RESULTS OF SPECIAL ACCIDENT STUDY TEAMS/

ASAP COORDINATION CONFERENCE

June 12-13, 1974

Washington, D.C.

———

Prepared by:

Research and Development
Office of Statistics and Analysis

July 1974

RESULTS OF SPECIAL ACCIDENT STUDY
TEAMS / ASAP COORDINATION CONFERENCE

JUNE 12 - 13, 1974
WASHINGTON, D.C.

ASSEMBLED AND EDITED BY:

JAMES C. FELL
ACCIDENT INVESTIGATION DIVISION
OFFICE OF STATISTICS
AND ANALYSIS

TABLE OF CONTENTS

SECTION V

Special Study Final Report Requirements

14 Required Tables

Driver Profile

Univariate Distribution

Population Data

INTRODUCTION AND SYNOPSIS

The second Special Accident Study Teams / ASAP Coordination Conference was held in Washington, D.C. on June 12-13, 1974. Members of the four accident investigation teams (Boston University, Maryland Medical-Legal Foundation, University of New Mexico, and University of Oklahoma) studying the alcohol/ drug problem in their area, the four Alcohol Safety Action Programs (ASAP) in the study areas (Boston, Baltimore, Albuquerque, and Oklahoma City), NHTSA regional representatives, and members of the NHTSA monitoring groups (Office of Statistics and Analysis, Office of Driver and Pedestrian Programs) all met for the two-day Conference to continue coordination of activities and to report recent findings. More specifically, the objectives of the Conference were three-fold:

(1) To report on progress made in Study Team/ASAP coordination procedures subsequent to first conference, on any problems encountered by the Teams in the agreed upon minimal set of human factors data collected in all four studies, and on any changes in methodologies, needs, or experimental design.

(2) To present up-to-date findings in the study areas including alcohol- involved driver psychosocial profiles, proportion of alcohol-involved and problem drinkers in samples studied, accident-involved drivers exposure to ASAP countermeasures, typical errors alcohol-involved drivers are making, etc.

(3) To discuss the future of the four ASAPs and the Special Accident Studies including continuations, modifications, changes in needs, changes in emphasis, etc.

The attendance and agenda for this Conference appear in Section I of this report. Also appearing in Section I, as a refresher, is the minimal set of human factors data agreed upon at the first Conference.[1]

To the extent possible, all three objectives of the Conference were met. Section II of this report contains synopses and materials from the accident team presentations. One common problem each of the teams experienced was the lack of success in obtaining all 41 variables from the agreed upon minimal set of human factors data to be collected in each study. Certain data elements, either because of their structure, ambiguity, threat to the respondent, or difficulty in answering by a respondent, could not be successfully obtained by the teams. The following variables were reported by each of the four teams to be in that category and therefore are rendered as meaningless for any further analyses:

---

[1]Results of the first conference, held on July 24-25, 1973, were reported in a memorandum dated August 7, 1973 from James C. Fell to the list of attendees.

00000007

V19 Length of time driver usually drinks per sitting

> Responses were reported by the teams as too variable or the respondent could just not estimate the time.

V20 Number of drinks per sitting

> Responses, again, were vague, too variable, or the respondent could not estimate an "average" or "usual" number.

V29 What were some of the indications as to why the driver drank

> This variable did not appear to be reliable, no one single response could be elicited, most drivers answered "yes" to every choice.

Difficulties were also expressed by three of the teams in obtaining information on the following variable:

V33 Driver ever diagnosed as an alcoholic by competent medical or treatment facility

> This information did not appear to be readily available to those teams.

This, of course, affects a proper diagnosis of the driver's extent of drinking and his drinker classification (V40 and V41).

All other variables appeared to have been collected by all four study teams in one form or another.

To summarize team presentations, the Boston Team had several meaningful results to report since their data collection has ceased and they are in the process of final data analyses. A Final Report on 300 fatal accident cases will be completed in late summer 1974. This will be the culmination of three years of effort.

The Maryland Team results were limited to 1972-1973 analyses of 33 driver fatal accidents and 20 non-fatal "matched" accidents. Since the numbers were so small, meaningful statistical analyses could not be performed on these data. However, the Maryland Team has added approximately 30 more driver fatals and 30 non-fatals to their sample in the 1973-1974 effort and a final report on all these data will also be completed in late summer 1974. One more year of effort (74-75) will continue on this study.

The New Mexico Team had some interesting preliminary results and a driver profile that should prove beneficial to the ASAPs. Data collection in this effort will continue through the summer with a final report due in the early fall of 1974.

Finally, the Oklahoma Team, just getting started, has indicated perhaps the best research design of the four studies (with its Tulsa control group). Results to this date were extremely preliminary and the numbers too small to be meaningful. However, by late fall 1974 a final report will be completed on approximately 80 Oklahoma City fatal accidents vs. 50 Tulsa fatal accidents. A sample of DWI arrested drivers in Oklahoma City and roadside survey data will also be compared to the driver data in the Oklahoma City fatals.

Synopses of the ASAP Progress reports appear in Section III. The Albuquerque ASAP project has since been completed and will partially continue under local funding (city and county). The Boston, Baltimore, and Oklahoma City ASAPs will be completed at the end of 1974.

Moving into the final objective of the Conference, Section IV contains synopses of the presentations on the future of the ASAP program and the future of the special accident study teams. It appears that 10-12 selected ASAPs (out of a total of 35) will continue operationally for a year or two. The remaining 23-25 will be considered for evaluation follow-up efforts. State and local funding may pick up other aspects of the ASAP countermeasures.

Special accident investigation studies will continue in the future addressing several problem areas. Recreational vehicle, truck, motorcycle, bicycle and air cushion restraint equipped vehicle accidents will all be specially studied in FY 75. Proposed human factor oriented studies include research on drugs, behavioral errors of intoxicated drivers and pedestrians, and restraint usage. There are four avenues of approach for the four Special Alcohol Study Teams to continue their research:

(1) If one of the four ASAP cities is chosen for Operational continuation, the team may be useful for evaluation purposes.

(2) The Teams can bid on new NHTSA RFPs in the alcohol/drug/accident investigation areas, or other areas per their interest.

(3) Unsolicited proposals can be sent to NHTSA to perform some unique accident study.

(4) Under HSPS 18 on Accident Investigation and Reporting, the states may want to fund one of the Teams as the official "State Team."

The Teams are advised to check into each of these areas if they are interested in continuing accident research.

Finally, and most important to the study teams, Section V contains the Final Report Requirements common to all four efforts. Fourteen routine bivariate tables have been developed by Dr. Voas and Mr. Fell of NHTSA for incorporation, as a minimum, into each of the special study final reports. These tables were found to be the most beneficial to the four local ASAPs and to the overall federal evaluation program.

In addition to the 14 tables, a driver profile requirement is also described in Section V. This contains the minimum variables to be reported in an alcohol-related driver profile vs. a non-alcohol related driver profile. A univariate distribution of all the variables collected in the minimal set of human factors data is also described as a requirement.

Finally, a list of required population data which should be reported in the "Introduction" of each special study final report is depicted. The purpose of these data is to describe the cities in general, and the local population drinking habits in particular.

SPECIAL TEAM FINAL REPORT REQUIREMENTS

This Conference Report should be utilized by the study teams in the following manner:

Section I - information purposes, contacts, and a refresher on past require-
                ments.

Section II   - informational purposes and an up-to-date research review.

Section III - informational purposes on the ASAPs in general and individual
               ASAP needs in particular.

Section IV - informational purposes on how to apply for, and justify,
               future alcohol/drug accident research.

Section V   - a list of final report requirements which supplement
               individual contractual requirements for a final report.
               These requirements should be performed and reported by
               each study team as a minimum. This common information
               will then be compared and analyzed by NHTSA evaluation
               personnel.

It is the purpose of this Conference Report to serve as a mechanism for report-
ing results, as a guideline for the special study teams, as an informational
document for the ASAP personnel, and as a description and clarification of final
report requirements for the special study efforts.

A third and final conference between the Teams and ASAPs will take place in
the late fall 1974, probably in the form of Final Report Briefings from each of
the study teams with appropriate ASAP personnel invited to attend.

SECTION I

- Attendance

- Agenda

- Minimal Set – Human Factors Data

ATTENDANCE

Accident Teams / ASAP Conference

June 12-13, 1974
Washington, D.C.

Name and Title	Organization and Address
James C. Fell, Co-Chairman	Accident Investigation Division
	Office of Statistics and Analysis
William E. Scott, Division Chief	Research and Development
	National Highway Traffic Safety
Elaine B. Weinstein, Contract Technical Manager	Administration
	400 Seventh Street, S.W.
	Washington, D.C. 20590

Robert B. Voas, Ph.D., Division Chief Co-Chairman	Office of Driver and Pedestrian Programs
	Traffic Safety Programs
Paul Levy	National Highway Traffic Safety Administration
Perry Yarrington	400 Seventh Street, S.W.
	Washington, D.C. 20590
Kevin Quinlan	
Frank Hance	
H.V. Hawley, Division Chief	

Robert S. Sterling-Smith, Ph.D., Special Study Director	Massachusetts General Hospital
	Department of Psychiatry
	62 Blossom Street
	Boston, Massachusetts 02114
Hazel Robinson, Team Coordinator	Boston University
	Center for Law and Health Sciences
	Traffic Accident Research
	141 Bay State Road
	Boston, Massachusetts 02215

Richard X. Connors, ASAP Director	Boston Alcohol Safety Action Project
	211 Congress St. - 7th Floor
John Coules, Ph.D., Director of Research and Evaluation	Boston, Massachusetts 02110

Name and Title	Organization and Address
Robert Pontzer, Region I ASAP Specialist	NHTSA Transportation System Center 55 Broadway Cambridge, Massachusetts 02142

William W. Banks
 	
William Masemore, Chief Investigator
 	
Irwin Sopher, M.D., Deputy Chief Medical
         Examiner
         Co-Principal Investigator
 	
Chester W. Schmidt, M.D.
	Maryland Medical- Legal Foundation
	111 Penn Street
	Baltimore, Maryland 21201

Robert Goldstein, ASAP Director	Baltimore Alcohol Safety Action Project 221 Argonne Baltimore, Maryland 21218

Gerald W. May, Ph.D., Principal Investigator Samuel Roll, Ph.D.	University of New Mexico College of Engineering Accident Study Program Albuquerque, New Mexico 87106

J. Don Hill, NHTSA Region IV	NHTSA 819 Taylor Street Room 11A26 Fort Worth, Texas 76102

Raymond Mill, Ph.D., Principal Investigator
 	
Alan P. Chesney, Ph.D.
 	
Jerry Purswell, Ph.D., MDAI Team,
         Consultant to ASAP
         Evaluation
	University of Oklahoma
	Health Sciences Center
	P.O. Box 26901
	Oklahoma City, Oklahoma 73190

Name and Title	Organization and Address
Fred B. Benjamin, Ph.D.	Office of Driver and Pedestrian Research
Peter N. Ziegler	Research and Development National Highway Traffic Safety Administration 400 Seventh Street, S.W. Washington, D.C. 20590

William S. Foulis	Office of Driver and Pedestrian Programs
W. Jerry Tannahill	Traffic Safety Programs National Highway Traffic Safety Administration 400 Seventh Street, S.W. Washington, D.C. 20590

AGENDA

Special Accident Study Teams/ASAP
Coordination Conference

- Office of Accident Investigation
  and Data Analysis (OAIDA)
- Office of Alcohol Countermeasures (OAC)

Dates: June 12-13, 1974

Location: Nassif Building (DOT Headquarters)
            Conference Room 5332-34
            400 Seventh Street, S.W.
            Washington, D. C.

WEDNESDAY, June 12, 1974

Time	Topic of Discussion

9:00 AM   Introduction
                 - Objectives of Conference
                 - Introduction of Attendees
                 - Summary of Agenda
                 - Comments

                                        J. Fell, OAIDA
                                        R. Voas, OAC

9:15 AM   Special Study of Fatal Accidents in Greater Boston
                 Area

                 - Coordination with Boston ASAP
                 - Success in Obtaining Minimal Set of Data
                   Elements
                 - Methodology and Experimental Design
                 - Type I vs. Type II vs. Type III drivers
                     - Profiles of each
                     - Alcohol Involvement of each
                     - Proportion of Problem Drinkers in each
                     - BAC data in each
                 - Alcohol-involved Driver Profile
                     - differences with non-alcohol involved
                         driver
                 - ASAP Fatals vs. Non-ASAP Fatals
                     - future analyses
                 - Alcohol-involved Drivers vs. ASAP DWI Drivers

                                        R. Sterling-Smith, Ph.D.
                                        Boston University

00000017

10:00 AM   Discussion

10:15 AM   Coffee Break

10:30 AM   Special Study of Driver Fatal Collisions vs. Matched
Sample of Injury Accidents (Control Group) in Greater
Baltimore Area

- Coordination with Baltimore ASAP
- Success in Obtaining Minimal Set of Data Elements
- Methodology and Experimental Design
- Driver Fatals vs. Non-Fatals
  - Profiles of each
  - Profile of Alcohol-involved Driver Fatal
  - KAS Scores vs. Normative Data
  - BAC Data
- Driver Fatals vs. Baltimore ASAP DWI Sample
  - Profiles of each

Mr. William Banks
Maryland Medical-Legal
Foundation

11:15 AM   Discussion

11:45 AM   LUNCH

1:00 PM   Multi-level Study of Alcohol-involved Accidents in
Greater Albuquerque Area

- Coordination with Albuquerque ASAP
- Success in Obtaining Minimal Set of Data Elements
- Methodology and Experimental Design
- Preliminary Findings:
  - Alcohol-involved driver profile
  - Basic differences between Police Alcohol-
    involved accidents and All Reported Accidents
  - Findings from 100 limited scope investigations
    of alcohol involved drivers
  - Typical errors made by alcohol-involved
    drivers

Gerald W. May, Ph.D.
University of New Mexico

1:45 PM   Discussion

2:00 PM   Special Study of Fatal Accidents in Oklahoma City (ASAP)
and Fatal Accidents in Tulsa (Control Group)

- Coordination with Oklahoma ASAP
- Success in Obtaining Minimal Set of Data Elements

- Methodology and Experimental Design
- Preliminary Findings:
    - Alcohol involvement in both cities this year
    - Driver profiles thus far

Jerry Purswell, Ph.D.
University of Oklahoma

2:45 PM   Discussion

3:00 PM   Coffee Break

3:15 PM   Boston ASAP Progress Report

- General Status
- Progress in Evaluation Procedures
- Use of accident data in general
- Use of Boston Special Accident Study Data
    - Alcohol involvement
    - Driver profiles
    - BAC data
    - Profile of an alcohol crash
- Further Needs in Accident Investigation Area
- Exposure Data, DWI data furnished to Accident Study Group

Boston ASAP

3:45 PM   Discussion

4:15 PM   Adjourn

THURSDAY, June 13, 1974

9:00 AM   Baltimore ASAP Progress Report

- General Status
- Progress in Evaluation Procedures
- Use of accident data in general
- Use of MMF Special Study Data
    - Alcohol involvement
    - Driver profiles
    - BAC data
    - Accident drivers exposure to ASAP
- Exposure data, DWI data, etc. supplied to MMF group
- Further Needs in Accident Investigation Area

Baltimore ASAP

9:30 AM   Discussion

9:45 AM   Albuquerque ASAP Progress Report

- General Status
- Progress in Evaluation Procedures
- Use of Accident Data in general
- Use of New Mexico Special Study Data
    - Alcohol-involved driver profile
    - Reliability of Police designated alcohol involvement
    - Accident drivers referral or exposure to ASAP
- Exposure data, DWI data, etc. supplied to NM Accident Group
- Further Accident Data Needs

Albuquerque ASAP

10:15 AM   Discussion

10:30 AM   Coffee Break

10:45 AM   Oklahoma City ASAP Progress Report

- General Status
- Progress in Evaluation Procedures
- Use of accident data in general
- Use of University of Oklahoma Special Study Data
    - Alcohol involvement in two cities
    - Driver Profiles
- Exposure data, DWI data that can be supplied to Special Study Group
- Further Accident Data Needs

Oklahoma City ASAP

11:15 AM   Discussion

11:45 AM   LUNCH

1:00 PM   Future of ASAPs

- General Plans
- Four Specific ASAPs
    - Boston
    - Baltimore
    - Albuquerque
    - Oklahoma City

H.V. Hawley
OAC

00000020

2:00 PM	Discussion
2:15 PM	Coffee Break
2:30 PM	Future of Special Accident Studies

- General Plans
- Four Specific Studies
  (contingent upon ASAP needs)
  - Boston
  - Baltimore
  - Albuquerque
  - Oklahoma City

J. Fell, OAIDA

3:00 PM	Alcohol/Drug Accident Investigation Needs

Open Discussion

4:15 PM	Adjourn

MINIMAL SET - HUMAN FACTORS DATA

<u>Instructions:</u>

The human factors related data elements contained in this form shall be
collected, as a minimum, in each limited scope and/or in-depth case inves-
tigation conducted by the NHTSA Special Study Teams. The emphasis is
obviously on alcohol-related data since this is the special problem area
being studied by the Teams. These accident studies are being performed
in coordination with Alcohol Safety Action Programs (ASAP) operational in
the study areas. The basic purposes for collecting these specific data
elements are as follows:

(1) To determine differences and similarities of the different geographic
     areas with respect to alcohol-involved accidents, alcohol-involved
     drivers, incidence of problem drinking, etc. Essentially, to compare
     the who, what, where, when and why of alcohol-related accidents in
     each study area.

(2) To provide consistent definitions, interpretations and units on certain
     vital data elements so that accident case data can validly be combined
     from each study location and analyzed in total. Specific findings in
     these alcohol-related areas can then be studied in a consistent manner.

(3) To insure, for both research purposes and ASAP purposes, that certain
     important alcohol-related areas are investigated and reported.

This report form contains driver-related data with specific emphasis on
the driver's drinking habits and alcohol use history. The driver emphasized
for the collection of such data will vary depending upon the specific study
approach, methodology, and experimental design. In some study areas, the
"most responsible" driver will be studied; in some limited scope cases only
the "alcohol-involved" driver will be studied; and in other study areas
"all" drivers involved in the collision will be emphasized. At least in
the case of full scope, in-depth investigations, <u>all</u> drivers will be
studied. Even with the different emphases, analyses of the specific data
elements can still be performed. "Most responsible" drivers can be
compared with "not responsible" drivers, alcohol-involved drivers can be
compared with non-alcohol-involved drivers, etc.

Therefore, the following human factors areas shall be investigated and
reported on, as a minimum, for the specific drivers emphasized in the
study:

00000023

Who:

V1   Driver of Vehicle #   —

(1) #1 (striking vehicle)
(2) #2 (first struck vehicle)
(3) #3 (second struck vehicle)
(4) #4 (third struck vehicle)
(5) #5
      etc.

V2   Driver Culpability   —

(1) Most responsible (single vehicle collision or "at-fault"
    in multiple vehicle)
(2) Contributing (Other driver(s) also contributed to
    initiation of collision)
(3) Not responsible (essentially an innocent driver in this
    collision)
(4) Indeterminate

V3   Driver Sex   —

(1) Male
(2) Female

V4   Driver Age (years)   — —

V5   Driver Height (inches)   — —

V6   Driver Weight (lbs.)   — — —

V7   Driver Marital Status

(1) Single   (5) Divorced
(2) Married   (6) Widowed
(3) Common Law   (7) Other _____
(4) Separated   (0) Unknown

V8   Educational Status   —

(1) Graduate School (or degree),   (5) Partial High School
    professional training   (6) Junior High School or
(2) College/University graduate   Grammar School graduate
(3) Partial college training   (7) Less than 7 years of
(4) High School graduate   schooling
                                    (0) Unknown

00000024

V9   Occupation (1970 Census Users Guide)   __ __

(10) White Collar
(11)   Professional, Technical
(12)   Manager, Administrator
        (except Farm)
(13)   Sales Workers
(14)   Clerical, kindred
(20) Blue Collar
(21)   Craftman, kindred
(22)   Operatives (except
        transport)
(23)   Transport equipment
        operatives (drivers)
(24)   Laborers (except farm)

(30) Farm Workers
(31)   Farmers, Farm Managers
(32)   Farm Laborers, Foreman
(40) Service Workers
(41)   Service worker (except
        below)
(42)   Private household worker
(50) Housewife
(60) Student
(70) Military
(80) Retired
(90) Unemployed (over 1 month)
(00) Unknown

V10   Two Factor Index of Social Position
      (Hollingshead)*   __

(1) Class I (11-17)
(2) Class II (18-27)
(3) Class III (28-43)

(4) Class IV (44-60)
(5) Class V (61-77)
(0) Unknown

V11   Driver Race   __

(1) Caucasian
(2) Latin American
(3) Negro

(4) Oriental
(5) Other _____
(0) Unknown

V12   Driver Family Income   __ __

(1) $1000 per year or less
(2) $2000 per year
(3) $3000 per year
    etc.

(99) $99,000 per year or greater
(00) Unknown

V13   Driver Residence   __

(1) Urban (core of city)
(2) Urban (outskirts of city)
(3) Suburban

(4) Rural
(5) Other _____
(0) Unknown

V14   Driver have a phone   __

(1) Yes   (3) Unknown
(2) No

---

*Hollingshead, A.B., "Two Factor Index of Social Position," Manuscript,
1957 (write Dr. Sterling-Smith for copies).

V15   Driver number of siblings   —

    (0) None   (8) Eight or greater
    (1) One   (9) Unknown
    (2) Two
        etc.

V16   Driver sibling position   —

    (1) First born   (8) Eighth born or greater
    (2) Second born   (0) Unknown
    (3) Third born
        etc.

What:

V17   Beverage driver usually drinks   —

    (1) None (Abstainer)   (4) Whiskey, Scotch
    (2) Beer   (5) Other _____
    (3) Wine   (0) Unknown

V18   Frequency of drinking

    (1) daily   (6) once/month
    (2) 4-5 times/week   (7) 2-3 times/year
    (3) 2-3 times/week   (8) once/year (special occasions)
    (4) once/week   (9) never (abstainer)
    (5) 2-3 times/month (0) Unknown

V19   Length of time usually drink
      during a sitting   —

    (1) 1 hour or less   (5) 2-3 days (binge)
    (2) 2 to 3 hours   (6) constantly drinking (alcoholic)
    (3) 4 to 5 hours   (9) no time (abstainer)
    (4) 6 to 12 hours   (0) Unknown

V20   Number of drinks per sitting   —

        (1) 1-2 drinks   (6) 11-12 drinks
        (2) 3-4 drinks   (7) 13 or greater
        (3) 5-6 drinks   (9) no drinks (abstainer)
        (4) 7-8 drinks   (0) Unknown
        (5) 9-10 drinks

V21   Use other drugs while drinking   —

        (1) Yes _____   (0) Unknown
        (2) No

V22   Blood Alcohol Concentration at time of crash   — —
        (Record actual BAC in mg% or the following)

        (80) No BAC test given, unknown drinking
        (90) BAC test given, unknown results
        (91) No BAC test given, team clinical evaluation that
              driver had been drinking
        (92) No BAC test given, team clinical evaluation that
              driver was intoxicated
        (93) No BAC test given, no indication of drinking
        (99) Unknown

Where:

V23   Location where driver usually drinks   —

        (1) Home   (5) Restaurant (at lunch, dinner)
        (2) Tavern/Bar/Nightclub   (6) Recreation (golf, football
        (3) Parties   games, fishing)
        (4) Family or Friend's home (7) Other _____
                                  (9) Nowhere (abstainer)
                                  (0) Unknown

V24   Who does driver usually drink with   ___

    (1) Spouse   (4) Alone
    (2) Other family   (5) All of the above (no preference)
    (3) Friend(s)   (9) No one (abstainer)
                     (0) Unknown

V25   What form of transportation does driver use to and
      from drinking location   ___

    (1) Drives his car   (6) Mass transit (subway)
    (2) Spouse or friend drives (7) Walks
    (3) Taxi   (8) None (drinks at home)
    (4) Chauffeur   (9) Not applicable (abstainer)
    (5) Bus   (0) Unknown

When:

V26   What days does driver usually drink   ___

    (1) Week-end (Fri., Sat., Sun.) (5) Special occasions only
    (2) Week-days (Mon. - Thurs.)   (9) Not applicable - abstainer
    (3) Daily (no preference)   (0) Unknown
    (4) Variable (no specific day but
        not daily)

V27   What time of the day does driver usually drink   ___

    (1) Late evening (8 PM - 12 AM) (5) Morning (8 AM - 12 PM)
    (2) Late evening and early morning (6) Early morning (3 AM - 8 AM)
        (8 PM - 3 AM)   (7) All through day
    (3) Early evening (4 PM - 8 PM) (8) No specific times
    (4) Afternoon (12 PM - 4 PM)   (9) Not applicable (abstainer)
                     (0) Unknown

Why:

V28   Did any member of driver's family have possible
       alcohol problem   —

      (1) No   (5) Spouse
      (2) Father   (6) Children
      (3) Mother   (7) Other _____
      (4) Siblings   (0) Unknown

V29   What were some of the indications as to why the   — —
       driver drank
             (Choose up to two)   — —

      (1) To relax or calm nerves   (7) Like the taste
      (2) To be sociable or polite   (8) To help sleep
      (3) Because friends drink   (9) Other _____
      (4) To celebrate special occasions   (10) Not applicable (abstainer)
      (5) To forget troubles   (0) Unknown
      (6) To feel good, get high

Exposure to ASAP:

V30   Driver ever arrested by ASAP enforcement patrols   —
          (including this crash)

      (1) Yes   (0) Unknown
      (2) No

V31   Driver ever referred to rehabilitation due to   —
       ASAP program (including this crash)

      (1) Yes (type _____)   (3) Not applicable
      (2) No   (0) Unknown

V32   Driver aware of ASAP program in area or public   —
       information on alcohol countermeasures

      (1) Yes (what _____)   (3) Unknown
      (2) No

Extent of Drinking:

V33   Driver ever diagnosed as an alcoholic by competent
medical or treatment facility   —

     (1) Yes   (0) Unknown
     (2) No

V34   Driver admission of alcoholism or problem drinking   —

     (1) Yes   (0) Unknown
     (2) No

V35   Driver ever have a BAC of .15 mg% or greater
at time of arrest   —

     (1) Yes   (0) Unknown
     (2) No

V36   Driver have a record of one or more prior alcohol
related arrests   —

     (1) Yes   (0) Unknown
     (2) No

V37   Driver have a record of previous alcohol-related
contacts with medical, social or community agencies —

     (1) Yes   (0) Unknown
     (2) No

V38   Driver have any reported marital, employment or
social problems related to alcohol   —

     (1) Yes   (0) Unknown
     (2) No

V39   Driver diagnosed as problem drinker on basis of
approved structured written diagnostic interview
instruments (e.g., MAST, Mortimer-Filkens, NCA,
Johns Hopkins diagnostic tests)   —

     (1) Yes   (0) Unknown
     (2) No

Diagnosis:

V40 According to above, was driver a problem drinker   ___

    (1) Yes (scored yes on V33 or V34,   (0) Unknown (too many
        or scored yes on two or more   unknowns in above
        of V35 to V39)   criteria)

    (2) No

V41 More specifically, how would driver be classified
based upon self report, medical record, BAC or   ___ ___
other data

    (10) <u>Abstainer</u>: One who never drinks alcoholic beverages.

    (20) <u>Social Drinker</u>: His drinking does not usually impair
his emotional, social, physical or economic functioning.
He has the ability to abstain from alcohol and the ability
to stop drinking once he has begun. Alcohol is rarely used
as a means of coping with stress. He may not always exercise
control over the amount or occasions on which he drinks.
He ". . . drinks for socially acceptablereasons and in
socially acceptable ways, rather than moved by some indi-
vidual problem, anomaly or disease."

        (21) <u>Mild Social Drinker</u>: Drinks only on special occasions;
never or very rarely drunk in his life.

        (22) <u>Moderate Social Drinker</u>: Drinks to be sociable; drunk
perhaps 1 to 3 times per year.

        (23) <u>Moderate/Heavy Social Drinker</u>: Drinks frequently but
not drunk all the time; drunk 4-6 times per year but
no evidence (arrests, medical, marital) of a drinking
problem.

    (30) <u>Problem Drinker</u>: "An excessive drinker whose drinking causes
private or public harm and who is seen to cause problems for
himself or for others." Abusive use of alcohol impairs his
emotional, social, physical and/or economic functioning. The
problem drinker frequently uses alcohol as a means of coping
with stress.

        (31) <u>Heavy Social Drinker</u>: Drinks frequently; drunk 6 to 12
times per year; beginning to indicate drinking problem
(one arrest; complaints by family, etc.)

        (32) <u>Sporadic Binge Drinker</u>: Problem drinker who does not
drink every day or week, but when he does drink is drunk
for days at a time.

(40) <u>Alcoholic</u>: The alcoholic ". . . is consistently unable to refrain from drinking or to stop drinking before getting intoxicated." Abusive use of alcohol seriously and chronically impairs his emotional, social, physical, and/or economic functioning. He may have developed a physical dependence on alcohol, characterized by a craving for alcohol and withdrawal symptoms when alcohol intake is stopped. All alcoholics are problem drinkers, but not all problem drinkers are alcoholics.

(50) <u>Indeterminate</u>: Not enough information to classify driver.

00000032

SECTION II

- Boston Accident Study Synopsis
    Provisional Report

- Baltimore Accident Study Synopsis
    Presentation (72-73 Results)

- Albuquerque Accident Study Synopsis
    Preliminary Summary
    Tentative Driver Profiles

- Oklahoma City - Tulsa Accident Study Synopsis

SPECIAL STUDY OF FATAL ACCIDENTS IN GREATER BOSTON

Robert S. Sterling-Smith, Ph
Boston University

- Coordination with Boston ASAP
    Met with ASAP Director and staff periodically.
    Gave Director Pilot Study (50 cases), AAAM Papers from 1972 and 1973,
  and Intermediate report (175 cases).
    In process of gathering data from ASAP on DWI drivers.

- Success in Obtaining Minimal Set of Data Elements
    Specific Problems with:

    V9   Occupation
                    used Hollingshead, not 1970 Census users Guide

    V18   Frequency of drinking
                    used different format

    V19   Length of time usually drink per sitting
                    could not elicit single response

    V20   Number of drinks per sitting
                    variable for most drivers,could not elicit single response

    V24   Who does driver usually drink with
                    variable for most drivers, "all of the above" was usual
                    answer

    V25   What form of transportation does driver use to and from drinking
                    not collected

    V26   What days does driver usually drink
                    variable for most drivers

    V29   What were some of the indications as to why the driver drank
                    drivers answer "yes" to all choices

    V32   Driver aware of ASAP program in area
                    not collected

    V33   Driver ever diagnosed as an alcoholic by competent medical or treatment
                    facility
                    not collected

    V35   Driver ever have a BAC of .15% or greater at time of arrest
                    not available

- Methodology and Findings
        See "Special Study Provisional Report".

● Questions raised:

Alcohol information available:

(1) 268 drivers most responsible for crash (plus HFI)
(2) drivers not responsible for collision in multiple vehicle crashes
(3) pedestrians
e. g. 100 fatally injured pedestrians
       80 BACs taken
          55 negative
          25 positive (range from .03% to .34%)

BOSTON UNIVERSITY

CENTER FOR LAW AND HEALTH SCIENCES

TRAFFIC ACCIDENT RESEARCH

141 Bay State Road, Boston, Massachusetts 02215.   (617) 353-3020

Michael A. Luongo, M.D., Director
George G. Katsas, M.D., Co-director

SPECIAL STUDY PROVISIONAL REPORT
NHTSA, June 12-13, 1974

I. Description of basic research objectives

II. Coordination with the Boston Alcohol Safety Action Project

III. Methodology and Experimental Design

- to collect all of the possible data elements included in
  the Human Factor Index (HFI) through personal interviews;
  legal, medical and social records; reports from the Registry
  of Motor Vehicles and telephone interviews as necessary.

- to prepare the data for computerization and the subsequent
  analyses necessary for a complete and detailed reporting
  to NHTSA. (Pilot Report, 1973, Intermediate Report, 1974,
  Final Report, 1974)

- 3 basic Types of motor vehicle operators investigated

  TYPE I - a fatal motor vehicle accident where the operatc
  of the vehicle judged to have been the most responsible
  for the accident was killed.

  TYPE II - a fatal motor vehicle accident where the
  operator of the vehicle judged to have been the most
  responsible for the accident survived, but where another
  vehicular occupant was killed.

  TYPE III - a vehicle/pedestrian accident where the
  pedestrian was fatally injured.

- data elements in the HFI included: Basic Demographic Data,
  Psychosocial History, Physical Health History, Alcohol/Other
  Drug Histories and Focal Use, Legal/Arrest History, Focal
  Arrest Identification and Human Factor Data.

- field investigation from September, 1971 - February, 1974.

- each sequential fatal accident was investigated in the ASAP
  area and other areas tangent to and nearby the inner city.

- the initial research design included 4 basic elements:

  1. Are there any differences between most responsible
      operators in fatal crashes who: kill themselves;

live but kill another vehicular occupant; and those who strike and kill a pedestrian?

2. Are there any differences between most responsible drivers in fatal accidents who had a significant alcohol/drug involvement in the crash and those drivers who had no alcohol/drug involvement in the crash

3. Are there any differences between the most responsible drivers in fatal accidents occurring within the ASAP region and the drivers in fatal accidents outside of the ASAP geographic boundries?

4. Are there any differences between the most responsible drivers in fatal accidents with alcohol involvement and and drivers being arrested for DUIL by the Boston ASAP patrols?

IV. Provisional Findings from 300 cases

Type I 105	Sudden Death, Type I - 19
Type II 63	Hit and Run, Type III- 13
Type III 100	32
I,II,III 268	

Sexual Distribution:

	TYPE I	TYPE II	TYPE III	TOTAL
Male	91	54	92	237
Female	14	9	8	31
	105	63	100	268

Age: (N=268)

	TYPE I	TYPE II	TYPE III	TOTAL
mean	34	25	33	32
range	16-79	14-61	16-77	14-79
modal decade	20-29	20-29	20-29	20-29
	(33%)	(57%)	(36%)	(40%)

Alcohol Use Patterns: (N=268)

	TYPE I	TYPE II	TYPE III	TOTAL
Abstainer	9	3	10	22
Moderate	57	38	67	162
Heavy	24	14	17	55
Sporadic	4	6	3	13
Abuser	11	2	3	16
	105	63	100	268

Marijuana Use Patterns: (N=268)

	TYPE I	TYPE II	TYPE III	TOTAL
never	50	20	56	126
1-2	11	2	6	19
3-8	3	5	2	10
monthly	6	8	6	20
weekly	17	11	15	43
weekly +	17	17	15	49
NI	1	0	0	1
	105	63	100	268

00000038

Alcohol Involvement in Focal Accident (Laboratory/Clinical)

NO	34	29	84	147
YES	71	34	16	121
	105	63	100	268

Other Drug Involvement in Focal Accident (Laboratory and Clinical)

NO	80	36	93	209
YES	24	27	7	58
NI	1	0	0	1
	105	63	100	268

ALCOHOL INVOLVEMENT VS. NO ALCOHOL INVOLVEMENT (N=268)		
(N=147) No-Alcohol Involvement	(N=121) Yes-Alcohol Involvement	Total

Sexual Distribution:

	No-Alcohol Involvement	Yes-Alcohol Involvement	Total
Male	131	106	237
Female	16	15	31
	147	121	268

Age:

	No-Alcohol Involvement	Yes-Alcohol Involvement	Total
mean	33	30	32
modal decades	20-29 (39%)	20-29 (41%)	20-29 (40%)

Alcohol Use Pattern:

	No-Alcohol Involvement	Yes-Alcohol Involvement	Total
Abstainer	22	0	22
Moderate	100	62	162
Heavy Social	20	35	55
Sporadic Binge	2	11	13
Abuser	3	13	16
	147	121	268

Drink Less Attempt by Others (year PTA)

	No-Alcohol Involvement	Yes-Alcohol Involvement	Total
NO	131	84	215
YES	15	37	52
NI	1	0	1
	147	121	268

Personal Attempt to Stop/Cut Down Drinking:

	No-Alcohol Involvement	Yes-Alcohol Involvement	Total
NO	130	96	226
YES	17	25	42
	147	121	268

Previous Arrest for Public Drunkenness (Non-vehicular)

NO	133	83	216
YES	14	38	52
	147	121	268

Previous Arrest for Driving Under the Influence:

NO	141	101	242
YES	6	20	26
	147	121	268

Job Loss for ETOH abuse:

NO	137	90	227
YES	10	29	39
NI	0	2	2
	147	121	268

Street Drug User: (excluding Alcohol, Marijuana and Pharmaceuticals)

NO	104	68	172
YES	43	51	94
NI	0	2	2
	147	121	268

Marijuana Use Pattern:

never	81	46	127
1-2	9	10	19
3-8	7	3	10
monthly	11	9	20
weekly	13	30	43
weekly +	26	23	49
	147	121	268

Focal Alcohol Use:

NO	147	–	147
YES	–	121	121
	147	121	268

Focal Other Drug Use:

NO	125	85	210
YES	22	36	58
	147	121	268

Accident in ASAP

NO	68	52	120
YES	79	69	148
	147	121	268

Living in ASAP area:

NO	105	85	190
YES	42	36	78
	147	121	268

ASAP Problem Drinker Profile:

1. Diagnosis as an alcoholic by a competent medical or treatment facility or (data unavailable)

2. Self Admission of Alcoholism or Problem Drinking or (data present but unreliable)

3. Two or more of the following:

   a) A BAC of .15 mg% or more at the time of arrest/death (or a clinical evaluation of "severe involvement".15+)
      64 operators or 22.3%
   b) A record of one of more prior alcohol related arrest
      63 operators or 21.9%
   c) A record of previous alcohol related contacts with medical, social, or community agencies (data unreliable)
      (10 operators known to team or 3.4%)
   d) Reports of marital, employment or social problems related to alcohol. (data collected in two parts)
      39 operators with an ETOH related job loss, 15%
      81 operators with known ETOH social problems, 28%
   e) MAST, Mortimer-Filkens, NCA/Johns Hopkins tests not given

V. ASAP Fatals vs. Non-ASAP fatals - forthcoming in Final Report

VI. Alcohol Involved Drivers vs. ASAP DWI drivers
   - data problems
   - in forthcoming Final Report

SPECIAL STUDY OF DRIVER FATAL COLLISIONS VS. MATCHED SAMPLE OF INJURY ACCIDENTS (CONTROL GROUP) IN GREATER BALTIMORE AREA

William Banks
William Masemore
Dr. Irwin Sopher
Maryland Medical-Legal
    Foundation

● Coordination with Baltimore ASAP

> Meet with ASAP Director regularly to discuss latest information from study findings. ASAP has expressed an interest in the finding on past criminal arrest record of driver fatals.

> Dr. Chester Schmidt, consultant to the accident team and Chief of Psychiatry at Baltimore City Hospital, has counseled ASAP personnel on his treatment procedures of alcoholics.

> Mr. William Masemore has taken ASAP personnel through Medical Examiner's facilities and explained procedures used by the accident team.

● Success in Obtaining Minimal Set of Data Elements

> Specific Problems with:

> V18 Frequency of drinking
>> question has been rephrased with different choices

> V19 Length of time usually drink during a sitting
>> variable for most drivers

> V20 Number of drinks per sitting
>> variable for most drivers, could not elicit single response

> V24 Who does driver usually drink with
>> "all of the above" is the usual answer

> V29 Indications as to why the driver drank
>> not reliable, appears to be meaningless

> V33 Driver ever diagnosed as an alcoholic
>> information not available

● Methodology and Findings

> See "Presentation to be Given at DOT Meeting".

● Cirrhosis of the Liver

Dr. Irwin Sopher, Deputy Chief Medical Examiner of the State of of Maryland, gave a very interesting slide presentation of the medical signs of alcoholism - fatty liver and cirrhosis of the liver.

One question raised was whether drivers in alcoholic conditions, perhaps with cirrhosis , have a lower probability of surviving a serious crash because of their run-down condition and the chances of complications. Dr. Sopher did not have figures for this phenomenon but suspects it may occur in some cases. However, in this series of driver fatals being studied, most of the drivers die within a few hours of the crash because of the 24-hour limitation; therefore, their condition usually does not contribute to their death.

Presentation To Be Given At DOT Meeting

June 1974

William Banks
William Masemore
Dr. Irvin Sopher

Maryland Medical-Legal Foundation

Office of the Chief Medical Examiner

State of Maryland

The Baltimore Special Study Team and the Baltimore ASAP Program have instituted a number of coordinating steps to accomplish the sharing of information between these two groups.

1. Dr. Schmidt, the Chief Psychiatrist of Baltimore City Hospital and a member of the research staff at Maryland Medical-Legal Foundation, regularly invites ASAP counselors and other staff members to visit his facility in Baltimore which is involved in the treatment of alcoholics. Dr. Schmidt disseminates information as to the identification and treatment of alcoholic drivers and provides ASAP members with knowledge of therapeutic treatments.

2. At this time, regular meetings are being held with the ASAP director, Mr. Bob Goldstein, and Maryland Medical-Legal Foundation investigators William Banks and William Masemore. These meetings are held in order to discuss the latest information obtained from special study investigations. The topics discussed usually center on such areas as drug abuse and driving, alcohol and its relationship to vehicular accidents, geographic areas where accidents occur most frequently, time of occurrence and referral cases which the special accident study team refer to the ASAP Program.

3. Mr. Goldstein, in turn, provides the Maryland Medical-Legal Foundation with information pertaining to special ASAP needs. Additionally, the Maryland Medical-Legal Foundation is provided with literature dealing with the ASAP Program and alcohol abuse. This information is disseminated by the special accident investigation

team during the course of interviews conducted with most responsible drivers and the respondants of said drivers. It is hoped that the special accident investigating team can assist the ASAP Program in its attempt at publicizing the functions of Baltimore ASAP Program.

4. Mr. Goldstein (Baltimore ASAP) and Maryland Medical-Legal Foundation team members are currently comparing their data which has been generated so as to identify high risk drivers as a group. Specifically, we have found a relative increase in the frequency of criminal arrest/conviction for drivers involved in fatal vehicular accidents when compared to the observed frequency of arrest/conviction records of males involved in non-fatal accidents. Our next step will be to sample the male driver population of Baltimore and compare the incidence of arrest/conviction with the other two groups.

5. William Masemore of the Maryland Medical-Legal Foundation periodically takes groups of ASAP counselors and staff members through the facility of the Medical Examiner's Office and explains the procedures used by the Special Accident Study Team and Medical Examiner regarding Toxicology, Neropathology and Histology.

II. Methodology

A. Fatal Accidents

This aspect of the overall study was concerned with all fatal driver collisions occurring within the geographic area enclosed by and including the Baltimore Beltway (Interstate 695). A "fatal driver collision" was defined as a motor vehicle highway collision in which at least one of the involved drivers died within 24 hours of the accident. A total of 33 fatal accidents (24 in 1973) involving 32 dead drivers and three dead passengers were investigated.

The Office of the Chief Medical Examiner, State of Maryland is the official investigative agency charged with the responsibility of establishing the cause and manner of death in motor vehicle fatalities. The Medical Examiner's Office established jurisdiction over the bodies of the victims and vehicles involved and the Team was notified. Contact between Team members and the investigating law enforcement officers was established and the accident scene and involved vehicles were surveyed. The Team investigators reconstructed the mechanics of the accident, took the nessary photographs of both scene and vehicle, and recorded the vehicle examination on the appropriate forms.

The consultant Traffic Engineer was also utilized by the Team to evaluate the highway conditions at the accident scene for roadway factors such as: superelevation, gradient, cross section dimensions, alignment and curvature, sight distance, visibility, traffic control and warning devices, average daily traffic and accident history. Upon evaluation of these factors, the Traffic

-3-

Engineer consulted with the Team members to discuss the particular accident and reported his findings on the environmental and highway factors.

When necessary, the Team also utilized the services of a consultant Mechanical Engineer who served to make an in-depth mechanical analysis of the vehicle(s) involved.

Concurrent with the accident site and vehicle investigation, the post-mortem examination and toxicological studies upon the deceased victims were carried out by the medical and toxicology members of the Team. Complete autopsy examinations were effected on 34 of the 35 fatal victims; the exception representing the one passenger fatality representative of a special interest vehicle mechanical factor-related accident. The toxicology studied included:

1. blood alcohol - all fatal drivers

2. blood carboxyhemoglobin (carbon monoxide) - on 28 of 32 drivers

3. analysis of urine for barbiturates, Doriden, phenothia-
   PX̀ - $ALICALATE$
   zines, salicylates, narcotics and other common drugs of abuse including amphetamines. If the foregoing screening methods were positive, further confirmative qualitative studies were performed using the appropriate sample and analytical method. Seventeen of the 32 fatal drivers were screened for drugs.

In conjunction with the above described environmental, vehicle, and medical aspects of the multidisciplinary investigation, the human factors psychosocial evaluation was performed.

-4-

B. Comparison Group

This facet of the study was primarily concerned with the human factors variables inherent to accident causation and was represented by a total of 20 non-fatal (live driver) vehicle accidents. Of particular interest were the alcohol/drug and psychopathological data as related to the accident.

The case sample driver population for Task #2 was extracted from local law enforcement registries of non-fatal accident. The control group was "matched", as best as possible, with the fatal Task #1 cases in regards to day of week and hour of occurrence of accident, proportion of alcohol-induced accidents, same approximate level of driver blood alcohol and same proportion of single versus multiple vehicle collisions. The control sample cases also specified minimum to mild injuries as determined by an Abbreviated Injury Scale reading of one or two. The cases were obtained from the same geographic region as indicated for Task #1 as well as during the same calendar months period of study.

The modus operandi for the control sample involved selection of the case to be investigated from the law enforcement registry, and immediate vehicle and scene investigations by the Team with subsequent "in-depth" and "limited scope". The psychologist Team member then effected the psychological interview with the families of and involved driver(s) as to be described below under Task #3. The Katz Scale was . administered to the non-fatal driver's families.

Initially, the control sample was designed to be drawn from a non-biased sample of 600 non-fatal driver injury-producing acci-

dents as supplied by the Baltimore Alcohol Safety Action Program (ASAP) in conjunction with the Human Resources Research Oeganization (HUMRRO). This 600 case driver sample was to be obtained via cooperation with area hospitals wherein blood alcohol samples on involved drivers would be acquired. Unfortunately, the legal implications inherent to the pursuit of such toxicological studies wherein patient consent could not be obtained represented (and still represents) an impassable obstacle regarding the primary objective of the alcohol/drug factor in accident causation.

The non-fatal driver injury collisions were "matched" with the fatal collisions investigated according to the following criteria:

* same day of week and approximate time of collision

* same proportion of alcohol involved cases (~50%)

* same approximate levels of alcohol concentration

The key analyses performed were to determine the differences in the fatally injured and non-fatally injured drivers with respect to:

* personality characteristics versus Norm

* demographics (FI versus NFI)

* drinking habits (FI versus NFI)

* errors made in collision initiation

Summary of Conclusions and Recommendations

Given the limitation of small sample sizes and the lack of certain exposure information, major conclusions would be presumptuous at this point. However, certain findings did support some of the ASAP premises, while others indicated possible areas in need of more emphasis.

Driver Fatal Collisions (1972)

* Twenty-one (21) of the 33 fatal collisions occurred between the interval of 8:00 PM and 4:00 AM. Of these 21 collisions, 13 of the fatally injured drivers had positive blood alcohol levels. Of the remaining 12 fatal collisions (4:00 AM to 8:00 PM), only 2 drivers had positive blood alcohol levels.

* Sixteen (16) of the fatal collisions involved the vehicle leaving the road and striking a fixed object. Five (5) more involved other single vehicle type collisions for a total of 21 single vehicle fatal collisions out of the 33 fatals which occurred.

-7-

'Causal Factors

* Alcohol (or drugs) alone, or in combination with medication or excessive speed, was considered a primary or contributing factor in 17 of the 33 fatal collisions. In the non-fatal collisions, alcohol was a primary or contributing factor in 9 of the 20 collisions.

* Excessive speed and driver inattention were the next most frequent causal factors in both the fatal and non-fatal collisions.

Blood Alcohol Concentrations (BAC)

* Of the 31 fatally injured drivers considered "most responsible" for the collision, twenty-three (23) died within one hour of the accident. Thirteen of these 23 had positive BACs with $8 \geq .10$ mg% and 5 between .06 and .09mg%.

* Of the eight drivers who died more than one hour after the accident (but within 24 hours), two had positive BACs (and they were $\geq .10$mg%) while the remaining 6 were negative.

* Of the 11 fatally injured drivers 24 years of age or younger, 4 had positive BACs with 3 being $\geq .18\%$.

* Of the 25 fatally injured drivers between the ages of 25 and 54, a total of 11 had positive BACs with 7 being   .10% and 3 of the 7 being $\geq .15\%$.

* Of the 7 drivers 55 or older, none had positive BACs.

* Of the 18 drivers considered "most responsible" in the non-fatal collisions, only 3 drivers were given a chemical test. Each of the three had positive BACs (.12%, .16% and .17%). Two additional drivers were charged for DWI without any chemical test given. Four more drivers admitted drinking prior to the collision to the Maryland Team

-8-

00000054

for the total of <u>nine</u> alcohol-involved drivers.

<u>Psychosocial Factors</u>

* A sample of 25 fatally injured male drivers were retrospectively
  compared with a normative population on 18 measures or personal and
  social adjustemnt of the Katz Adjustment Scale, and instrument for
  evaluating personality and behavioral characteristics for individuals
  via interviews conducted with close, knowledgable relatives of the
  individual under study. This data represents combined cases of
  fatally injured males from the 1971-72 and 1972-73 contract years so
  as to pool the information, thereby achieving more statistical power.
  Results obtained from the 25 fatal drivers tend to strongly suggest
  that males, as in previous years, on the average are seen by know-
  ledgable informants as having been significantly more negative, belli-
  gerent, verbally expansive and behaviorially manifesting more general
  psychopathology than comparable normative males. (John Shaffer)

* 33% of the fatally injured drivers analyzed were considered "heavy"
  (more than 3 times per year) drinkers compared to 43% of the non-fatal-
  ly injured drivers analyzed.

* 44% of the fatal drivers analyzed preferred liquor as an alcoholic
  beverage compared to 20% of the non-fatal drivers.

* 25% of the fatal drivers analyzed indicated that they had smoked
  marijuana in the past year compared to only 14% of the non-fatal dri-
  vers.

* 33% of the fatal drivers had previous criminal arrest records compared
  to 42% of the non-fatally injured drivers.

* 37% of the fatal drivers were married while 25% were separated or di-
  vorced. For the non-fatal drivers, the figures were 50% married and

and 17% separated or divorced.

None of the above fatal vs. non-fatal comparisons were tested for significant differences due to the small samples involved. The second and third year efforts, which will result in approximately 100 cases each, will be tested for statistically significant differences in several behavioral areas. Combined cases next year will equal 57 and 30.

TABLE #8

TIME OF DAY OF FATAL AND NON-FATAL ACCIDENTS INVESTIGATED

	FATAL	NON-FATAL
0000/0400	14	10
0400/0800	3	0
0800/1200	1	0
1200/1600	5	1
1600/2000	3	4
2000/2400	7	5
TOTALS	33	20

TABLE #1

DRIVERS INVOLVED IN 33 FATAL ACCIDENTS INVESTIGATED

KILLED	32
INJURED	6
NOT INJURED	5
TOTAL	43

PASSENGERS INVOLVED IN 33 FATAL ACCIDENTS INVESTIGATED

KILLED	3
INJURED	26
NOT INJURED	3
TOTAL	32

DRIVERS INVOLVED IN 20 NON-FATAL ACCIDENTS INVESTIGATED

INJURED	18
NOT INJURED	8
TOTAL	26

PASSENGERS INVOLVED IN 20 NON-FATAL ACCIDENTS INVESTIGATED

INJURED	7*
NOT INJURED	4
TOTAL	11

* - One Passenger Died Later

TABLE #11

COMBINATION OF PRIMARY FACTORS AND THE PROGRAM MATRIX FOR HIGHWAY SAFETY WHICH WERE INVOLVED IN 33 FATAL ACCIDENTS INVESTIGATED

MATRIX CELL	PRIMARY FACTORS	CASE NUMBERS	TOTAL
1	Alcohol	72-02, 04, 06, 07, 11, 72-16, 17, 22, 26, 28	10
1	Alcohol and Drugs	72-30	1
1	Speed	72-08, 12, 18, 27, 29	5
1	Driver Dozed At Wheel	72-05, 13	2
1	Improper Evasive Action Taken by Driver	72-09, 21	2
1	Driver Inattention	72-03, 14, 20, 31, 32 72-33	6
1	Disregard Traffic Control Signal	72-19, 23	2
1	Disregard Railroad Crossing Signal	72-10, 24	2
4	Mechanical Defect	72-01	1
1	Traveling Wrong Direction on Interstate	72-25	1

Alcohol Primary Factor (Includes Drug Accident) in 33%

Driver Inattentiveness Primary Factor in 18%

Speed Primary Factor in 15%

(Alcohol was considered a factor when the BAL was .10% and above)

40

TABLE #12

COMBINATION OF CONTRIBUTING FACTORS AND THE PROGRAM MATRIX FOR HIGHWAY SAFETY WHICH WERE INVOLVED IN 33 FATAL ACCIDENTS INVESTIGATED

MATRIX CELL	CONTRIBUTING FACTORS	CASE NUMBERS	TOTAL
1	Alcohol	72-03, 12	2
1	Alcohol and Drugs	72-09	1
1	Alcohol and Speed	72-19, 31, 32	3
1	Drugs	72-18	1
1	Speed	72-04, 06, 07, 11, 15, 72-16, 17, 22, 30	9
1,7	Speed and Icy Road	72-02	1
1,7	Speed and Wet Road	72-14, 26	2
1	Driver Panicked in Emergency Situation	72-20	1
1	Driver Failed to Take Any Evasive Action	72-01, 10, 33	3
1	Driver Fatigue	72-05, 13	2
1	Emotional State of Driver	72-25	1
1	Driver Inexperience	72-08	1
1	Disregarded Automatic Traffic Signal	72-28	1
1	Driver Inattention	72-23, 24	2
7	Improper Vehicle Loading and Faulty Shocks	72-21	1
4,7	Bald Tires and Wet Roadway	72-29	1
7	Improper Curvature Elevation	72-27	1

Alcohol Contributing Factor in 18%
Speed Contributing Factor in 36%
Evasive Action Contributing Factor in 9%

TABLE #13

COMBINATION OF PRIMARY FACTORS AND THE PROGRAM MATRIX FOR HIGHWAY SAFETY WHICH WERE INVOLVED IN 20 NON-FATAL ACCIDENTS INVESTIGATED

MATRIX CELL	PRIMARY FACTORS	CASE NUMBERS	TOTAL
1	Alcohol	73-01, 05, 07, 73-08, 13, 15	6
1	Speed	73-10, 18	2
1	Driver Dozed at Wheel	73-03, 11	2
1	Driver Failed to Yield Right of Way	73-02	1
1	Driver Inattention	73-06, 09, 12, 73-16, 17	5
1	Driver Took Improper Evasive Action	73-04, 14, 20	3
1	Driver Inexperienced	73-19	1

Alcohol Primary Factor in 30%

Driver Inattention Primary Factor in 25%

(Alcohol was considered a factor when the BAL was .10 and above)

TABLE #14

COMBINATION OF CONTRIBUTING FACTORS AND THE PROGRAM MATRIX FOR HIGHWAY SAFETY
WHICH WERE INVOLVED IN 20 NON-FATAL ACCIDENTS INVESTIGATED

MATRIX CELL	CONTRIBUTING FACTORS	CASE NUMBERS	TOTAL
1	Alcohol and Speed	73-06	1
1,7	Alcohol and Roadway Design	73-18	1
1	Alcohol and Inattention	73-10	1
1	Speed and Improper Evasive Action	73-01, 05, 19	3
1	Speed and Inattention	73-04, 07, 15	3
1,7	Speed and Wet Roadway	73-16	1
1,4	Speed and Possible Vehicle Malfunction	73-17	1
1	Improper Evasive Action	73-09, 12, 13	3
1	Driver Inattention and Fatigue	73-14	1
1,7	Driver Inattention and Wet Roadway	73-02	1
1	Fatigue	73-03, 08, 11	3
4,7	Bald Tires and Wet Roadway	73-20	1

Alcohol Contributing Factor in 15%
Speed Contributing Factor in 40%

00000064

MULTI-LEVEL STUDY OF ALCOHOL-INVOLVED ACCIDENTS IN GREATER ALBUQUERQUE

Gerald W. May, Ph.D.
Samuel Roll, Ph.D.
University of New Mexico

- Coordination with Albuquerque ASAP

    Met regularly with Tony Luna, ASAP Director, Bob Utter, Evaluation, and Pat Kelly, Rehabilitation.
    Provided ASAP with Driver Profiles of Alcohol-Involved Driver vs. Non-Alcohol-Involved Driver (second driver).
    ASAP Operations ending June 30, 1974 present a compatibility problem.

- Success in Obtaining Minimal Set of Data Elements

    Specific Problems with:

    V19 Length of time usually drink
        too variable for driver to elicit single response

    V20 Number of drinks per sitting
        too variable for driver to elicit single response

    V28 Did any member of driver's family have possible alcohol problem
        not reliable, drivers will not admit this

    V29 What were some of the indications as to why the driver drank
        too variable for driver to elicit single response

- Methodology and Experimental Design

    There was a slight modification in the number of cases studied at each level:

15	In-Depth
200	Injury Accidents- Driver cited for DWI (250 variables)
5200	Police Designated as Alcoh Involved (80 variables)
32,000	Total Accidents in Bernali County over 2 year period
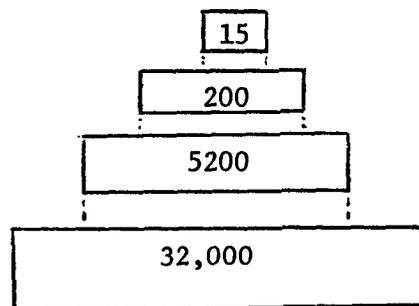
- Preliminary Findings

    See "Preliminary Summary - Driver Data".

00000065

NEW MEXICO ACCIDENT STUDY PROGRAM
PRELIMINARY SUMMARY
DRIVER DATA
JUNE 1974

Basic Demographic Information:

D 1 Driver Number Code (Vehicle and Position)

D 2 Driver Culpability
        1- Unknown
        92- Most responsible
        6- Contributing
        7- Not responsible
        0- Indeterminate

D 3 Sex
        89- Male
        17- Female

D 4 Age in Years   Avg:27.2   Range:58--16   S.D.-9.5

D 5 Height in Inches   Avg:67.7   Range:74--59   S.D.-27.2

D 6 Weight in Pounds   Range:210--99

D 7 Current Marital Status
        11-Unknown
        42-Single
        31-Married
         0-Common Law
         7-Separated
        15-Divorced
         0-Widowed
         0-Other _____

D 8 Education
        14-Unknown
         3-Graduate School, professional training
         6-College/University graduate
        20-Partial college training
        37-High school graduate
        21-Partial high school training
         4-Junior high school
         1-Less than 7 years of schooling

D 9 Occupation
         3- Unknown
        10- Professional, technical
         3- Manager, administrator (except farm)
         3- Sales workers
        12- Clerical, kindred
        18- Craftsman, kindred
         8- Operatives (except transport)
         4- Transport equipment operatives (drivers)
        11- Laborers (except farm)

Revised 9/12/73   00000067

```
 0- Farmers, farm managers
 0- Farm laborers, foreman
 5- Service worker (except below)
 0- Private household worker
 0- Housewife
14- Student
 1- Military
 0- Retired
14- Unemployed (over 1 month)
```

D10 Index of Social Position (Hollingshead, Two Factor)
```
15-Unknown
 4-Class I (11-17)
 7-Class II (18-27)
13-Class III (28-43)
44-Class IV (44-60)
23-Class V (61-77)
```

D11 Race/Ethnic Background
```
 1-Unknown
53-Caucasian
46-Spanish/Mexican
 5-Indian
 0-Negro
 1-Oriental
 0-Other _____
```

D12 Family Income
```
52-Unknown
 3-$2500 or less (welfare recipients)
18-$2500 - $5000
25-$5000 - $10,000
 5-$10,000 - $15,000
 1-$15,000 - $20,000
 2-Over $20,000
```

D13 Residence
```
 2-Unknown
17-Urban (core of city)
64-Urban (outskirts)
10-Suburban
12-Rural
 1-Other _____
```

D14 Telephone
```
 1-Unknown
77-Yes
28-No
```

D15 Number of Siblings   Avg:4.0   Range:0- ≥8

D16 Birth Order   Avg:2.3   Range:1- ≥8

000000

D17 Any Step Siblings
     49- Unknown
     12- Yes
     45- No

D18 Number of Jobs in the Past 5 Years   Avg:3.05   Range:0-$\geq$8

Driving History:

D19 Driver License (Type)
      0- Unknown
    18- None
     5- Learner
     0- Unclassified
   69- Passenger car/operators
     0- School bus
   14- Chauffeur
     0- Motorcycle

D20 License Status
     1- Unknown
   85- Valid
     0- Under age
     2- Revoked
     1- Suspended
     5- Not renewed
   12- Never issued

D21 License Restrictions
     0- Unknown
   75- None
   17- Corrective lenses
     0- Prosthetic aid
     0- Limited: Daylight hours, specific vehicles, etc.
   14- Not applicable
     0- Other _____

D22 Driving Record:
    Moving Violations   Avg:1.75   Range:0-$\geq$8

    Previous Accidents   Avg:.918   Range:0--2

D23 Insured
    21- Unknown
    46- Yes
    39- No

D24 Driving Experience (Miles Driven Per Year)
    42- Unknown
     8- Less than 5000
     8- 5000 - 10,000
    48- Over 10,000

D25   Vehicle Familiarity (Time Driving Accident
      Vehicle)
           22- Unknown
            6- Less than 1 day
            4- 1 day to 1 week
            6- 1 week to 1 month
           19- 1 month to 6 months
           21- 6 months to 1 year
           28- More than one year

D26   Vehicle Familiarity (Miles Driven with
      Accident Vehicle)
           44- Unknown
            5- Less than 50
            8- 50 - 1000
           21- 1000 - 10,000
           28- Over 10,000

D27   Driver Training
           27- Unknown
           37- None
           20- High school
            8- Commercial
            1- Informal
            8- Military
            5- Other _____

D28   Impairments to Driving Ability
           18- Unknown
           79- None
            8- Eyesight
            1- Hearing
            0- Paralysis
            0- Member(s) missing
            0- Other _____

D29   Permanent Physiological Condition
           18- Unknown
           79- None
            2- Infirmities (old age, arthritis,
               senility, etc.)
            0- Diabetes
            2- Brain (epilepsy, stroke, mental
               retardation, etc.)
            0- Cardiovascular (heart failure,
               angina, infarction)
            5- Other _____

Trip Plan:

D30 Origin
- 16- Unknown
- 12- Home
- 7- Work
- 3- Shopping area
- 3- Recreational area
- 29- Friend or relative's home
- 25- Restaurant or tavern
- 0- Church
- 1- School
- 10- Other _____

D31 Destination
- 17- Unknown
- 58- Home
- 1- Work
- 1- Shopping area
- 2- Recreational area
- 15- Friend or relative's home
- 1- Restaurant or tavern
- 2- Church
- 0- School
- 9- Pleasure ride

D32 Time Since Last Stop
- 24- Unknown
- 43- Less than 10 minutes
- 31- 11-59 minutes
- 8- One hour or more

D33 Distance Driven from Trip Origin
- 29- Unknown
- 50- Less than 5 miles
- 22- 5-19 miles
- 5- 20-99 miles
- 0- 100-399 miles
- 0- More than 400 miles

D34 Average Number of Times/Week Driver Passes Accident Site
- 25- Unknown
- 10- First time
- 25- 2 or fewer
- 31- 3 through 14
- 15- More than 15

D35 Length of Time Driving in County
- 18- Unknown
- 10- Less than 6 months
- 6- 6 months to 1 year
- 72- More than 1 year

D36 Pre-Crash Activities
    20-Unknown
     1-Eating
    38-Drinking
     2-Business
     2-Recreation
     2-Shopping
    26-Social
     6-Pleasure ride
     3-At home
     6-Other _____

Pre-Crash Mental/Physical State:

D37 Psychological Stress
    26-Unknown
    15-Domestic problems
     3-Financial problems
     2-School or work problems
    48-None obvious
    12-Other _____

D38 Transient Physiological Condition
    34-Unknown
     3-Blackout
     6-Dozing
     4-Fatigue
     1-Illness
    11-Distraught, emotional
    44-None
     3-Other _____

D39 Distractions Inside Vehicle
    42-Unknown
     2-Activity (smoking, etc.)
     4-Eating or drinking
     6-Conversation
     4-Preoccupation with other thoughts
     7-Other _____
    41-None

D40 Distractions Outside Vehicle
    40-Unknown
    49-None
     4-Glare, ambience
     7-Other motorists, traffic
     0-Noise
     6-Other _____

Crash and Post-Crash Information:

D41 Driver Evasive Action
      21- Unknown
      44- None
      16- Braking
      10- Steering
      14- Braking & steering
       0- Acceleration
       1- Acceleration & steering
       0- Brake release
       0- Other _____

D42 Seat Belt Use
       2- Unknown
      18- Not installed
      68- Installed, not used
      16- Installed, used
       1- Installed, intentionally defeated
       1- Installed, hidden

D43 Shoulder Belt Use
       5- Unknown
      60- Not installed
      39- Installed, not used
       2- Installed, used
       0- Installed, intentionally defeated
       0- Installed, hidden

D44 Ejected
       0- Unknown
     100- No
       1- Partially
       5- Fully

D45 Ejected Through
       1- Unknown
     100- Not applicable
       1- Windshield
       0- Window
       2- Door opening
       2- Other _____

D46 Extrication Required
       3- Unknown
      84- None
       4- Lifting
       4- Prying
       1- Battering
       6- Pulling
       3- Cutting
       0- Disassembling
       1- Fire protection
       0- Submersion

D47 Post-Crash Activity
      3-Unknown
     58-Emergency room
     26-Police station
     13-Funeral home/morgue
      3-Taken home
      1-Drove home
      2-Continued to destination

D48 Treatment
      3-Unknown
     29-None
     33-First aid/emergency room
     27-Hospitalized
     14-Fatal

Injuries:

0	1	2	3	4	5	6	9
25	48	10	6	1	1	14	1

D49 Overall AIS Severity Code

D50 Occupant Injury Codes:

‾12‾ ‾13‾ ‾14‾ ‾15‾ ‾16‾   ‾17‾ ‾18‾   ‾19‾ ‾20‾

(Fill in blanks with 9's if not needed) ‾28‾ ‾29‾
21 22 23 24 25   26 27

     Unknown
     Dashboard
     Windshield
     Steering wheel/column
     Seat backs
     Roof structure
     Doors/side structure
     A-pillars
     Windshield header
     Controls
     External objects
     Hood
     B- and C-pillars
     None
     Other _____

Driver Number Code _____
Case _____

Alcohol Use:

D51 Type of Beverage Preferred
45- Unknown
0- Does not drink
41- Beer
0- Wine
10- Whiskey, scotch
4- All of above, no preference
6- Other _____

D52 Frequency of Drinking
51- Unknown
14- Daily
6- 4-5 times/week
15- 2-3 times/week
4- Once/week
5- 2-3 times/month
7- Once/month
3- 2-3 times/year
1- Once/year (special occasions)
0- Never (abstainer)

D53 Length of Time Usually Drinking During a Sitting
67- Unknown
7- 1 hour or less
22- 2-3 hours
8- 4-5 hours
0- 6-12 hours
0- 2-3 days (binge)
2- Constantly drinking (alcoholic)
0- No time (abstainer)

D54 Number of Drinks per Sitting
61- Unknown   0-9-10
7- 1-2   4-11-12
15- 3-4   1-13 or greater
15- 5-6   0-Abstainer
3- 7-8

D55 Use Other Drugs While Drinking
63-Unknown
13-Yes
30-No

D56 BAC (Blood Alcohol Test Results, mg%) Avg: .18
1- 80 No BAC given, unknown drinking   Range: .42--0 S.D.-.09
3- 90 BAC given, unknown results
22- 91 No BAC given, driver HBD
4- 92 No BAC given, driver intoxicated
0- 93 No BAC given, no indication of drinking
0- 99 Unknown

D57 Normal Location of Drinking
- 57- Unknown
- 26- Home
- 11- Tavern, bar, nightclub
- 3- Parties
- 5- Family or friend's home
- 0- Restaurant
- 0- Recreation
- 0- Automobile
- 4- Other _____
- 0- Not applicable

D58 Normal Companionship When Drinking
- 58- Unknown
- 3- Spouse
- 7- Other family/relatives
- 30- Friend(s)
- 7- Alone
- 1- All of the above (no preference)
- 0- Not applicable (abstainer)

D59 Normal Mode of Transportation to Drinking
- 60- Unknown
- 24- Drives automobile
- 4- Rides in automobile
- 0- Taxi
- 0- Chauffeur
- 0- Public transportation
- 0- Ambulatory
- 18- None, drinks at home
- 0- Not applicable (abstainer)

D60 Normal Days of Drinking
- 53- Unknown
- 18- Weekend
- 2- Weekday
- 12- Daily
- 14- Variable
- 5- Special occasions only
- 2- Other _____
- 0- Not applicable (abstainer)

D61 Normal Time of Day of Drinking
- 59- Unknown
- 21- Late evening (8 PM - 12 AM)
- 8- Late evening and early morning (8 PM - 3 AM)
- 11- Early evening (4 PM - 8 PM)
- 1- Afternoon (12 PM - 4 PM)
- 0- Morning (8 AM - 12 PM)
- 0- Early morning (3 AM - 8 AM)
- 1- All through the day
- 5- No specific times
- 0- Not applicable (abstainer)

D62 Did any member of Driver's family have possible alcohol problems?
- 64- Unknown
- 33- No
- 4- Father
- 1- Mother
- 0- Siblings
- 2- Spouse
- 0- Children
- 2- Other _____

D63 Reasons for Drinking (Pick Two)
- 60- Unknown
- 23- To relax or calm nerves
- 16- To be sociable or polite
- 0- Because friends drink
- 8- To celebrate special occasions
- 11- To forget troubles
- 14- To feel good, get high
- 14- Like the taste
- 2- To help sleep
- 4- Other _____
- 1- Not applicable (abstainer)
- 59- None other

D64 Driver Ever Arrested by ATSP Enforcement Patrols (Including this crash)
- 70- Unknown
- 9- Yes
- 27- No

D65 Driver Ever Referred to Rehabilitation Due to ATSP Program (Including this crash)
- 59- Unknown
- 12- Yes (Type _____)
- 34- No
- 1- Not applicable

D66 Driver Aware of ATSP Program in Area or Public Information on Alcohol Countermeasures
- 73- Unknown
- 26- Yes (What _____)
- 7- No

D67 Driver Ever Diagnosed as Alcoholic
- 53- Unknown
- 18- Yes
- 35- No

D68 Driver Admit to Problem Drinking
- 35- Unknown
- 17- Yes
- 54- No

D69 Driver Ever Have BAC of .15% or greater
when arrested
 45-Unknown
 49-Yes
 12-No

D70 Driver Ever Been Alcohol-Related Arrested
 37-Unknown
 37-Yes
 32-No

D71 Previous Treatment for Alcohol Problems
 47-Unknown
 9-Yes
 50-No

D72 Driver Reported Marital, Social, Employment
Problems Due to Alcohol
 46-Unknown
 16-Yes
 44-No

D73 Driver Ever Diagnosed as Problem Drinker on
Basis of Written Diagnostic Instruments
 56-Unknown
 17-Yes
 33-No

D74 According to the Above, was Driver a Problem
Drinker
 41-Unknown
 34-Yes (Scored yes on D67 or D68, or
  scored yes on two or more of D69 to D73)
 31-No

D75 Clinical Evaluation of Alcohol Use
 0-Unknown
 1-Abstainer
 6-Mild social drinker
 19-Moderate social drinker
 10-Heavy social drinker
 13-Heavy social drinker (problem)
 9-Sporadic binge drinker
 9-Alcoholic
 39-Indeterminate

NEW MEXICO ACCIDENT STUDY PROGRAM
UNIVERSITY OF NEW MEXICO

TENTATIVE PROFILE OF ALCOHOL-INVOLVED DRIVER   (N=15)
FEBRUARY 1974

	MEAN or MODE	RANGE or "OTHERS"	N
SEX	Male-13	Female-2	15
AGE	25 years	18-45 years	15
HEIGHT	68 inches	63-71 inches	15
WEIGHT	155 pounds	120-210 pounds	15
OCCUPATION	Construction-4, Skilled labor-4	Unskilled labor-3, Student-2, Unemployed-2	15
EDUCATION	High school-8	Partial high school-6, College degree-1	15
MARITAL STATUS	Separated or Divorced-6	Single-5, Married-4	15
ETHNIC GROUP	Chicano-10	Anglo-4, Indian-1	15
LIFETIME RESIDENCE	Albuquerque-8	New Mexico-5, Other-2	15
HOW LONG IN ALBUQUERQUE	Life-8	More than 10 years-2, 1-10 years-4, Less than 10 years-1	15
CITY QUADRANT	NW-6	SW-4, NE-3, SE-2	15
FAMILY	Alone-4, Parent and Siblings-4	Wife and children-3, Parents-1, Wife-1, Siblings-1, Friends-1	15

	MEAN or MODE	RANGE or "OTHERS"	
PARENTS' MARITAL STATE*	Married-6	Divorced or Widowed-5, Unknown-4	15
INDEX OF SOCIAL POSITION	Class IV-9	Class V-4, Class III-1, Class II-1	15
DRIVER'S LICENSE	Valid operator's-7	None-6, Provisional-1, Suspended-1	15
DRIVING EXPERIENCE	8.5 years	1-30 years	15
DRIVER EDUCATION	Unknown-7	Yes-4, No-4	15
AGE OF VEHICLE	9 years	1 day-25 years	15
VEHICLE EXPERIENCE	1-2 years-4	Borrowed-3, Less than 2 weeks-3, Less than 1 year-3, Greater than 4 years-2	15
TYPE OF ACCIDENT	Single car-6	Head-on-4, Intersection-3, Turning-2	15
TRIP PLAN, FROM:	Friend-6	Bar-3, Relative-2, Home-1, Dance-1, Work-1, Unknown-1	15
TO:	Home-7	None-4, Friend-2, Relative-1, Unknown-1	15
TIME	2148	1550-0640	15
LOCATION	Freeway-5, Urban arterial-5	Collector-4, Frontage-1	15
MEASURED B.A.I.	0.191%	Less than 0.10-4, 0.20-0.30-5, Greater than 0.40-1, Refused-4, Incorrect-1	10
ESTIMATED B.A.L.	Legally intoxicated-3	Impaired-2	5

* During driver's childhood

	MEAN or MODE	RANGE or "OTHERS"	
SCENE FAMILIARITY	Daily-7	Familiar-6, Unfamiliar-2	15
HOW FAR FROM ORIGIN	6 miles	Less than 2 miles-5, 2-6 miles-4, 5-10 miles-2, More than 10 miles-3, Unknown-1	15
SEAT BELT USAGE	Installed and Not used-8	Not installed-5, In use-2	15
WHERE DRINKING	At home-4, At friends'-4	In vehicle-3, At bar-3, Unknown-1	15
CATEGORIZATION OF DRINKER	Moderate social drinker-4, Heavy social drinker (problem)-4	Sporadic binge drinker-3, Indeterminate-2, Heavy social drinker-1, Alcoholic-1	15
DRUG INVOLVEMENT	None-11	Barbiturate-1, Tranquilizer-1, Barbiturate and marijuana-1, Marijuana and antihistamine-1	15
INSURED	Yes-7	No-6, Unknown-2	15
RESPONSIBILITY	Most responsible-14	Not responsible-1	15
POLICE ENFORCEMENT	None (fatality)-4	DWI-10, Reckless Driving-7, No Driver's License-6, Leaving the Scene-2, Other-5 (Average number of violations = 2)	
PREVIOUS DRIVING RECORD	No record-6	Previous DWI-4, Other previous violations-4, Clear-1	15
PREVIOUS ALCOHOL TREATMENT	None-10	DWI School-3, ATP-1, (Heroin addiction-1)	15
EMOTIONAL STRESS	None-8	Yes-6, Unknown-1	15

	MEAN or MODE	RANGE or "OTHERS"	N
FULL SCALE I.Q.	90	78-108	6
VERBAL I.Q.	90	76-103	6
PERFORMANCE I.Q.	95	85-114	6
MAST SCORES	6.55	1-12	9
MAST ITEMS SCORED	#25-9, #3-6, #10-6, #2-6	#24-4, #17-4, #5-3, #11-3, #13-2, #8-1, #14-1	
RISK TAKING SCORE	5.17	2.33-7.5	12
SENSATION SEEKING			
THRILL AND ADVENTURE	37.8%	7.1%-71.4%	12
EXPERIENCE SEEKING	32.8%	11.8%-66.7%	12
DISINHIBITION	32.1%	23.1%-46.7%	12
BOREDOM SUSCEPTIBILITY	33.7	0.0%-71.4%	12
INDEPENDENT ALCOHOL DIAGNOSIS	Alcoholic-5	Mod. Soc.-4, Heavy Soc.-3, Indet.-2, Mild Soc.-1	15

NEW MEXICO ACCIDENT STUDY PROGRAM
UNIVERSITY OF NEW MEXICO

TENTATIVE PROFILE OF SECOND DRIVER (N=9)
FEBRUARY 1974

	MEAN or MODE	RANGE or "OTHERS"	N
SEX	Male-7	Female-2	9
AGE	31 years	16-56 years	9
HEIGHT	68 inches	64-74 inches	9
WEIGHT	149 pounds	120-185 pounds	9
OCCUPATION	Manager-2	Semi-professional-1, Salesman-1, Skilled labor-1, Unskilled labor-1, Student-1, Unemployed-1, Unknown-1	9
EDUCATION	Partial college-3	High school-2, Partial high school-1, No high school-1, M.S.-1, Unknown-1	9
MARITAL STATUS	Single-3, Married-3, Divorced-3		9
ETHNIC GROUP	Anglo-5	Chicano-4	9
LIFETIME RESIDENCE	Albuquerque-5	New Mexico-2, Other-2	9
HOW LONG IN ALBUQUERQUE	Life-5	Less than 4 years-3, More than 15 years-1	9
CITY QUADRANT	SE-2, NW-2, Out-of-city-2	NE-1, SW-1, Unknown-1	9
FAMILY	Alone-2, With wife and children-2	Children only-1, Siblings-1, Mother-1, Parents-1, Unknown-1	9

	MEAN or MODE	RANGE or "OTHERS"	N
PARENTS' MARITAL STATE*	Unknown-9		9
INDEX OF SOCIAL POSITION	Class III-3, Class V-3	Class II-2, Class IV-1	9
DRIVER'S LICENSE	Valid operator's-8	Provisional-1	9
DRIVING EXPERIENCE	11.25 years	4 months-20 years	9
DRIVER EDUCATION	None-5	Yes-3, Unknown-1	9
AGE OF VEHICLE	4 years	1 1/2 years-9 1/2 years	9
VEHICLE EXPERIENCE	2-4 years-3	Less than 1 year-2, 1-2 years-1, More than 4 years-1, Borrowed-1, Unknown-1	9
TYPE OF ACCIDENT	Head-on-4	Intersection-3, Turning movement-2	9
TRIP PLAN, FROM:	Home-3, Friend-3	Relative-1, Work-1, Park-1	9
TO:	Relative-3	Friend-2, Bar-2, Home-1, Out-of-state-1	9
TIME	2250	1552-0640	9
LOCATION	Urban arterial-4	Collector-3, Freeway-1, Frontage-1	9
MEASURED B.A.L.	Not taken-7	0.018%-1, Incorrect-1	9
ESTIMATED B.A.L.	Impaired-1		1

* During driver's childhood

	MEAN or MODE	RANGE or "OTHERS"	N
SCENE FAMILIARITY	More than once/week-3, Weekly-3	Monthly-1, Unfamiliar-2	9
HOW FAR FROM ORIGIN	4.5 miles	Less than 2 miles-2, 2-6 miles-5 6-10 miles-1, Over 10 miles-1	9
SEAT BELT USAGE	Not used-8	Not installed-1	9
WHERE DRINKING	Not drinking-7	In vehicle-1, Mother's home-1	9
CATEGORIZATION OF DRINKER	Light social drinker-5	Abstainer-1, Moderate social drinker-1 Unknown-2	9
DRUG INVOLVEMENT	None-9		9
INSURED	Yes-5	No-2, Unknown-2	9
RESPONSIBILITY	Most responsible-1	Not responsible-8	9
POLICE ENFORCEMENT	None-8	Unsafe Vehicle, Illegal Entry into Country-1	9
PREVIOUS DRIVING RECORD	Clear-7	Previous violations-2	9
PREVIOUS ALCOHOL TREATMENT	None-9		9
EMOTIONAL STRESS	None-8	Yes-1	9

00000086

SPECIAL STUDY OF FATAL ACCIDENTS IN OKLAHOMA CITY (Exp. Group)
VS. FATAL ACCIDENTS IN TULSA (Control Group)

Alan Chesney, Ph.D.
Jerry Purswell, Ph.D.
University of Oklahoma

● Coordination with Oklahoma City ASAP

> Dr. Purswell is both a member of the Team and a consultant for the
> evaluation of the Oklahoma ASAP, therefore, ideal communications exist.
> Use of the ASAP DWI data will be made in the final report analyses of
> the Oklahoma Team.

● Success in Obtaining Minimal Set of Data Elements

> Specific Problems with:

> V19   Length of time usually drink during a sitting

> V20   Number of drinks per sitting

> V33   Driver ever diagnosed as an alcoholic by competent medical or
> treatment facility.
> Team also stated that, in their experience, the next of kin are not
> reliable in determining the drinking problem of a fatally injured
> driver.

● Methodology

> The study groups consist of the following:

> (1)   Experimental Group   - fatal collisions that occur within Oklahoma
> (80 Cases)   City. Most responsible driver is investigated.
>   Minimal Data Elements collected plus other
>   human, vehicle, and environmental data.

> (2)   Control Group   - fatal collisions that occur in Tulsa, Oklahoma.
> (50 Cases)   Most responsible driver is investigated.
>   Minimal Data Elements collected plus other human,
>   vehicle and environmental data.

> (3)   DWI Arrested   - drivers arrested for DWI in Oklahoma City.
> Drivers   Certain data elements collected on each driver
> (6654 drivers)   can be compared to elements collected on most
>   responsible drivers in fatals (Group 1). Common
>   data elements include occupation, job loss due
>   to alcohol abuse, marijuana use, etc..

> (4)   Roadside Survey   - drivers stopped at roadside survey for alcohol
> Drivers   detection. Certain data elements such as age,
> (4500 drivers)   sex, BAC, etc. can be compared with Groups 1 and 3.

> The final report will contain any significant differences on key
> variables between the four study groups, where comparisons are possible.

SECTION III

- Boston ASAP Progress Synopsis

- Baltimore ASAP Progress Synopsis

- Albuquerque ASAP Progress Synopsis

- Oklahoma City ASAP Progress Synopsis

<u>Boston ASAP Progress Synopsis</u>

Richard X. Connors
John Coules, Ph.D.
Boston ASAP

● Boston Profile

        Surveys indicate that 82% of the adults in Boston drink alcoholic beverages
           (i.e. they are not abstainers).

        Thus far, 80% of the drivers arrested for DUIL have been diagnosed as
           "problem drinkers".

        For most police DUIL arrests, the driver must be more than just drunk, he
           must be speeding, weaving back and forth into lanes, running stop
           signs or lights, etc..

● DUIL Arrests

        For each DUIL arrest:

           - judge decides from evidence who goes into ASAP program
           - then there is   a pre-sentence evaluation on the driver
           - there is a records check
           - there is a clinical evaluation

        If found to be a "Problem Drinker" or "Heavy Social Drinker" it is
           recommended to judge that driver go through alcohol education school.

           - social drinkers usually drop out
           - problem drinkers are encouraged to go through for the rest of the
             year
           - original charge of DUIL will be wiped out if driver completes school
             (incentive)

        60% of the DUILs are sent to the above school.

        77% of the DUILs in 1972 were analyzed:

           Of 1514 drivers:
                 Records check for these drivers showed
                     1925 previous DUIL arrests
                     4732 previous traffic arrests
                     2011 criminal arrests (not including public drunkeness)

                 37% of these drivers had criminal records
                 85% of these drivers had previous traffic arrests

● Fatal Accidents

1973 considered first <u>full</u> Operational year:

\#
Fatal
Crashes

1971	1973	1974
1st quarter	1st quarter	1st quarter
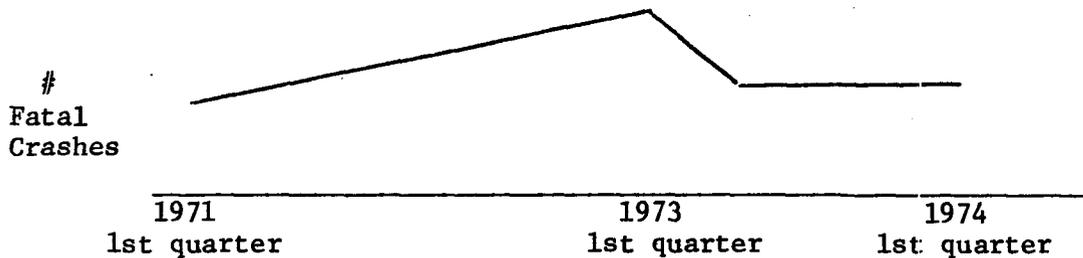
There has been a significant drop in night-time fatals:

Fatal Accidents Per Year

	Baseline Years 1969-72	Operational Year 1973	% Change
Day	35.3	33.0	-7%
Night	46.8	32.0	-32%

● Accident Data Needs

(1) Urgent need to compare Boston DUIL drivers with drivers involved in fatal accident (alcohol-involved)

(2) Where are the fatal accidents occurring? Within the Boston ASAP?, Outside?

(3) Psychological Profile of the fatal accident driver: What is criminal record, etc.?

(4) Drinking typology of fatal accident driver.

Baltimore ASAP Progress Synopsis

Robert Goldstein
Baltimore ASAP

- Profile

> Geographic boundary of I-695 very difficult to control. Emphasis is mainly in Baltimore City.

> Enforcement countermeasures being emphasized. Rehabilitation has had problems.

> DWI's went up from a conviction rate of 30% to 80% over the past 3 years.

> Interestingly, criminal arrests have also increased, especially alcohol related (catalytic effect).

> Homicides in Baltimore almost 90% alcohol-involved (identifying drunk drivers may aid in finding criminals).

- Use of Maryland Team Accident Data

> Team findings of high proportion of drivers with past criminal records may be significant

> Alcohol-involvment and drug involvment in fatals tracked via the Team.

- Accident Data Needs

> (1) Continue on the criminal profile development.

> (2) Alcohol-involvement in non-fatal accidents should be tracked.

> (3) Fatal drivers vs. DWI drivers should be analyzed.

Albuquerque ASAP Progress Synopsis

Kevin Quinlan, NHTSA
Jerry May, UNM Team

- **Albuquerque DWIs**

    200 DWI drivers receive clinical interviews per quarter (on the average).

    - Drivers are categorized as "problem drinker" by
                 DOT definition
                 APA definition

    - Rehabilitation includes DWI school.

    There is at present an 11% recidivism rate for DWIs.

    Of the drivers who drop out of the DWI school, recidivism is 13%.

- **Data to the UNM Team**

    Data sent to UNM Team for analysis and comparison with alcohol involved accident drivers include:

    - diagnostic files
    - DWI records
    - DWI profiles
    - roadside survey data

- **Team data useful to ASAP**

    In-depth driver profile helpful but considered too sanitized.

    Accidents drivers aware of ASAP:
         26 of 33 accident drivers asked if they were aware of Albuquerque ASAP replied that they were. This is probably due to the Dial-a-Ride program, balloons, or the DWI school.

Oklahoma City ASAP Progress Synopsis

Jerry Purswell, Ph.D.
UNM Team
ASAP Evaluation Consultant

● **Progress**

Significant drop in proportion of alcohol-related fatal accidents:
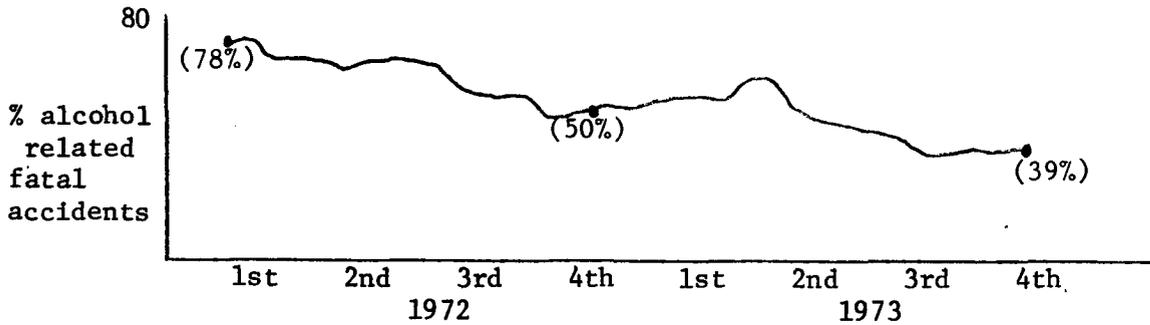
Alcohol-related fatal accidents dropped from 78% of the fatal accidents in the first quarter of 1972 to 39% of the fatal accidents in the fourth quarter of 1973.

● **DWI Data**

Proportion of Drivers with BAC at time of Arrest

	.25+	.20-.24	.15-.19	.10-.14
1971 (1423 DWIs)	23%	30%	27%	13%
1972 (3249 DWIs)	17%	24%	28%	18%
1973 (4167 DWIs)	10.5%	18%	28.5%	22%

Proportion of DWIs with very high BACs is going down over the three year period (23% in 1971 to 10.5% in 1973)

Of 2000 DWI drivers analyzed:

320 were considered social drinkers

514 were in between social and problem

1166 were considered problem drinkers

Of the above 2000 drivers:

25% were divorced
8% were separated
50% were married

42% were laborers
17% were craftsmen
13% were unemployed

12% had lost a job due to alcohol abuse

31% said some member of their family had a drinking problem.

- Accident Data

Alcohol-Involved Fatal Drivers-1973

	Caucasian	Negro	Indian
Male	12	1	1
Female	4	0	1

Only 10% of DWIs are female

5 of 19 (22%) of above accident drivers female.

- Roadside Survey Data
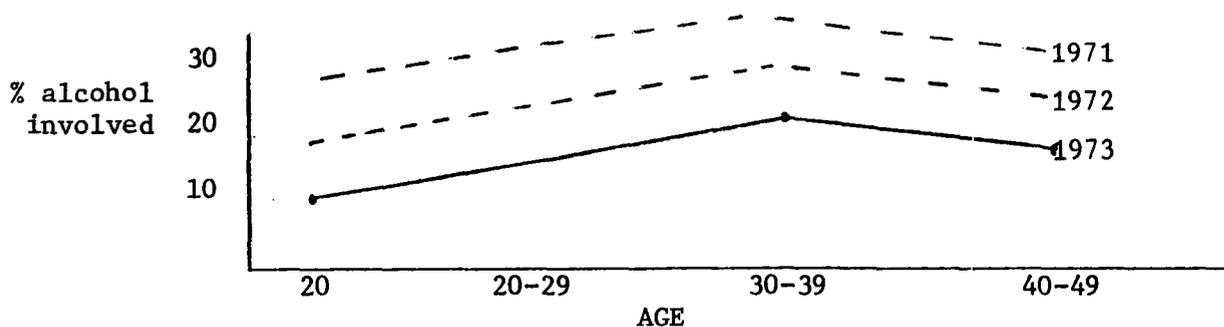
Proportion of drinking drivers in roadside surveys is dropping off for
for all age groups.

SECTION IV

- Future of the ASAPs

- Future of the Special Study Teams

Future of the ASAPs

H.V. Hawley
Chief
Demonstration Management Division
Office of Driver and Pedestrian
  Programs
Traffic Safety Programs

● History

      8 original ASAPs (71-73) coming to a conclusion
     21 additional ASAPs (72-74) are in last year of operation
     _6_ final ASAPs (mid 72-mid 75) have a year to go
     35 Total ASAPs

● NHTSA Request to Congress

     NHTSA has requested 9 million dollars from Congress to continue the
         ASAP programs

         8 million dollars - for Operational ASAPs
         1 million dollars - for Evaluation purposes

● Future

     If Congress approves the funding request for the 8 million dollar
         Operational extension, approximately 12 ASAPs will be extended.
         These 12 will be selected by evaluation committees within NHTSA.

     Therefore, of the 27 projects being considered for Operational extension
         (the original 8 are already completed), 12 will probably be
         selected for extension:

         27 ASAPs considered
        _12_ funded for Operational extensions

         15 not funded
  plus _8_ original ASAPs

         23 will be considered for the 1 million dollar (divided between
             ASAPs) two-year follow-up and evaluation

     The follow-up and evaluation extensions fit into the picture as
         follows:

BASELINE	OPERATIONAL	FOLLOW-UP EVALUATION
3 years	3 years	2 years
Appendix H data	Data Collection	Catalytic Effects
	Countermeasures Etc.	Sustained Effects Etc.

Evaluation funding will be for following:

(1)   An Annual Report

(2)   Appendix H tables on ultimate impact and arrest data
             (Analytic Study # 1)

(3)   Studies on Rehabilitation Effects
             (Recidivism)

● Summary

Approximately 12 ASAPs will continue Operationally
Approximately 23 ASAPs will continue in Follow-up and Evaluation

00000102

<u>Future of Special Study Teams</u>

James C. Fell
Accident Investigation Division
Office of Statistics and Analysis
Research and Development

● Multi-Level Data System

NHTSA is developing a multi-level accident and related data system in its attempt to provide valid information on the highway safety problem. This system is being developed for the purposes of :

    (1) discovering and describing the magnitude of problem areas,
    (2) evaluating the effectiveness of safety standards in force, and
    (3) evaluating the potential effectiveness of proposed safety standards.

This multi-Level system (see Figure 1) contains the following Levels of Data:

● Driver Licensing, Vehicle Registrations, Exposure Surveys

These data gives us a basis to calculate rates: accident, injury and fatality rates per 100,000 licensed drivers, per 100,000 registered vehicles, per 100,000,000 miles driven, etc.. Much more data collection will take place on this Level in the future in order to measure our present highway system activity. Data are needed on bicycle, motorcycle and pedestrian exposures to risk, alcohol and drug use by drivers, trip plans, day vs. night driving, etc.. In many studies these data serve as control groups to measure the population at risk for the problem studied.

● Routine Police Data, National Accident Summary

These data, collected throughout the 50 States, give us an overall, gross picture of the accident problem in this country. Data are summarized through accident reports from the States and 11 common accident reported data elements throughout all the States are used to compile the National Accident Summary. A Standard Accident File Extract (SAFE) has also been developed by NHTSA through police reported data from all 50 States. In addition, a Fatality Analysis File (FAF) has been developed by NHTSA containing several common data elements from <u>all</u> fatal accidents in the country.

● Special Studies and Police Bi-Level Studies

Questions which cannot be answered via the routine police report data or general accident statistics must be addressed through Special Studies or Police Bi-Level Studies. These are sometimes termed as Ad Hoc Studies which statistically address a specific problem area (e.g. alcohol or drug incidence in accidents, restraint usage and effectiveness, etc.) If police have the time and capability to gather the appropriate data, the Police Bi-Level Studies are conducted. If special research teams are needed, then MDAI Special Studies are conducted.

● In-Depth Studies

In the dynamic world of highway safety, the constant changes in automotive engineering, speed changes, different sizes of vehicles, new safety features, etc., clinical, in-depth, multidisciplinary investigators will always be needed to some extent. This is the top Level of

Figure 1

MULTI- LEVEL CONCEPT

IN-DEPTH STUDIES

SPECIAL STUDIES AND
BI-LEVEL POLICE STUDIES

ROUTINE POLICE DATA
NATIONAL ACCIDENT SUMMARY
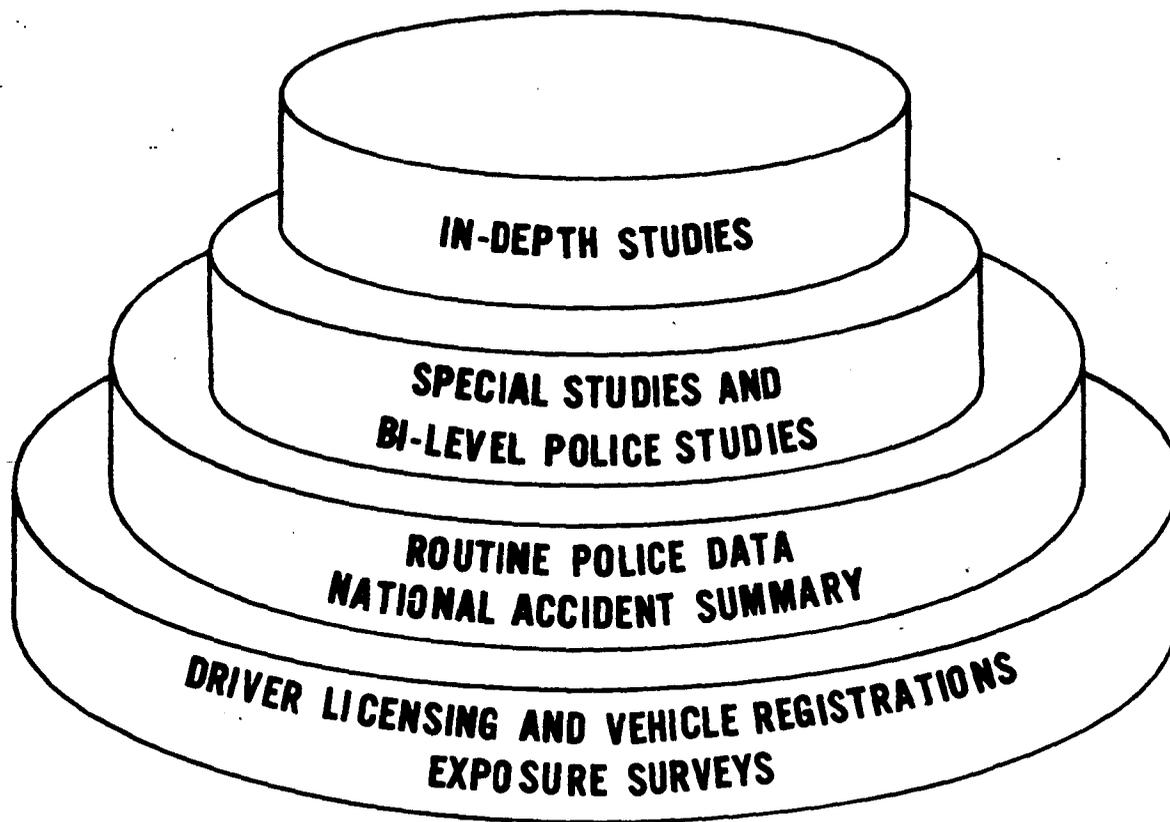
DRIVER LICENSING AND VEHICLE REGISTRATIONS
EXPOSURE SURVEYS

ACCIDENT DATA COLLECTION AND ANALYSIS

the multi-Level system and includes a small number of collisions
investigated in extreme depth to uncover new trends, safety problems,
defects, etc.
   With the use of this Multi-Level System, NHTSA hopes to produce
valid, nationally representative data in the areas of :
   (1)   Recurring Trend Statistics (first two levels)
   (2)   Recurring Research Statistics (third level)
   (3)   Ad Hoc Studies (third and fourth levels)

● Present Special Studies

   At present, NHTSA is conducting several special accident studies,
   including in-depth investigations, throughout the country (see map).
   As one can see, four of these involve Special Alcohol Studies, on
   NHTSA top priority.

● Future of Four Special Alcohol Studies

   There are several avenues for continuation and/or modification of the
   four Special Study Team contracts:

   (1)   If the ASAP continues Operationally in any one of the four cities,
         and the ASAP project personnel feel that the Special Study Team
         should continue and/or slightly modify its effort (or conduct an
         entirely different alcohol study), then the chances are excellent
         that NHTSA will fund such an effort. Positive indication of
         continuation must come from the Operationally continuing ASAP
         Director, and from the Office of Driver and Pedestrian Programs,
         TSP, Charles Livingston, Director.

   (2)   Requests for Proposals (RFPs) will be sent out by the Accident
         Investigation Division and Office of Driver and Pedestrian
         Research calling for new alcohol/drug related special studies.
         The four Teams will receive these RFPs and can send in proposals
         on them.

   (3)   Special Study Teams can send in unsolicited proposals to NHTSA
         proposing a unique special study which would utilize the accident
         investigation teams. These will be evaluated by NHTSA personnel
         and the Team will be notified if funding is available for such.

   (4)   Highway Safety Program Standard 18 on Accident Investigation and
         Reporting calls for each State to establish an accident investigation
         team. Each of the four study teams should check with their State
         Governor's Highway Safety representative to see what the status
         is in their state for the establishment of a Team. Federally
         funded Team experience should certainly be a prime consideration
         factor when the States establish these Teams. The University of
         Rochester Team (Dr. John States), which was formerly funded by
         NHTSA, is now the New York State funded Accident Team.

MULTI-LEVEL ACCIDENT INVESTIGATION STUDIES

Boston
(Fatal Accidents
ASAP Evaluation)

(Injury Causation)
(ACRS)

Buffalo

Ann Arbor
(Prototype Investigation Strategy)
(ACRS)

Bloomington
(Accident Causation)

Baltimore
(ASAP Evaluation)

Salt Lake City
(Restraint Usage Comparisons)

San Francisco
(Intersection Accidents)

Washington
(Rural Pedestrian
Accidents)

Lexington
(Recreational
Vehicle Accidents)

Los Angeles
(ACRS)

Albuquerque
(Alcohol-Involved Accidents
ASAP Evaluation)

Oklahoma City
(Fatal Accidents
ASAP Evaluation)

San Antonio
(Injury and Damage Indices)
(ACRS)

Miami
(Single Vehicle
Accidents)
(ACRS)

ACRS—Air Cushion Restraint System Evaluation Regional Team

In summary, the Teams have four avenues of approach to continue their accident research and the chances are good, if the Team has the interest and ability, that one of the avenues will be successful.

SECTION V

- Special Study Final Report Requirements

    14 Required Tables

    Driver Profile

    Univariate Distribution

    Population Data

MINIMAL SET OF REQUIRED TABLES TO BE DEVELOPED
BY EACH SPECIAL STUDY TEAM

James C. Fell
Robert Voas
Conference Co-Chairmen
NHTSA

Subsequent to the Conference, a set of 14 bi-variate tables, a driver profile, and a required univariate distribution were developed by the Co-Chairmen as **minimal** final report requirements for each of the Special Study Teams. These tables were developed in order to provide vital alcohol related data for NHTSA and the ASAP programs, and to provide a common means for comparing and combining data for the four study areas. Even though the study methodologies are slightly different for each of the four efforts, these tables are considered the "classic" tables needed in any alcohol/accident study. Due to the collection of the previously agreed upon minimal data elements (see Section I), it is believed that each Team can provide these tables (and any statistical analyses deemed appropriate) in each of their upcoming final reports.

These required tables are presented in outline form on successive pages to follow. Footnotes on each table indicate special instructions to certain Teams depending upon their data collection methodology. The Boston and Oklahoma City efforts deal with fatal accidents exclusively, and consequently their efforts will be limited to fatals. The Baltimore Team looks at both fatals and non-fatals, therefore, most tables developed by them will be duplicated for each group. The Albuquerque Team is dealing with alcohol-involved accidents exclusively, therefore, they may not be able to construct some of the tables while for others they may be able to construct the tables for each of the accident severities (fatal, IP, PD).

The required tables, driver profile requirement, and univariate requirement follow:

TABLE 1

Alcohol Relationship vs. Collision Type

Fatal Accidents [1,2]

	Single Vehicle	Multiple Vehicle		Pedestrian		Totals
		Responsible Driver	Non-responsible Driver	Driver	Pedestrian	
Alcohol Related*	#**(%)					
Non-Alcohol Related						
Totals	# (100%)					

* Alcohol Related = $\geq$.05 BAC if taken or a clinical evaluation thereof.

** Cell Number Entries: 0 = measured or collected and 0 occurrences.
    NC = not collected.

[1] Baltimore Team should construct this table for both fatal and non-fatal samples.

[2] Albuquerque Team should attempt to construct this (if data available in basic
    level statistics) for IP and PD accidents also, using Level 1 data. The
    Level 2 data should be charted for Alcohol-Related accidents only, since
    that defines that level.

TABLE 2

Extent of Drinking vs. Collision Type

1,2
Fatal Accidents

| | | Single Vehicle | Multiple Vehicle | | Pedestrian | | TOTALS |
			Responsible Driver	Non-Responsible Driver	Driver	Pedestrian	
Alcohol Related	Problem Drinker*	# (%)					
	Social Drinker*						
	Indeterminate*						
Non-Alcohol Related	Problem Drinker						
	Social Drinker						
	Indeterminate						

Totals   # (100%)

*Use definitions from MINIMAL SET - HUMAN FACTORS DATA, variable V41.

1,2
    Same footnotes as Table 1

TABLE 3

Alcohol Relationship vs. Time of Day

1,2
Fatal Accidents

	12:01 a.m.- 4:00 a.m.	4:01 a.m.- 8:00 a.m.	8:01 a.m.- 12:00 p.m.	12:01 p.m.- 4:00 p.m.	4:01 p.m.- 8:00 p.m.	8:01 p.m. 12:00 a.m.	TOTALS
Alcohol Related	# (%)						
Non- Alcohol Related							

TOTALS   # (100%)

1,2
    Same footnotes as Table 1

TABLE 4

Alcohol Relationship vs. License Status* of Drivers**

1,2
Fatal Accidents

	Valid Drivers License	Invalid Drivers License Suspended or Revoked	Other	TOTALS
Alcohol Related	# (%)			# (100%)
Non-Alcohol Related				

TOTALS

*License status at the time ot the collision.

**Include, where data available, both Responsible and Non-Responsible Drivers.   Otherwise indicate what driver studied.

1,2
   Same footnotes as Table 1.

TABLE 5

Alcohol Relationship vs. Previous Alcohol-Related Arrests*

Fatal Accidents[1,2]

	Driver had No Previous Alcohol-Related Arrests	Driver had Previous Alcohol-Related Arrests	TOTALS
Alcohol Related	# (%)		# (100%)
Non-Alcohol Related			
TOTALS			

*Give span of arrest record in years, e.g., for lifetime of driver; last 10 years; last 5 years; last 3 years; etc. Also indicate status of offense (i.e., arrest or conviction).

[1,2] Same footnotes as Table 1

TABLE 6

Alcohol Relationship vs. Driver Responsibility for Crash*

1,2
Fatal Accidents

	Drivers Responsible	Drivers Not Responsible	TOTALS
Alcohol Related	# (%)		
Non-Alcohol Related			

(100%)

*Give local definition used for driver responsibility

1,2
    Same footnotes as Table 1

TABLE 7

Alcohol Relationship vs. Sex of Driver*

1,2
Fatal Accidents

	Male	Female	Totals
Alcohol Related	# (%)		# (100%)
Non-Alcohol Related			

TOTALS

*Combine responsible and non-responsible drivers, if data available

1,2
    Same footnotes as Table 1

TABLE 8

Alcohol Relationship vs. Driver Age

Fatal Accidents[1,2]

	< 20	21-25	26-30	31-35	36-40	41-45	46-50	51-55	56-60	61+	Totals
Alcohol Related	# (%)										
Non-Alcohol Related											

TOTALS   # (100%)

[1,2]
Same footnotes as Table 1

TABLE 9

Alcohol Relationship vs. Marital Status of Driver

Fatal Accidents[1,2]

	Single	Married	Commonlaw	Separated	Divorced	Widowed	Other	Unknown	Totals
Alcohol Related	# (%)								# (100%)
Non-Alcohol Related									

[1,2]
  Same footnotes as Table 1

00000123

TABLE 10

Alcohol Relationship vs. Driver Restraint Usage

Fatal Accidents [1,2]

	Restraints Not Available	Restraints Available				Unknown	Totals
		Lap		Shoulder			
		Used	Not Used	Used	Not Used		
Alcohol Related	# (%)						# (100%)
Non-Alcohol Related							

[1,2]
   Same footnotes as Table 1

TABLE 11

Extent of Drinking Problem vs. Blood Alcohol Concentrations

Driver Fatals *
BAC

	Negative	.01-.04	.05-.09	.10-.14	.15-.19	.20-.24	.25+	No BAC	Totals
Abstainer	# (%)								
Social Drinker									
Heavy Social Drinker (PD)									
Sporadic Binge Drinker (PD)									
Alcoholic (PD)									
Total Problem Drinkers (PDs)									
Indeterminate									
TOTALS	# (100%)								

* Since BACs are usually obtained only on fatal accidents where a driver is killed, use driver fatals only. In Albuquerque's case, construct a second table showing total drivers given a BAC test as a result of a collision (Drivers involved in alcohol suspected accidents).

Table 12

Extent of Drinking Problem vs. Driver Age

1,2

Fatal Accidents

	<20	21-25	26-30	31-35	36-40	41-45	46-50	51-55	56-60+	Totals
Abstainer or Social Drinker*	# (%)									
Problem Drinker*										

Totals   #(100%)

* Use definitions from MINIMAL SET-HUMAN FACTORS DATA, variable V41

1,2 Same footnotes as Table 1

TABLE 13

Age of Driver vs. Blood Alcohol Concentration

Driver Fatals *

Age Groups

	<20	21-25	26-30	31-35	36-40	41-45	46-50	51-55	56-60	60+	Totals
Negative	#(%)										
.01-.04											
.10-.14											
.15-.19											
.20-.24											
.25+											
No BAC											
Totals	#(100%)										

* Same footnote as Table 11

TABLE 14

Drug Involvement vs. Alcohol Relationship

Fatal Accidents

	Non Alcohol Related	Alcohol Related No BAC	Alcohol Related BAC Taken .05-.09	.10-.14	.15-.19	.20-.24	.25+	Totals
No Drug Involvement	#(%)							#(100%)
Drug Involvment Unknown								
Drug Involvement: Stimulants Prescriptive/Narcotic (Amphetamines, cocaine, bennies)								
Stimulants Over-the-counter (caffeine, No-Doz								
Depressants Prescriptive/Narcotics (Barbituates, Opiates, tranquilizers)								
Depressants over-the-counter (Alcohol, sleeping pills)								
Antihistamines								
Hallucinogens								
Marijuana								
Totals								

DRIVER PROFILE

Alcohol Related vs. Non-Alcohol Related

A Driver Profile for the accidents studied should be calculated based upon
mean values, modal values and standard deviations of certain variables.
A profile should be developed both for alcohol involved drivers in the
accidents and non-alcohol involved drivers in the accidents studied.*
The profile for each group (alcohol vs. non-alcohol) should include,
but not be limited to, means, modes and standard deviations for the
following variables:

Age
Sex
Marital Status
Occupation
Education
Family Income
Race
Residence
Other Drug Involvement
Type of Drinker (i.e., Abstainer,....Alcoholic)
Annual Mileage Driven
Place of Drinking (Only for Alcohol Related Profile)
Year of Automobile Involved
Number of Passengers in Automobile
Type of Collision (i.e., single, multiple (rear, side, head-on))
Time of Day of Collision

*For Boston and Oklahoma, this would strictly be for fatal accidents. For
 Baltimore, this would be for driver fatals and driver non-fatals. For
 Albuquerque, this would be for the alcohol-involved drivers vs. the
 "second" drivers.

UNIVARIATE DISTRIBUTION

Minimal Set - Human Factors Data

For the 41 variables required as a minimum (excluding those variables found to be meaningless), a univariate distribution should be generated showing the frequencies of occurrence of the responses for each variable. The specific drivers studied should be clearly defined (e.g., Boston - most responsible driver in fatal collision; Baltimore - most responsible driver in driver fatals vs. driver non-fatals; etc.). An example of a univariate distribution appears in Section II under the University of New Mexico presentation. This distribution would probably be most appropriate as an Appendix in the final report.

PROFILE OF STUDY AREA

Elaine Weinstein
Accident Investigation Division

A brief write up will be required in the introductory section of the Special Study
final reports describing the average population, socio-economic and area character-
istics for the study universe. This area profile will then be used as a base
to be compared to the team's drinking driver profile. The attached list of
variables should be included as a minimum. The asterisked (*) data are available
from the following Census reports:

>   Census Tracts, Standard Metropolitan
>   Statistical Area   1970 Census
>   (catalogued by major cities)
>
>   General Population Characteristics   1970
>   Census State Reports

If the Study Team library does not have copies of the Census reports, they may be
purchased at $2/copy from:

>   Superintendant of Documents
>   U.S. Government Printing Office
>   Washington, D.C.   20402
>   or any Department of Commerce Field Office

The two attached maps are examples of the type of information desired to show
the study area versus location of accidents, and the population density

A short description of the ASAP in the study area should also be included in
the introduction, especially the specific geographic areas involved and the
countermeasures used.

The Roadside survey data, over-the counter alcohol sales and any general
alcohol use pattern information should be obtained from the ASAPs. If the
ASAPs do not have, or cannot obtain the information, then it is probably not
accessable for that area. The teams are not required to spend exorbitant
additional time researching the information.

Profile of Study Area should include <u>at least</u> the following:

Population Characteristics *

age
sex
race
marital status
ethnic background
education

Socio-economic Characteristics*

employment status
occupation
family income
automobiles available per average family

Area Statistics

Square miles of study area with accident locations (map)
population density (map)
type and mileage of roadway (chart)
       city streets
       county roads
       state and U.S. highways
      (divided by urban/rural)
accident statistics for the study period
      fatal, personal injury, property damage
      % of each with alcohol involvement

Alcohol Information

Distribution of BAC by time of day, day of week
      for roadside surveys
      for all accidents w/alcohol
      for all fatal accidents w/alcohol
Local alcohol/drug use laws
      enforcement of these laws
Character of liquor sales
      (e.g. package sales, over-the- counter, set-ups)
Amount of liquor sold (gallons/per person/per year)
ASAP drinking driver profile (if available)
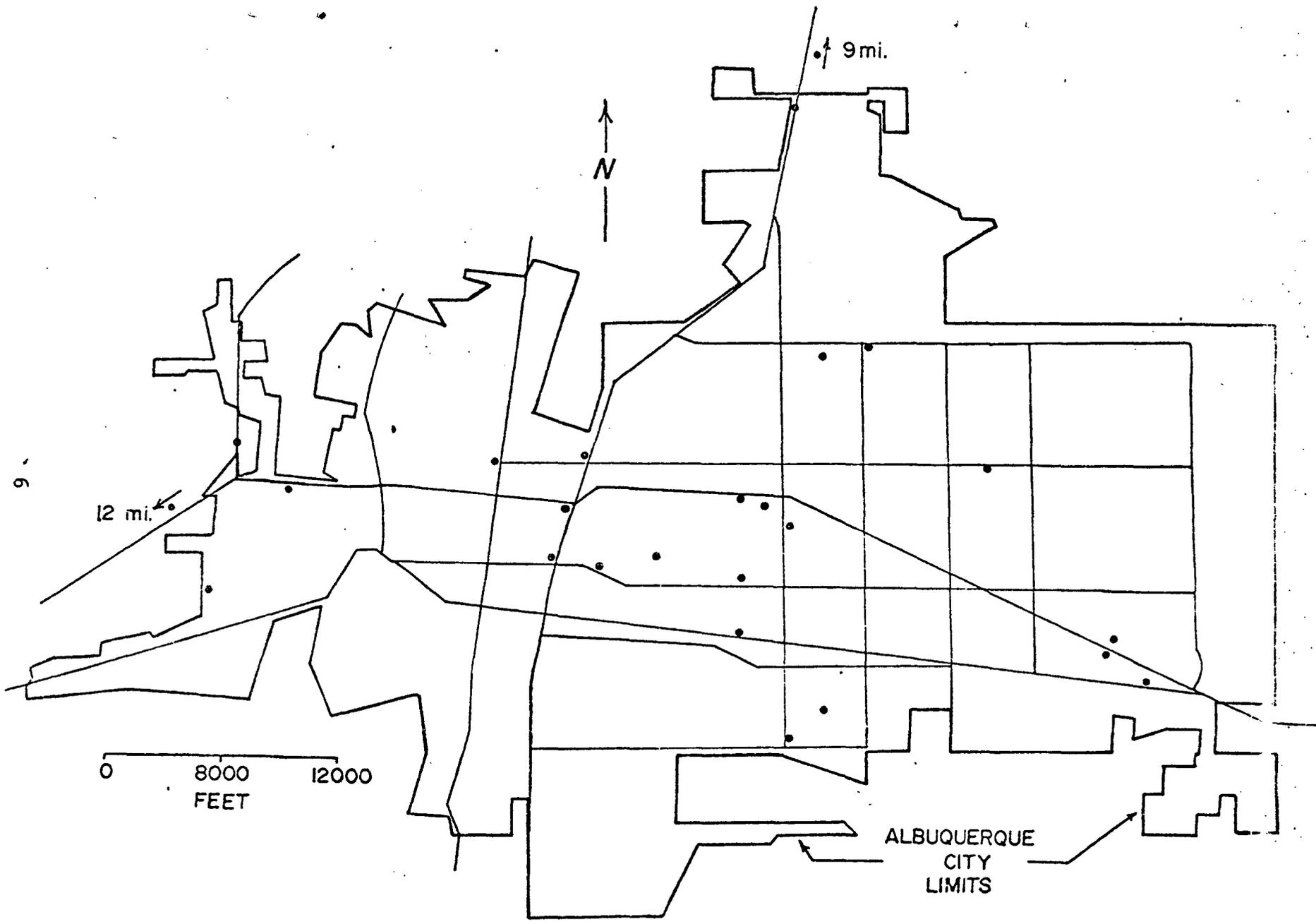
Figure 1. Map of city of Albuquerque, showing location of accidents studied.
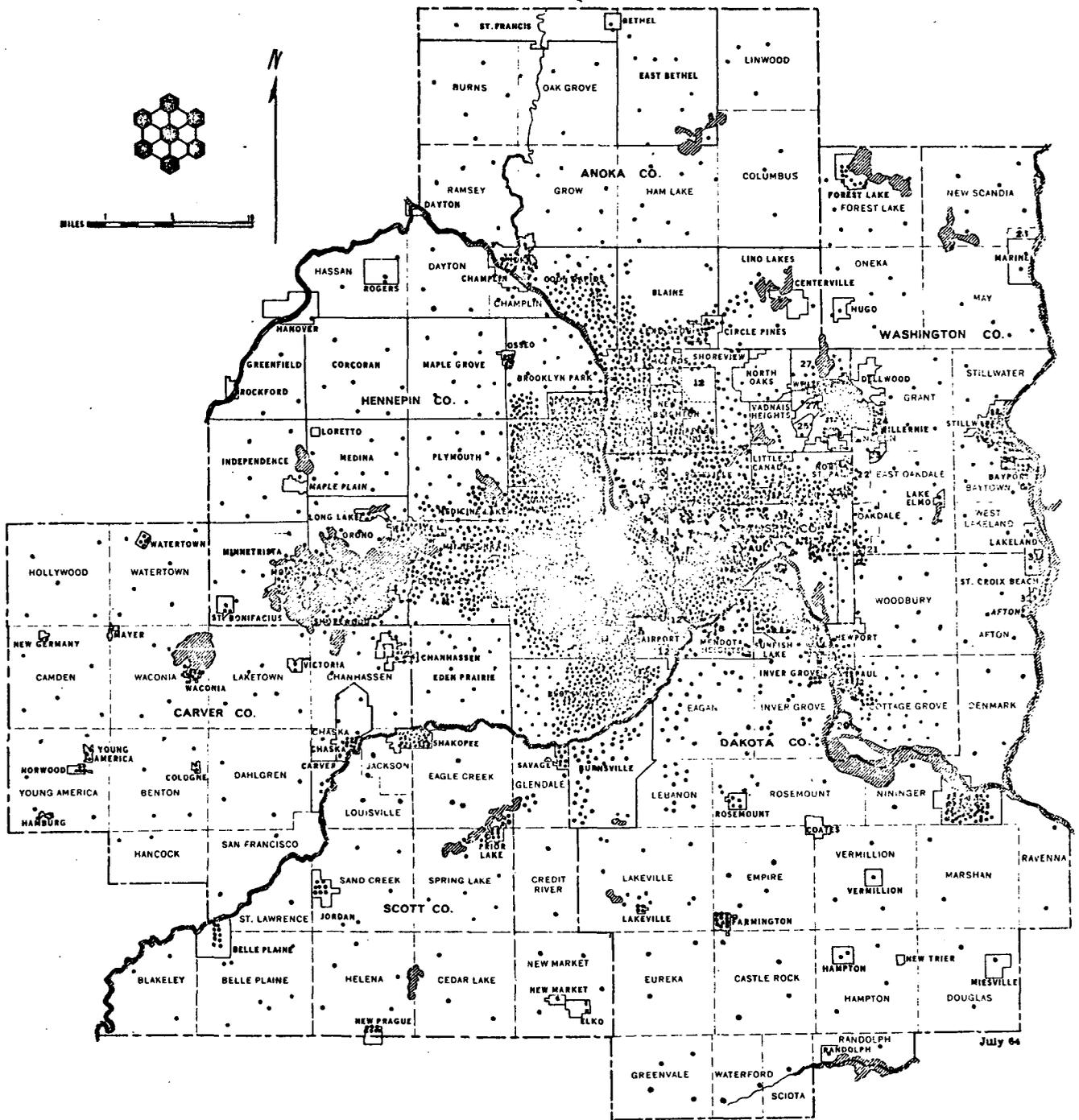
Figure 2.

DISTRIBUTION of POPULATION (1964)

One Dot Equals 200 People

7

00000138

00000139