U.S. Department
of Transportation

National Highway
Traffic Safety
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DOT HS 809 197

January 2001

Technical Report

Geo-Demographic Analysis of Fatal Motorcycle Crashes

Technical Report Documentation Page

1. Report No. 809-197	2. Government Accession No.	3. Recipients's Catalog No.
4. Title and Subtitle Geo-Demographic Analysis of Fatal Motorcycle Crashes		5. Report Date January 2001
		6. Performing Organization Code
7. Author(s) Umesh Shankar and Keith Wardell		8. Performing Organization Report No.
9. Performing Organization Name and Address U.S. Department of Transportation NHTSA/NRD-31/ROOM 6125 400 7TH Street, S.W. Washington, D.C. 20590		10. Work Unit No. (TRAIS)n code
		11. Contract of Grant No. DTNH22-99-C-07173
12. Sponsoring Agency Name and Address U.S. Department of Transportation NHTSA/NRD-31/ROOM 6125 400 Seventh Street, S.W. Washington, DC 20590		13. Type of Report and Period Covered NHTSA Technical Report
		14. Sponsoring Agency Code

15. Supplementary Notes
Umesh Shankar and Keith Wardell, authors of this report, are contractors of NCSA employed by Rainbow Technology, Inc.

16. Abstract
The objective of this study is to analyze the combined motor vehicle crash data from the Fatality Analysis Reporting System (FARS) with the Claritas geo-demographic database from the lifestyle perspective to determine the appropriate media to use in developing crash prevention programs. This effort focuses on motorcycle drivers involved in fatal crashes to illustrate the approach for identifying relationships between crash data and diverse lifestyle information.

17. Key Words	18. Distribution Statement		
motorcycle, motorcyclist, fatalities, fatal crashes, geo-demographic, lifestyle, population segment	Document is available to the public through the National Technical Information Service, Springfield, VA 22161		
19. Security Classif. (of this report) Unclassified	20. Security Classif. (of this page) Unclassified	21. No of Pages Total of 70 Pages	22. Price

Form DOT F1700.7 (8-72) Reproduction of completed page authorized

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1. EXECUTIVE SUMMARY

This report makes an attempt to identify the efficient and cost effective media to communicate safety message to the drivers involved in fatal motorcycle crashes. The report is not making any attempt to characterize any group of people or any individual. It is a process to identify the drivers involved in fatal motorcycle crashes with their lifestyle cluster. It is used as a tool to identify clusters for the purposes of marketing safety messages.

The Fatality Analysis Reporting System (FARS) database designed and compiled by the National Highway Traffic Safety Administration (NHTSA) consists of a census of all fatal crashes that occur on a public roadway. The database contains crashes that are of the highest injury severity on US roadways. Fatalities that occur within thirty days of the crash are included in FARS.

The FARS data provides information relating to the demographic variables of the crash like the location and circumstances of the crash, the types of vehicles, and the people involved. The data also provides information about the drivers involved in fatal crashes. The driver data are limited to information found on Police Accident Reports and Motor Vehicle Records, such as age, sex, previous violations charged and home zipcodes. This system provides a basis to evaluate the effectiveness of motor vehicle safety standards and highway safety programs. However, FARS does not provide information on the interests, educational level and habits of drivers. This type of additional information needs to be obtained in order to effectively communicate safety programs to motorcycle drivers.

Claritas, a Geo-demographic database, partitions the population of the United States into 62 distinct clusters of individuals based on similar lifestyle. The data relating to the clusters are obtained from the US Census data, Claritas clients and third party sources. These data are then analyzed and the Geo-demographic segmentation is done. The relevant neighborhood data are statistically examined for statistical variance between neighborhoods.

Zipcodes also partition the country into small geographic regions. Although interests, educational level and habits of individuals vary within a zipcode, the size of the population within a zipcode is large enough that it approximates a normal distribution. Claritas analyzes the population of each zipcode and assigns the zipcode to one of its 62 clusters. The definitions of the clusters are regularly changed to reflect societal changes. It is important to realize that although individuals may differ from the norm on one attribute within his/her cluster, they can share many similarities with other attributes that define the cluster.

The data relating to drivers involved in fatal motorcycle crashes can be used to link the FARS demographic information with the lifestyle data of geographic units at zipcode levels of the driver. This combined data will provide a better understanding from the perspective of the driver's lifestyle. This approach will provide a better tool for NHTSA to identify the associations between the two datasets, which will help design and target effective crash

prevention programs specifically tailored to the identified segments of the population.

1.1 Purpose

The purpose of this project is to:

- Combine the fatal motorcycle crash data from the FARS database with the Claritas Geo-demographic database;
- Analyze these combined data from the lifestyle perspective; and,
- Identify cost-effective media to use in promoting crash prevention programs.

1.2 Analytical Approach

The analytical approach for the project involved several steps. A review of the data sources, FARS and Claritas Geo-demographic system was undertaken to determine the data elements of interest; and the linkage between the two databases. Hypotheses were formulated about the incidence of fatal motorcycle crashes and related factors, such as driver age and drug or alcohol involvement, that may vary among diverse lifestyle clusters. Percentages and indices were calculated to analyze the variation of the crash-related factors, to identify clusters that would be primary targets of a crash prevention program, and to determine the media most likely to reach these target populations.

1.3 Findings and Conclusions

The analysis described in this report supports a variety of conclusions about the targets for motorcycle crash prevention programs and the utility of Geo-demographic analysis for traffic safety.

1.4 Targeting Motorcycle Crash Prevention Programs

The cluster numbers referenced in this report match with the cluster numbers assigned by Claritas. The clusters that exhibit the highest propensity for fatal motorcycle crashes (primary targets) based on the drivers involved in fatal motorcycle crashes include:

Cluster 19;
Cluster 21;
Cluster 25;
Cluster 32;
Cluster 34;
Cluster 35;
Cluster 39;

Cluster 52;
Cluster 53; and,
Cluster 60

Appendix B provides a brief description of these clusters.

The following findings from FARS and Claritas provide insight into the possible design of the prevention programs:

- Age is a key determinant in the occurrence of fatal motorcycle crashes as seen from the FARS data. In general, messages targeted at drivers under the age of 40 are recommended. However, lifestyle clusters that show a higher propensity for fatal motorcycle crashes seem to have a bimodal age factor -- younger suburban riders and older town/rural riders;

- Alcohol is involved in two out of five fatal crashes as seen from FARS data and should become a major topic of any campaign developed by NHTSA;

- Male drivers account for almost all of the fatal crashes as seen from FARS data and are therefore the sole target for a campaign against motorcycle fatalities;

- There are key urban and ethnic clusters that can be targeted with the appropriate message regarding drug use and motorcycle fatalities;

- Helmet use, license status and weather do not seem to be factors that can be affected using a lifestyle analysis;

- The types of collisions involving one or more vehicles and other objects do not show a propensity to vary by cluster;

- While license suspension was highly correlated with the incidence of fatal crashes, the factor appeared to be a reflection of more rigorous enforcement in urban areas than rural areas; and,

- The Claritas analysis based on lifestyle suggest that the productive media for reaching the primary target clusters are country radio, country music TV, motorcycle and fishing/hunting magazines.

2. INTRODUCTION

The National Center for Statistics and Analysis (NCSA) collects and analyzes data, conducts research, and disseminates statistical information to support efforts by the National Highway Traffic Safety Administration (NHTSA) and the highway safety community aimed at reducing deaths, injuries and economic losses resulting from motor vehicle crashes.

NCSA designed and developed the Fatality Analysis Reporting System (FARS), a national census of police-reported motor vehicle crashes resulting in fatal injuries. FARS compiles data from various sources on the location and circumstances of the crash, the types of vehicles, and the people involved. This system generates overall measures of highway safety, helps identify traffic safety problems, and provides a basis to evaluate the effectiveness of motor vehicle safety standards and highway safety programs. In order to better target prevention programs, however, NHTSA needs more insights on the population segments most affected by fatal crashes than FARS alone can provide. Claritas, a Geo-demographic database that links demographic and lifestyle data with geographic units for marketing commercial products and services, provides data about the lifestyle of households at the zipcode level. Even though Claritas data can be analyzed below the zipcode level, this report has been evaluated based on the driver zipcode which is the lowest level of data available about the driver within FARS.

The purpose of this project is to:

- Combine motor vehicle crash data from NHTSA's Fatality Analysis Reporting System (FARS) with population lifestyle data from the Claritas Geo-demographic database to identify target segments of the U.S. population; and,

- Analyze the lifestyle data to identify the productive media to use in developing crash prevention programs.

This effort focuses on motorcycle drivers involved in fatal crashes to illustrate the approach for identifying relationships between crash data and diverse lifestyle information. According to FARS, more than 100,000 motorcyclists have died in traffic crashes since the enactment of the Highway Safety Act of 1966 and The National Traffic and Motor Vehicle Safety Act of 1966. In 1996, motorcyclists were involved in only one percent of all police reported traffic crashes, but accounted for five percent of total traffic fatalities, six percent of all occupant fatalities, and two percent of all occupants injured.

The following sections detail the two databases used in the analysis, describe the methodology to analyze the combined crash data and lifestyle data, highlight the findings, and summarize the implications of the results for crash prevention programs.

3. ANALYTICAL APPROACH

The analytical approach for the project involved the following steps:

- Reviewing the data sources, FARS and Claritas Geo-demographic system, to determine the data elements of interest and the linkage between the two databases;
- Formulating hypotheses about factors in motorcycle drivers involved in fatal crashes that may vary by lifestyle;
- Calculating percentages and indices to analyze population segments or clusters based on the hypotheses; and,
- Calculating measures to identify the media most likely to reach the target populations.

3.1 Data Sources

Two data sources have been used in this analysis:

- Fatality Analysis Reporting System (FARS) relating to traffic crashes; and
- Claritas Geo-demographic data relating to population lifestyle.

3.1.1 Fatality Analysis Reporting System (FARS)

NHTSA's Fatality Analysis Reporting System (FARS) became operational in 1975. It contains a census of fatal motor vehicle traffic crashes within the 50 states and the District of Columbia and Puerto Rico. This Geo-demographic analysis does not include the data from Puerto Rico.

A motor vehicle crash is a transport incident that involves a motor vehicle in transport, is not an aircraft incident or water craft incident, and does not include any harmful event involving a railway train in transport prior to involvement of a motor vehicle in transport.

To be included in FARS, a crash must involve a motor vehicle traveling on a traffic way customarily open to the public, and result in the death of a person (either an occupant of a vehicle or a non-motorist) within 30 days of the crash.

NHTSA has a contract with an agency in each state to provide information on fatal crashes. Data on fatal motor vehicle traffic crashes are gathered from the state's own source documents and are coded on standard FARS forms. The analyst or analysts from the contract agency in each state obtain the documents needed to complete the

FARS forms, which generally include some or all of the following:

Police Accident Reports (PARS);
State vehicle registration files;
State driver-licensing files;
State Highway Department data;
Vital Statistics;
Death certificates;
Coroner/Medical examiner reports;
Hospital medical records; and,
Emergency medical service reports

The FARS file contains descriptions of each fatal crash reported. Each case has more than 100 coded data elements that characterize the crash, the vehicles, and the people involved. The specific data elements may be modified slightly at times, in response to users' needs and highway safety emphasis areas. A listing of the FARS data elements used in this analysis are provided in Appendix A.

All data elements are reported on one of the following forms:

The Accident Form: This form records information on the time and location of the crash, the first harmful event in the crash, whether it is a hit-and-run crash, whether a school bus was involved and the number of vehicles and people involved. Information on the weather conditions, roadway surface conditions, geometric profiles of the highways, the geographic location of the crash including the route-information as well as the presence of traffic control devices is also recorded in this form. Roadway information such as the functional classification, route, National Highway System (NHS) relation, land use, the number of lanes and the flow of traffic at the site of the crash is recorded on this form.

The Vehicle and Driver Forms: These forms include the data for each vehicle and driver involved in the fatal crash. The data include the vehicle type, the initial and principal points of impact, the most harmful event and the driver's license status.

The Person Form: This form contains data on each person involved in the fatal crash. The data include the age, gender, role (driver, passenger, non-motorist), the severity of the injuries sustained and the restraint usage characteristics.

FARS data can be used to answer a myriad of questions on the safety of vehicles, drivers, pedestrians, traffic situations, roadways and environmental conditions. But the data can not throw any light between the relationship of fatalities to the population lifestyle. For example, FARS could be used in evaluating the following:

Speed limit as a factor in fatal crashes;
Fatalities by zipcode, region, county or state;
Fatal crashes by land use categories (urban or rural);
Fatalities by type of roadway;
Pedestrian fatalities by zipcode, region, county or state;
Fatalities by vehicle type;
Fatalities by age group; and,
Fatalities in various weather or road surface conditions

NCSA has developed a variety of reports and fact sheets using the information from FARS. Some are produced annually. Examples of the fact sheets and reports include:

Traffic Safety Facts: An annual compilation of data on fatal motor vehicle crashes;

Benefits of Safety Belts and Motorcycle Helmets, 1996: A report that provides information on the benefits of protective devices in motor vehicle crashes; and,

Drivers in Fatal Crashes by Blood Alcohol Concentration and Vehicle Type 1982-1996: A fact sheet which gives the numbers and percentages for the total crashes for each of the years.

Additional information on traffic safety facts, FARS and other publications can be obtained from the NHTSA's website at:

www.nhtsa.dot.gov

3.1.2 Claritas Geo-demographic System

NHTSA subscribes to a commercially available market research tool, Claritas, which utilizes Geo-demographics to characterize different population segments. Geo-demographics link demographic and lifestyle data at the zipcode level. Starting in 1987, driver zipcode was added to the data collected by the Fatality Analysis Reporting System. Therefore, driver zipcodes link the data from FARS with the information from Claritas. This Geo-demographic report is analyzed using Claritas Version 3.3. All the group numbers and cluster numbers referenced throughout this report relate and match with the group numbers and cluster numbers assigned by Claritas.

The Claritas system uses U.S. Census data to classify zipcodes in terms of socio-economic and demographic clusters. The database is built by analyzing the wealth of information contained in the U.S. Census. With the cooperation of Claritas clients and third-party data sources, millions of individual records are processed to evaluate, optimize and provide a system that can identify print and broadcast media of general

interest to each cluster. New census data can identify the opportunity to analyze changes in the demographic fabric of our society and ensure that the new Claritas segmentation products provide the Geo-demographic tools for targeting specific segments of the population.

Claritas classifies the more than 35,000 zipcodes in the United States into one of 62 cluster or neighborhood types. Each cluster represents a unique set of demographic, socio-economic and lifestyle characteristics. Each cluster is assigned a numeric code and a unique nickname that is intended to convey its essential characteristics unique to that cluster.

Factors that determine the cluster assignment include:

- *Predominant Area Type*

  Suburban;
  Urban;
  Rural;
  Town; and,
  Second City

- *Predominant Family Type*

  Married Couples with Children;
  Married Couples, Few Children;
  Families with Singles Elements;
  Singles, Couples, Few Children; and,
  Solo-Parent Families & Singles

- *Ethnic Diversity*

  Dominant Ethnic Group; and,
  Mixed Ethnic Groups

- *Education Level*

  College Graduate & Above;
  Some College;
  High School Graduate; and,
  Grade School

- *Housing Type*

  Single Unit;
  2-9 Units; and,
  10+ Units

- *Predominant Employment*

  White Collar;
  Blue Collar; and,
  Mixed

Descriptions of each social group and each of the 62 individual clusters are provided in Appendix B. These descriptions typically define all the essential details about the cluster. The population of each cluster as a number and as a percentage of the total US population is given in Appendix C.

The Claritas system also includes the syndicated surveys from Mediamark Research (MRI) in their database. The survey information identifies users of specific products, services, participants, activities and other lifestyle related information by the cluster type. These data are combined with FARS to where motorcycle drivers live, what they read, which television programs they watch and their consumer habits.

3.2 Hypotheses

Data from the FARS provide information about fatal motorcycle crashes that are a starting point in formulating hypotheses for the geo-demographic analysis. For example:

- Almost half (43 percent) of all motorcycle fatalities in 1996 resulted from crashes in seven states, 232 in California, 160 in Florida, 117 in Ohio, 115 in Texas, 109 in Illinois, 98 in Pennsylvania, and 95 in New York;

- In 1996, 42 percent of all motorcyclists involved in fatal crashes were speeding, nearly twice the rate for drivers of passenger cars or light trucks. The percentage of alcohol involvement was 50 percent higher for motorcyclists than for drivers of passenger vehicles;

- One out of five motorcycle operators involved in fatal crashes in 1996 were operating the vehicle with an invalid license at the time of the collision, while only 12 percent of drivers of passenger vehicles in fatal crashes did not have a valid license;

- More than one-half of all motorcycles involved in fatal crashes in 1996 collided with another vehicle in transport. In two-vehicle crashes, 76 percent of the motorcycles

involved were impacted in the front. Only 5 percent were struck in the rear; and,

- Motorcycles are more likely to be involved in a fatal crash with a fixed object than are other vehicles. In 1996, 28 percent of the reported fatal crashes involving motorcycles were fixed object crashes, compared to 23 percent for passenger cars, 18 percent for light trucks, and 6 percent for large trucks.

The above statistics and other FARS data on motorcycle fatalities indicate a number of factors in a profile of the motorcycle drivers who are likely to be involved in a fatal crash. Based on the data, the following hypotheses were formulated for testing in the geo-demographic data analysis:

- Motorcycle ownership varies among lifestyle clusters;
- Fatal motorcycle crashes are more likely to occur in some lifestyle clusters;
- Younger drivers are more likely to be involved in fatal motorcycle crashes;
- Younger drivers are likely to be found in a select group of clusters;
- Drivers who wear helmets are less likely to be involved in fatal motorcycle crashes;
- Drivers in fatal motorcycle crashes due to alcohol can be found in a select group of clusters;
- Drivers involved in crashes due to drugs can be found in a select group of clusters;
- Majority of the drivers involved in fatal motorcycle crashes are male drivers; and,
- Inclement weather is a major factor in fatal motorcycle crashes.

3.3 Analytical Tools

The two primary tools for analyzing geo-demographic cluster systems are Percentage and Index.

Percentage is used to determine if a variable is an important factor overall or if particular clusters account for/exhibit more of a variable than other clusters. For example, in evaluating the number of vehicles involved in crashes, are crashes involving single vehicles a high percentage of all crashes? At the same time, does cluster #1 account for a sizeable percentage of the crashes involving single vehicles? With 62 clusters, the overall average percentage will be just under 2%. If a cluster percentage is over 2% for a variable or variable value, the percentage is considered high.

An index compares the propensity of a cluster to have a specific variable relative to the base. The index is calculated by dividing the percentage of a cluster having a specific variable or variable value (e.g., people age 16-18) by the percentage for the base population and then multiplying the result by 100. For example:

Cluster Code	Base Count (All Ages)	Base Percent (All Ages)	Age 16-18 Count	Age 16-18 Percent	Index
2	310	1.02%	24	1.17%	115
3	363	1.20%	29	1.42%	119
4	422	1.39%	27	1.32%	95
Total	30,348	100.00%	2,040	100.00%	

The resulting index will be equal to 100 if the proportion of the variable in the cluster is the same as the base proportion. An index over 100 indicates that the cluster has a higher propensity for a specific variable. An index below 100 indicates that the cluster is less likely to exhibit the presence of a specific variable. Clusters that have either an index above 120 or percentage above 2% or both are necessary to be considered in targeting the cluster performance behavior analysis.

Cluster behavior is analyzed by reviewing the percentage and index together for a specific variable. Clusters can then be classified as follows based on percentage and index:

Classification	Percentage		Index
Primary Target	High (>2%)	**and**	High (>120)
Secondary Target	High (>2%)	**and**	Low (<120)
Secondary Target	Low (<2%)	**and**	High (>120)
Non-Target	Low (<2%)	**and**	Low (<120)

Using this classification, each cluster can be assigned to one of the above categories for the variables tested in the hypotheses. The analysis based on the percentage and index can show if a specific cluster is considered a primary target cluster for the behavior being considered. For example, for the incidence of fatal motorcycle crashes, Cluster 35 has a percentage of 3.36% and an index of 214. This cluster is an important target for attempting to influence the incidence of fatal motorcycle crashes. At the same time, Cluster 1 has a percentage of 0.24% and an index of 18. This segment does not have a problem with fatal motorcycle crashes and should not be considered influential.

The Secondary Target classification is given to clusters that do not exhibit all of the Primary Target characteristics, i.e., have either a high percentage or high index, but not both. These

clusters have a lower priority than the Primary Targets in terms of a program's allocation of resources. At minimum, the Secondary Targets should be monitored to determine their potential to move into the Primary Target category, affecting fatal motorcycle crashes in the future.

Since the incidence of motorcycle fatalities is the factor for the study, total motorcycle drivers involved in fatal motorcycle crashes are used as a base for the calculation of indexes for all the FARS-related variables. These variables include:

Incidence of drivers in fatal motorcycle crashes;
Age of motorcycle driver in fatal crashes;
Presence of alcohol or drugs;
Gender of motorcycle driver;
Crashes in urban versus rural areas;
Motorcycle driver license status;
Use of helmets;
Single versus multi-vehicle crashes;
Collisions with vehicles or other objects; and,
Weather conditions at time of crash

Percentages and indices for motorcycle ownership were also calculated for all the 62 clusters using information from a Mediamark Research Inc. (MRI) survey of American households, which is part of the Claritas database. These indicators were used to examine the relationship between the motorcycle ownership and drivers involved in fatal motorcycle crashes.

Data from the Claritas database were also used to evaluate the market potential for media advertising by calculating the percentage penetration and index for various media related products for each cluster. For this purpose, the penetration (percentage) and index show which media groups provide the greatest potential for reaching the target clusters, in this case for safety-related messages pertaining to motorcycle drivers.

The market potential for media advertising is based on the following four variables:

- Performance Index: This represents the relative likelihood of each cluster, or the primary customers as a whole to use a particular media;

- Percentage of the Particular Media Audience: This represents the percentage of the audience for the particular media that falls within a given cluster;

- Percentage of Households: This represents the percentage of all US households reached by a particular media; and,

- Percentage of Primary Target Clusters: By combining the Percentage of the Particular Audience and Percentage of Households, we can calculate the percentage of the primary target cluster households reached by a given media. Combined with media costs, this would give the cost of reaching a target household.

3.4 Media Analysis

Looking at Country radio stations as an example of how the media evaluation was calculated helps define the process and the terms. First, a calculation of the percentage of all U.S. Households falling into the defined Primary target clusters was determined to be 16.61%, using Claritas data. Then, using the MRI data, the cluster profile for Country radio listeners was obtained for all 62 clusters. From this information, the percentage of the country music audience falling into the core target clusters was calculated to be 18.85%. This represents the percentage of this audience that can be expected to fall into the core target clusters.

Second, a comparison of the two percentages reveals the Performance Index. This Index is calculated by dividing the percentage of core consumers listening to Country music by their percentage in the total U.S. household population and multiplying by 100 (18.85/16.61 x 100). This results in a Performance Index for Country music stations of 113.49.

Claritas also has a database of syndicated consumer surveys and marketing data from Simmons Market Research Bureau, MRI, Scarborough, Polk, and more. To calculate the reach of Country music into the core target clusters, the audience rating is multiplied by the percentage of core cluster listeners. Simmons data provides an overall rating for country music stations of 20.4%. This is the percentage of households listening to country music. When multiplied by the core percentage of the audience (18.85%), a net reach of 3.85% of the core target clusters can be reached through advertising on country music stations. This net reach can then be compared to the pricing of this and other media to determine effective means of reaching the core target households.

4. FINDINGS

Detailed results are presented for the incidence of motorcycle ownership and the incidence of fatal motorcycle crashes to illustrate the methodology. Also, determining whether the same clusters which are more likely to own motorcycles also have a propensity to experience fatal motorcycle crashes is particularly important for identifying primary targets for crash prevention programs. Results of the other variables are summarized in subsequent sections.

4.1 Incidence of Motorcycle Ownership

Motorcycle ownership is a starting point to target motorcycle safety messages. Motorcycle ownership does not distribute equally across all lifestyle clusters. Based on the Geo-demographic analysis, the clusters most likely to own motorcycles (see cluster classification criteria) are presented in Table 1. Table 2 represents the clusters most likely to have motorcycle drivers involved in fatal crashes based on the Geo-demographic analysis (see classification criteria).

Based on the cluster descriptions, the suburban clusters seem to represent the younger clusters. Presence of young adults under the age of 30 is significant in these clusters. Even neighborhoods with industrial rust belt have a bi-modal age distribution of both young and old households, as is usually found in areas in transition. The percentage and index of motorcycle ownership for all 62 clusters is included in Appendix D. Charts 1 and 2 indicate the primary target clusters that own motorcycle as a percentage and as index. Charts 3 and 4 indicate the primary target clusters for motorcycle drivers involved in fatal crashes as a percentage and as index.

Table 1: Clusters with A High Percentage of Motorcycles Owned

Cluster Code	Own Motorcycle (thousands)	Own Motorcycle Percent	Own Motorcycle Index	Cluster Classification
02	220	2.14	92	Secondary Target
04	241	2.34	125	***Primary Target***
05	375	3.65	107	Secondary Target
11	212	2.06	105	Secondary Target
15	307	2.98	104	Secondary Target
16	197	1.92	136	Secondary Target
20	188	1.83	147	Secondary Target
22	364	3.54	172	***Primary Target***
26	266	2.59	131	***Primary Target***
27	180	1.75	124	Secondary Target
34	210	2.04	124	***Primary Target***
38	265	2.58	113	Secondary Target
39	288	2.80	151	***Primary Target***
41	260	2.53	159	***Primary Target***
42	118	1.15	131	Secondary Target
44	264	2.57	128	***Primary Target***
57	311	3.02	126	***Primary Target***
58	426	4.14	196	***Primary Target***
59	451	4.39	256	***Primary Target***
62	243	2.36	122	***Primary Target***

Table 2: Clusters with A High Percentage of Motorcycle Drivers Involved

Cluster Code	Motorcycle Driver Count	Motorcycle Driver Percent	Motorcycle Driver Index	Cluster Classification
06	47	0.15	199	Secondary Target
10	196	0.65	151	Secondary Target
12	651	2.15	114	Secondary Target
11	212	2.06	105	Secondary Target
15	684	2.25	76	Secondary Target
19	640	2.11	128	***Primary Target***
21	607	2.00	140	***Primary Target***
22	618	2.04	58	Secondary Target
23	535	1.76	259	Secondary Target
25	679	2.24	135	***Primary Target***
26	764	2.52	97	Secondary Target
27	622	2.05	117	Secondary Target
28	520	1.71	126	Secondary Target
29	261	0.86	158	Secondary Target
30	500	1.65	239	Secondary Target
31	474	1.56	177	Secondary Target
32	770	2.54	165	***Primary Target***
34	775	2.55	125	***Primary Target***
35	1,019	3.36	392	***Primary Target***
36	353	1.16	222	Secondary Target
39	1,050	3.46	124	***Primary Target***

Table 2: Clusters with A High Percentage of Motorcycle Drivers Involved (continued)

Cluster Code	Motorcycle Driver Count	Motorcycle Driver Percent	Motorcycle Driver Index	Cluster Classification
43	683	2.25	115	Secondary Target
44	789	2.60	101	Secondary Target
45	397	1.31	198	Secondary Target
46	392	1.29	136	Secondary Target
47	475	1.57	366	Secondary Target
48	544	1.79	125	Secondary Target
51	565	1.86	138	Secondary Target
52	829	2.73	234	***Primary Target***
53	703	2.32	160	***Primary Target***
54	602	1.98	219	Secondary Target
55	510	1.68	162	Secondary Target
56	488	1.61	145	Secondary Target
57	651	2.15	71	Secondary Target
58	751	2.47	60	Secondary Target
59	673	2.22	51	Secondary Target
60	678	2.23	160	***Primary Target***

CHART 1: MOTORCYCLE OWNERSHIP COMPOSITION % FOR PRIMARY TARGET CLUSTERS

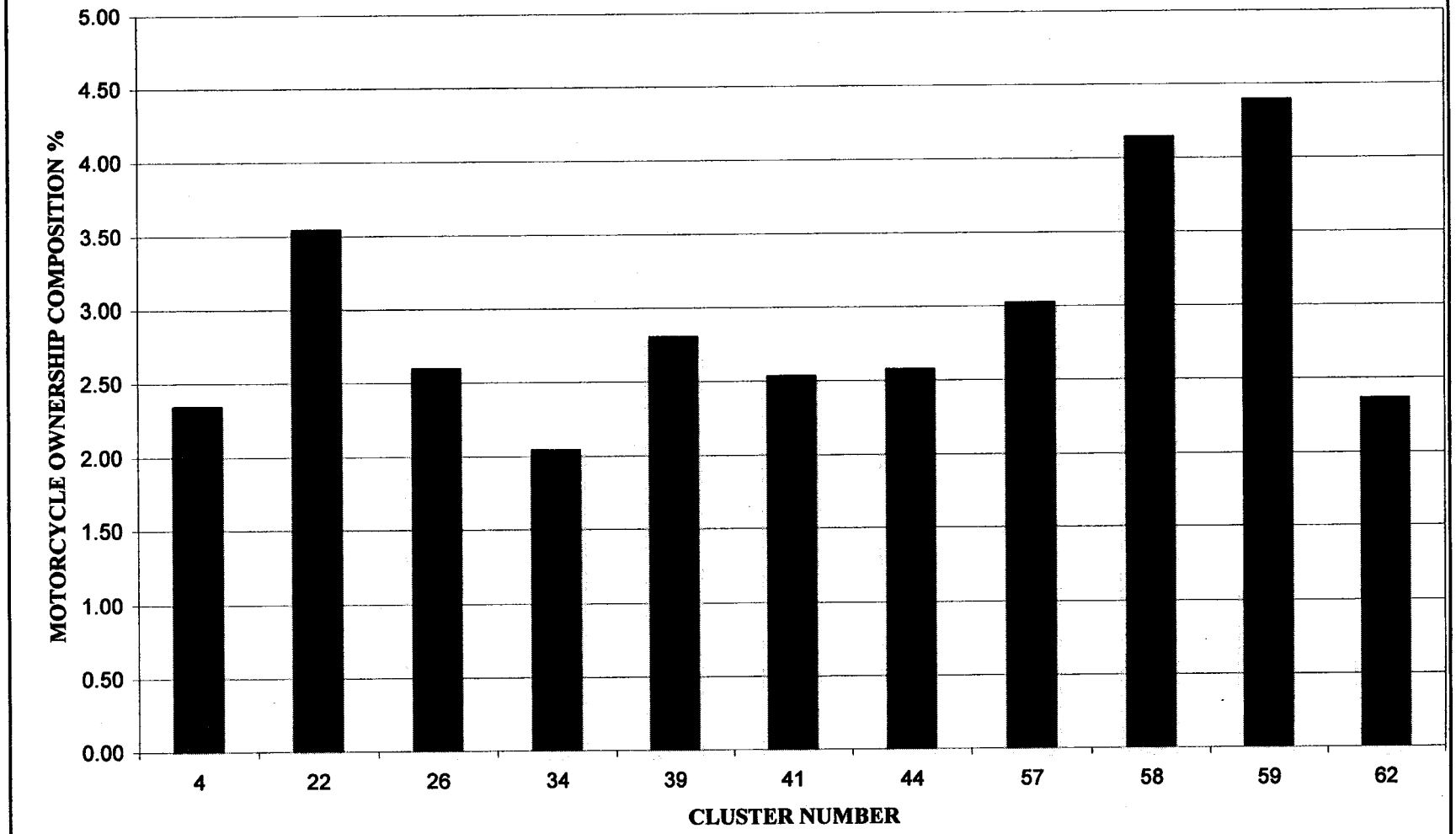


CHART 2: MOTORCYCLE OWNERSHIP INDEX FOR PRIMARY TARGET CLUSTERS

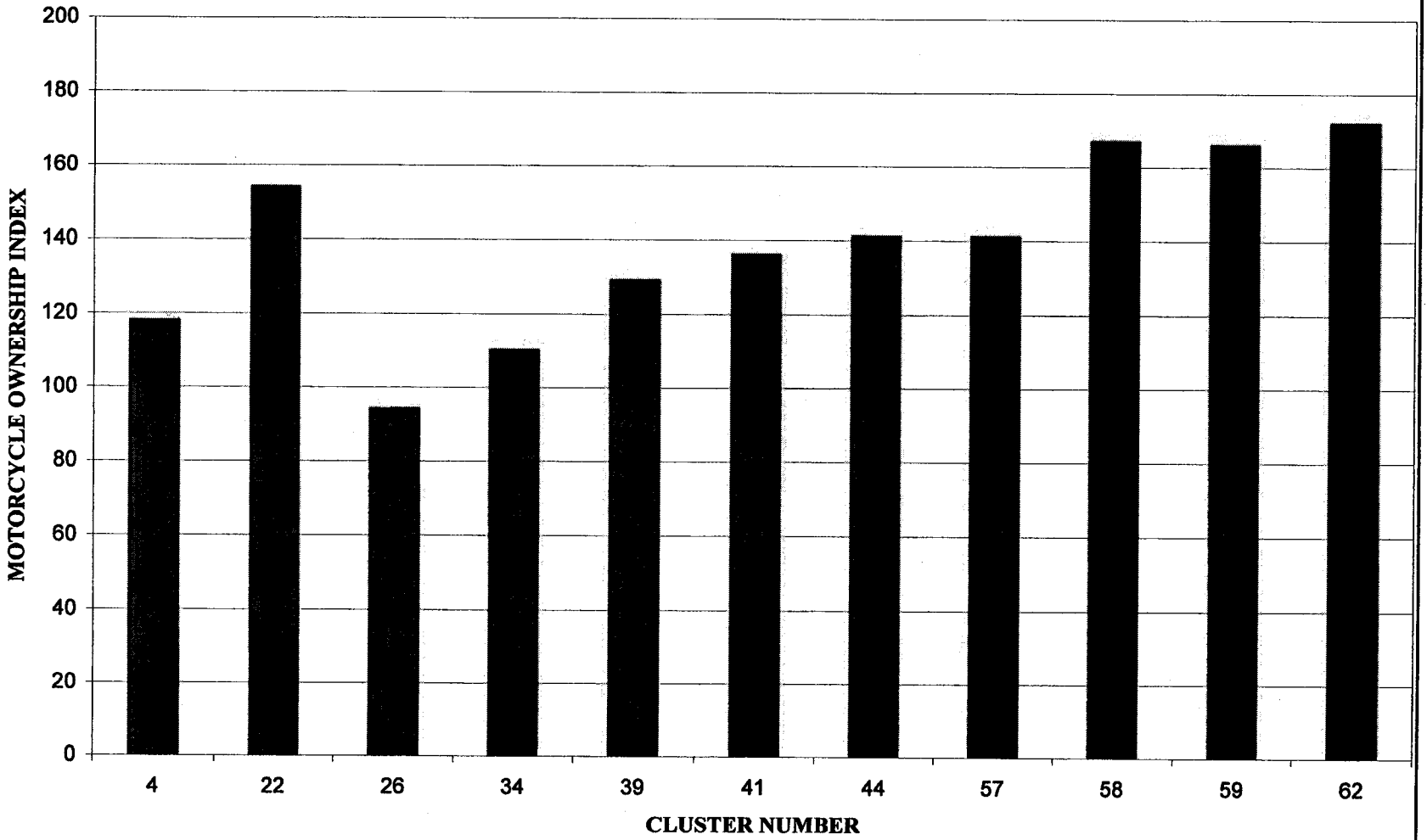


CHART 3: MOTORCYCLE DRIVERS INVOLVED COMPOSITION % FOR PRIMARY TARGET CLUSTERS

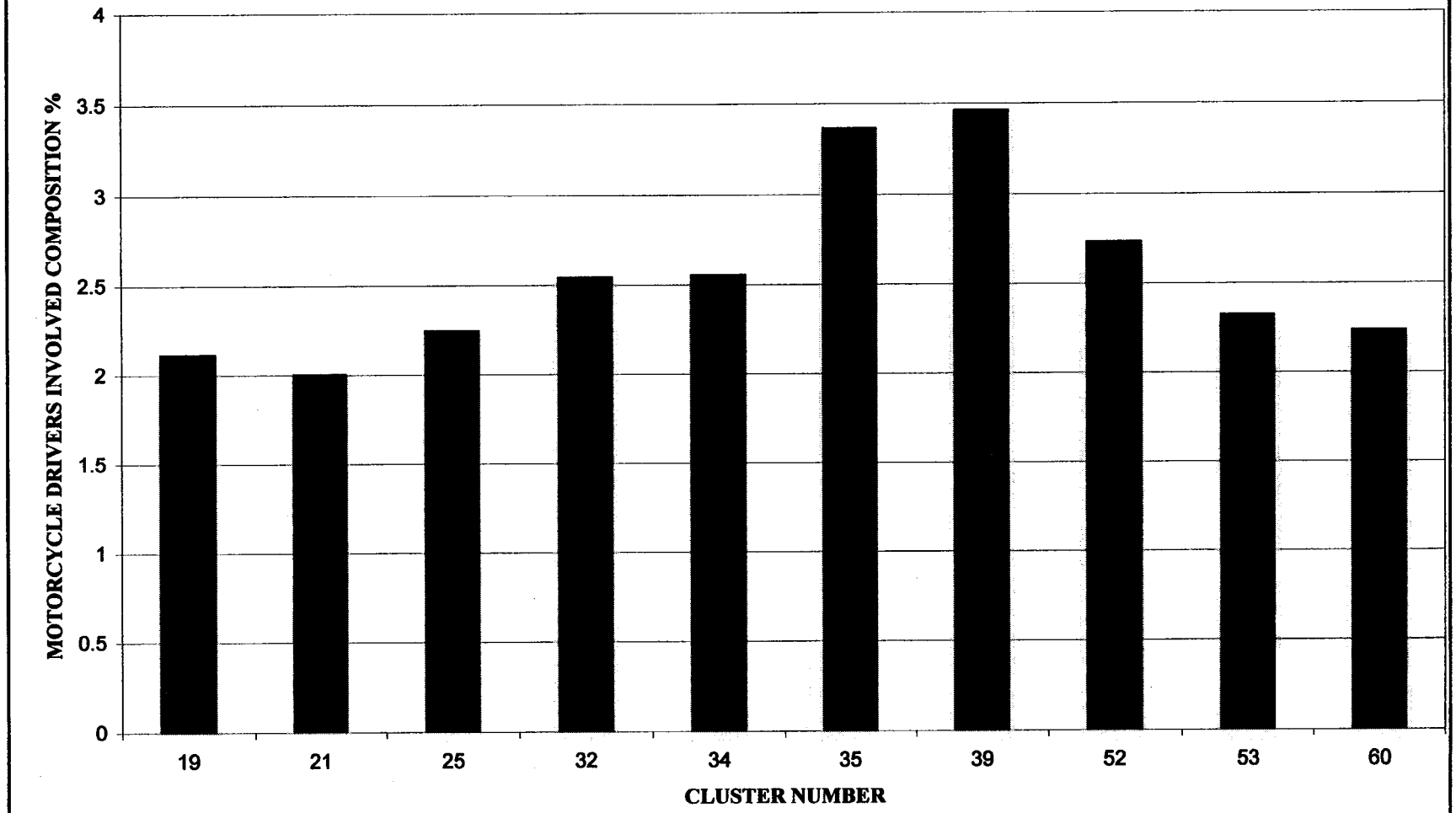
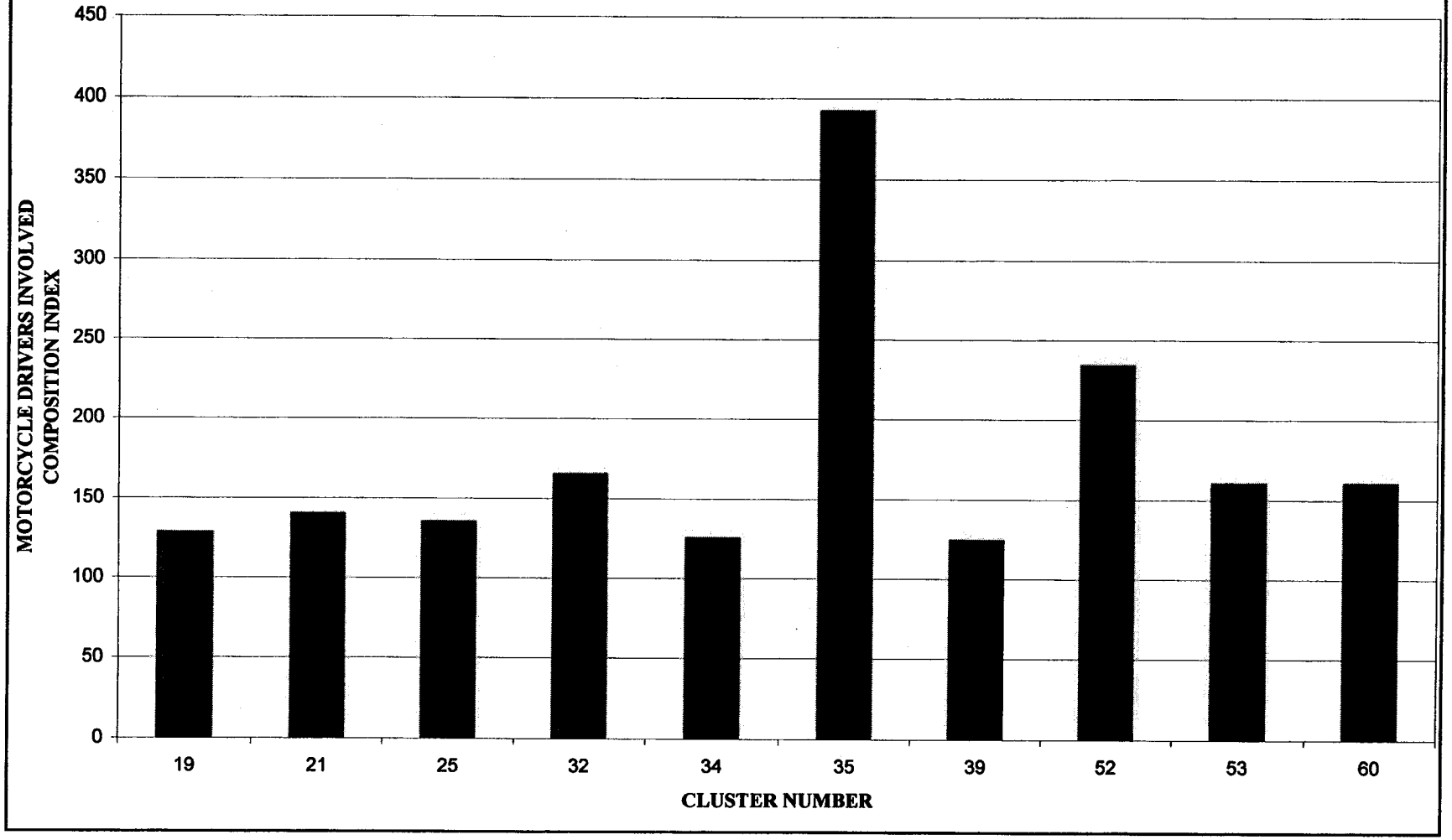


CHART 4: MOTORCYCLE DRIVERS INVOLVED COMPOSITION INDEX FOR PRIMARY TARGET CLUSTERS



4.2 Incidence of Drivers in Fatal Motorcycle Crashes

It is important to know the relationship of the clusters that are most likely to own motorcycles and also have the highest incidence of drivers involved in fatal motorcycle crashes. This will give a clear understanding whether ownership of motorcycle effects the incidence of drivers involved in fatal motorcycle crashes. Table 3 compares the primary clusters with ownership indicators to primary clusters with incidence of drivers involved in fatal crashes.

Table 3: Primary Clusters with Motorcycle Ownership and Primary Clusters with Incidence of Drivers Involved in Fatal Motorcycle Crashes

Primary Ownership of Motorcycles	**Primary Incidence of Drivers in Fatal Crashes**	**Percent of Drivers**	**Percent of Population**
Cluster 4		1.39	1.87
	Cluster 19	2.11	2.00
	Cluster 21	2.00	1.42
Cluster 22		2.04	2.06
	Cluster 25	2.24	1.56
Cluster 26		2.52	1.98
	Cluster 32	2.54	1.58
Cluster 34	Cluster 34	2.55	1.65
	Cluster 35	3.36	1.57
Cluster 39	Cluster 39	3.46	1.85
Cluster 41		1.22	1.59
Cluster 44		2.60	2.01
	Cluster 52	2.73	1.46
	Cluster 53	2.32	1.74
Cluster 57		2.15	2.40
Cluster 58		2.47	2.11
Cluster 59		2.22	1.71
	Cluster 60	2.23	2.18
Cluster 62		1.45	1.94
Total Percent		**43.60**	**34.68**

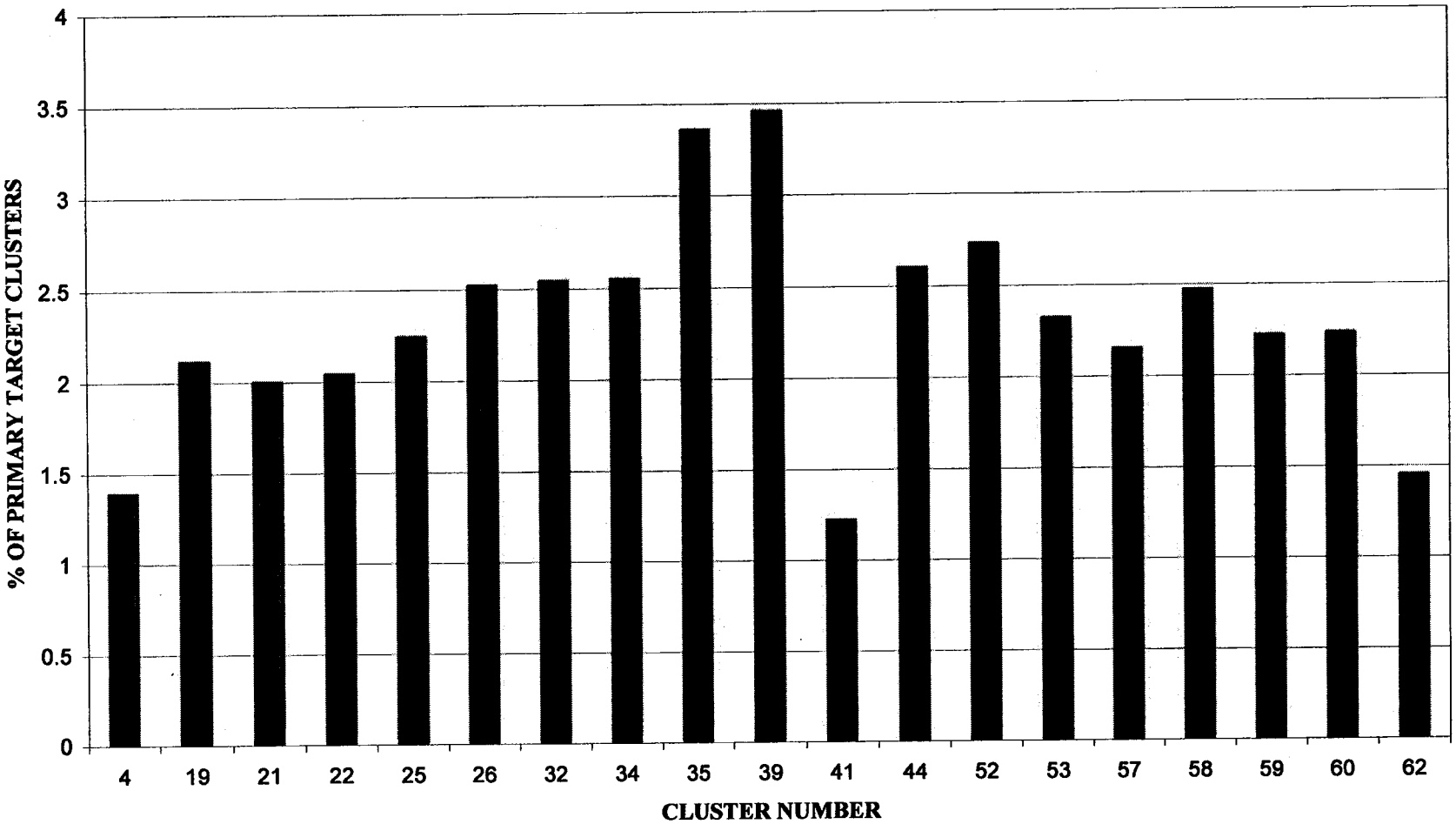
Clusters that demonstrate either a high propensity to own a motorcycle or to have a driver involved in a fatal crash are responsible for 43.60 percent of all fatal motorcycle crashes. However, only two clusters, 34 and 39 are high on both ownership and incidence of fatal crash. This finding indicates that a high propensity to own a motorcycle does not necessarily indicate the high potential for driver to be involved in fatal crash. Those clusters that appear in the right hand column (primary incidence of drivers in fatal crashes) and in both columns

are accounting for more than their share of fatal motorcycle crashes (25.54%) and should receive attention in developing crash prevention programs. Clusters that appear in the left-hand column and do not appear in the right hand column may be considered safer motorcycle drivers, but still are groups that need to be aware of motorcycle safety.

The total percent population that is involved in 45.10% of the fatal motorcycle crashes is 34.68%. Of this, 17.01% of the population accounts for 25.54% of the fatal crashes. These percentages are shown in the Table 3 above.

Primary Targets for crash prevention programs include those clusters that are high on incidence of drivers in fatal crashes or both motorcycle ownership and drivers in fatal crashes. The percentage and index of motorcycle drivers involved for all 62 clusters is included in Appendix E. Chart 5 displays the incidence of motorcycle crashes for clusters that are primary targets on incidence of drivers in fatal crashes, motorcycle ownership, or both.

CHART 5: % FOR PRIMARY TARGET CLUSTERS BASED ON MOTORCYCLE OWNERSHIP OR DRIVERS INVOLVED



4.3 Age of Motorcycle Drivers in Fatal Crashes

About 55% of fatal motorcycle crashes involve drivers of motorcycle under age 30. About 80% involve drivers of motorcycle under 40. Certainly, younger people are involved in most of the fatal motorcycle crashes in the U.S. However, lifestyles among the different age groups did not prove to be as significant a predictor of fatal motorcycle crashes as anticipated. Some clusters were more likely to have crashes among younger motorcycle drivers as shown in Table 4.

Overall, the affluent suburban clusters are younger with a higher percentage of their fatal crashes among consumers under age thirty. The town and rural clusters have a lower percentage of crashes among consumers under 30 and therefore more older drivers involved in fatal crashes. Chart 6 displays the percent of fatal motorcycle crashes with drivers under age 30 for primary clusters with incidence of drivers in fatal crashes, motorcycle ownership, or both. Chart 7 displays the percent of fatal motorcycle crashes with drivers under age 40 for primary clusters with incidence of drivers in fatal crashes, motorcycle ownership, or both.

A comparison is made to the distribution of fatally injured drivers of passenger cars, light trucks and vans (also called passenger vehicles) between the years 1987 to 1997. The comparison shows that national average percentage of drivers involved in fatal crashes for drivers of passenger vehicles under age 30 is 42.4% and for drivers under age 40 is 63%. These numbers show that the national average percentages for motorcycle drivers under the ages of 30 and 40 is high compared to the national average percentages for drivers of passenger vehicles for the same age group.

Table 4: Percent of Fatal Motorcycle Crashes with Drivers Less Than Age 30 and Age 40 for Primary Clusters with Ownership or Incidence of Drivers in Fatal Crashes

Primary Ownership of Motorcycles	**Primary Incidence of Drivers in Fatal Crashes**	**Percent of Drivers Involved under Age 30**	**Percent of Drivers Involved under Age 40**
Cluster 4		63	85
	Cluster 19	59	84
	Cluster 21	56	83
Cluster 22		59	83
	Cluster 25	54	83
Cluster 26		51	80
	Cluster 32	56	79
Cluster 34	Cluster 34	52	79
	Cluster 35	55	79
Cluster 39	Cluster 39	50	78
Cluster 41		46	75
Cluster 44		49	77
	Cluster 52	49	74
	Cluster 53	51	79
Cluster 57		46	74
Cluster 58		48	73
Cluster 59		44	70
	Cluster 60	50	76
Cluster 62		56	80
National Average		**54**	**79**

CHART 6: % OF DRIVERS IN FATAL MOTORCYCLE CRASHES FOR PRIMARY TARGET CLUSTERS UNDER AGE 30

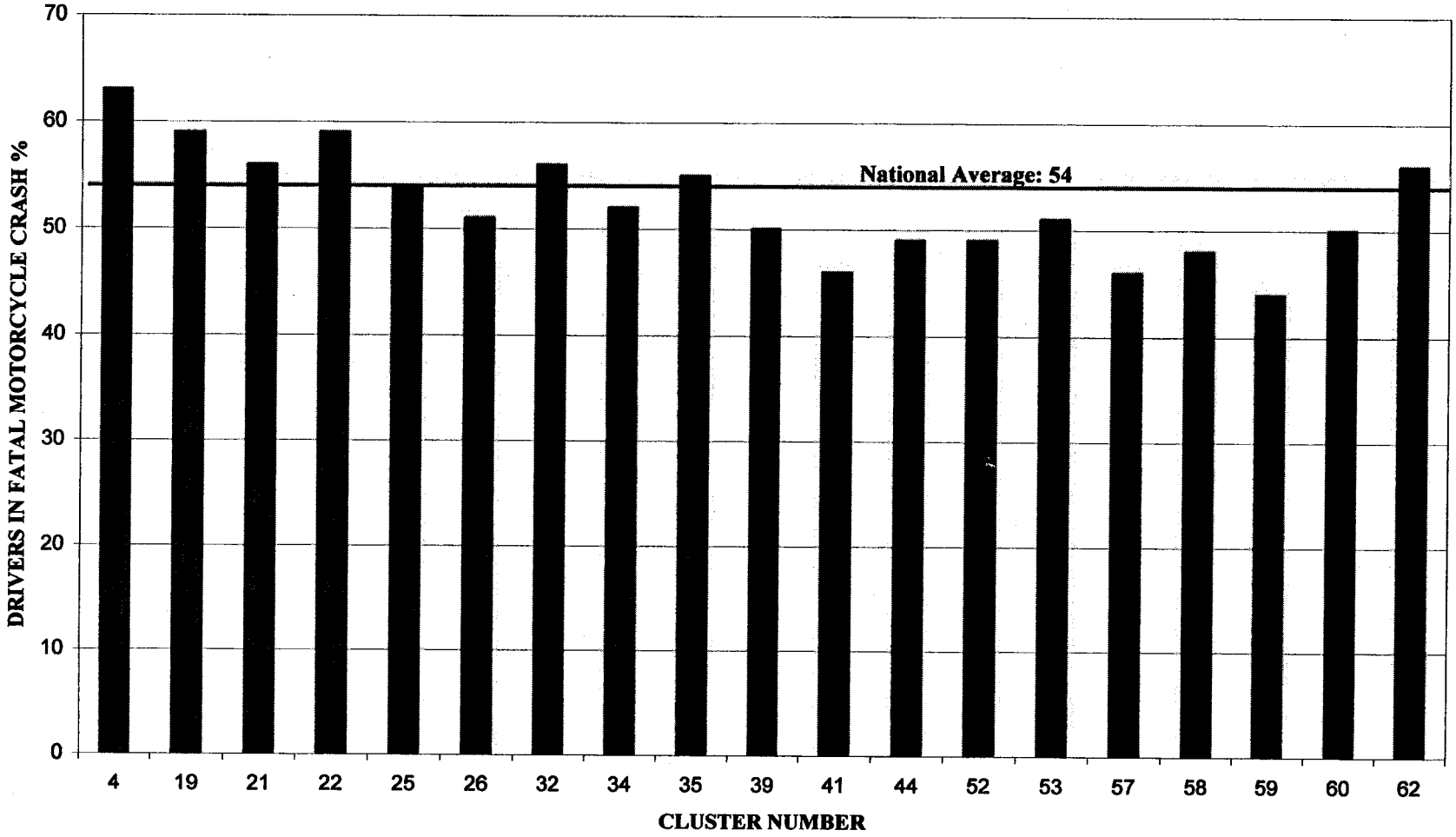
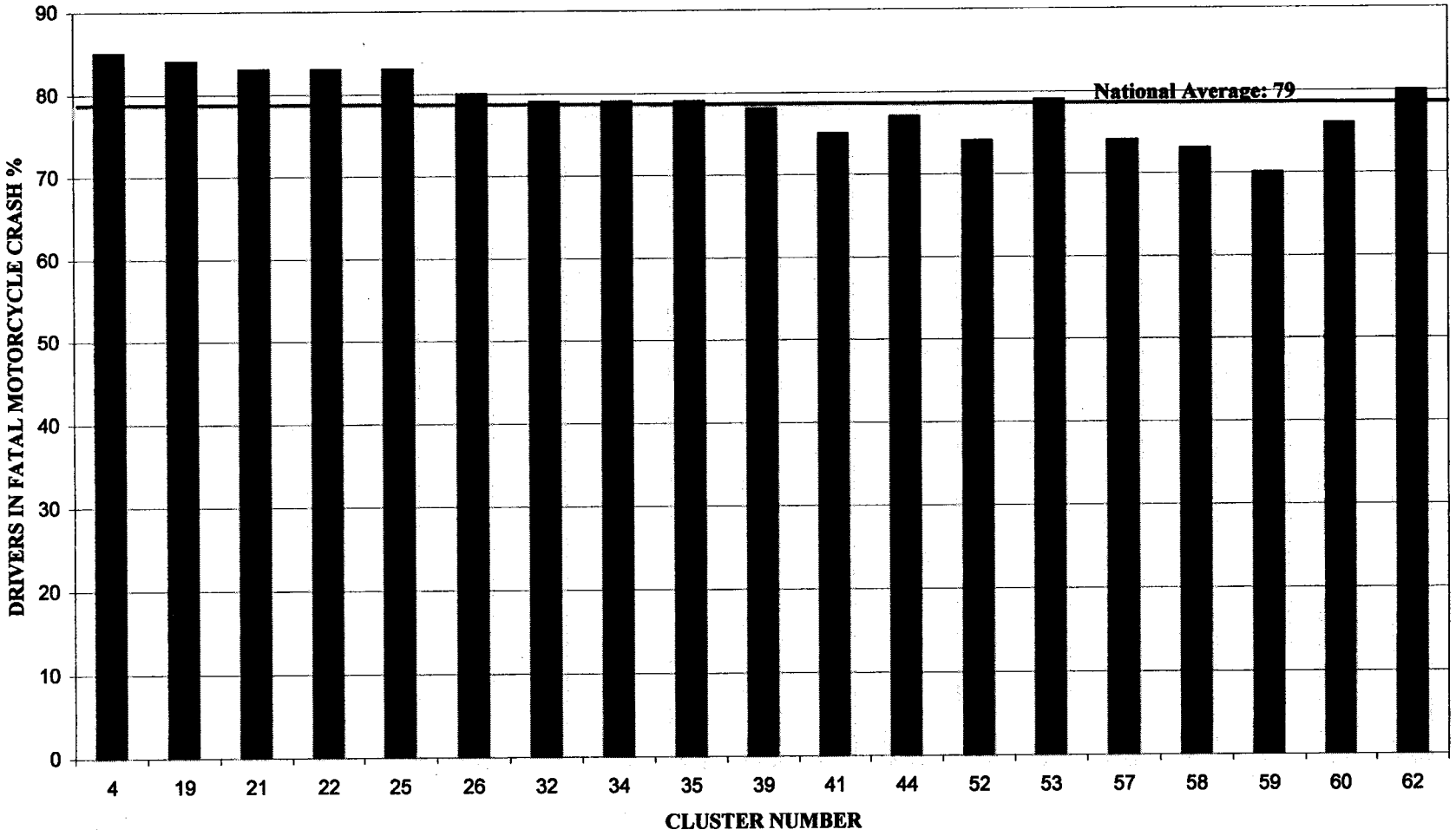


CHART 7: % OF DRIVERS IN FATAL MOTORCYCLE CRASH FOR PRIMARY TARGET CLUSTERS UNDER AGE 40



4.4 Presence of Positive Alcohol and Drug Tests

In 1997 approximately 38% of drivers involved in fatal motorcycle crashes had presence of alcohol. The presence of alcohol seems to have been almost equally likely across all clusters as seen from Claritas analysis. Few clusters had indices over 120 or under 80. No clusters had indices below 80 or above 120 and a percentage above 2%.

Fewer drivers in fatal motorcycle crashes involve positive drug tests (about 7%). While alcohol did not vary as much as might be expected among the clusters, drug testing certainly did. However, among the primary target clusters described above only three have a notable above average propensity for reported drug use in conjunction with a crash. These clusters are19, 32 and 34.

Police-reported alcohol use also did not vary greatly across lifestyle clusters, but accounted for almost 28% of all drivers in motorcycle crashes. Less than 1% of all drivers in fatal motorcycle crashes involve police-reported drug use.

About 10% of drivers in fatal motorcycle crashes involve a Blood Alcohol Level (BAC) of 0.01-0.09. About 28% of the drivers involved had BAC Levels of 0.10 or more. Neither of the above two BAC factors proved to vary greatly across the clusters. While alcohol has proven to be a contributor to fatal motorcycle crashes, the incidence seems to be equal across all clusters.

4.5 Gender of Motorcycle Driver

Males were the drivers in almost 98% of all fatal motorcycle crashes. As a result, there is no significant variation from the incidence of these crashes in general. Female motorcycle drivers account for so few crashes that it is not possible to analyze the variation across clusters at this time.

4.6 Urban Versus Rural Motorcycle Crashes

More drivers in fatal motorcycle crashes were involved in urban areas than in rural areas. Approximately 55% of these drivers were in urban areas, while a corresponding 45% were in rural areas.

As might be expected, there is almost a perfect correlation between the occurrence of urban crashes and the urban clusters. The same is true for rural crashes and rural clusters. These findings suggest that crashes occur in the local areas of the residence of the driver.

4.7 License Status of Motorcycle Driver

About 71.4% of fatal motorcycle crashes involve drivers with valid driver's licenses. About 7% occur among motorcycle drivers not licensed and 16% with an invalid license (licensed but not valid). Fatal motorcycle crashes among drivers without licenses occurred mostly

among clusters in rural and country areas. However, this group represents a very small percentage of crashes in general and may not require specific action at this time. Crashes involving drivers with valid licenses showed little variance among the lifestyle clusters. Urban riders are the most likely to have their licenses suspended. In fact, every urban cluster involved in a fatal crash with a middle or lower income profile was above average in having their motorcycle licenses suspended. Only two clusters (33 and 50) were significantly above average in having their licenses suspended as a result of a crash. None of the primary target clusters involved in motorcycle crashes demonstrated a high likelihood of having their licenses suspended. These findings may reflect tighter laws and enforcement in the urban environments than in the suburbs, towns and rural areas.

The percentage of licensed drivers of passenger cars, light trucks and vans involved in fatal crashes are 86.05%. The unlicensed drivers for the same is 12.85% and license unknown drivers is 1.10%.

4.8 Use of Motorcycle Helmets

An almost equal number of fatal motorcycle crashes occur among drivers using helmets and those that do not on a national basis. The use of helmets varied little among the lifestyle clusters. The small number of observations based on each state makes it difficult to see any variance among the states and clusters based on the individual state helmet licensing laws.

About 55% of fatal crashes involve passengers using helmets and 45% involve passengers not using helmets. The small number of passengers involved in fatal motorcycle crashes makes it difficult to analyze for any variance across the clusters.

4.9 Collisions with Other Vehicles and Fixed Objects

Forty five percent of fatal motorcycle crashes involve a single vehicle, while the remaining 55% involve multiple vehicles. The clusters show little variation when considering the occurrence of single vehicle crashes and multi-vehicle crashes. This means that the ability to reduce the number of multi-vehicle crashes is limited using the lifestyle clusters.

Just over half of all fatal motorcycle crashes involve collisions with other vehicles, as noted above. Another 29% involve collisions with fixed objects. The remaining involve collisions with objects that are not fixed or no collision at all. Again the analysis shows no patterns on these variables and little variance across the lifestyle clusters. This suggests that the most important goal of control program is preventing the occurrence of crashes rather than trying to influence the types of crashes that occur.

4.10 Role of Weather in Fatal Motorcycle Crashes

Approximately 96% of fatal motorcycle crashes occur in normal weather. Just under 3% occur in the rain and less than 1% in snow or other weather. This suggests that most motorcycle owners don't ride in bad weather. Because of the vast majority of crashes

occur in normal weather, there was little variance across the lifestyle clusters.

4.11 Media Usage

The analysis identified several clusters of drivers that are likely to be involved in fatal motorcycle crashes. The clusters are:

Cluster 19;
Cluster 21;
Cluster 25;
Cluster 32;
Cluster 34;
Cluster 35;
Cluster 39;
Cluster 52;
Cluster 53; and,
Cluster 60

In order to determine the media that will likely reach these audiences, data from the MRI and Simmons syndicated consumer research surveys of Media Usage for the clusters in Claritas was employed. The percentage of the primary target clusters on a national average for the survey was 16.6%.

Three measures were calculated in the analysis for the above primary target clusters. First, a performance index indicates the relative presence for the primary target clusters with 100 being average. Second, is the percentage of the particular media audience made up by the primary target clusters. Third, is a net reach calculation, which multiplies the media rating (percentage of households) by the percentage of the primary target clusters. Table 5 summarizes the results and shows the productive media.

Table 5: Summary of Media Usage Analysis-The Potentially Most Productive Media to Reach the Primary Target Clusters

Media Category	**Index**	**% of Audience**	**Net Reach**
MAGAZINES			
Computer	113	18.8	1.5
Entertainment/Performing Arts	110	18.2	0.7
Fishing/Hunting	107	17.8	2.5
Motorcycle	113	18.8	0.5
TELEVISION PROGRAM TYPE			
Country Music	133	22.1	2.6
QVC	127	21.1	1.1
Auto Racing	118	19.3	2.1
TELEVISION DAY-PART			
Saturday 1:00 PM to 4:30 PM	105	17.5	1.9
Sunday 10:00 AM to 1:00 PM	112	18.5	1.2
RADIO			
Country Stations	113	18.8	3.8
NEWSPAPERS			
The primary target clusters readership of newspapers is below average.			

5. CONCLUSIONS

The analysis described in this report supports a variety of conclusions about the targets for motorcycle crash prevention programs and the utility of Geo-demographic analysis for propagating the traffic safety message either directly to the drivers or indirectly through the people living and associated with the drivers.

5.1 Targeting Motorcycle Crash Prevention Programs

The analysis identified several clusters of drivers that are likely to be involved in fatal motorcycle crashes. These clusters are: 19, 21, 25, 32, 34, 35, 39, 52, 53 and 60. The zipcodes for these clusters identify the geographic areas for program development.

The most likely media for reaching the primary target clusters were country radio, country music TV, motorcycle and fishing/hunting magazines.

Other findings provide insight into the possible considerations for prevention programs as follows:

- Male drivers account for almost all of the fatal crashes as seen from FARS data and are therefore the sole target for a campaign against motorcycle fatalities;

- Age is a key determinant in the occurrence of fatal motorcycle crashes as seen from FARS data. In general, messages targeted at drivers under the age of 40 are recommended. However, lifestyle clusters that show a higher propensity for fatal motorcycle crashes seem to have a bimodal age factor -- younger suburban riders and older town/rural riders;

- Alcohol is involved in two out of five fatal crashes as seen from FARS data and should become a major topic of any campaign developed by NHTSA;

- There are key urban and ethnic clusters that can be targeted with the appropriate message regarding drug use and motorcycle fatalities;

- Helmet use, license status and weather does not seem to be factors that can be affected using a lifestyle analysis;

- The types of collisions involving one or more vehicles and other objects do not show a propensity to vary by cluster; and,

- While license suspension was highly correlated with the incidence of fatal crashes, the factor appeared to be a reflection of more rigorous enforcement in urban areas than rural areas.

6. APPENDICES

APPENDIX A	FARS DATA ELEMENTS USED IN ANALYSIS
APPENDIX B	DESCRIPTIONS OF THE GEO-DEMOGRAPHIC SOCIAL GROUPS AND CLUSTERS
APPENDIX C	POPULATION OF INDIVIDUAL CLUSTERS
APPENDIX D	MOTORCYCLE OWNERSHIP BY CLUSTER
APPENDIX E	MOTORCYCLE DRIVERS INVOLVED BY CLUSTER

APPENDIX A FARS DATA ELEMENTS USED IN ANALYSIS

(BASED ON DRIVERS INVOLVED IN FATAL MOTORCYCLE CRASHES)

All Drivers Involved in Fatal Motorcycle Crashes
Age 16-18
Age 19-22
Age 23-29
Age 30-39
Age 40-49
Age 50+
Positive Alcohol Test
Positive Drug Test
Police Reported Alcohol
Police Reported Drug
BAC=0.01+
BAC=0.10+
Male
Female
Urban
Rural
Not Licensed
No Valid license
Valid License
License Unknown
Helmet Used Operator
Helmet not used Operator
Helmet Used Passenger
Helmet not Used Passenger
Single Vehicle
Multiple Vehicle
Collision with Vehicle in Transport
Collision with Fixed Object
Collision with Object not Fixed
Non-collision
Normal Weather Condition
Rain Weather Condition
Snow Weather Condition
Other Weather Condition

APPENDIX B DESCRIPTIONS OF THE GEO-DEMOGRAPHIC SOCIAL GROUPS AND CLUSTERS

(All Group numbers and Cluster numbers referenced are based on Claritas Group numbers and Cluster numbers)

Group S1

The five Clusters of Group S1 all rank in the 1st & 2nd deciles of Claritas' education and affluence scale, making this the nation's most affluent Social Group. Group S1 is concentrated in our major metros, with over 90% of total households in the Top 25 TV Markets. As a Group, S1 Clusters share high income, education, investment, and spending levels. Also, with Groups U1 & U2, and despite low incidence levels, they now share high index concentrations of wealthy Asian and Arabic immigrants. Beyond these shared patterns, there are marked differences. The five clusters are:

- Cluster 1

  America's wealthiest suburbs are populated by established executives, professionals, and heirs to "old money". They are accustomed to privilege and live in luxury, often surrounded by servants. A tenth of this group are multi-millionaires. The next level of affluence is a sharp drop from this pinnacle.

- Cluster 2

  As its number implies, Cluster 2 is second in American affluence. Typified by "new money", they live in expensive new mansions in the suburbs of the nation's major metros. They are well-educated, mobile executives and professionals who are married with teen-aged children. They are big producers and prolific spenders who enjoy global travel.

- Cluster 3

  Cluster 3 describes yesterday's Cluster 18 who are en route to becoming tomorrow's Cluster 2. Many have married, and moved into condos or starter homes. Unique for S1, the Cluster is above average in pre-school kids. Although they rank well below Cluster 2 in affluence, they are as well educated, ambitious, and competent; they're just ten years younger.

- Cluster 4

  Older, established couples in executive, professional, sales, and communications fields make up Cluster 4. Since many have reached their "golden" post-child years, there is a high index for dual incomes, which in turn support a rich, active life of travel, leisure, and entertainment.

- Cluster 5

  Near Clusters 3 and 4 in all affluence measures, Cluster 5 is ranked first of the 62 PRIZM clusters in married couples with children, and large, 4+ person families. Since "family" governs its lives and activities, Cluster 5 is a noisy mix of bikes, dogs, car pools, rock music, and sports.

Group U1

With three of its five Clusters in the 1st affluence decile plus two in the 3rd decile, Group U1 is ranked as the nation's second most affluent Social Group. Major market concentrations are extreme, with over 94% of total Group households in the Top 10 TV Markets. Consistent for over two decades, these Clusters show high concentrations of executives and professionals in the fields of business, finance, entertainment and education. More recently, they have absorbed a wave of upscale immigrants from Eastern Europe, Asia, and the Middle East. The five clusters are:

- Cluster 6

  Cluster 6 is unique. It is the most densely populated per square mile, with the highest per-capita income, the greatest concentration of singles in multi-unit, high-rise buildings, the lowest incidence of auto ownership, and the fewest children. Cluster 6 tops urbania, and over half of this group lives in New York City.

- Cluster 7

  Although Cluster 7 closely trails Cluster 6 in affluence measurement, it's very different. Upscale homes and condos on the urban fringe are owned by older married couples who have few children. Since many enjoy dual incomes, they are sophisticated consumers of adult luxuries, travel, and entertainment.

- Cluster 8

  Although Cluster 8 is below Cluster 7 in affluence, it leads in education. A younger mix of executives, professionals, and students live in multi-unit apartments, condos, and townhouses near private urban universities. Having few children, these bon vivants are free to pursue their interests in art, fitness, and travel.

- Cluster 9

  Cluster 9 typifies the immigrant's American dream. Immigrants and descendants of multi-ancestries populate these multi-racial, multi-lingual neighborhoods. Cluster 9 tends to have big families, which is unique to Group U1. Multiple incomes from trade and public service have raised them to the second affluence level.

- Cluster 10

  Although it's a short trip from the upper east side to the village, the lifestyle and perspective shifts are dramatic. Cluster 10 is a fully integrated mixture of executives, students, actors, and writers who live in high-rises. This multi-racial, educated group is dominated by singles, and has the nation's second lowest index for children.

Group C1

The three Clusters of Social Group C1 comprise the upper deck in hundreds of America's "second" and "satellite" cities. As a Group, they share high education and incomes, having one Cluster in the 2nd, and two in the 3rd affluence deciles. They also share high home ownership, employment as executives and professionals in essential local industries, such as business, finance, health, law, communications, and wholesale. They are far more conservative than their upscale peers in the suburbs of major metros. The three clusters are:

- Cluster 11

  Cluster 11 describes the "movers and shakers" of our second cities, found coast to coast with its archetypical example in the wealthy enclaves of Huntsville, Alabama. Primarily married, with teenaged children, they give first attention to their families, homes and clubs, then steal away to play in Europe.

- Cluster 12

  Young, college-educated, computer-literate, dual-income, frequent-flying executives and professionals describe those in Cluster 12. Most of this group is married, with pre- and school-aged children, and live in new, owner-occupied single family homes. They are found in over 100 TV markets that cover 75% of the total U.S. population.

- Cluster 13

  Cluster 13 represents over 2 million senior citizens who have pulled up stakes, moved to the country or the Sunbelt, and retired amongst their peers. While these neighborhoods are found across the nation, almost half are concentrated in 13 retirement areas. They are golf and health fanatics, and own fat investment portfolios.

Group T1

The four clusters of Social Group T1 cover a vast amount of American geography, found in 180 TV markets covering 86% of the U.S. population. With one Cluster in the 1st, one in the 2nd, and two in the 3rd affluence deciles, T1 is the fourth most affluent Group. As a Group, they all show large, multi-income families of school-aged kids, headed by well-educated executives, professionals, and techies. Above all, they share serenity, for T1 neighborhoods lie far outside the metro beltway; many in the nation's most spectacular coastal areas and uplands. The four clusters are:

- Cluster 14

  A private island off the coast of Maine, an elegant restored Colonial village in the Berkshires, lush fenced-in horse farms in Leesburg VA, or manicured gardens in Carmel by the Sea...these

are Cluster 14 neighborhoods, where the wealthy have escaped urban stress to live in rustic luxury. Fourth in affluence, this group has big bucks in the "boondocks."

- Cluster 15

  Many educated, upscale, married executives and professionals are raising their large families in the remote exurbs of major metros, the outskirts of second cites, and scenic towns. Multiple incomes support their affluence, and life centers around family and outdoor activities. This is Cluster 15, in the second affluence decile.

- Cluster 16

  Although similar to Cluster 15 in size and national distribution, Cluster 16 ranks seven rungs down the affluence ladder. Also married and family-oriented, these older, more conservative people are often "captains" of local industry. They enjoy investing in their homes and clubs, and vacation by car in the U.S.

- Cluster 17

  A rung below Cluster 16 in affluence, Cluster 17 is smaller and more concentrated in our lesser second cities and uplands. This heavily mortgaged group is young, and married with lots of children. Being younger and carrying heavy debt, their energies are devoted to family entertainment and outdoor sports.

Group S2

The five Clusters of Social Group S2 represent the upper-middle income suburbs of major metros. Almost 77% of its total households are concentrated in the Top 25 TV Markets, with 90% in the Top 50. With one Cluster each in the 2nd & 3rd, two in the 4th, and one in the 5th affluence deciles, S2 is our fifth most affluent Group. These Clusters share above-average incomes and rentals, an eclectic mix of homes, condos, and apartments, a broad spectrum of business, technical, and public service jobs, and daily commuting and very little else. The five clusters are:

- Cluster 18

  Cluster 18 was hot in the eighties. Dubbed the young urban professionals, these were the educated, high-tech, metropolitan sophisticates, the swingles and childless live-together couples, whose double incomes bought the good life in the booming towns of USA. Then they married, reducing Cluster 18 to half its size. Here's what's left: The Last of the Yuppies.

- Cluster 19

  Only three rungs down the affluence ladder, Cluster 19 is much more conservative than Cluster 18, and is skewed to the northeast. Cluster 19 achieved its affluence by education and career

achievements in many professions and industries. Most of them are married, in their post-child years, and have dual incomes.

- Cluster 20

  Cluster 20 ranks second of all PRIZM Clusters for married couples with children, and first in total households with children, many of whom are pre-schoolers. Skewed to the West, Cluster is composed of executives and "techies" working in varied fields. Their relative youth and early careers put them at the bottom of the third affluence decile.

- Cluster 21

  Multi-racial, multi-lingual neighborhoods are typically found in the centers of major metros. Cluster 21 is the exception, showing above average concentrations of native and foreign-born ethnics, who have used education to become executives, administrators, and technicians. They have moved to the suburbs, and the 4th affluence decile.

- Cluster 22

  For twenty years, Cluster 22 was one of the largest PRIZM Clusters. Dual income, high-school educated parents headed large suburban families, and topped the blue collar ladder. During these two decades, their kids grew up and left, and blue-collar employment declined sharply. A smaller core remains, centered in the Great Lakes region.

Group S3

The four Clusters of Social Group S3 comprise the middle income suburbs of major metros, concentrated 59% in the Top 25, 84% in the Top 50, and 95% in the Top 75 TV Markets. With two Clusters at the bottom of the 5th and two at the top of the 7th affluence decile, S3 straddles the U.S. average. Otherwise they are markedly different, with two having more college-educated white-collars, two with more high-school-educated blue-collars, two young, one old, one mixed, and all showing distinct, variant patterns of employment, lifestyle, and regional concentration. The four clusters are:

- Cluster 23

  Cluster 23 shows that youths and seniors are very similar if they're employable, single, and childless. In Cluster 23, they share average education and incomes in business, finance, retail, health, and public service. Preferring condos and apartments they tend toward the Sunbelt and the West.

- Cluster 24

  Concentrated in the boomtowns of the Southeast, the Southwest, and Pacific coast, Cluster 24 is a magnet for fresh starts. Populated by well-educated youths; many are minorities. Some are divorced, while many others are solo parents. The majority live in multi-unit rentals and work in a wide variety of low-level white-collar jobs.

- Cluster 25

  In most of the same markets, but two deciles down in affluence, Cluster 25 is the blue-collar equivalent of Cluster 24: young, ethnically mixed, and highly mobile. Conversely, this Cluster shows high indices for Hispanics and large families with children. The military, industry, transportation, and public service are the primary employers of these breadwinners.

- Cluster 26

  For nearly two decades, we read about the decline of the Great Lakes industrial rust belt. Decimated by foreign takeovers in the steel and automobile industries, the area lost a million jobs. Although most of the kids left, their highly skilled parents stayed, and are now benefitting from a major U.S. industrial resurgence.

Group U2

The five Clusters of Social Group U2 collect the middle income, urban-fringe neighborhoods of America's major metros. As with Group U1, Group U2 is highly concentrated, with 75% of total households in the Top 5 TV Markets, and 96% in the Top 25. With one Cluster in the 4th, two in the 6th, and two in the 7th affluence deciles, Group U2 averages below the mean. As a Group, the U2 Clusters share high population densities, ethnic diversity, public transportation, and all the perks and risks of urban life, yet are otherwise unique. The five clusters are:

- Cluster 27

  Due to its rank in the third decile of college education, Cluster 27 is the most affluent of the U2 Clusters. Often found near public urban universities, these neighborhoods show ethnic diversity and a bi-modal, young-old age profile. Single students mix with older professionals in business, finance, and public service.

- Cluster 28

  High indices for Hispanics, Asians, and other foreign-born immigrants make Cluster 28 the most ethnically diverse in the U2 Group. Skewed to the West, its affluence level drops two deciles from Cluster 27. This group has big families, are employed in an even mix of white- and blue-collar jobs, and live in old, stable urban row-house areas.

- Cluster 29

  "Magnet" neighborhoods for recent Asian and Latin American immigrants and centered in the Northeast, Cluster 29 is the most multi-lingual Cluster in U2. Although it's five affluence rungs below Cluster 28, it has the same white/blue-collar job mix. Cluster 29 tends toward singles living in rental multi-units.

- Cluster 30

  Cluster 30 is in the seventh affluence decile, and is located in the Northeast and Great Lakes regions. Similar to all U2s, Cluster 30 shows above-average ethnic diversity and a mix of white- and blue-collar employment. These neighborhoods are two-thirds black, living in urban row-house fringes, with strong college enrollments.

- Cluster 31

  Dominated by Latin Americans, with the nation's highest index for foreign-born immigrants, Cluster 31 represents a giant step in achievement. These families are concentrated in New York, Miami, Chicago and the Southwest. They are young families with lots of children. Although they live in rented houses and have blue-collar jobs, they are moving up, and are college-bound.

Group C2

The five Clusters of Social Group C2 describe the midscale, middle-density, "satellite" cities surrounding major metros, as well as many smaller, second-tier cities, and cover all but 10 minor agrarian TV markets in the U.S. With one Cluster in the 4th, two in the 5th, and one each in the 6th and 7th affluence deciles, and with a lower cost of living, the C2 Clusters are generally better off than their peers in Group U2. Also, with minor exceptions, they are predominantly white. Otherwise, they are fundamentally different in age, marriage, education, occupations and lifestyle. The five clusters are:

- Cluster 32

  These are the people who keep the wheels rolling in our second cities; the business executives, bankers, doctors, lawyers, retailers, and city hall officials. Half are older, married, post-child; half are younger, single, pre-child. Above-average incomes in all dollar brackets allow active leisure pursuits of clubs and sports.

- Cluster 33

  Cluster 33 plays host to the youth of a hundred, fast-growing second cities in the Southern, Midwest, and West. They are young professionals and "techies" in public and private service industries who live in multi-unit rentals, like music, and vacationing in the Caribbean.

- Cluster 34

  In contrast to recent trends, Cluster 34 opted for early marriage and parenthood. Here we see a higher index for blue-collar jobs, for large families, and for solo parents with young children. To compensate, many live in natural beauty with a skew to the Pacific, the Rockies, and the northwestern Canadian borderlands.

- Cluster 35

  Equal to Cluster 34 in affluence, Cluster 35 describes older skilled blue-collars, policemen, firemen, and technicians who have reached the end of their careers. A few retire to the mountains or "St. Pete", but most stay home and rock on porches near the Great Lakes and Mohawk Valley.

- Cluster 36

  Many college towns and university campus neighborhoods are typically mixed with half locals and half students. Cluster 36 is composed of thousands of penniless 18-24 year olds and highly educated professionals, all with a taste for prestige products that are beyond their evident means.

Group T2

The four Clusters of Social Group T2 cover the midscale, low-density towns found on the outskirts of all major metros and second cities, so the Group is represented in all but three small TV Markets. With one Cluster each in the 4th and 5th, two in the 6th, and one in the 7th affluence deciles, Group T2 is comparable to Groups S3, U2, and C2. Three of these Clusters are predominantly white, show an even age distribution, own homes, marry and raise kids. The fourth is unique, since it defines lifestyles in military group quarters. The four clusters are:

- Cluster 37

  Cluster 37 is the only T2 Cluster that shows above-average college education. Executives and professionals work in local service fields such as administration, communications, health, and retail. Most are married; the young with children, the elders without. Living is homespun with a focus on crafts, camping, and sports.

- Cluster 38

  This cluster is in the sixth affluence decile of the U.S. median income. These are family neighborhoods with a high index for married couples with children. They are busy with kids and dogs, and enjoy fast food, sports, fishing, camping, and TV. In approximate balance with the U.S. population, they are found coast to coast.

- Cluster 39

  Just below Cluster 38 in affluence, Cluster 39 is far more industrial and blue-collar, with skilled workers primarily employed in mining, milling, manufacture, and construction. Geo-centered in the Appalachians, Great Lakes industrial region, and the Western highlands, these folks love the outdoors.

- Cluster 40

  Since Cluster 40 depicts military life with personnel living in group quarters, its demographics are wholly atypical. Located and/or near military bases, Cluster 40 skews toward our principal harbors and defense perimeters. Fully integrated and with the highest index for adults under 35, Cluster 40 likes fast cars, bars, and action sports.

Group R1

The four Clusters of Social Group R1 confirm a continuing trend to strong economic growth in rural America. With two Clusters in the 4th, one in the 6th, and one in the 8th affluence deciles, Group R1 now rivals Groups S3, U2, C2, & T2 in midscale affluence and, with far lower living costs, suffer less poverty. Composed of hundreds of small towns and remote exurbs, the Group covers most TV markets. They are largely composed of white, married couples, many with children, in industrial and agrarian occupations, living in owned houses and mobile homes. The four clusters are:

- Cluster 41

  With average incidence for college education, Cluster 41 has income levels well above the U.S. median. They are well-paid, skilled craftsmen, machinists, and builders who live in scenic locales in New England, the Tidewater, the Great Lakes region, and the Rockies. Family-centered lifestyles are devoted to hobbies, hunting, and boating.

- Cluster 42

  Found in the northern Pacific, the Rockies, and northern New England, Cluster 42 is the only R1 Cluster with above-average college education. This Cluster has an equal mix of white- and blue-collar jobs. A high index for personal computers reflects several new, high-tech industries in these pristine areas.

- Cluster 43

  Cluster 43 sweeps across New England and the Mohawk Valley, through the corn, grain, and dairy belts to the Pacific orchards. Solid blue-collar citizens in towns like Utica, NY; Zanesville, OH; and Butte, MT are raising sturdy, Tom Sawyerish children in decent, front-porch houses. Yes, July 4th parades are still a big event in Cluster 43.

- Cluster 44

  In the 8th decile, Cluster 44 is the least affluent of the R1 Clusters, and is found in the Northeast, the Southeast, in the Great Lakes and Piedmont industrial regions. They lead the Group in blue-collar jobs; the majority are married with school-age children. They are church goers who also enjoy bowling, hunting, sewing, and attending auto races.

Group U3

The three Clusters of Social Group U3 are highly concentrated with over 60% of total households in the Top 25 TV Markets; over 99% in the Top 50. With one Cluster in the 9th, and two in the 10th affluence deciles, with the nation's lowest incomes and highest poverty ratios, U1 is the least affluent Group. These Clusters share multi-racial, multi-lingual communities of dense, rented row and high-rise apartments, high indices for singles, solo parents with pre-school children, and perennial unemployment. The three clusters are:

- Cluster 45

  Cluster 45 is found in most Eastern mega-cities, in the new West, and is the third most single place in America. Often found near urban universities, Cluster 45 hosts a fair number of students. This cluster has very few children, it's a mixture of races, transients, and night trades.

- Cluster 46

  Cluster 46 collects the nation's bi-lingual, Hispanic barrios which are chiefly concentrated in the Atlantic metro corridor, Chicago, Miami, Texas, Los Angeles, and the Southwest. These neighborhoods are populated by large families with many small children. They rank second in percentage of foreign-born; first in transient immigration.

- Cluster 47

  Concentrated in large Eastern cities and among the nation's poorest neighborhoods, Cluster 47 has twice the nation's unemployment. Many residents are receiving public assistance. Eight out of ten households are African-American and seven in ten households with children are single-parent families.

Group C3

The four Clusters of Social Group C3 cover the downtown neighborhoods of hundreds of second cities and satellite cities on the fringes of major metros. With one Cluster in the 8th, one in the 9th, and two in the 10th affluence deciles, and with lower costs of living, these Clusters are better off than their big-city cousins in Group U3. Coupled with pockets of unemployment, broken homes, and solo parents, we also see a wide range of occupations, including clerical, retail, labor, transportation, agrarian, public and private services. The four clusters are:

- Cluster 48

  Highly skewed west of the Mississippi, Cluster 48 has received a flood of migrants from the East who are mostly young and single. Often found near city colleges, Cluster 48 is populated with students and those looking for fresh starts and first jobs. They are employed as lower-echelon white-collar sales clerks, and technicians.

- Cluster 49

  Cluster 49 is three rungs down from Cluster 48, at opposite ends of the age range and the nation. Except for some hot spots in the West, Cluster 49 lies mostly in the Appalachians and central Florida. It ranks third in singles, second in ages over 65, and first in retirement. They take bus tours, collect stamps, and play cards and chess.

- Cluster 50

  Although Cluster 50 is found in many markets, it is centered across the Southwest and Pacific. It ranks third in Hispanic population, with an overlay of Native Americans. Ranked last in higher education, the Cluster shows all the scars of poverty, but many are staying ahead with employment in transport, labor, and service.

- Cluster 51

  Mostly concentrated in the Southeast, the smaller cities of the Mississippi delta, the Gulf Coast and Atlantic states, Cluster 51 is very poor. Over 70% of its households are black. Although 61st in median household income, a low cost of living and a mix of labor and service jobs, keep these families afloat.

Group T3

The four Clusters of Social Group T3 collect thousands of remote exurbs and satellite towns, lying well outside our major metros and second cities, and in all but four TV Markets. With one Cluster in the 6th, one in the 8th, and two in the 9th affluence deciles, T3 is considerably better off than Groups U3 & C3. As a Group, these Clusters share lower education and incomes, with predominant blue-collar occupations, an equal mix of owned and rented single-unit houses, religion, home crafts, and a lot of awesome scenery. Otherwise, they are distinctly different. The four clusters are:

- Cluster 52

  Found coast to coast, Cluster 52 is a myriad of rustic towns and villages in scenic coastal, mountain, lake, and valley areas, where seniors living in cottages retire among their country neighbors. Not as old, urban, or affluent as other retirees, a few play golf, but most prefer to adopt local customs.

- Cluster 53

  Cluster 53 is the most industrial of the T3 Clusters. Once dependent on railroads and major markets, light industry was freed by "18-wheelers" to move farther afield seeking low-cost, non-union labor. They found it in Cluster 53, which is comprised of hundreds of blue-collar mill towns on America's rural back roads.

- Cluster 54

  Cluster 54 is geographically centered in the South, in the Mississippi delta, and in the Gulf and Atlantic states, which have become the center of the nation's non-durable industries, such as clothing and home furnishings. With minimal education, a black/white population mix, and unskilled labor, Cluster 54 falls in the ninth affluence decile.

- Cluster 55

  Although equal to Cluster 54 in income, Cluster 55 is very different. This cluster is drawn from the Appalachians, across the Osarks to Arizona, and up the Missouri River to the coal fields of Montana. The population is older, mostly single with few children, all in the midst of scenic splendor.

Group R2

The two Clusters of Social Group R2 describe the nation's agrarian heartland, broadly geo-centered in the Great Plains, South Central, Mountains and Pacific, with a few pockets East. With one Cluster each in the 8th and 10th affluence deciles, the Group is hardly the jet set. But as they are comparatively self-sufficient, with a low cost of living, they are not deprived. As a Group, they share large, multi-generation families, long residential tenure in low-density houses and mobile homes, a mix of Hispanics and Native Americans, and a fierce independence. The two clusters are:

- Cluster 56

  This cluster covers farming, forestry, fishing, ranching, mining, and other rural occupations. Consequently, Cluster 56 is more affluent, and more skewed to the greater northwest from Lake Michigan to the Pacific. It is famous for very large families with many kids, countless animals, apple pie, and going fishing.

- Cluster 57

  Feeding America and sometimes the world, Cluster 57 is our breadbasket. Centered in the Great Plains and South Central regions, this Cluster has a high index for Latino migrant workers. Life here is tied to the land and ruled by the weather. Mostly self-sufficient, family-and home centered, these families are poor only in money.

Group R3

The five Clusters of Social Group R3 describe thousands of remote country towns, villages, hamlets, and reservations scattered across the U.S. With two Clusters in the 8th, two in the 9th, and one in the 10th affluence deciles, they are neither affluent nor destitute. Since three R3 Clusters have lower-middle incomes and their cost of living is minimal, they are a promising market. As a Group, they share marriage, plus many elders, mobile homes, kids, car pools, craftsmen and laborers in agriculture, mining, transport, and construction. The five clusters are:

- Cluster 58

  On most maps, interstates are red and the old highways are blue. Cluster 58 follows these remote roads through our mountains and coasts, deserts, and lake shores. They are R3's youngest neighborhoods, with its largest families, and the most children. They hunt and fish, love country music, camping, and attending "tractor pulls".

- Cluster 59

  Cluster 59 ranks as the third most elderly Cluster in America, and has the lowest incidence of children in Group R3. It covers the nation, but is concentrated in the Great Plains, and the West Coast. Although the lifestyle is pure country, the high indices for golfing, power boats, sailboats, volleyball, and health walks are surprising.

- Cluster 60

  Cluster 60 is centered in the Eastern uplands along a wide path from the Pennsylvania Poconos to the Arkansas Ozarks. Anyone who has visited their playgrounds in Branson, MO; or Gatlinburg, TN; can attest that these are the most blue-collar neighborhoods in America. Centered in the "Bible Belt", many are hooked on Christian and country music.

- Cluster 61

  Cluster 61, the most geo-centric of all the Clusters, is mainly in the coastal flatlands of the Atlantic and Gulf states from the James to Mississippi rivers. These humid, sleepy rural communities with a mix of blacks and whites, exist in a seemingly timeless, agrarian rhythm.

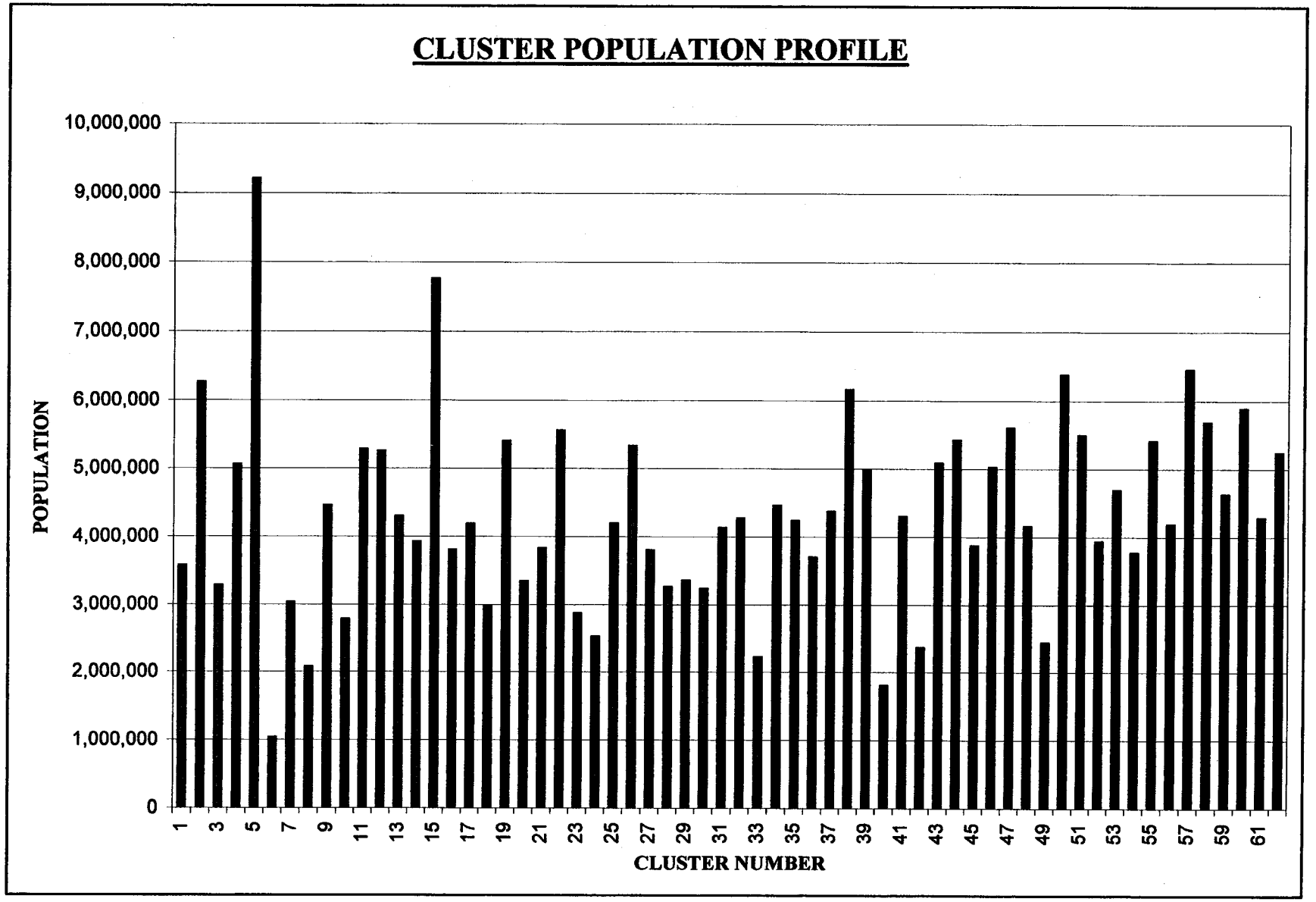
- Cluster 62

  Cluster 62 scratches a hard living from hard soil. Cluster 62 describes our poorest rural areas that reach from Appalachia to the Colorado Rockies, and from the Texas border to the Dakota Badlands. Cluster 62 Native Americans, mining occupations, and chewing tobacco show the nation's highest indices in Cluster 62.

APPENDIX C POPULATION OF INDIVIDUAL CLUSTERS

INDIVIDUAL CLUSTER POPULATION			
Cluster Group	Cluster Code	Base Count	Base % Comp
S1	01	3,573,114	1.33
S1	02	6,261,120	2.32
S1	03	3,283,121	1.22
S1	04	5,049,656	1.87
S1	05	9,208,711	3.42
U1	06	1,035,344	0.38
U1	07	3,027,199	1.12
U1	08	2,073,295	0.77
U1	09	4,448,975	1.65
U1	10	2,778,214	1.03
C1	11	5,274,696	1.96
C1	12	5,251,230	1.95
C1	13	4,296,344	1.59
T1	14	3,921,679	1.46
T1	15	7,758,905	2.88
T1	16	3,801,272	1.41
T1	17	4,186,062	1.55
S2	18	2,971,766	1.10
S2	19	5,397,364	2.00
S2	20	3,342,703	1.24
S2	21	3,826,015	1.42
S2	22	5,555,727	2.06
S3	23	2,869,080	1.06
S3	24	2,521,838	0.94
S3	25	4,189,756	1.56
S3	26	5,328,985	1.98
U2	27	3,799,088	1.41
U2	28	3,264,054	1.21
U2	29	3,355,822	1.25
U2	30	3,235,737	1.20
U2	31	4,128,638	1.53
C2	32	4,269,344	1.58
C2	33	2,221,015	0.82
C2	34	4,453,339	1.65
C2	35	4,232,075	1.57
C2	36	3,696,461	1.37
T2	37	4,366,540	1.62
T2	38	6,161,666	2.29
T2	39	4,983,702	1.85
T2	40	1,803,444	0.67
R1	41	4,292,043	1.59
R1	42	2,362,751	0.88
R1	43	5,078,544	1.89
R1	44	5,419,514	2.01
U3	45	3,869,670	1.44
U3	46	5,018,953	1.86

Cluster Group	Cluster Code	Base Count	Base % Comp
U3	47	5,600,865	2.08
C3	48	4,151,736	1.54
C3	49	2,432,706	0.90
C3	50	6,375,855	2.37
C3	51	5,485,885	2.04
T3	52	3,932,641	1.46
T3	53	4,682,696	1.74
T3	54	3,766,006	1.40
T3	55	5,403,935	2.01
R2	56	4,184,437	1.55
R2	57	6,453,395	2.40
R3	58	5,680,934	2.11
R3	59	4,617,846	1.71
R3	60	5,886,159	2.18
R3	61	4,280,518	1.59
R3	62	5,232,651	1.94
Total		**269,412,836**	**100.00**


CLUSTER POPULATION PROFILE
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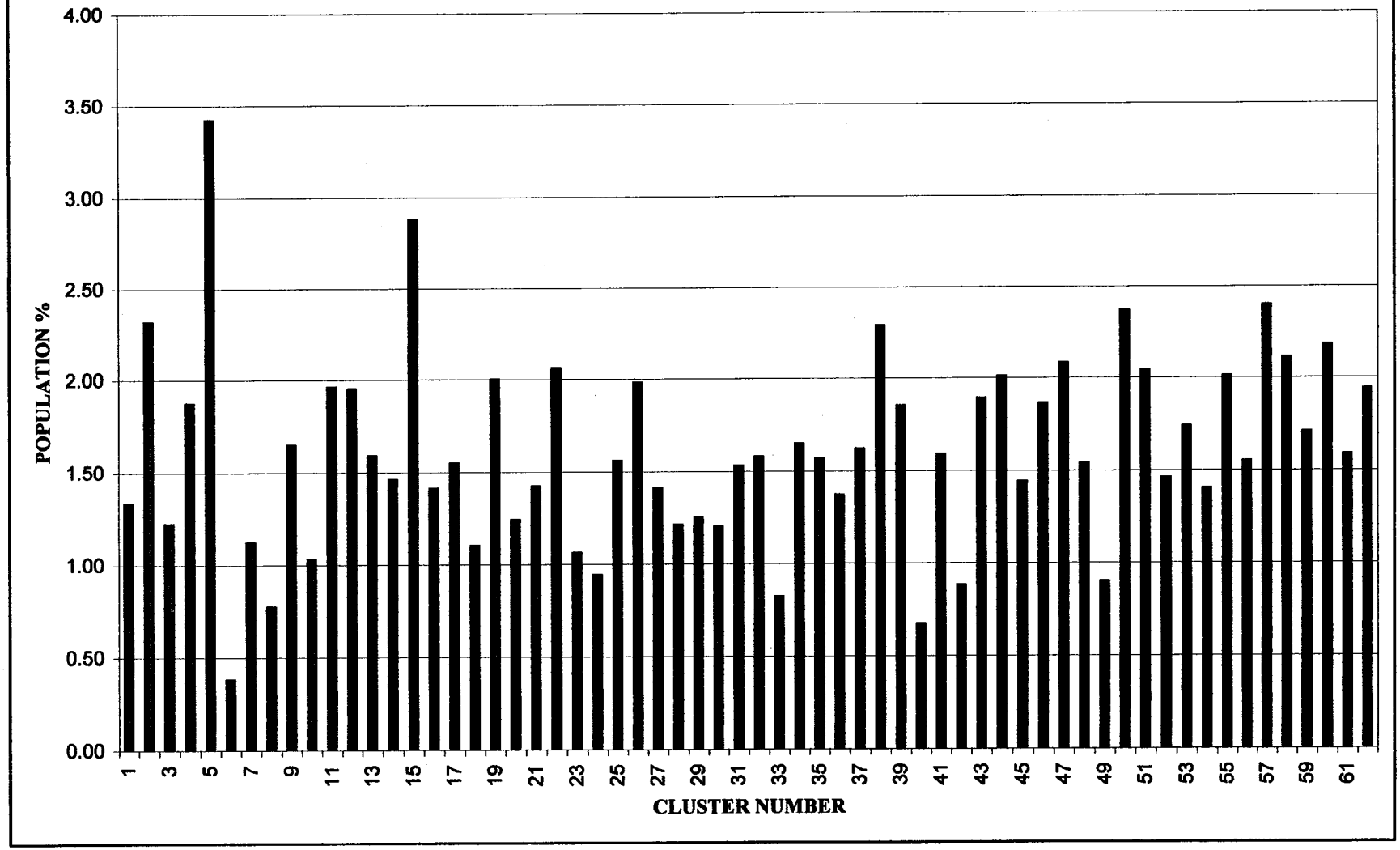
CLUSTER POPULATION % PROFILE

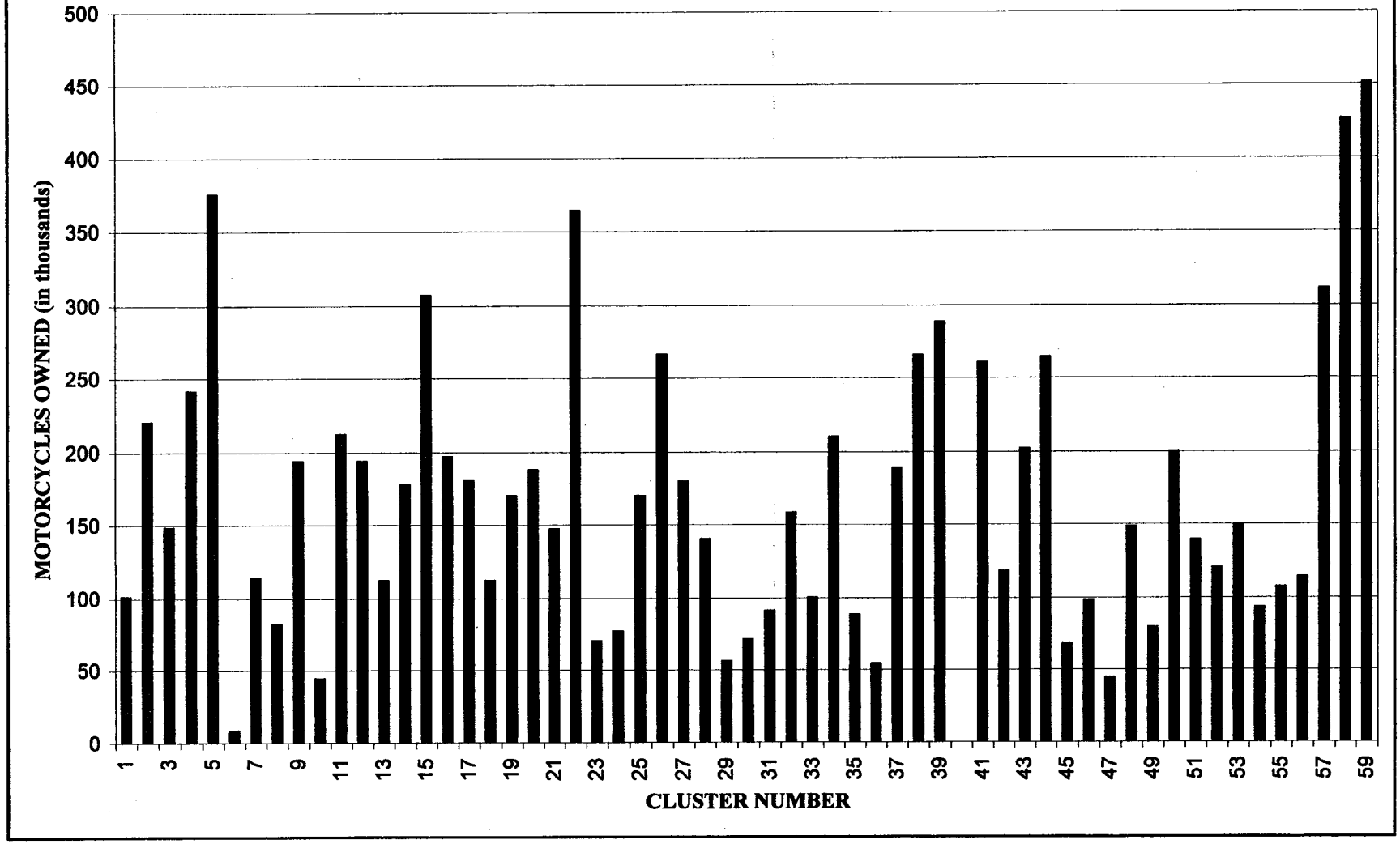


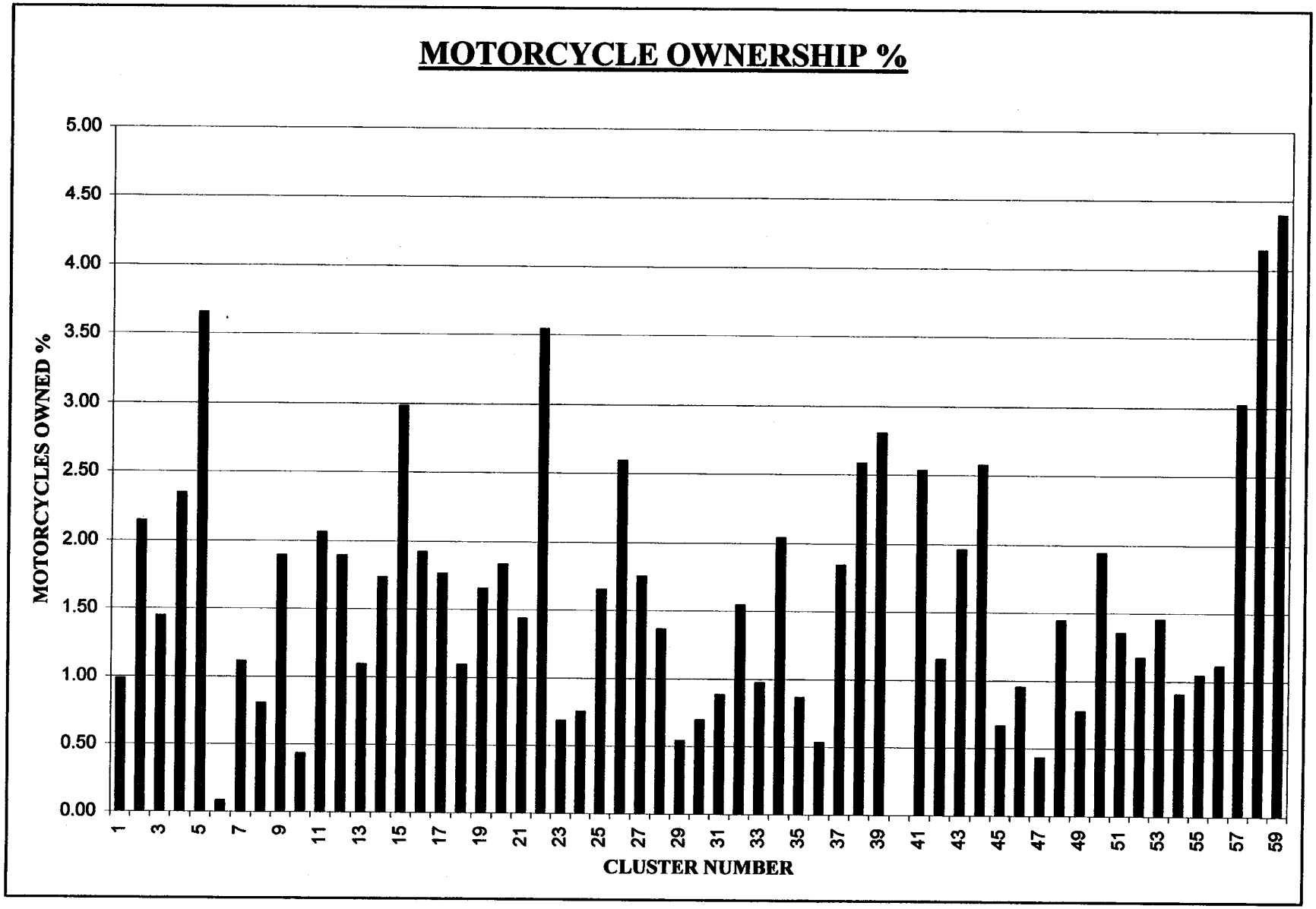
APPENDIX D MOTORCYCLE OWNERSHIP BY CLUSTER

MOTORCYCLE OWNERSHIP BY CLUSTER						
Cluster Group	Cluster Code	Base Count (in thousands)	Base % Comp	Own Motorcycle (in thousands)	Own Motorcycle % Comp	Own Motorcycle Index
S1	01	2,300	1.19	101	0.98	82
S1	02	4,623	2.40	220	2.14	89
S1	03	2,923	1.52	148	1.44	95
S1	04	3,818	1.98	241	2.34	118
S1	05	6,428	3.34	375	3.65	109
U1	06	684	0.36	8	0.08	22
U1	07	3,029	1.57	114	1.11	70
U1	08	1,699	0.88	82	0.80	90
U1	09	4,313	2.24	194	1.89	84
U1	10	1,749	0.91	44	0.43	47
C1	11	4,161	2.16	212	2.06	95
C1	12	4,151	2.16	194	1.89	88
C1	13	3,162	1.64	112	1.09	66
T1	14	2,729	1.42	178	1.73	122
T1	15	5,346	2.78	307	2.98	108
T1	16	2,558	1.33	197	1.92	144
T1	17	3,398	1.76	181	1.76	100
S2	18	2,270	1.18	112	1.09	92
S2	19	4,827	2.51	170	1.65	66
S2	20	2,506	1.30	188	1.83	140
S2	21	2,865	1.49	147	1.43	96
S2	22	4,432	2.30	364	3.54	154
S3	23	2,095	1.09	70	0.68	63
S3	24	2,044	1.06	77	0.75	71
S3	25	1,869	0.97	170	1.65	170
S3	26	5,299	2.75	266	2.59	94
U2	27	3,204	1.66	180	1.75	105
U2	28	1,809	0.94	140	1.36	145
U2	29	2,497	1.30	56	0.54	42
U2	30	1,850	0.96	71	0.69	72
U2	31	2,848	1.48	91	0.88	60
C2	32	3,043	1.58	158	1.54	97
C2	33	1,376	0.71	100	0.97	136
C2	34	3,574	1.86	210	2.04	110
C2	35	3,508	1.82	88	0.86	47
C2	36	2,516	1.31	54	0.53	40
T2	37	3,439	1.79	189	1.84	103
T2	38	4,622	2.40	265	2.58	107
T2	39	4,170	2.17	288	2.80	129
T2	40	238	0.12	0	0.00	0
R1	41	3,570	1.85	260	2.53	136
R1	42	1,989	1.03	118	1.15	111
R1	43	4,001	2.08	202	1.96	95
R1	44	3,511	1.82	264	2.57	141
U3	45	2,019	1.05	68	0.66	63

Cluster Group	Cluster Code	Base Count (in thousands)	Base % Comp	Own Motorcycle (in thousands)	Own Motorcycle % Comp	Own Motorcycle Index
U3	46	3,108	1.61	98	0.95	59
U3	47	2,315	1.20	44	0.43	36
C3	48	2,698	1.40	148	1.44	103
C3	49	1,634	0.85	79	0.77	91
C3	50	3,740	1.94	200	1.94	100
C3	51	2,464	1.28	139	1.35	106
T3	52	2,834	1.47	120	1.17	79
T3	53	2,277	1.18	149	1.45	123
T3	54	2,824	1.47	93	0.90	62
T3	55	3,488	1.81	107	1.04	57
R2	56	1,927	1.00	114	1.11	111
R2	57	4,138	2.15	311	3.02	141
R3	58	4,781	2.48	426	4.14	167
R3	59	5,099	2.65	451	4.39	166
R3	60	3,011	1.56	144	1.40	90
R3	61	4,519	2.35	145	1.41	60
R3	62	2,646	1.37	243	2.36	172
Total		**61,493**	**100.00**	**10,285**	**100.00**	**100**

MOTORCYCLE OWNERSHIP

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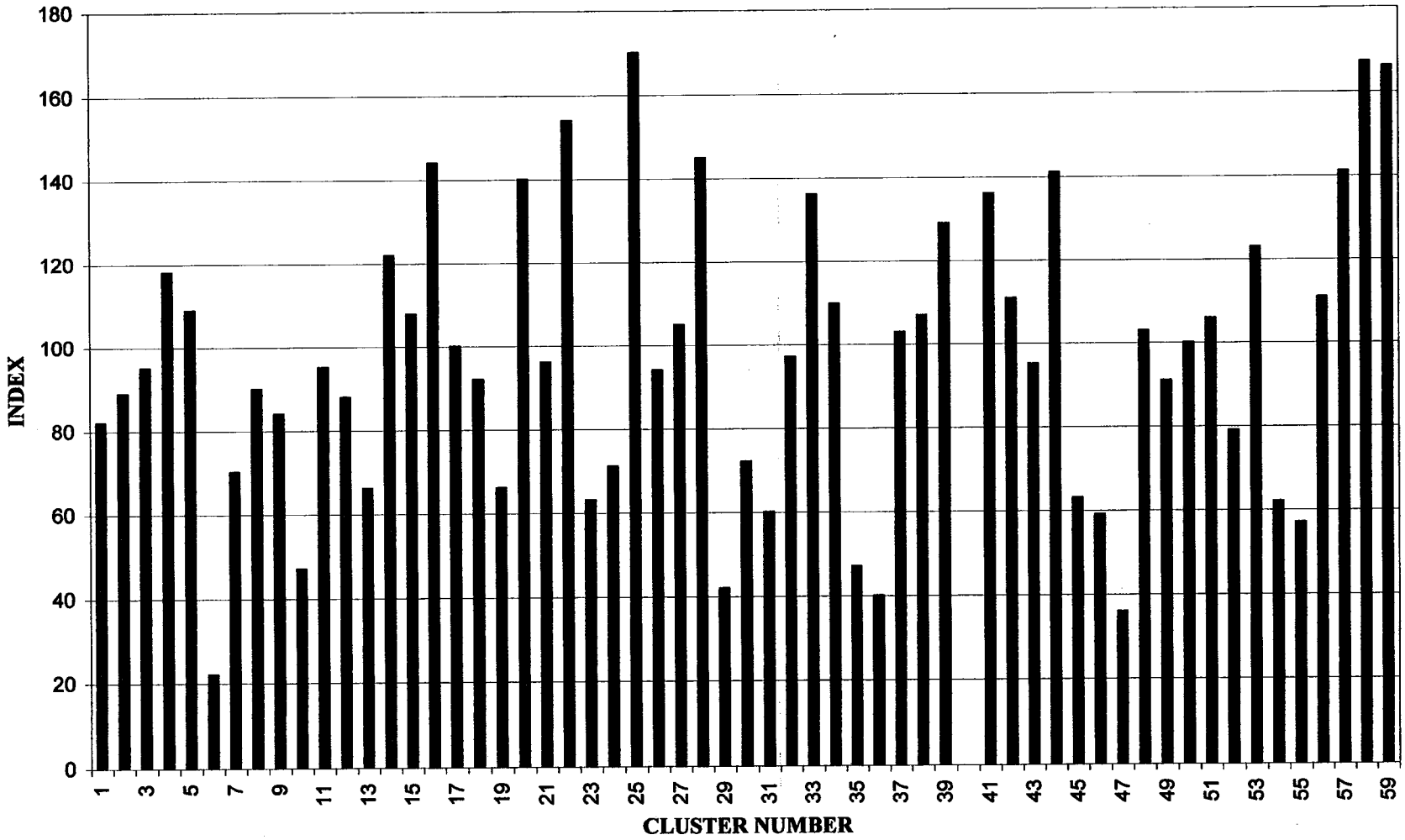
CLUSTER NUMBER

MOTORCYCLE OWNERSHIP INDEX

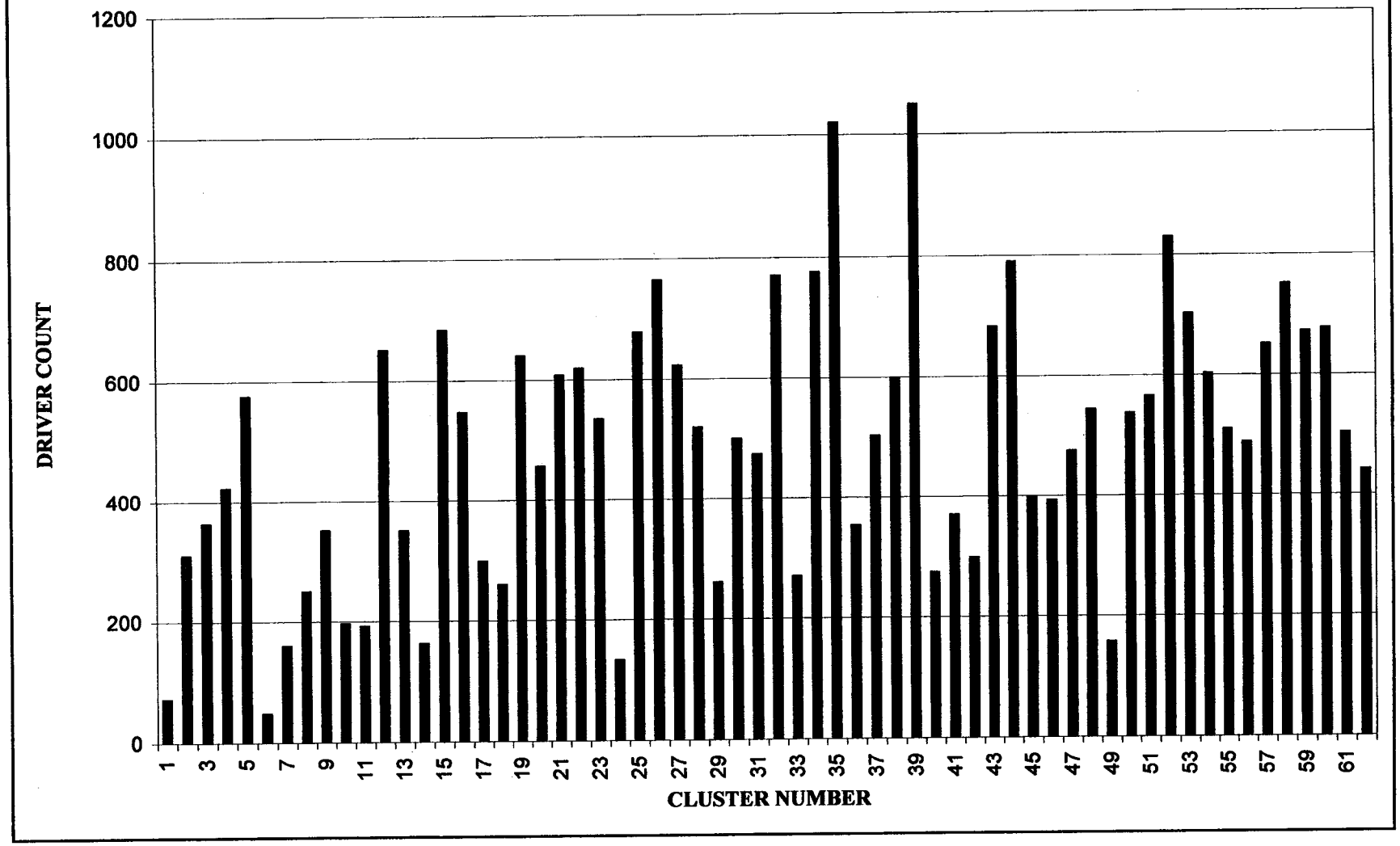


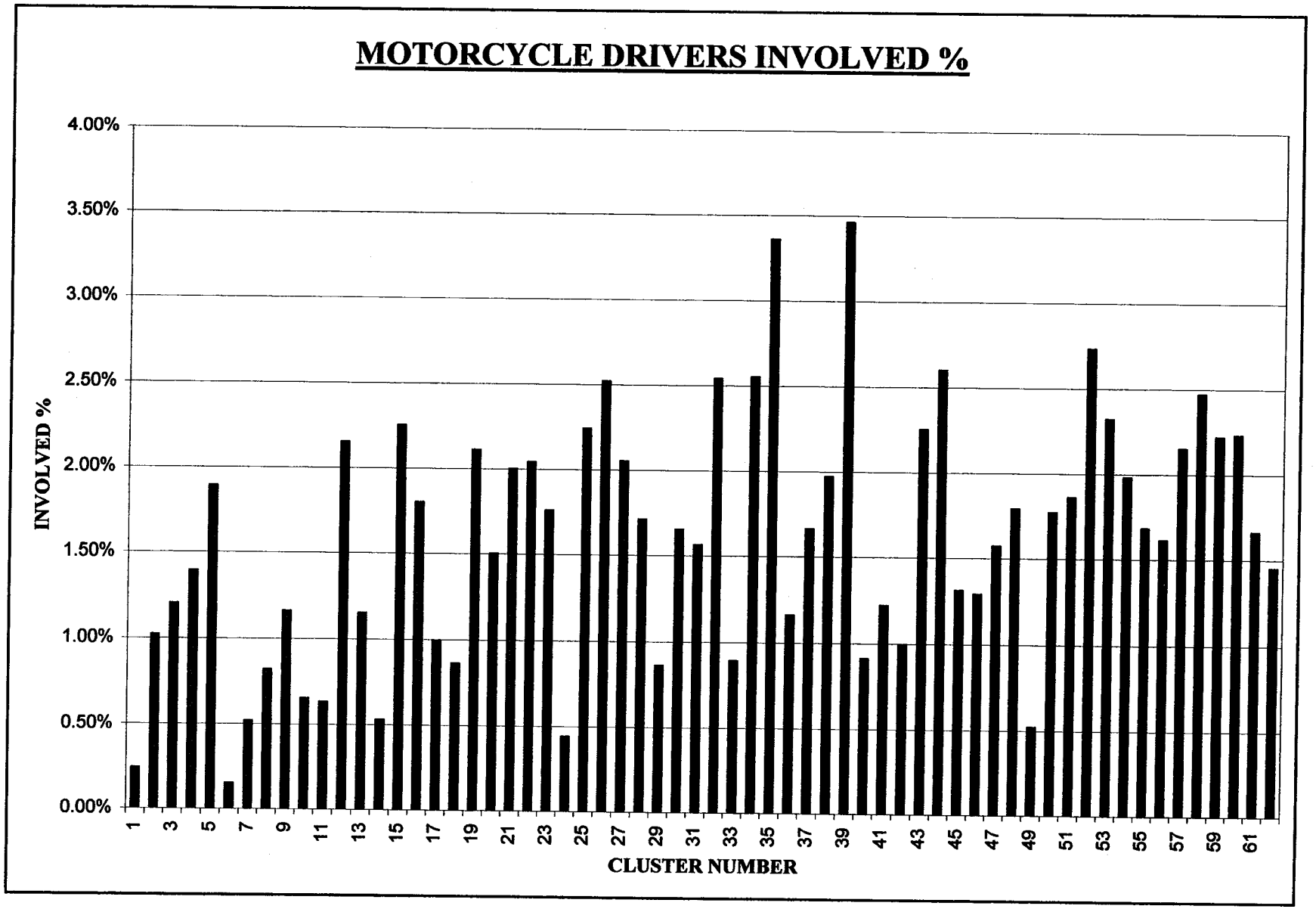
APPENDIX E MOTORCYCLE DRIVERS INVOLVED BY CLUSTER

MOTORCYCLE DRIVERS INVOLVED BY CLUSTER				
Cluster Group	Cluster Code	Motorcycle Driver Count	Motorcycle Driver % Comp	Motorcycle Driver Index
S1	01	72	0.24%	24
S1	02	310	1.02%	48
S1	03	363	1.20%	83
S1	04	422	1.39%	59
S1	05	575	1.89%	52
U1	06	47	0.15%	199
U1	07	159	0.52%	47
U1	08	250	0.82%	103
U1	09	351	1.16%	61
U1	10	196	0.65%	151
C1	11	191	0.63%	31
C1	12	651	2.15%	114
C1	13	350	1.15%	106
T1	14	162	0.53%	31
T1	15	684	2.25%	76
T1	16	547	1.80%	94
T1	17	299	0.99%	56
S2	18	260	0.86%	79
S2	19	640	2.11%	128
S2	20	456	1.50%	82
S2	21	607	2.00%	140
S2	22	618	2.04%	58
S3	23	535	1.76%	259
S3	24	133	0.44%	59
S3	25	679	2.24%	135
S3	26	764	2.52%	97
U2	27	622	2.05%	117
U2	28	520	1.71%	126
U2	29	261	0.86%	158
U2	30	500	1.65%	239
U2	31	474	1.56%	177
C2	32	770	2.54%	165
C2	33	270	0.89%	92
C2	34	775	2.55%	125
C2	35	1,019	3.36%	392
C2	36	353	1.16%	222
T2	37	503	1.66%	90
T2	38	598	1.97%	76
T2	39	1,050	3.46%	124
T2	40	275	0.91%	0
R1	41	369	1.22%	48
R1	42	299	0.99%	86
R1	43	683	2.25%	115
R1	44	789	2.60%	101
U3	45	397	1.31%	198

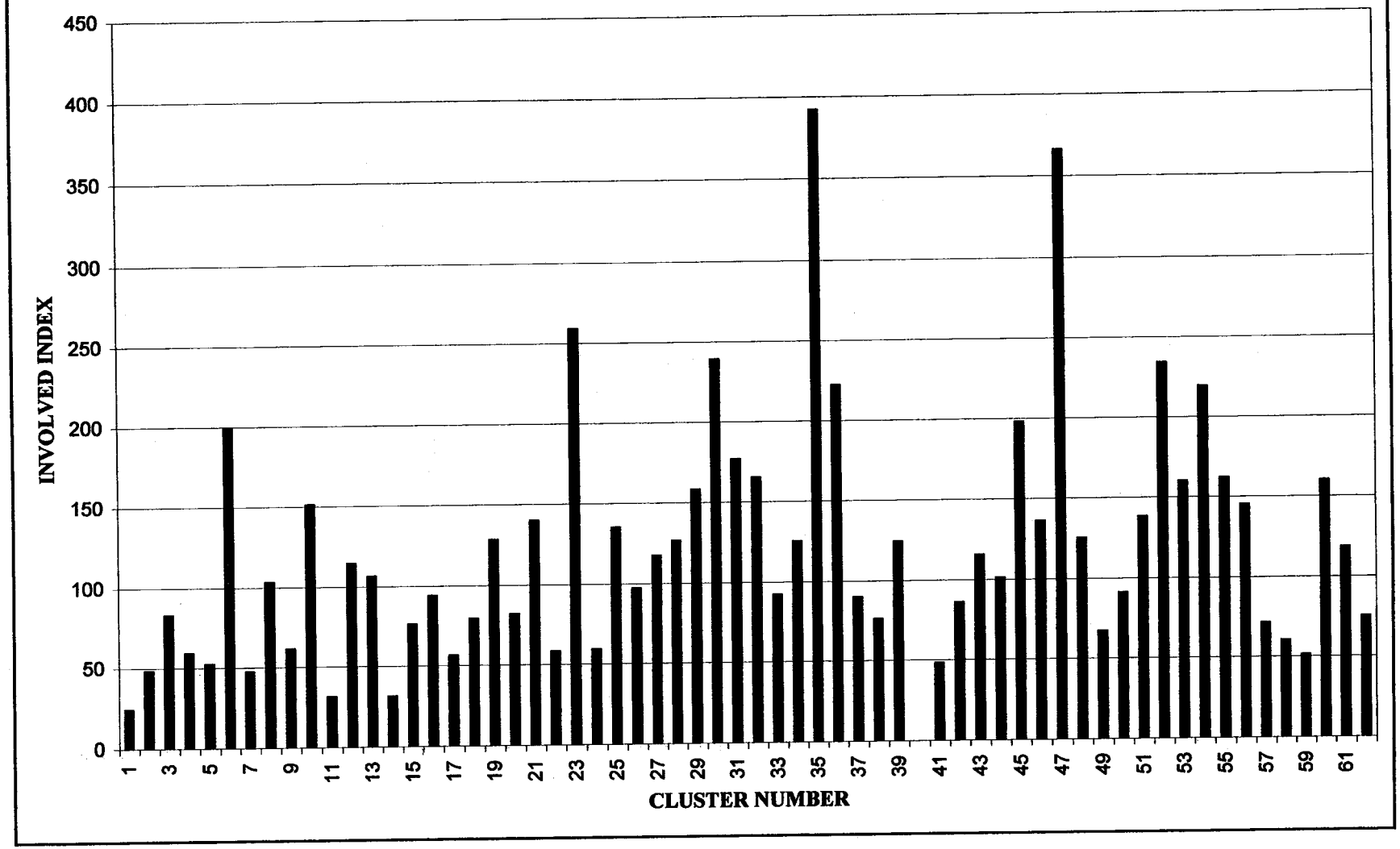
Cluster Group	Cluster Code	Motorcycle Driver Count	Motorcycle Driver % Comp	Motorcycle Driver Index
U3	46	392	1.29%	136
U3	47	475	1.57%	366
C3	48	544	1.79%	125
C3	49	157	0.52%	67
C3	50	538	1.77%	91
C3	51	565	1.86%	138
T3	52	829	2.73%	234
T3	53	703	2.32%	160
T3	54	602	1.98%	219
T3	55	510	1.68%	162
R2	56	488	1.61%	145
R2	57	651	2.15%	71
R3	58	751	2.47%	60
R3	59	673	2.22%	51
R3	60	678	2.23%	160
R3	61	503	1.66%	118
R3	62	441	1.45%	75
Total		**30,348**	**100.00%**	

MOTORCYCLE DRIVERS INVOLVED




MOTORCYCLE DRIVERS INVOLVED %
4.00%
3.50%
3.00%
2.50%
2.00%
1.50%
1.00%
0.50%
0.00%
INVOLVED %
1
3
5
7
9
11
13
15
17
19
21
23
25
27
29
31
33
35
37
39
41
43
45
47
49
51
53
55
57
59
61
CLUSTER NUMBER

MOTORCYCLE DRIVERS INVOLVED INDEX



DOT HS 809 197
January 2001

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