	1971
DISTRICT OF COLUMBIA	35%	38%	44%
PRINCE GEORGE'S COUNTY*	22%	21%	19%
MONTGOMERY COUNTY**	15%	14%	12%
TOTAL MARYLAND SUBURBS	36%	35%	30%
ALEXANDRIA	6%	6%	5%
ARLINGTON COUNTY	5%	5%	5%
FAIRFAX COUNTY	14%	13%	12%
VIENNA	0.3%	NA	0.3%
FAIRFAX CITY	1%	0.9%	0.8%
FALLS CHURCH	0.6%	0.7%	0.7%
PRINCE WILLIAM COUNTY	3%	2%	2%
TOTAL VIRGINIA SUBURBS	29%	27%	25%
SMSA TOTAL:	101.9%	100.6%	100.8%

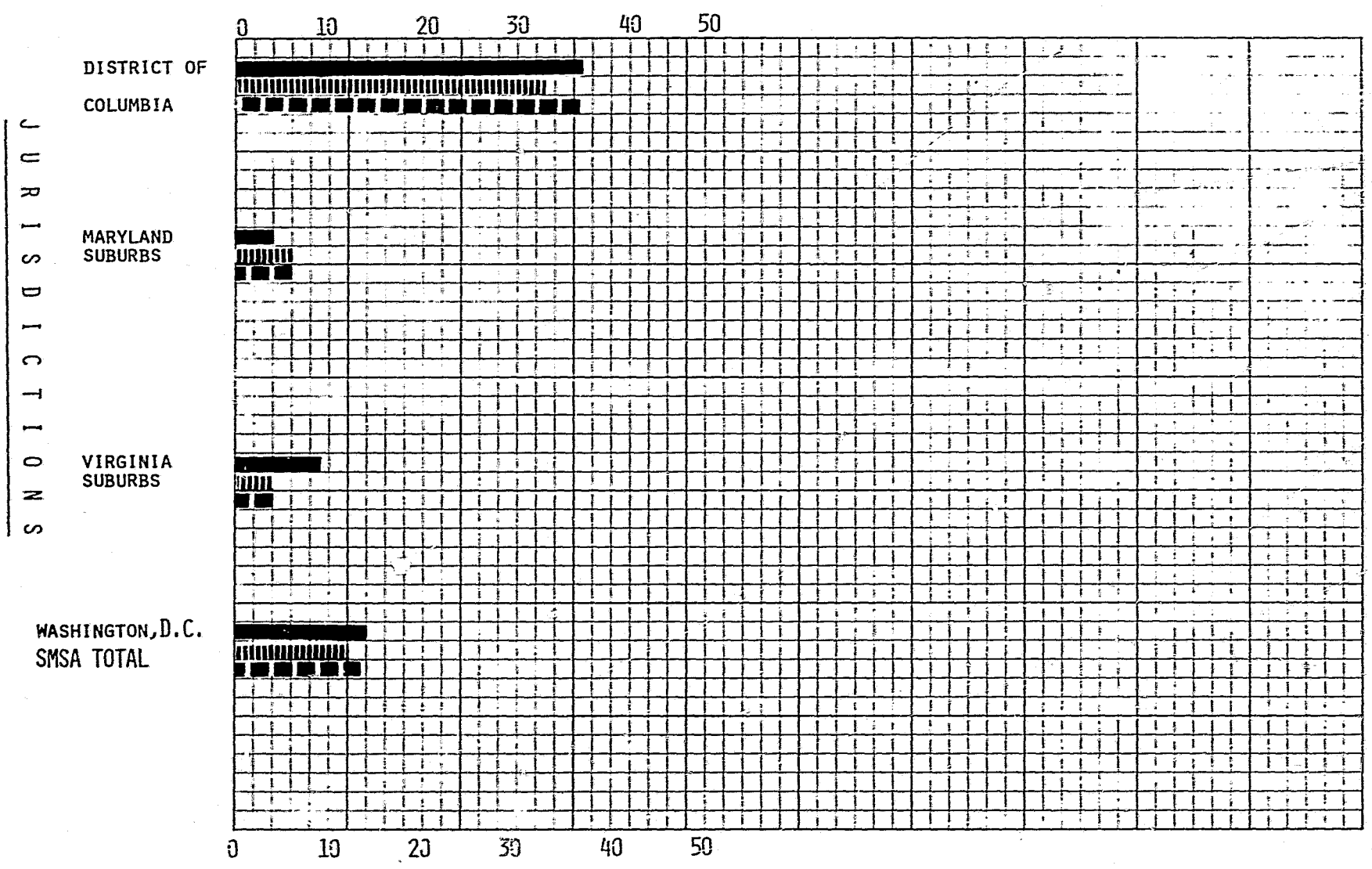
*INCLUDES HYATTSVILLE, GREENBELT, LAUREL

**TAKOMA PARK COUNTED TOTALLY IN MONTGOMERY COUNTY FIGURES, THOUGH APPROXIMATELY ONE-THIRD OF THE CITY IS LOCATED WITHIN PRINCE GEORGE'S COUNTY

ALL PERCENTAGES ARE ROUNDED:

13/ Percentages for the major jurisdictional categories were computed first, then the jurisdictions.

Table 2: FOR INDEX OFFENSE OF MURDER; RATE PER 100,000 POPULATION AS COMPARED AMONG JURISDICTIONS IN THE WASHINGTON, D.C. SMSA, IN 1971, 1972 AND 1973



CONTINUED

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Table 3:

FOR INDEX OFFENSE OF RAPE; RATE PER 100,000 POPULATION, AS COMPARED AMONG JURISDICTIONS IN THE WASHINGTON, D.C. SMSA, IN 1971, 1972 AND 1973

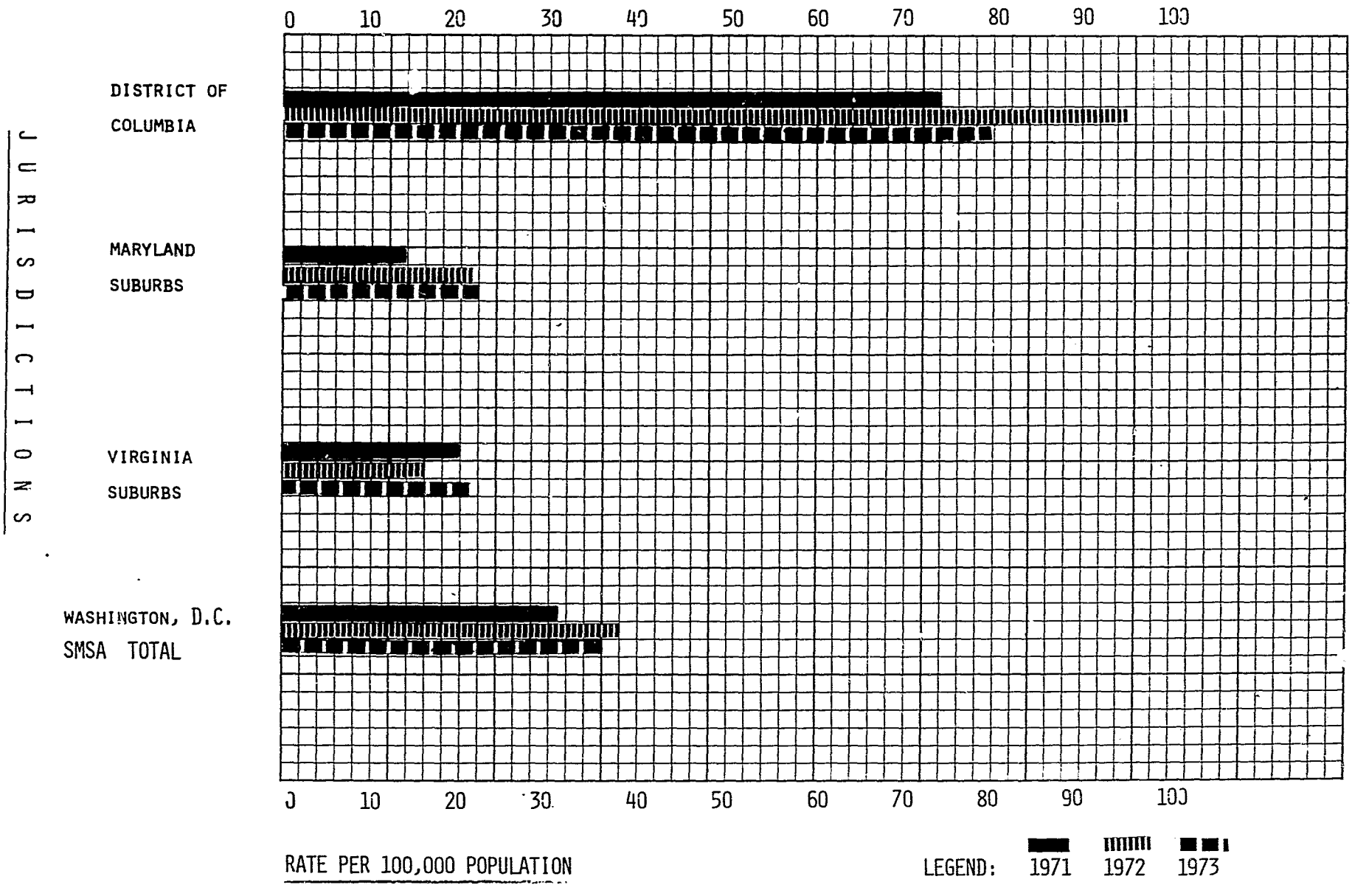


Table 4:

FOR INDEX OFFENSE OF ROBBERY; RATE PER 100,000 POPULATION, AS COMPARED AMONG JURISDICTIONS IN THE WASHINGTON, D.C., SMSA, IN 1971, 1972 AND 1973

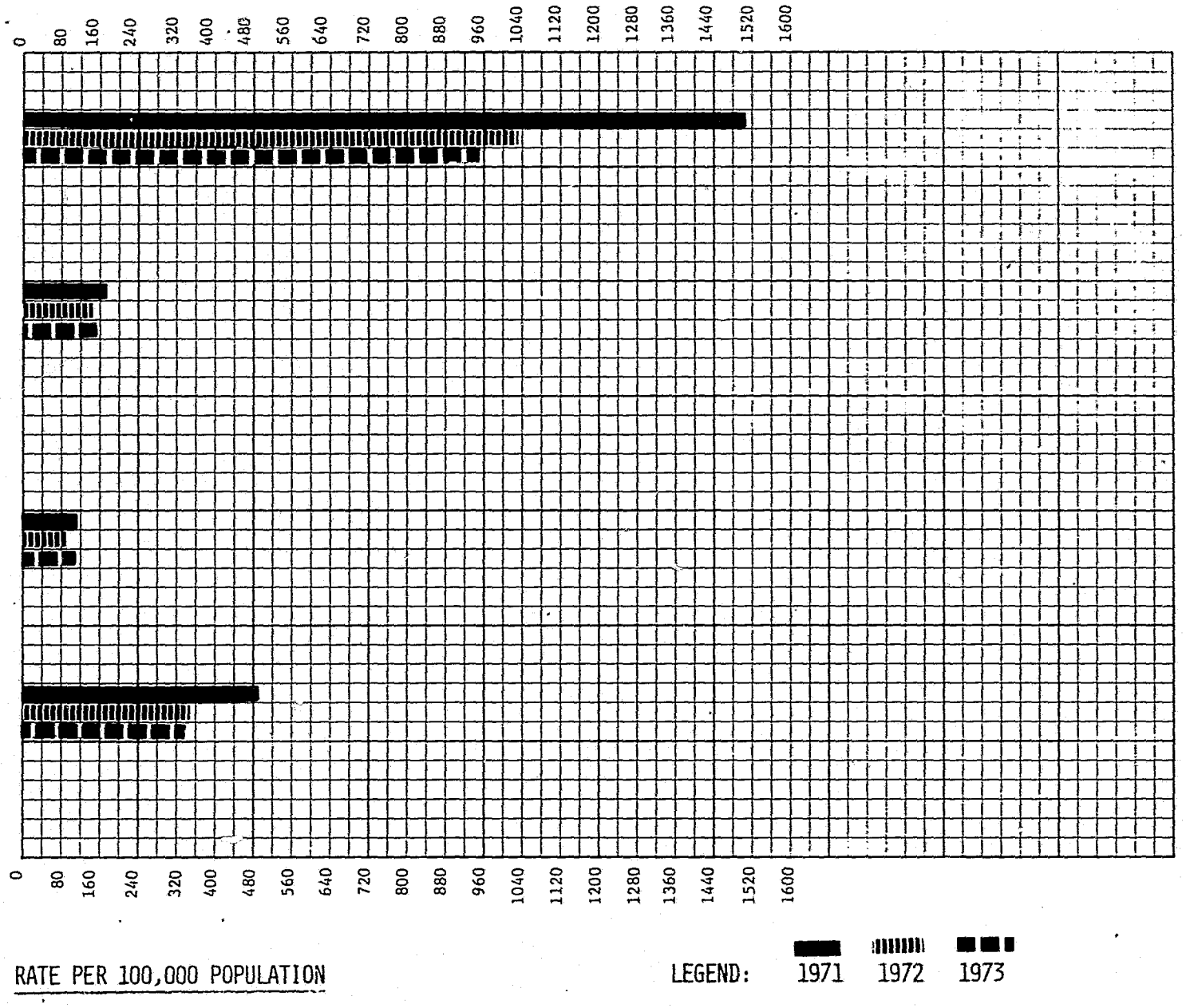


Table 5: FOR INDEX OFFENSE OF AGGRAVATED ASSAULT; RATE PER 100,000 POPULATION, AS COMPARED AMONG JURISDICTIONS IN THE WASHINGTON, D.C. SMSA, IN 1971, 1972 AND 1973

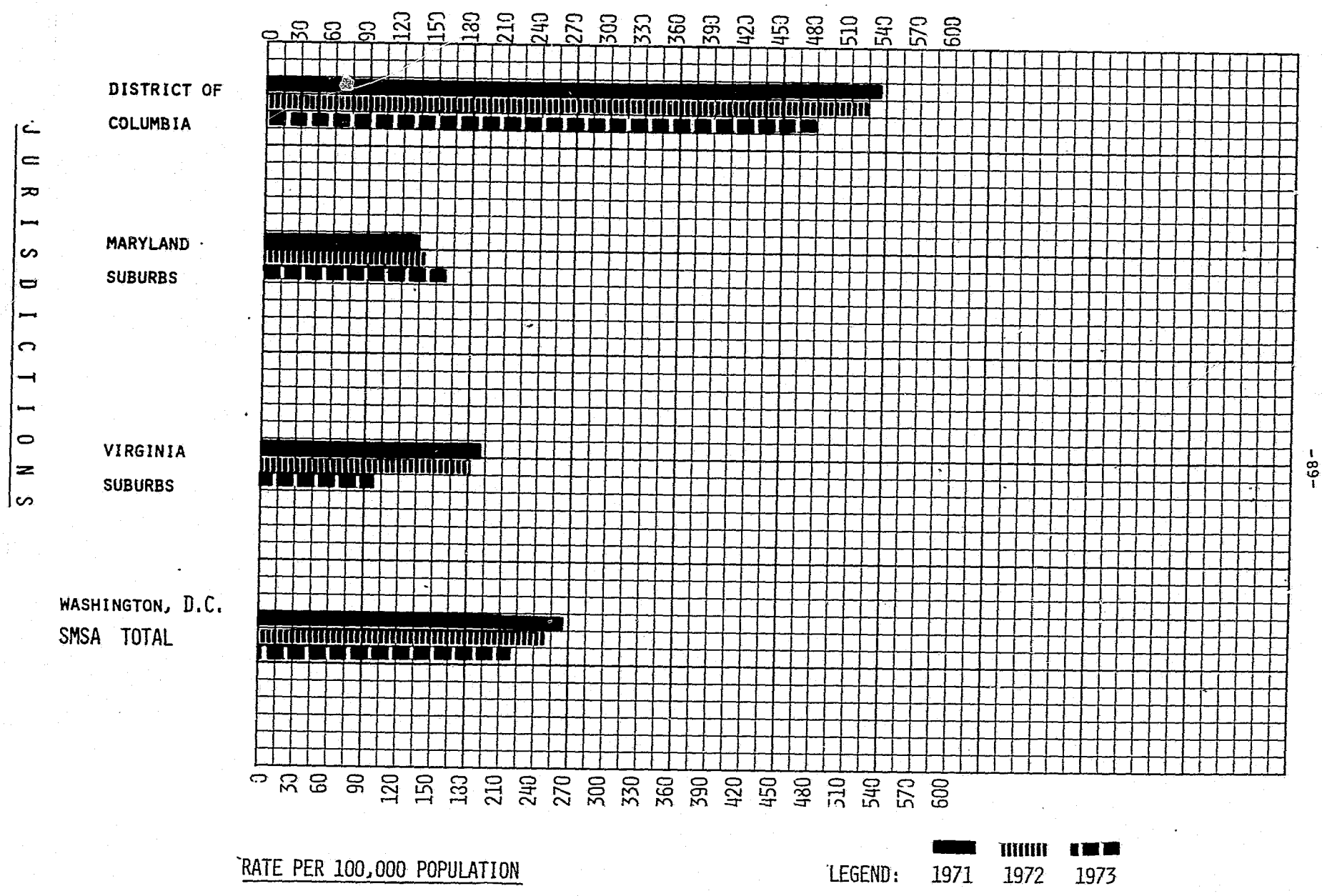


Table 6: FOR INDEX OFFENSE OF BURGLARY; RATE PER 100,000 POPULATION, AS COMPARED AMONG JURISDICTIONS IN THE WASHINGTON, D.C. SMSA, IN 1971, 1972 AND 1973

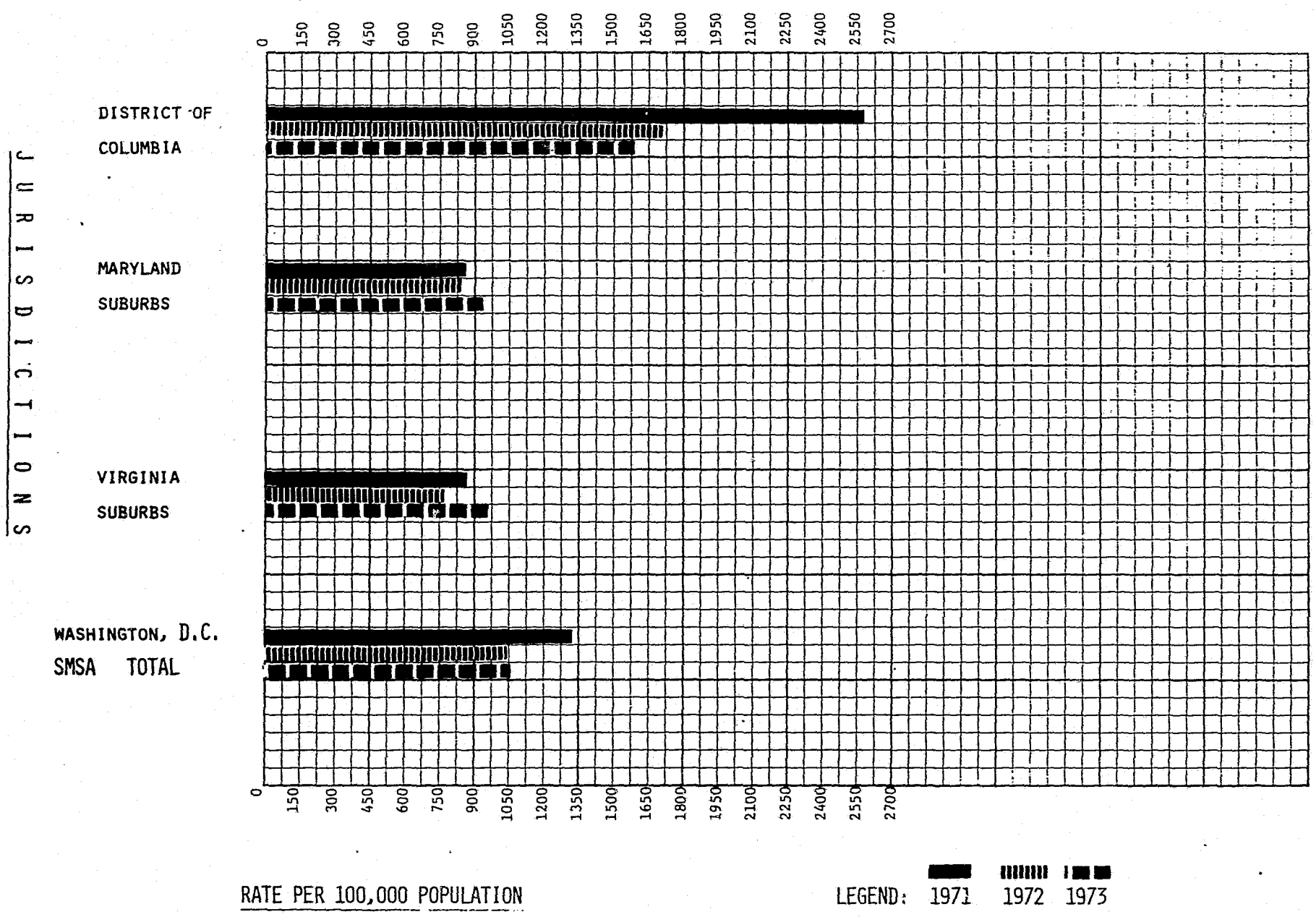
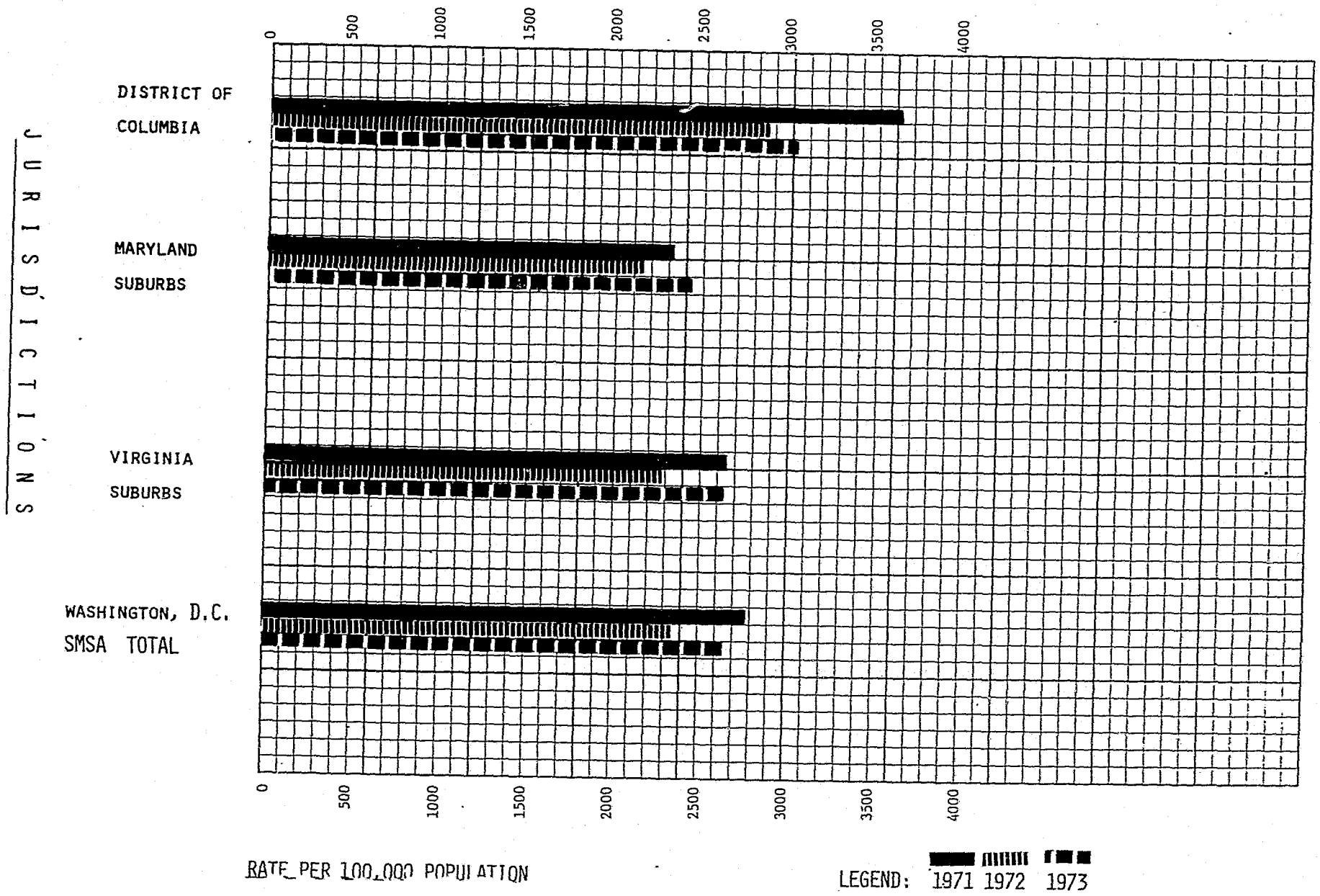


Table 7: FOR INDEX OFFENSE OF LARCENY: RATE PER 100,000 POPULATION, AS COMPARED AMONG JURISDICTIONS IN THE WASHINGTON, D.C. SMSA, IN 1971, 1972 AND 1973



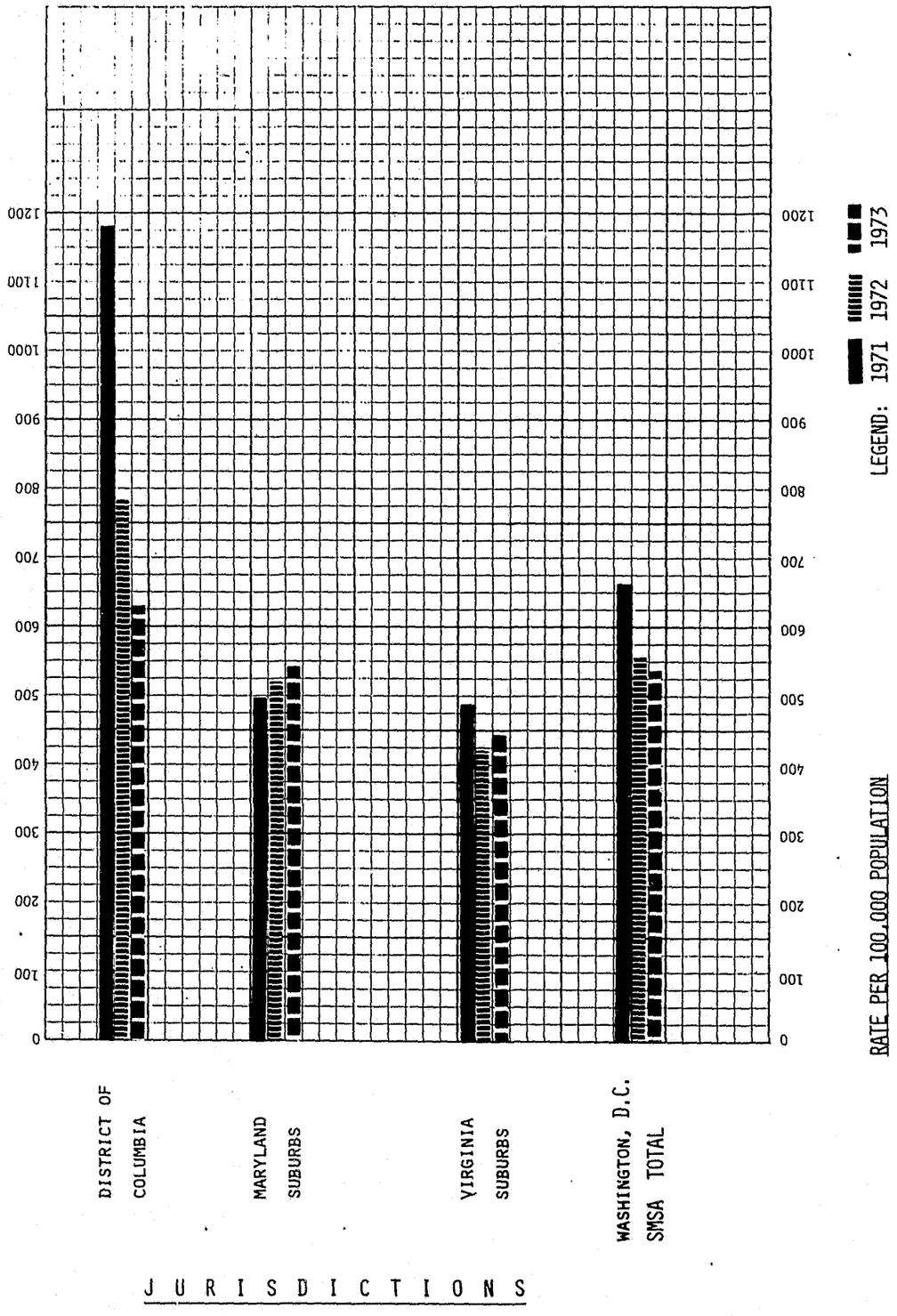


Table 8: FOR INDEX OFFENSE OF AUTO THEFT; RATE PER 100,000 POPULATION, AS COMPARED AMONG JURISDICTIONS IN THE WASHINGTON, D.C. SMSA, IN 1971, 1972 AND 1973

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