

Anchorage Safe Communities Final Report



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I. INTRODUCTION

The Anchorage Safe Communities project was funded by the National Highway Traffic Safety Administration as a project to demonstrate the ability of community coalitions to help reduce the incidents of motor vehicle crash injuries and fatalities. The coalition began operating under the grant on October 1997, two years after its inception in November 1995.

This report recounts the efforts of the coalition to reduce injuries and fatalities resulting from motor vehicle crashes. Specifically, the report:

- Describes the activities of the coalition in developing and implementing selected interventions,
- Assesses the relationship between the organization and visibility of the coalition, and the impact it had on increasing public awareness of injuries and fatalities;
- Determines the effectiveness of the coalition in the perceptions of its members to the extent to which their activities change public policies
- Assesses the effectiveness of each individual intervention in reducing motor vehicle injuries and fatalities;
- Determines the economic costs of motor vehicle crashes in Anchorage; and
- Describes the changes in the nature and extent of injuries and fatalities in the period preceding the organization of the coalition and since its inception.

A. Process for Securing Safe Communities Demonstration Grant

The National Highway Traffic Safety Administration (NHTSA) had sponsored a safe communities program in a few areas to help demonstrate the success of community coalitions in helping to reduce motor vehicle injuries and fatalities. Because Anchorage had demonstrated some interest in this idea, the fledgling Anchorage Safe Communities coalition was urged to apply for funding under a demonstration title. The acting project director, an employee of Providence Hospital, organized an effort to develop a grant application for funding under the safe communities demonstration program. The Institute for Circumpolar Health Studies was approached for assistance in developing the grant application.

The application was submitted to the federal government and received some positive feedback. A series of exchanges ensued and some of the specific characteristics of the grant application were enhanced. Funding was finally received for program startup in October 1997.¹

¹ The formal title of the project was "Demonstration and Evaluation of Reduction of Motor Vehicle Injuries and Fatalities in Anchorage Using Safe Community Model Project Number DTNH22-97-H-05108"

B. Grant Objectives

The Anchorage Safe Communities grant was awarded on September 30, 1997 for a sum of \$379,214. The goals of the grant were:

1. To engage the community in addressing motor vehicle crash injuries and death by expanding community influence of the Anchorage Safe Communities program;
2. To develop and implement a series of interventions to reduce motor vehicle injuries and deaths;
3. To develop a data system that will support the ongoing monitoring of the nature and extent of motor vehicle injuries and deaths and support program evaluation efforts.

A summary description of goal and objective attainment is shown in Section VI.C. of this report.

The Institute for Circumpolar Health Studies was awarded approximately half of the grant amount (\$189,530) to evaluate the process and outcomes of the Anchorage Safe Communities program. The Scope of Work and overall evaluation plan, while modified periodically, was adopted by the Anchorage Safe Communities and by NHTSA in a February 20, 1998 teleconference. The draft evaluation plan is shown as Appendix A of this report.

II. ANCHORAGE SAFE COMMUNITIES COALITION

In 1995, a group of health professionals in Anchorage banded together to link the efforts of agencies across the community that had a unity of mission: the reduction of injuries, especially motor vehicle injuries. Over the next two years, the coalition met periodically to focus their efforts on a specific initiative that would lend some cohesion to their varied efforts. Early success in organizing motor vehicle injury prevention initiatives caused them to apply for funding under the National Highway Traffic Safety Administration Safe Communities' demonstration project. Grant funds were received for a three-year demonstration project commencing October 1997.

A. Mission of Anchorage Safe Communities

The role of the coalition was to develop distinct interventions designed to reduce injuries and deaths resulting from motor vehicle crashes. The first draft of the mission statement was developed and approved on October 7, 1997, a week after the Anchorage Safe Communities grant notification arrived. The first draft of the mission statement and bylaws was submitted during the October 7 meeting. The draft mission statement read:

The mission of Anchorage Safe Communities is to reduce the number of injuries and fatalities caused by motor vehicle-related crashes through community education, intervention, and the promotion of environmental and legal/policy changes that result in a better quality of life for the residents of our area.

The Anchorage Safe Communities Coalition was expected to:

- Provide coordination and logistical support to the interventions described;
- Support the activities of the evaluation team;
- Coordinate a cohesive program for injury control; and
- Mount a well-articulated media campaign.

B. Coalition Record Keeping

The Anchorage Safe Communities Program kept detailed records of its activities. Reports to Federal and State funding agencies were routinely filed. These records provide an ongoing documentation of program activities and changes in administrative arrangements.

Quarterly reports describing changes in membership and attendance at meetings from and including April 1 – June 30, 1998 and minutes of meetings are available upon request. In addition, the files contain numerous reports on activities ad hoc, which are also available upon request. These reports provide the background to the interventions described in Section IV.

C. Changes in Administrative Structure

During its three-year lifetime, the Anchorage Safe Communities coalition changed in membership and focus. Initially comprised of leaders from state, local, and federal agencies involved with injury control efforts, the coalition expanded its membership during the grant application period to include community advocates, such as Mothers Against Drunk Drivers, bankers, employees of the Division of Motor Vehicles, regional health corporations, and others. This varied membership greatly expanded the networking capabilities of the coalition. As the coalition matured, its internal structure shifted from a coalition with a central single staff person to a more independent organization with its own board of directors.

Initially, the coalition was staffed by an employee of the emergency room of a local hospital. The staff member's time was donated by the hospital to support what it considered to be a very important effort. Upon receipt of the grant, it became clear that additional administrative capability would be required to effectively manage the grant, the coalition, and its attendant activities. The grant was received by Providence Alaska Health System, which retained a project coordinator to oversee the interventions, evaluation, and other coalition activities.

As the coalition matured, the staff moved out of the Providence hospital setting, relocated twice, then established a separate office, thus maintaining a community presence independent of the hospital.

As the scope of work of the coalition began to expand, it became clear that continued reliance on the Providence Alaska Health System for administrative support, accounting services, etc. was no longer realistic. Efforts were made to incorporate the coalition as a 501(C)(3) organization and to transfer administrative responsibility to the United Way of Anchorage. This "administrative services only" arrangement allowed the coalition to manage projects beyond the initial scope of activity that involved the Anchorage Safe Communities grant sponsored by NHTSA.

The organization continues to evolve. The new board of directors has its expanded scope of activities and continues to pursue funding to support community injury prevention activities. The scope of its activities has gone beyond the initial focus of motor vehicle injuries and fatalities. In that way, this community demonstration grant has produced what is anticipated to be a stable and mature organization with a valuable focus.

The final organization emerging from the original Anchorage Safe Community model has been named the Alaska Injury Prevention Center. One of the Center's principle goals is the implementation of an array of injury prevention services based on the WHO International Safe Communities (ISC) model.²

² Karolinska Institute, Stockholm, Sweden

There are seven essential elements of the WHO ISC model. No priority for the implementation of these elements has yet been adopted by the Alaska Injury Prevention Center. These seven elements include:

1. Occupational injury prevention,
2. Prevention of injuries to children,
3. Prevention of injuries to elders,
4. Prevention of intentional injuries (homicide and domestic violence),
5. Suicide prevention,
6. Prevention of injuries and fatalities attributable to motor vehicle crashes, and
7. Injuries in home and leisure environments.

III. THE EVALUATION PLAN

The initial set of interventions proposed was shown in the grant application³. The initial list of interventions proposed changed over time as the interest in specific interventions increased or waned or the feasibility of intervention development reduced its long-term probability of success. The Evaluation Plan, shown in Appendix A, was developed in response to these specific interventions existing during the early months of the project.

The Anchorage Safe Communities hosted a traffic safety and technology and evaluation conference on October 3-4, 1998 at the University of Alaska Anchorage to review the proposed evaluation plan and some preliminary results from early systems assessments. The agenda addressed:

- DWI research issues
- Pedestrian safety
- Community outreach
- Injury mapping
- Children's car seats
- Graduated licensing and .08 BAC initiatives
- The economic costs of motor vehicle crashes
- Teen driver simulation

Two external experts from the Department of Social and Behavioral Sciences, School of Public Health, Boston University were engaged to assist in this effort:

1. Jonathon Howland, MPA, MPH, PhD, Professor of Public Health and
2. Ralph Hingson, ScD, also Professor of Public Health

The consultants submitted a letter to the Anchorage Safe Communities leadership regarding their impressions of the evaluation planned to date. A letter from Dr. Howland, dated March 18, 1999, is shown as Appendix B to this report.

Throughout the duration of the project, the evaluation struggled with the extent to which it should seek to intervene in the functioning of the coalition in its process of deciding which interventions to sponsor. It was decided to view the functioning of the coalition independently and provide data and feedback upon request. Overall, the evaluators felt very welcome in discussions, but did their best not to guide or overtly influence the functioning of the coalition. In this way, it was hoped that the Anchorage Safe Communities coalition could evolve on its own.

³ NHTSA grant "Demonstration and Evaluation of Reduction of Motor Vehicle Injuries and Fatalities in Anchorage" submitted April 30, 1997, pages 20 – 25.

IV. ASC INTERVENTION

A. Anchorage Teenagers' Driving Attitudes and Behaviors

1. Introduction and Summary

Six teenage focus groups met on different dates and in different places in Anchorage in the summer of 1998. They responded to questions on their attitudes toward, their behavior in, their concerns about, and their experiences of driving and driver's training. A detailed component evaluation working paper is shown as Appendix C.

2. Statement of the Problem

Teen drivers account for a disproportionate number of crashes and related injuries and deaths in Alaska. In 1998, teen drivers aged 14-20 accounted for 15% of the crashes: 3,573 out of 23,780. They constituted 16% of the injuries (578 out of 3,675), and for 22% of the fatalities (7 out of 32)⁴.

3. Description of the Intervention

The ASC organized 6 Teenage Driving Attitudes Focus Groups in Anchorage, which met for 1-2 hours in May, June, and July of 1998. Each had 8 to 19 teens aged 14-19, for a total of 62 participants, including high school and college students, some with jobs, and 17 Youth Corps members.

Two ICHS staff members moderated the 6 focus groups: Brian Saylor and Carl Hild. The purpose of the groups was to find out about the teenagers' own driving experiences, and what driving issues teenagers they were concerned about, and to get their thoughts on and attitudes towards interventions of different kinds, including two suggested interventions (driver training and graduated licensing).

The participants introduced themselves, and the moderators asked questions to which the groups' participants responded. Some of the questions were raised with all six groups. Others were raised with 2, 3, or 4 of the 6 groups.

Including as separate questions those questions that were only slightly different, the moderators asked 21 questions in the six group meetings, which consisted of 3 training sessions and 3 behavior sessions

The moderators asked participants the following: if they knew teenagers who had been injured in crashes; what caused the crashes; what ideas they had for reducing crashes; how they felt about getting a license as early as possible; about their knowledge and perceptions of driver's education classes, non-traditional methods

⁴ Alaska Department of Transportation and Public Facilities. 1998 Alaska Traffic Accidents. Juneau, Alaska. Table D.3.1, page 96.

such as simulation, graduated licensing, the best way to learn to drive, driving violations, and Anchorage drivers; and if they used seatbelts.

Of the 21 questions, 9 were asked only in the 3 training group sessions, 10 were asked only in the 3 behavior sessions, and 2 were asked in both the training and the behavior sessions.

4. Evaluation Method

Given the question and response format, the method adopted was to record, analyze, and summarize the conversations of the groups. This section summarizes the details given in the preliminary evaluation reports.

The participants believe that:

1. Alcohol consumption is the most important single contributing factor;
2. Designated drivers are not the solution to being drunk at a party and driving home-other things may be more effective;
3. Driver's training should be on-the-road to be effective;
4. Graduated licensing is too restrictive;
5. Non-traditional training methods may help if supplementary;
6. The benefits of licensing at 16 outweigh the dangers ;
7. Teens are at greater risk than adults, from riskier behaviors and less driving experience.

These topics are not arranged in any order of priority. During the sessions, the moderators did not attempt to group them, and the participants' opinions on them. This reflects the fundamental purpose of the focus group approach, which is to provide a general framework (in this case, a set of printed questions used to stimulate conversation), and to allow the discourse to take place unhindered by attempts on the part of the moderators to "force" the respondents in any way.

Unhindered discourse naturally discloses some issues that are felt by individuals (and sometimes by the group as a whole) as more important than others. For example, **"...focus group members named excessive consumption of alcohol as the number one factor [increasing the likelihood of...a crash]."**

And, it discloses elements of agreement and disagreement on particular issues. **"[Their] answers were mixed when [the participants] were asked how they felt about getting their license as early as possible."** **"Most reactions [to the idea of virtual reality or other driving simulations] were negative."** The preliminary evaluation reports give detailed summaries of these elements and issues, and include also, verbatim, extensive amounts of comment.

The participants knew other teens who had been in crashes, and were familiar with situations where teens were consuming alcohol and driving.

Their ideas for reducing teen crashes were:

- Enforcing curfews;
- Enforcing tougher sanctions for driving under the influence of alcohol and/or drugs (“use it and lose it”);
- Establishing graduated licensing;
- Improving mass transportation;
- Making the driving test more difficult; and
- Putting more police on the street.

5. Data and Interpretation

The focus groups yielded no data of the kind used to interpret opinions or behavior, or to help test (and sometimes to formulate) hypotheses. No hypotheses were established prior to the meetings, for testing. Thus, the meetings were not organized to yield information on, for example, different levels of knowledge pre-meeting and post-meeting, with data such as scores on knowledge of topics by characteristics of the participant (age, sex, etc.). Nor, for the same reason, was there follow-up designed to yield data to measure the difference between the participants and their non-participant peers in driving behaviors.

The focus groups had an immediate and a longer-run purpose. The immediate purpose was 3-fold:

1. To explore the attitudes of Anchorage teenagers toward driver training education,
2. To explore their attitudes towards graduated licensing programs, and
3. To learn more about their driving experiences.

These 3 objectives were achieved.

The medium-term and longer-term purposes were:

4. To use the responses of the teenagers to help decide whether or not to try graduated licensing and different methods of driver training including simulation;
5. More generally, to use their attitudes, concerns, experiences, and stated behaviors to help decide what interventions to try; and
6. To raise their levels of engagement in the issue of teen driving through the informal peer group format.

The first 2 of these 3 were also achieved: graduated licensing was adopted in state legislation; simulated driving was not introduced. We may assume that the third was achieved to some extent.

6. Conclusions

The focus group interventions were the first efforts to include teens in the process of establishing driving policies, programs, and projects in an Alaska community.

They helped clarify and focus several issues, and so either directly or indirectly helped to encourage efforts to reduce the extent of alcohol-related driving (i.e. BAC 08), to impact policing (i.e. red light running), and to influence the de-emphasis of other efforts (i.e. simulated driving).

B. Taking the Lead

1. Introduction and Summary

Injuries are the leading cause of death among teenagers across Alaska, and incidents involving motor vehicles are a major component of this statistic. Teens are at high risk of motor vehicle injuries. One in five rarely or never use seatbelts. Almost 40% of young motorcyclists don't wear helmets, and almost a third of young drivers occasionally drive after drinking.

These and other measures of high risk teen driving behavior prompted the coalition to develop interventions with teens to identify and ameliorate high risk driving behaviors and begin to reduce the extent of motor vehicle injuries and fatalities among Anchorage teens.

Initially, the coalition attempted to develop "peer to peer" programs through the Anchorage School District, where young Anchorage drivers would work with their classmates to identify and address high risk driving behaviors. Those arrangements proved unsuccessful. An additional initiative was examined to train young drivers using computer simulation techniques. It was thought that the technology was sufficiently developed to tailor driver simulation packages to help young drivers navigate in Alaska's unique driving environment. A detailed examination of the hardware and software required showed that it was less developed than originally thought and too expensive for the Anchorage Safe Communities Program.

In place of these failed initiatives, the Anchorage Safe Communities sponsored a series of motivational films and course curricula, which would address high risk behavior among Alaska's youth. A detailed component evaluation working paper is shown as Appendix D.

2. Intervention Description

The intervention began with a series of teen focus groups, which identified the perceptions of Anchorage youth about motor vehicle safety. This was followed up by a motivational package entitled "Take the Lead" with motivational films, and attendant curricula were presented in select Anchorage schools. The total intervention consisted of the following: motivational films shown in the month of February (1998), discussion groups in the classroom after viewing the motivational film, "A Parents Night", and a series of ten one-hour classes conducted in a classroom setting.

3. Evaluation Method

The evaluation method included an exploratory qualitative review of the attitudes of Anchorage teens in driving vehicles. Five teenage driving behavior focus groups were held in Anchorage between May and July 1998. The groups were composed of 6-10 teens that met at local schools, a recreation center, and an Army National Guard training camp. Participant ranged from 14-19 years of age with a total of 15 females and 26 males participating.

The results of this study were used to help tailor a motivational film called "Take the Lead." The film and its attendant programs were brought to the Anchorage school by the Anchorage Safe Communities program. The production was designed for middle and high school teenagers ages 13 through 18. The purpose of the film was to help reduce high risk behavior in teenagers in an effort to lower the number of deaths of serious injuries caused by such behavior. The presentation itself consisted of three screens side by side in a semicircle. This configuration allowed for a multimedia slide show together with intense popular music.

Three graduate students from the UAA School of Social Work, together with two ICHS evaluation staff, observed the initial screening of the "Take the Lead" motivational film. They evaluated the setting, the reaction of the students, and teacher follow-up.

The parent night that followed the "Take the Lead" airing was observed by the ICHS evaluation team. Their impressions were shared with the parent night teachers and others to improve the quality of subsequent offerings.

4. Data and Interpretation

Teen Focus Groups

The focus groups revealed the following basic themes:

- a. Teens know other teens who have been in automobile crashes, and alcohol, environment factors, and risky behaviors contribute to teen crashes.
- b. Teens are at a greater risk of getting in an automobile crash than adults.

- c. The benefit of getting a driver's license at 16 outweighs the possible dangers of driving at a such a young age.
- d. Drivers education is seen as beneficial by teens.
- e. Teens can learn to drive successfully through hands-on experience, and with the help of driver trainers and parents.
- f. Nontraditional driver programs (simulations) may be effective, but only as a preliminary training method.
- g. Graduated licensing programs may be too restrictive for most teens.
- h. Most teens face situations that involve teen alcohol consumption and driving.
- i. Overall, teens do not use designated drivers but can offer other ways of reducing alcohol-related crashes.

5. Evaluation of "Take the Lead" motivational film

The strengths and weaknesses of the motivational film, as well as the settings, were assessed by observing the initial airings of the film. In the impression of the evaluators, the film was powerful and had emotional content that was readily accepted by teens. Real life testimony given by teenagers in the film brought home the message of the possibility of disastrous outcomes of seemingly innocent behaviors.

The weaknesses of the presentation were primarily due to administrative issues including:

- a. Lack of timely support by the Anchorage School District,
- b. Delay of the funding sources,
- c. Insufficient time to organize the activity, and
- d. Failure of several schools to assure adequate space to seat all students in a comfortable manner (i.e. to allow for large screens, or to block sunlight coming in through the windows).

There were little follow-up discussions after the film as originally planned. This could be due to inadequate direction, supervision, or motivation by teachers.

The parent night was designed to alert parents to the high risk behaviors of Anchorage teens. The "Take the Lead" film was also shown at the parent night. Technical problems presented themselves, and attendance was spotty despite wide advertisement. This could be due to unusually low temperatures (-20° and -30° F during the time period).

6. Teacher Evaluation of the "Take the Lead" Movie

Seventy-six surveys were completed and received by the evaluators, representing teachers from eight different schools.

More than half of the teachers had positive comments about the “Take the Lead” movie. However, few (16%) of the teachers gave more than twenty minutes of class time for the discussion of the issues raised during the movie. Nonetheless, they felt the exercise was very effective.

Teachers also heard positive comments from students regarding the movie, with well over half the teachers recording only positive comments. Similar comments were heard regarding the technical aspects of the presentation. Over 80% wished that they could see this or a similar presentation on a regular basis, although teachers were unsure if they could plan or facilitate classroom discussions following the movie.

Three hundred and twelve students who participated in the “Take the Lead” program in February 1999 completed surveys regarding their impressions of the movie and the messages it conveyed. Ninety-six percent of those who responded believed that it was important to be a positive leader, and had sensible suggestions for ways of becoming such a leader. Eighty percent believed it was important to have such a film presentation routinely presented at the Anchorage School District.

7. Conclusions

Despite the problems with the organization and funding of this effort, the “Take the Lead” program was viewed by both teachers and students as an effective way of introducing the dangers of high risk driving behavior to Anchorage teens by both teachers and students. Since students are well aware of their high risk driving behaviors, and have clear ideas on ways of addressing those risks, they are motivated to be leaders within their cohort, and to help develop ways of protecting themselves and their peers from the dangers of high risk driving.

In the months following presentation of the “Take the Lead” program, the Anchorage School District has made arrangements to continue the seminar on a routine basis. This is evidence of the success of the intervention.

C. Use of Car Seats and Child Restraints

1. Introduction and Summary

Two citizen groups, one in Anchorage and the other in Kenai, met on different dates in 1998 to undertake a one-day training session in the use of child restraints in vehicles. They were asked what they knew about such use, before and after the training session, and what they thought of the training, after it. The Anchorage group of trainees then undertook a practicum at a car dealership.

Staff of the National Highway Traffic Safety Administration (NHTSA) conducted the training in Anchorage. Before the training in Anchorage, three focus groups were convened to answer questions on their attitudes towards the use of seatbelts and child

restraints, and how to increase the awareness of the issue and the use of such restraints.

Evaluation of the Anchorage training session was undertaken by the participants in it, and by a focus group after it.

The training led to only a modest increase in the ability of the participants to answer correctly questions on the use of restraints. This was true of both the Anchorage and Kenai sessions. The scoring was based on the NHTSA's evaluation instrument.

In evaluating the training session using an ICHS-designed instrument, the Anchorage trainees in written comments rated it highly in all respects, except length: the sessions were too short for the material. They offered more critical comments of it in discussion. The ICHS instrument was not used with the Kenai trainees.

The focus groups offered many reasons why restraints are not used more, and had suggestions on the use of hotlines, letters to parents, and community outreach efforts.

Staff of the Anchorage Safe Communities (ASC) and the Institute for Circumpolar Health Studies (ICHS) organized the participation in and placing of the focus groups and the training sessions. Staff of the ICHS moderated the focus groups, and designed and conducted the evaluation. A detailed component evaluation working paper is shown as Appendix E.

2. Statement of the Problem

Many drivers in Alaska do not comply with state law requiring the use of seat belts and child restraints. Over the period 1996-1998, there were 40 crashes in Alaska in which citations were issued for violations of the child restraint laws. (ICHS. SPSS spreadsheet. November, 2000. Kate Heitkamp. Based on data provided by the Alaska Department of Transportation and Public Facilities, Division of Headquarters Planning Division. Juneau, Alaska.) These citations are for: the absence of a child restraint device and failure to provide a child safety device to restrain a child and to secure a child properly.

3. Description of the Intervention

The NHTSA staff held two training workshops in 1998, one in Anchorage in April and one in Kenai in May. The ASC/ICHS organized 3 focus groups in Anchorage in 1998 before the training workshop, and a participants' evaluation meeting after it.

The first 2 focus groups met in March. They consisted of social work students at the University of Alaska, where they met: 10 in the first group, and 11 in the second. The third focus group consisted of 11 of the 23 individuals who participated in the training session on April 30, and met the day before and the same day as the session began.

Most of the 11 participants were nurses at the hospital where the training session was conducted.

The objectives of these 3 focus groups were to explore the attitudes and views of Anchorage residents on the following 4 issues:

1. Seat belt and child safety seat use;
2. Proposed methods for increasing awareness of the value and proper use of child safety seats among Anchorage parents;
3. Possible incentives for participation in training and follow ups; and
4. Alternative methods of increasing awareness of child safety seat issues.

In turn, the purpose of this exploration was to help provide the ASC staff with guidance on the general scope of a vehicle child restraint program, and how to design, advertise, and implement it. From this perspective, training in the use of child restraints in vehicles is only one subset, although an important subset, of a broader program to raise awareness of the issue, and to design and implement different ways of reducing the incidence of crashes in which children are injured or killed.

The Anchorage April 30 training session itself (called a “Train the Trainers” workshop) was conducted by NHTSA staff. It consisted of presentations by the NHTSA staff, followed by questions and discussion, and of hands-on practice in using car-seat restraints. It was intended that the trainees would then become trainers, or at least have the ability to become trainers.

This intention took the form of a practicum 2 days later, on May 2, at a car-dealership in Anchorage. The 23 participants were asked to spend a Saturday morning/afternoon at a car dealer’s site in Anchorage, training owners of vehicles who arrived in response to announcements in the media that training was being offered there that day. Most did so.

4. Evaluation Method

Two methods were used for the evaluation of the April 30 training session: an objective method (How much did the participants learn?) and a subjective method (What were the participants’ opinions of the session?).

a. Objective Method

The objective method was to compare the answers to 37 questions given by participants before and after the training on April 30 as an objective indication of its effectiveness. Of these 37 questions, 1-29 were multiple choice, and 30-37 were open ended. For example, question 16 was: “Infant safety seats should recline at what angle?” and question 36 asked: “List two companies you can call to obtain a belt shortening clip”. (The 23 participants were divided into two equal-sized groups--in this case, 11 and 12. The 11 were asked to answer the questions before the training; the

12 were not. All 23 were given a post-training test. The idea underlying the division of the 23 participants into 2 groups was to ensure the validity of the test results, by permitting comparison of the post-test answers of one group (the pre-test group), whose post-test answers might have been affected by their having answered them earlier in the pre-test, with the answers of the other group (the no pre-test group), which had not answered them earlier.

b. Subjective Method

The subjective method of evaluation was to ask for the participants' opinions on the training, as a subjective indication of its effectiveness. This second method was conducted twice.

This was conducted first on April 30 after the training was completed, with all participants at the training, who were asked to fill out a questionnaire asking for their opinions on the training session. Eighteen of the 23 participants did so. Those who had been in the focus group that day, before the training began, were asked to answer only the first 17 of 22 questions, which were multiple choice, and not to answer the last 5 questions 18-22, which were open ended. Of the 17 questions, 1-10 asked for evaluation, using Likert-scale answers; 11-17 asked the participant for information about him/herself. For example, question 7 was "How would you assess the usefulness of the handouts?" (1,2,3,4,5, of which 1=not at all useful, etc.), while question 21 was: "If you were to revise the content and organization of this workshop, what would you do?" Focus group participants were asked not to answer the 5 open ended questions because they had already discussed them at length in the group. Those who did not participate in the focus group were asked to answer all 22 questions. This division had the same purpose as the division of the 23 participants in the training session into a pre-test group of 11 and a not-pre-test group of 12: to avoid contaminating the answers by having prior experience of the questions.

The subjective method was conducted second on May 2, at the practicum, to which all 23 of the participants at the April 30 training had been invited. Eighteen of the 23 training participants took part in the practicum. Before the practicum proper started, 8 of the 18 participants were asked to constitute a focus group to discuss only the 5 open ended evaluation questions used first in the questionnaire of 22 questions introduced at the training session of April 30.

The written responses to the open ended questions by the twelve April 30 training participants who had not been in the April 30 focus group at the beginning of the day were summarized. The responses to the same questions by the eight members of the focus group in discussion at the beginning of the May 2 practicum (who had attended the April 30 training also) were also summarized.

5. Data and Interpretation

a. Evaluation of the Training

The following is a summary, with some observations added, of the preliminary evaluation that includes detail on the data and their interpretation.

Objective Method

The pretest results of both the Anchorage and the Kenai training indicate that the participants already knew something about the technical aspects of seat belt use. Both groups got almost half the answers right to the 37 questions, as compared with only one-quarter right that would have been expected by chance: Anchorage 46% and Kenai 43%. This still leaves a substantial gap in knowledge that the session hoped to reduce.

Both groups did better on the multiple choice questions than on the open ended questions, for both the pre-test and the post-test.

More than half of the participants in both groups chose the same incorrect responses to several multiple choice questions, indicating a tendency to hold popular misconceptions.

The post-test results show only modest improvement in scores. This improvement was somewhat greater for the Kenai group than for the Anchorage group. The Anchorage group rose from 46% to 53% correct, while the Kenai group rose from 43% to 60% correct.

Low pre-test scores and only modest increases in post-test scores may reflect among other things:

- The complexity of the material;
- The shortness of the training session, given the complexity of the material;
- The abilities, experience, and knowledge of the trainers; and
- The characteristics of the participants.

In addition, the 37 questions are replete with technical terms not used in daily discourse. Further, we do not know if any attempt has been made to test the training instrument by measuring knowledge (pre and post) with instruments that differ in the number of questions, and in the use of technical terms. Are all 37 questions of equal importance? Would fewer questions increase the proportion answered correctly after the training? Can any of the questions be written in less technical language?

The participants reported that the session was too short.

The evaluators did not inquire about the abilities, experience, and knowledge of the trainers.

We know one characteristic of one group: the educational levels of 18 of the 23 Anchorage participants. We do not know, because the data were not collected, the educational levels of the Kenai participants, and so we cannot tell if any of the differences in the scores of the 2 groups reflect differences in their education levels, or in any other of their characteristics.

Subjective Method

On the same day after the April 30 training, 23 participants used a 22 question questionnaire to rate the session.

Participants rated it highly in terms of the Likert-scale questions 1-10, with one exception. The scores for 9 of the 10 questions ranged from 4.00-4.89, with a possible maximum score of 5. The exception was the length of the workshop, which was scored 2.56: it was too short.

The 12 respondents on April 30 who answered the open ended questions 18-22 also had uniformly high praise for the training. They had fewer comments than the May 2 respondents who focused on the same open ended questions 18-22. This presumably reflects above all the fact that the April 30 respondents wrote their comments, while the May 2 respondents had discussions that were recorded.

Apart from this, an important difference was that the May 2 respondents, who addressed the open ended questions only, offered many more comments (than the April 30 respondents) that could be considered critical of the training session. Here, we focus on their critical comments only. Question 18 was on content. The training had a "...lack of structure...no theme...[and] lots of people [meant limited] time to do the hands on..." Question 19 was on organization. The training "...need[ed] clear objectives and agenda...goals and objectives...[caused frustration from] passing around pictures...[the p]re-test was confusing [with] terms that were not known...needed an introduction... [and] the first hour was a dead time [because of] the time the focus group took..." It should be noted that the focus groups were arranged at the request of and by the ACS/ICHS staff. They were not an integral part of the NHTSA training sessions.

b. Attitudes and Observations on the Use of Seat Belts and Child Restraints

The participants agreed that seat belts and child restraints are not used as much as they should be, and offered numerous reasons why. These reasons are grouped into two broad categories: 1) personal (further subdivided into attitudes, behavioral habits, and cost) and 2) institutional (i.e. lack of enforcement).

Many felt that standardization of restraints would help; there are too many restraints, and many of them are too complex.

Feelings were mixed on establishing a hotline to report vehicles with unrestrained children, and on writing letters to parents inviting them to meetings. Most felt that community outreach efforts would be better attended if publicized in a less-intrusive, more general way than by direct approach. The hotline and letter-writing ideas were removed from the ASC's preliminary agenda.

Most participants felt that financial incentives, including discounts, rebates, and tax deductions, would increase attendance at community outreach meetings and the use of restraints.

6. Conclusion

The training session intervention:

- Yielded important information on the NHTSA car seat and child restraint training program;
- Influenced the ACS program away from potentially socially unacceptable projects, such as hotlines and letter writing, and towards public workshops as a preferred forum for outreach, with financial incentives if possible; and
- Created a cadre of individuals specially-skilled in the choice and use of child restraints, and capable of training other adults in their use.

This initiative had very positive consequences far beyond the initial intervention to examine the training requirements for people to instruct families on the proper installation of car seats as part of a larger child passenger safety (CPS) effort. The findings of the evaluation component for this intervention had a strong impact on the development of the overall CPS program and helped form the basis of a popular CPS poster campaign. Anchorage Safe Communities sponsored local artist Barbara Lavelle to develop a CPS poster that was distributed statewide.

In addition, the increased visibility of CPS initiatives that were encouraged through the initial training efforts generated substantial funding for CPS programs, including additional NHTSA certified CPS instructors. A substantial portion of the Anchorage Safe Communities funding was generated through increased partnerships with the Alaska Highway Safety Office and supported increased CPS activities statewide.

D. Reflective Wear for Pedestrians

1. Introduction and Summary

ICHS staff observed pedestrians crossing a downtown Anchorage intersection on two successive evenings in October 1998, distributed reflective clothing and reflective

materials in November and December, and observed pedestrians at the same intersection on two successive evenings in February 1999.

The immediate purpose of the October observations was to establish then-current levels of reflective wear, and to note pedestrian crossing patterns. The immediate purpose of the February observations was to see if the use of reflective clothing increased. Their longer-run purpose was to use the data to help set up a program to increase the use of reflective wear so as to reduce the incidence of vehicle-related injuries and fatalities among high risk pedestrians. A detailed component evaluation working papers are shown as Appendix F, G, and H.

2. Statement of the Problem

Children and some adults are high risk groups for such injuries and fatalities. The high risk adult groups include the homeless and the indigent who tend to concentrate around shelters and soup kitchens in Anchorage. Anecdotal data from the Anchorage Police Department indicate that they experience higher rates of vehicle related injuries and fatalities than the body of pedestrians as a whole.

Over the period 1991-1999, Anchorage had 1,041 vehicle crashes involving injury to pedestrians, which is an average of 121 per year.

3. Description of the Intervention

A three-stage intervention was designed and implemented. In the first stage, ICHS staff observed pedestrians from a vehicle in a parking lot beside an Army Surplus store at the intersection of 4th and C street in downtown Anchorage on October 28 and 29, 1998. They collected data on age, gender, and pedestrian crossing behaviors. These data were entered on TELEform software and then entered into an SPSS database for analysis.

In the second stage, ICHS staff distributed reflective clothing and materials in November and December 1998. These included: 215 taped jackets, 35 taped hats, and tape that was ironed onto 100 jackets. The jackets and hats were given to a shelter, a soup kitchen, the Salvation Army, and 2 elementary schools. The ironed tape was affixed at the shelter. Tape was given to schoolchildren at a third elementary school.

In the third stage, ICHS staff returned to the same intersection, and again observed for two successive evenings and entered the data on TELEform software.

A final observational study, conducted by a staff member of the Alaska Department of Health and Social Services, showed that 23% of pedestrians observed were wearing reflectorized clothing in March, 2000.

4. Evaluation Method

The first phase of the intervention was to establish numbers of pedestrians and patterns of pedestrian behavior in a high risk area.

For purposes of evaluation, these data are then baseline data to help establish:

- What other areas in Anchorage are similarly high risk,
- What populations are high risk,
- How high the risk for them is,
- What behaviors especially are markers of high risk,
- The extent to which reflective wear is used, and
- The possible acceptability of different types of reflective wear if made available to the public.

The second stage of the intervention (the handing out of reflective clothing and evaluation of its consequences) was based in part on the results of the first stage, which focused on distributing materials to institutions in the vicinity of the intersection, thus providing help to individuals at high risk for pedestrian injury.

The third stage of the intervention was to observe pedestrians at the intersection after the reflective clothing was distributed, and to note differences compared with the observations before it was distributed. These include:

- Comparing patterns of behavior by pedestrian and motorists in high risk areas where pedestrians had been given such clothing with areas where they had not,
- Assessing the acceptability and use of different types of clothing through observation of and interviews with recipients.
- Establishing the standards used by staff handing out such clothing,
- Finding out if recipients accepted or resisted such handing out, and
- Finding out if recipients were accessible at the same time to educational efforts by the staff.

Thus, the pre-intervention observations were followed by post-intervention observations, for the basic purpose of finding out if handing out reflective clothing had a measurable and also a sustained effect over time on the use of such clothing, on related patterns of behavior involving pedestrians and motorists, and on injury rates.

5. Data and Interpretation

October

The two pretest evenings yielded data on 302 pedestrians over 3 hours--one hour the first evening and 2 hours the second. Adults accounted for about 90%, and the majority were adult males (75%). Repeat pedestrians accounted for about 10%.

Determining gender posed no problems. Determining age posed some difficulties that were overcome by establishing broad categories: seniors, other adults, and adolescent/youth (no children were observed).

Only 5 people, or 2% of the 302, wore any kind of reflective materials: 3 on hats; 2 on coats.

Half did not obey walk signals when crossing at the intersections, but most (87%) crossed in the zones. This was true of both males and females. Because even the three broad age groupings may not have yielded reliable data on the proportions, the crossing behavior of each group was not distinguished.

The observers were visible. This may have affected the results by affecting the behavior of some pedestrians, some of whom were "...highly aware [of] and/or agitated by their immediate presence." (ICHHS. *Reflective Wear for Pedestrians, Adult Pedestrian Safety Program, Pretest and Posttest Data*. July 1999.)

The observers did not have samples of different kinds of reflective wear (i.e. caps, coats, hats, shoe laces, and shoes), and so could not test how visible they were under the observed conditions.

From time to time the foot traffic was so heavy that it posed problems for identifying both how many pedestrians there were and their characteristics. More than 2 observers are needed under these conditions, and the observers should be located at different corners of the intersections for more complete coverage.

February

The observers were in an office, and were not visible to the pedestrians. Almost the same number of pedestrians were observed (294), and males again accounted for three-quarters of the total. Adults accounted for a somewhat higher proportion than in October: 96%.

Twice as many pedestrians wore reflective clothing in February as in October. But this may not be a significant difference statistically, because the numbers are so small: 11 versus 5.

About the same proportion crossed in designated zones in February (85%) as in October (87%), but a much higher proportion obeyed traffic signals: 74% in February versus 50% in October.

The number of vehicle-related pedestrian injuries in Anchorage fluctuates considerably from year to year. For example, it increased from 11 in 1991 to 145 in 1992, and declined from 152 in 1993 to 116 in 1994. Through 1998, the number of pedestrian injuries remained at 100 or above. In 1999 it dropped precipitously to 77.

March, 2000

A student intern conducted a follow up observational study of reflectorized outerwear in March, 2000, two years after the initial intervention was begun. The study showed that 23% of those observed at selected high pedestrian traffic areas were wearing reflectorized clothing. This substantial increase suggests that pedestrians are more visible to motor vehicular traffic.

6. Conclusions

The baseline data show that there is clearly much scope in principle for increasing the extent to which pedestrians wear reflective clothing: few do so now. It is still unknown whether or not they will do so, if males or females differ in this respect, and if they will under what conditions.

We cannot tell if this intervention had anything to do with the big drop in vehicle related pedestrian injuries in Anchorage from 112 in 1998 to 77 in 1999. It seems unlikely, because the fluctuations before 1998 were also considerable and localized.

However, it is possible that even this modest distribution had a ripple effect. Recommendations include:

- More numerous and more widespread observations of pedestrian intersections that are key intersections in the sense that they are heavily traveled by pedestrians and vehicles, and are located in areas where high risk pedestrians are likely to be concentrated;
- More observations at enough sites to give a profile of use of such clothing in the city as a whole; and
- That Anchorage suppliers of reflective clothing and materials be surveyed to see if their sales have increased.

Such data are needed to establish the relationship if any between the distribution and use of reflective clothing, and between the use of reflective clothing and injuries to pedestrians in Anchorage.

The pedestrian reflectorization project also demonstrated the increasing maturity of Anchorage Safe Communities and the importance of broadening an intervention from a single targeted high risk group. Before the pedestrian injury initiative was mounted, all projects had been sponsored through administrative arrangements with Providence Alaska Health System. The pedestrian project was the first initiative that was independently mounted by Anchorage Safe Communities and was the recipient of funding independent of the previous project sponsor. This signaled a substantial departure from its previous organizational structure and set the tone for more independent organizational evolution.

The initial pedestrian intervention was focused on high risk pedestrian behavior, particularly with homeless populations clustered in two areas of Anchorage – one downtown, the other surrounding a midtown homeless shelter. It was learned early in the process that the target group felt exposed and easily identifiable because of the reflectorized wear that was part of the initial intervention. Very visible headgear with reflectorized tape helped to single out homeless people and made them increasingly vulnerable and susceptible to attack and intimidation by the larger community. This caused Anchorage Safe Communities to expand the target population to include teens, elders, school children and others in similar high risk pedestrian situations. This move was also consistent with the comments of one site visitor, Dr. Jonathan Howland, in arguing a broader coverage than the traditional single high risk group. It also signaled an increasing emphasis by Anchorage Safe Communities on social justice as opposed to limiting their activities to motor vehicle injury and fatality prevention.

E. Pedestrian Injury Program for School Children

1. Introduction and Summary

ICHS staff visited three school sites in 1988 to see what dangers they posed for injuries to schoolchildren involving vehicles. While data for the preliminary intervention was collected and tabulated by the evaluation team, there was no final report generated at the request Anchorage Safe Communities staff.

2. Statement of the Problem

School children are a high risk group for injuries and fatalities.

3. Description of the Intervention

ICHS staff spent the afternoon of October 19, 1998 visiting three school sites being considered by the ASC staff for intervention, and one of the sites again in the morning and the afternoon of October 20. The purpose of the visits was to assess the sites to see what dangers they posed for injuries to school children involving vehicles.

4. Evaluation Method

The staff included the following characteristics in evaluating the sites:

- The neighborhood--commercial, industrial, and residential;
- Street layout;
- Traffic signals;
- Crossing guards;
- Crosswalks and sidewalks;
- Traffic patterns and volumes;
- Children (and parents) as pedestrians--patterns and volumes;

- Street lights;
- Parked vehicles; and
- School entrances/exits.

5. Data and Interpretation

The three sites vary greatly in these characteristics, which complicates statistical comparisons in terms of the dependent variables--the behavior of pedestrians and motorists. One site has no sidewalks along the streets close to the school. One has a major traffic intersection 200 yards away. It also has a crossing guard, whereas the others do not. None of the three has electronic traffic signals in the near vicinity. We recommend further investigation of school sites to overcome this deficiency before any intervention is designed and implemented.

Some schools have several entrances/exits. The physical interactions of children near school, walking to and from it, are complex. Individuals join groups; groups resolve themselves into individuals. There are numerous stationary visual obstacles, vehicles especially. For all these reasons we recommend that an adequate number of observers be available, and that they be located at different points, possibly with a tagging or other tracking system for individual schoolchildren, including CBs or cell phones.

Street lighting must also be at least adequate for observation during early morning and evening hours due to poor lighting in late fall, winter, and early spring.

In addition, exogenous variables would need to be noted explicitly (i.e. construction projects in the vicinity and weather conditions).

6. Conclusions

At the moment we have no data on crashes involving elementary students in Anchorage, such as how many crashes have occurred, how many are near schools, and if they are concentrated during school intake and outlet hours. Nor do we know how many Anchorage schoolchildren walk or do not walk to or from school. These data need to be collected and analyzed in order to design and implement appropriate interventions in appropriate sites.

The data already collected from the three sites indicate that the choice of the number of sites, and where, needs to be explored at greater length, before any site is selected.

The data also suggest many elements that need to be included in the design and implementation of effective interventions.

Evaluation date did not contribute in any material way to the wider adoption of the "Walk you child to school" campaign. Early data collection efforts highlighted problems with data collection more than they helped the intervention planners refine their

prevention strategy. What did occur, however, was the broader adoption of the initiative initially advanced by the Anchorage Safe Communities coalition. The Walk Your Child to School Day has now become an institutionalized program within many Anchorage elementary schools and is being adopted statewide. This is another example of the impact that the Anchorage Safe Communities program has had on sponsoring and disseminating the overall concept of injury prevention at many levels.

This project provided an opportunity to quantify the process for the detection field sobriety checking and preliminary adjudication of DWI offenders. As an adjunct to an additional study examining the survival of people convicted of alcohol-related misdemeanants in the ASAP process. During the course of the two parallel studies, Anchorage Safe Communities had an opportunity to educate policy makers. This is particularly reflected in the work of Mothers Against Drunk Drivers in their work with court officials, and the CBASS and Mayor's Task Force on Drunk Driving. It appears as if the implementation of this initiative and the accompanying evaluation has helped to affect statewide program changes with DWI, especially the movement toward a .08 law.

F. DWI Adjudication

1. Introduction and Summary

The ASC commissioned a study by UAA staff of how DWI arrestees were handled. Its immediate purpose was to document the procedures used--from arrest (through sentencing) to incarceration and release. Its longer-run purpose was to see if research might contribute to an understanding of if and how procedures in the adjudicative system affected the incidence of DWI arrestees, and of if and how improvements to the system could be made. It was completed in May 1998 (A evaluation working paper is shown as Appendix I).

2. Statement of the Problem

DWI crashes accounted for 8% of the total of 13,500 crashes in Alaska in 1998. The relevant literature indicates that there is considerable disagreement on the issue of whether or not procedures used in dealing with DWI arrestees--from arrest (through sentencing) to incarceration and release--differ depending on the age, race, sex, marital status, and socioeconomic status of the arrestee.

3. Description of the Intervention

No specific intervention was planned to follow on the completion of the report. Its general use was to help focus the thinking of the ACS staff on the parts of the adjudication policies and procedures where improvement might be sought, and to provide a basis for recommendations on these procedures when events created the right conditions for such interventions.

4. Evaluation Method

The study confined itself to DWI incidents involving adults, alcohol, automobiles, and motorcycles. Minors were excluded because of confidentiality restrictions, and other drugs and other vehicles were excluded because they were relatively few.

The study was based on records of 1996 cases from the Alaska Court System, the Anchorage District Attorney, the Anchorage Municipal Prosecutor, and the Anchorage Police Department.

5. Data and Interpretation

The report distinguishes and describes the procedures' two major stages: 1) from stop through first appearance, including hospitalization when needed; and 2) from first appearance to sentencing. The detailed descriptions of the procedures shows how and why the periods during which the stages are completed are as long as they are.

6. Conclusions

The report constitutes a resource that continues to be used by the ACS in formulating its policy positions on DWI.

G. ASAP

1. Introduction and Summary

The national Alcohol Safety Action Program (ASAP) has been used in Alaska continuously since it was adopted in 1977 by the Alaska Department of Health and Social Services' Division of Alcoholism and Drug Abuse (DADA). The model seeks to reduce the frequency of alcohol related traffic crashes through early identification of problem drinkers, and to initiate appropriate interventions. In Anchorage, which was the first pilot site in the state, and where the program was started in 1977, ASAP's function was to "provide case management, monitoring, and accountability for DWI...cases..."⁵ An evaluation working paper is shown as Appendix J.

2. Statement of the Problem

The adjudication system needs a complementary effort that also focuses on individuals who drink and drive, but from the perspective of alcohol prevention and treatment, rather than arrest, sentencing, and incarceration. The two are not mutually exclusive.

⁵ Anchorage Alcohol Safety Action Program. Annual Report, 1991-1992, p. 1.

3. Description of the Intervention

The ASAP program screens court referred individuals who have been convicted of alcohol related misdemeanors into one of several different drinking categories, and manages and monitors their performance through education and/or treatment programs that correspond to the categories. It thus acts as a neutral link between the justice and health care delivery systems.

The ICHS evaluated the ASAP for DADA in its 1999 report. As with the DWI adjudication study, no specific intervention was planned to follow on the completion of this evaluation. Its general use was to help the DADA and the communities provide a basis for specific recommendations on the ASAP when needed. But it has been used in a specific intervention at a public meeting on DWI.

Given its judiciary component, the ASAP report covers some of the same ground as the DWI Adjudication report. Among other things, it collected and analyzed data on the relationship between re-offense, the time from offense to conviction, and the time from conviction to assignment (to an education program, as an outpatient, incarceration) for a random sample of referred individuals. Re-offense means conviction of an alcohol related offense within three years of the previous such offense.

This particular part of the research formed the basis for a specific intervention. An ICHS staff member presented it at a public meeting in an Anchorage high school in October 2000 to a policy workgroup. That workgroup recommended as its top priority changes in adjudication policy to the Mayor of Anchorage's DWI Task Force. The recommendation was to shorten the time between offense and conviction, and between conviction and assignment, because the longer the elapsed time the more likely it was that the arrestee would repeat⁶ (It is not clear if the delays themselves caused the relationship, or if the habitual drinkers who had learned the procedures used such delays as they could, and so were self-selected as repeat offenders. In either case, delay is harmful.

4. Evaluation Method

ICHS has evaluated the ASAP for DADA by examining the results for a random sample of referred individuals.

The evaluation method had four parts:

1. Selecting the size of the sample and establishing its characteristics: demographic, extent of alcohol abuse, assignment by type, and re-offense;
2. Determining for the sample the time that elapsed between the offense and the conviction, and the conviction and the assignment;
3. Establishing target groups identifiable by the programs most effective in reducing re-offenses; and

⁶ ICHS memorandum. David Marshall to Brian Saylor. September 28, 2000. The C-Bass meeting

4. Reviewing, summarizing, and comparing its results with those of the two earlier reports of 1980 and 1994 on the efficacy of the ASAP.

5. Data and Interpretation

All three studies show similar demographic characteristics: the proportions of problem- and non-problem drinkers by age, education, employment, ethnicity, gender, and marital status. The ICHS study shows differences in these characteristics across ASAP sites: Anchorage, Fairbanks, Juneau, and MatSu. The ICHS study gives the proportions of the sample who are problem drinkers (48%), non-problem drinkers (26%), pending and presumptive (6%), unknown (4%), and alcohol data missing (16%). The study shows a high proportion of individuals in the sample whose offense was DWI (62%), and shows that this proportion differed greatly across the sites: Anchorage, 63; Fairbanks, 76; Juneau, 41; and MatSu, 66. There were significant differences among drinker categories in the number of prior convictions: problem drinkers had an average of 4.5 and non-problem-drinkers had an average of 0.75. There were no significant differences between re-offense, sites, or treatment status, on the one hand, and the proportion with prior convictions on the other. The proportion who completed treatment ranged from a low of 50% in Anchorage to a high of 60% in Juneau and MatSu, while Fairbanks had 53%. There is large variation across sites in the number of days from arrest to conviction: from a low of 31 in Fairbanks to a high of 91 in MatSu, with 56 in Anchorage and 77 in Juneau. There was a similarly large variation in the number of days from conviction to assignment: Juneau, 52; Anchorage, 77; Fairbanks, 108; MatSu, 118. Juneau is thus the only one of the four sites with a longer period from offense to conviction than from conviction to assignment.

The report's major conclusion was that, of the 12 variables used, 9 are significantly related to the propensity of re-offense and 3 are not. The 9 are: age (younger), charge (non DWI), days from offense to conviction (higher), days from conviction to assignment (higher), drinker category (problem), ethnicity (Alaska Native), prior convictions (high number), site (being from Juneau), and treatment completion (low). The 3 are: assignment category, employment (being unemployed), and gender (male). Juneau re-offenders took less time than re-offenders elsewhere: 2.77 years on average versus 3.20-3.24 years in the other three sites.

The recommendations based on the results are of four broad kinds:

1. Change some of the ASAP forms,
2. Establish the differences among the 4 sites in terms of their characteristics that could explain their differences in ASAP variables,
3. Develop predictive models to establish a high risk ASAP client profile, and
4. Redesign the ASAP procedures to reflect the profile.

6. Conclusions

The ICHS study delivered the following:

- A flow description of the ASAP process,
- A description of alcohol offenders,
- A merger of alcohol offender and treatment data,
- A measurement of the time to re-offense,
- An analysis of the variables significantly related to re-offense,
- A comparison of sites in terms of the above, and
- A list of recommendations to improve the identification of problem drinkers, the intake protocol, and the treatment strategies.

H. Aggressive Drivers

1. Introduction and Summary

ASC hired Craciun Research Group early in 1999 to do a baseline survey of road rage in Anchorage. Craciun did so, and finished its report in June (see Appendix K).

2. Statement of the Problem

The ASC staff felt that, although road rage was not yet regarded as a serious problem in Anchorage, anticipation and prevention is preferable. ASC staff wanted baseline data to buttress anecdotal observation, and to explore its causes, dimensions, and prevalence, as a basis for designing appropriate formal interventions when needed.

3. Description of the Intervention

The intervention was to collect and analyze baseline data on road rage: activities causing road rage, the characteristics of drivers, including their perceptions and potential for road rage.

4. Evaluation Method

The Craciun team established a random sample of 411 Anchorage drivers. The team then designed, administered, and analyzed the results from questionnaires that identified the drivers' characteristics, perceptions, and recommendations.

5. Data and Interpretation

The drivers were an average age of 38.7 years: 77% were Caucasian, 55% had 5-19 years of residence in the state, 36% had at least 4 years of college, and the average annual income of their households was approximately \$50,000.

The drivers gave 41 causes of irritation created by other drivers, which the study team grouped as follows:

- Impatient driving, 11
- Inattention, 4
- Lack of courtesy, 12
- Slow driving, 9
- Other, 5

Drivers gave a total of 522 responses, with many listing more than one cause. Impatient driving accounted for 244 of the 522 (48%); inattention accounted for 27%; and slow driving and lack of courtesy accounted for 13% and 12%, respectively. Seven causes accounted for 94%, in descending order: cutting off other cars, not signaling, speeding, running red lights, tailgating, going too slowly, and weaving in and out.

Drivers identified 26 causes of irritation created by weather conditions and traffic signs, which the study team grouped as follows:

- Potholes, ruts, and weather, 2
- Limits on driving speed, 6
- Temporary nuisances, 8
- Faulty infrastructure, 10

Drivers provided a total of 377 responses, with many listing more than one cause. Potholes, ruts, and weather accounted for 147 of the 377 (39%); limits accounted for 21%; temporary nuisances accounted for 18%; and faulty infrastructure accounted for 11%. Five causes accounted for 266 of the 377 (71%) in descending order: rutted roads, potholes; weather, ice, and poor snow removal; road construction; red lights and stop signs; and red long, green short.

Drivers estimated how often they experienced provocative acts by others, of 12 kinds. The 5 most common account for 62% of the mentions (1,382 out of 2,230), and match closely the sources of irritation caused by others, in descending order: speeding, not signaling, weaving, tailgating, and cutting off others.

Of the 411 responses to the question on the issue of road rage, only 48 (12%) reported it as a serious problem in Anchorage. 192 (48%) thought it was not much of a problem, and 161 (39%) thought it was only a moderate problem.

Despite this apparently equable attitude, drivers offered information on the extent to which they were annoyed, by level of annoyance and frequency, that suggests the

potential for increasing seriousness if these drivers continue to be exposed to the same causes. Twenty-five percent of the 411 (or 97) said they were annoyed by other drivers at least once a day, and 16% (or 62) said they were furious with other drivers, or with people and things, at least once a day.

The drivers gave 411 responses organized into 12 suggestions for reducing road rage. These are grouped into 4 categories: detection (police), education, punishment, and other. Of the 12 suggestions, patrolling more often predominated, with 217 responses (53%). The next highest were to educate drivers and to increase fines, both with 28 responses (7%).

The 411 respondents offered estimates of their use of 7 methods to protect themselves from road rage, of which 4 especially were important: trying not to take it personally (342 respondents); driving so as not to enrage others (333); allowing plenty of time for the journey (322); and getting out of the way and laughing it off (270). The three other ways mentioned (i.e. reporting and ways of responding) were little used--by 13% or fewer of the respondents.

From self-reporting on their responses, the 411 respondents fall into 1 of 3 groups by personality type as follows: laugh it off (61%); get mad and forget it (13%); and get even (26%). The "laugh it off" group is slightly higher than average Caucasian (80%), has the highest average age (41.1 years, with only 1% under 21), and the highest level of education. The "get mad and forget it" group is slightly less than average Caucasian (67%), has an average age of 37.7 years, with 18% under 21, and has the lowest education level. The "get even" group is 74% Caucasian, averages 33.3 years, and is average in educational attainment. The report includes detailed cross-tabulations of the characteristics of the respondents on the one hand, and their activities and perceptions on the other.

A higher proportion of males than females notices provocative driving behavior, and reacts in kind.

6. Conclusions

The baseline data suggest foci for interventions designed to reduce road rage, and the kinds of drivers that different interventions may be most appropriate for. That the respondents overwhelmingly recommended patrolling and fines, and few recommended education, may not itself mean that interventions including education would be ineffective. It may mean rather that the respondents could not imagine themselves taking part in education sessions. Road rage does not appear to be perceived by the random sample of drivers as an endemic and serious problem at present in Anchorage. But, a sizeable minority of the random sample experiences it, and it may increase as traffic increases, with a more-than-proportionate increase in the things causing it--congestion and associated erratic and reckless driving, and delays (due to more construction, more stop signs, and more and longer stop lights).

V. CONTENT ANALYSIS OF ANCHORAGE DAILY NEWS ARTICLES

The following section presents the methodology and results of a content analysis of articles from the *Anchorage Daily News*. The definition of a content analysis is a process by which hypotheses can be tested using text or spoke data (Bernard, 2000). Interviews, focus group summaries, written documents, and other such types of unobtrusive data, which are often not amenable to analysis, can be objectively coded and made systematically comparable.

The purpose of this content analysis was to examine community perceptions as they were reflected in articles in the *Anchorage Daily News* before the beginning, and subsequent to the start of the Anchorage Safe Communities project in October 1997. The research question that formed the basis for this analysis was, “*How has community perception of traffic safety and automobile collisions changed since the inception of the Anchorage Safe Communities program, as reflected in articles in the Anchorage Daily News?*”

The hypothesis for the analysis was that by examining transcripts from articles two years prior to the inception of the Anchorage Safe Communities project and articles two years subsequent to the project, one could see changes in the perceptions and ideas of the community. The purpose for examining newspaper articles was that, in content analysis, researchers are able to examine artifacts of social communication. The newspaper articles are commonly accepted as one of those forms (Berg, 1995).

The main point for conducting a content analysis (i.e. examining newspaper articles for community perception) was not to stand alone as a qualitative analysis. Rather, the purpose was to define the similarities and differences between this analysis and the quantitative information analyzed in the other sections of this report. By distinguishing community perceptions from purely quantitative data provided by other sources of information, one can better verify the model presented by the quantitative data. In addition, that model can be enriched by examining the social constructs that are involved in content analysis.

A. Method for Content Analysis

The content analysis of articles began by selecting 202 articles from the electronic database available from the *Anchorage Daily News*. Articles were chosen according to five specific criteria. The first criterion was to select articles for two years prior to the beginning date of the Anchorage Safe Communities program, October 1, 1997. The pre-start period was October 1, 1995 through September 30, 1997. Then articles were selected for a post-start period from October 1, 1997 to September 30, 1999. The first screening of articles was to select simply for inclusion of phrases such as “vehicle collision,” “crash,” “wreck,” “pedestrian,” “safety,” “traffic safety,” and other related terms.

For inclusion in the actual content analysis, a second screening was applied. It was important to apply specific criteria of selection. These criteria ensured the inclusion of only that material that would support examination (not validation but objective examination) of the investigator’s hypotheses. So, from the original 202 articles, four specific criteria were applied. These were:

1. The article contained text referring to automobile collision, vehicle wreck, vehicle safety, or other incident-related language; or
2. A specific reference to traffic safety; or
3. A specific reference to pedestrian safety; and
4. The article referred to an incident or program in the Anchorage vicinity or included people who were from the Anchorage area.

Once these criteria were applied, 184 articles resulted in the final analysis. Descriptive statistics for these articles are displayed in Table 1.

**Table 1. Anchorage Safe Communities
Content Analysis of the *Anchorage Daily News***

Variable	Pre- Start	Post- Start	% of Original (Post/Pre x100)	Change Analysis
Article Dates	10/1/95 - 9/30/97 (2 yr. pre)	10/1/97- 9/30/99 (2 yr. post)		
Total # documents	75	109	145.3%	+34 docs = +45.3%
Total # text units	1461	2112	144.5%	+651 units = +44.6%
News Articles	40	51	127.5%	+11 docs = +27.5%
Obituaries	2	4	200%	+2 docs = 100%
Letters/Opinion	26	24	92.3%	-2 docs = -7.7%
Program Specific	7	30	428.6%	+23 docs = +328.6%

1. Manifest and Latent Variables

The next step in the content analysis was to begin what is referred to as “coding.” In coding, the researchers must first choose whether they will examine what is called “manifest” content or “latent” content. Manifest content refers to those elements that are physically present and countable, and latent content is used to refer to interpretive content or symbolism underlying physically presented data, such as community or public perception (Berg, 1995). In other words, manifest content is the surface

structure in the articles that were reviewed, and latent content was the deep structure meaning represented in those documents.

For this study, the researchers chose to include both manifest and latent content in the analysis because this is believed to yield the strongest interpretation (Holsti, 1969). In the results section below, both quantitative data showing the manifest (or surface structure, such as number of documents and number of text units) are presented. In addition, interpretations of community perceptions are presented, which form the basis for latent content analysis.

2. Definition of Text Units

The next decision in methodology was the level and unit of analysis. Sampling in a content analysis can occur at any of the following levels: words, phrases, sentences, paragraphs, sections, chapters, books, writers, and so on. The goal in selecting the unit for analysis is to most closely correspond to the research question and the hypotheses being tested. In order to do this the researchers must choose a sampling strategy.

The strategy chosen in this project was called purposive sampling. Purposive sampling is when researchers use their special knowledge or expertise about a topic to select materials that best represent a group of ideas or a population. The goal of purposive sampling is to "ensure that certain types of individuals or ideas displaying certain attributes are included in the study" (Glassner, et al., 1983). In this particular study, it was not individuals to be studied, but a purposive sample of articles that dealt specifically with automobile incidents, traffic safety, and pedestrian safety. The objective was to include articles that could reflect community perception of the Anchorage Safe Communities program.

In choosing what to count, one has to take into consideration whether the material is spoken or written. In this project, the material came from transcripts of newspaper articles, therefore there were seven possible elements that could be counted. These included words, themes, characters, paragraphs, items, concepts, or semantics (Berg, 1983). A *theme* was chosen as the main unit of analysis, or in common words, a sentence or a small group of sentences. The definition of a theme, in its simplest form, is a simple sentence (i.e. a string of words with a subject and a predicate). For this content analysis, the theme was considered to be any string of words that ended with a period. In some cases, two simple sentences were used as a text unit if they, together, presented one coherent thought.

When the text unit was selected, the next step was to devise a coding scheme, and this was done according to the main themes presented by the articles. In content analysis, coding schemes can be derived in two ways: inductively or deductively. The inductive method means that the researchers immerse themselves in the documents in order to identify the particular dimensions or themes that seem meaningful in each of the pieces being examined. The deductive approach is done in an opposite

manner. In this method, the researchers begin with some categorization of the themes they expect to find in the transcripts or materials they examine. A combination of these two present the greatest strength, so it was this combination that was used to devise the coding structure for this particular project.

When the researchers examined the articles, they found four basic categories, which are shown in Table 1. These include news articles that referred to those transcripts that described actual incidents of traffic collisions, sentencing, or other newsworthy material. The second category was obituaries, which are a standard format for newspaper articles. The third category that emerged was letters to the editor or opinion pieces. Since these two forms have resemblance to each other, they were included in one category of article. And the fourth type of article that was coded were called “program specific” articles. These were transcripts that described particular programs or initiatives on the local, state, or national level that had to do with improving traffic safety or safety for pedestrians.

The next step in coding data was to derive very specific and minute categories for each of the four types of articles. For example, news articles were coded according to:

1. Details of the drivers, such as
 - a. Age
 - b. Health, disabilities
2. Time of day of the incident
3. Incident location
4. Incident details
 - a. duration
 - b. description
 - c. witness comments
5. Seatbelts
 - a. driver(s) seatbelt yes
 - b. driver(s) seatbelt no
 - c. passenger(s) seatbelt(s) yes
 - d. passenger(s) seatbelt(s) no
6. Fatalities
 - a. driver(s) fatal yes
 - b. driver(s) fatal no
 - c. passenger(s) fatal yes
 - d. passenger(s) fatal no
7. Causes
 - a. moose
 - b. DWI
 - c. red light running
 - d. weather
 - e. failure to yield
 - f. health
 - g. other causes
8. Driver comments

9. Victims, Injuries
 - a. victim driver(s)
 - b. victim passenger(s)

Detailed coding was applied to each of the news articles in order to discern the exact information that was presented in each of the categories presented above. A similar, though not quite as extensive, coding system was applied to the articles included in the obituary category, in the letters from the people and the program specific articles. In all, 86 coding categories were included in the total coding structure. A research assistant then examined each of the 184 articles that met all of the criteria for inclusion in the study and coded them according to each of the categories in the scheme.

3. Reliability

In order to establish some scientific rigor in content analysis, qualitative analysis must be verified by another coder or observer. In this study, the co-researcher or co-author chose three articles from the beginning of the research assistant's coding, three articles from the middle period of coding, and three articles from the end of her coding in order to examine reliability. Without seeing any of the coding done by the research assistant, the co-researcher then applied the coding scheme to each of the articles chosen for reliability.

The result of this reliability check initially showed a range of 62% to 97% reliability in applying all 86 categories to the four types of articles. Percent reliability was calculated by determining the number of agreements and disagreements on each of the categories specific to the type of article and the coding scheme. After the initial three articles were examined and the coding scheme was found to be somewhat unreliable at 62%, the co-researcher and the research assistant reviewed the coding scheme. This was appropriate practice in qualitative content analysis, in order to strengthen the actual theoretical scheme that was being applied. Once the coding was tightened, or made more rigorous, the subsequent article reliability from the middle and the end of the coding process ranged from 89% - 97% in accuracy. Anything above 80% is generally considered to be reliable and acceptable, so these numbers were considered satisfactory and the coding was then accepted for the next step in the content analysis.

4. Results

The first set of results are presented in Table 1. This reflects the number of articles and text units in the preprogram and the post program category. Column 3 reflects the percent of original articles that occurred during the post inception of the Anchorage Safe Communities program period. The fourth column shows the change analysis, or the number of documents or text units that changed from the period prior to the program to the period subsequent to its inception. The total number of documents prior to the start of Anchorage Safe Communities that met all criteria for inclusion in the study were 75 documents. In the period after the program began, there were 109

articles. This represents a change of 34 documents from the pre-program period to the post program period, for a change of 45.3%. The total number of text units reflects again the number of sentences, or text strings that end in a period, or represent a coherent thought. These text units included 1,461 codeable units in the period before the program, and increased to 2,112 after the program's inception. This is a change or increase of 651 units, which is an increase of 44.6%.

In a more detailed analysis of the individual types of articles, the most interesting fact was that the largest increase was in program specific articles. When the researchers looked at the change in news articles, there were 40 documents in the pre-program period and 51 articles in the post program. This was an increase of 11 documents for the two years following the inception of the Anchorage Safe Communities program, which is a change of 27.5%.

Obituaries reflected only those articles that included direct reference to a traffic fatality or a pedestrian-related incident. There were only two in the pre-program period, and four in the post program period. So, although this is an increase of 100%, both remained relatively low.

The letters to the editor and opinion pieces did not change significantly. There were 26 total documents in the period prior to the program, and 24 after the inception of the program. This was a decrease of only two documents, or a change of 7.7%.

The category that reflected the greatest change was in program-specific articles. Those were articles that referred to Anchorage Safe Communities or other related programs dealing with traffic or pedestrian safety. In the pre-program period, there were only 7 articles. However, in the two years subsequent to the beginning of Anchorage Safe Communities, there were 30 articles. This was an increase of 23 documents, or a 328.6% change.

B. Detail of Research Questions

A content unit refers to several words in a phrase that create a single concept, such as Anchorage Safe Communities. It was in this period of analysis that the researchers were able to examine more specific research questions. Those questions were:

1. Did reporting of traffic "accidents" change to other wording, such as "incidents" or "collisions"?
2. Did witness comments change in their tone or reflection on the incident?
3. Did reporting of safety measures such as seatbelts change?
4. Did reporting of injuries/fatalities change?
5. What other programs were influenced by Anchorage Safe Communities?
6. Did the tone or quality of the letters and opinion pieces change over time?

C. Text Searches

The next level of analysis was to search the text for content changes. This was done by searching either words or content units. The content analysis for changes in specific concepts is shown in Table 2.

Table 2. Content Analysis of the *Anchorage Daily News*: Text Changes

Variable	Pre- Start	Post- Start	% of Original (Post/Pre x100)	Change Analysis
Article Dates	10/1/95 - 9/30/97 (2 yr. pre)	10/1/97-9/30/99 (2 yr. post)		
"Anchorage Safe Communities"	2 docs (2.7% docs pre)	18 docs (17% docs post)	900%	+16 docs = +800%
	2 text units (0.14% units pre)	23 text units (1.1% units post)	1150%	+21 units = +1050%
"seat belt"	31 docs (41% docs pre)	53 docs (49% docs post)	171%	+22 docs = +71.0%
	633 text units (2.5% units pre)	974 text units (4.1% units post)	153.9%	+341 units = +53.9%
"drunk"	24 docs (32% docs pre)	22 docs (20% docs post)	91.6%	-2 docs = -8.3%
	73 text units (5.0% units pre)	61 text units (2.9% units post)	83.6%	-12 units = -16.4%
"DUI"	0 docs	1 doc	Not significant change (NS)	NS
	0 text units	1 text unit	NS	NS
"driving under"	2 docs	0 docs	Not a relevant calculation (NC)	-2 docs = NC
	2 text units	0 text units	NC	-2 units = NC
"DWI"	20 docs (27% docs pre)	11 docs (10% docs post)	55.0%	-9 docs = -45.0%
	31 text units (2.1% units pre)	22 text units (1.0% units post)	71.0%	-9 units = -29.0%
"BAC"	0 docs	1 doc (.92% docs post)	Not a relevant calculation (NC)	+1 docs = NC
	0 text units	4 text units (.19% units post)	NC	+4 units = NC
"red light"	15 docs (20% docs pre)	9 docs (8.3% docs post)	60.0%	-6 docs = -40.0%
	28 text units (1.9% units pre)	19 text units (.90% units post)	67.9%	-9 units = -32.1%
"fatal"	13 docs (17% docs pre)	16 docs (15% docs post)	123.1%	+3 docs = +23.1%
	18 text units (1.2% units pre)	27 text units (1.3% units post)	150%	+9 units = +50%

Table 2 (cont.) Content Analysis of the *Anchorage Daily News*: Text Changes

Variable	Pre- Start	Post- Start	% of Original (Post/Pre x100)	Change Analysis
<i>"injury,ies,ed"</i>	34 docs (45% docs pre)	64 docs (59% docs post)	188.2%	+30 docs = +88.2%
	57 text units (3.9% units pre)	144 text units (6.8% units post)	252.6%	+87 units = +152.6%
<i>"road rage"</i>	0 docs	2 docs (1.8% docs post)	Not a relevant calculation (NC)	+2 docs = NC
	0 text units	2 text units (.09% units post)	NC	+2 units = NC
<i>"accident"</i>	41 docs (55% docs pre)	44 docs (40% docs post)	107.3%	+3 docs = +7.3%
	63 text units (4.3% units pre)	67 text units (3.2% units post)	106.3%	+4 units = +6.3%
<i>"collision"</i>	11 docs (15% docs pre)	22 docs (20% docs post)	200%	+11 docs = +100%
	12 text units (.82% units pre)	29 text units (1.4% units post)	241.7%	+17 units = +141.7%
<i>"pedestrian"</i>	4 docs (5.3% docs pre)	10 docs (9.2% docs post)	250%	+6 docs = +150%
	8 text units (.55% units pre)	22 text units (1.0% units post)	275%	+14 units = +175%
<i>"safety"</i>	14 docs (19% docs pre)	36 docs (33% docs post)	257.1%	+22 docs = +157.1%
	26 text units (1.8% units pre)	84 text units (4.0% units post)	323.1%	+58 units = +223.1%

1. Perception of Anchorage Safe Communities

The first text change that can be examined in Table 2 is for the phrase "*Anchorage Safe Communities*." As would be expected, this phrase was reflected significantly more often in the two-year period after the beginning of the program than the two-year period prior to its inception. In the pre-start period, there were two documents that were published in August 1997. Both of those articles were informational in nature and introduced the Anchorage Safe Communities program to the public in Anchorage.

The first article focused on the personnel and their motivation, and discussed Tricia Lillibridge. This article explained why the word "accident" is a misnomer for what is actually an incident in traffic safety. These incidents are more appropriately called collisions, injuries, or fatalities. The second of the two articles in August 1997 was the first several yearly articles regarding holiday weekends. It provided information about safe driving strategies and warned motorists and pedestrians of the hazards of Labor Day.

In the period after Anchorage Safe Communities began on October 1, 1997, there were 18 documents published. This shows an increase of 16 documents in the period after the inception of the program, or an increase of 800%. These articles also showed a great deal of change as the program matured. The first articles published in October 1997, when the program began, dealt with the pedestrian safety survey conducted by Diana Hudson, project coordinator. It also described the pedestrian safety road show, which was conducted in collaboration with the federal highway administration and the Anchorage police department.

Articles in November and December of 1997 were again descriptions of pedestrian safety efforts. The second article announced a grant award of \$379,000 from the National Highway Traffic Safety Administration (NHTSA). In February 1998, Diana Hudson, the project coordinator for Anchorage Safe Communities, had an article describing the many different conditions effecting pedestrian safety. The next article was May of 1998, which detailed Anchorage Safe Communities coalition hosting of a two day conference on seatbelts and traffic safety.

Many of the articles through time subsequent to the beginning of the Anchorage Safe Communities program detailed project staff. They included Ron Perkins, the Executive Director for Anchorage Safe Communities, Diana Hudson, the project coordinator, and Tricia Lillibridge, the program co-founder and injury prevention educator. In October of 1998, two articles detailed the history of the program and reiterated that October was the worst month for pedestrian injuries. It described the condition of the first snow, of the shortening of daylight hours, and the beginning of school. The articles in October typically described efforts to distribute fluorescent winter hats to the homeless, reflective strips to people on the street and to children, and prescribed precautions that one could take as a pedestrian.

In 1998, articles described the efforts that were focused on first in 1997 at the Anchorage Gospel Mission, and in 1998 at Beans Café and the Brother Francis Shelter. In November of 1998, Tricia Lillibridge had an article in which she was described as emphasizing the importance of seatbelts. The quote from the *Anchorage Daily News* was, "Lillibridge, founder of Anchorage Safe Communities, which promotes safety in many areas, wants to shake people out of what she sees as foolish stubbornness or laziness, or basic stupidity that keeps them from buckling up each time they get into a vehicle."

It was at this time in 1998 that the *Anchorage Daily News* started to reflect corresponding articles in letters to the editor and news articles that corroborated the efforts of Anchorage Safe Communities. There was a letter on November 25, 1998, called "Seatbelts Can Save Lives," and on November 28 there was a news article titled "Driver Saved by Seatbelt." In addition, an especially moving letter to the editor in November of 1998 was from a 15 year old titled "Anchorage Seatbelts are Better Than Cool."

Another landmark in the progress of the program was in December of 1998 when *Anchorage Daily News* described the Anchorage Safe Communities international citation. That citation was naming Anchorage as the thirty-ninth member of the International Safe Communities and the second internationally recognized “safe community” in the United States.

In January of 1999, with the beginning of the new year, the program marked a survey which was conducted by Craciun Research Group Incorporated for Anchorage Safe Communities to look at Anchorage drivers’ attitudes and local perceptions of driving stress and driver habits, particularly on the concept of “road rage.” This survey reaffirmed what the Anchorage Safe Communities group already believed, according to Ron Perkins. The study met the group’s goal in helping them to target their public service messages.

During 1999, the transcripts of the Daily News articles show the Anchorage Safe Communities program focusing on specific programs. For instance, in February of 1999, a letter from Diana Hudson corresponded with the beginning of Fur Rendezvous and detailed the “National Child Passenger Safety Week.” Another article that month about Tricia Lillibridge described “red ribbon week” and also described a teen emphasis in the local schools called “Take the Lead.” This was a program funded by a grant from the National Highway Traffic Safety Administration.)

Later, in May 1999, a letter from Diana Hudson to the *Anchorage Daily News* described “America Buckles up Children Week,” and a later article described the “Safe Driving Rodeo for Teens.” The maturity of the program was demonstrated in the article about the safe driving rodeo for teens by describing the business and community partners that were working with Anchorage Safe Communities. These included the University of Alaska Anchorage, the Center for Employment Education, Denali Safety Council, State Farm Insurance, Tesoro Alaska, Anchorage Police Department, the Port of Anchorage, and many volunteers.

In June of 1999, Mayor Rick Mystrom offered a commendation from the Anchorage Health and Human Services Commission recognizing Anchorage Safe Communities for its contributions. This article also described the World Health Organization certification of Anchorage as the second “International Safe Community in the United States,” and also reaffirmed the history and details of the program including the pedestrian survey, the reflective clothing distribution, and the partnerships with the Anchorage Police Department and others. In October of 1999, which was the last month studied, the program once again had articles emphasizing safety of pedestrians during the month of October, with the beginning of school, the shorter days, and the first snow. This had become an annual event through the years studied prior to and since the beginning of the Anchorage Safe Communities’ program.

2. Concept of Seatbelts

Referring again to Table 2, the next concept that was examined was that of "seatbelts." Prior to the beginning of the Anchorage Safe Communities program, 31 documents had been published, and 53 documents appeared in the period two years after the inception of the program. This was an increase of 22 documents, or a change of 71%. There were 33 text units in the two years prior to the program and 974 text units subsequent to the program, or a change of 53.9%.

Prior to the program, there were only five comments in all of the articles referring to the importance of wearing seatbelts or programs about seatbelts. This increased to 21 text units in the two years after the program.

What was unique to the period after the program were the comments related to wearing or not wearing a seatbelt. For instance, one article in November of 1998 said, "She was not wearing a seatbelt and was thrown from the vehicle." Another article where a person was not wearing a seatbelt said, "The red light runner survived the impact of his head with his windshield (no seatbelt). I only hope that his scars remind him daily of his recklessness." So, one can see that not wearing seatbelts was perceived by the public in these articles as having a negative connotation.

In contrast, wearing a seatbelt began to be recognized in quotes in specific articles. For instance, in November of 1998, a comment in one article stated, "A seatbelt likely saved a 36 year old man from serious injury during a head-on crash Friday on the Seward Highway." Another remark was, "I was dumbfounded that no one got seriously hurt. People who were wearing seatbelts and their airbags deployed, came out unscathed." So, by November of 1998, there was recognition that seatbelts and airbags were making a difference in traffic incidents. One other comment attributed to police spokesman Ron McGee was, "Her four-year-old daughter was wearing a seatbelt and suffered only a scratch on her hand."

In the instance of the concept of "seatbelts, it is clear that not only the manifest construct increased, meaning the specific number of documents increased by 71% and the text units increased by 53.9%, but one can also see that community perception was reflected in comments about traffic incidents and traffic safety.

This same social construct of public perception is also reflected in the tone of the letters to the editor. Although the number of letters to the editor decreased by two from the period prior to Anchorage Safe Communities to the period after Anchorage Safe Communities, it was the attitudes reflected in these letters that changed significantly. In the period prior to the beginning of the program, nine letters referred directly to driving while intoxicated, sentencing and the fact that drivers who chose to drive under the influence of alcohol should be more severely punished. In contrast, after the program began, the letters to the editor had only one that dealt with sentencing or punishment of those with DWIs. Rather, eight letters reflected positive ways that traffic safety could be impacted. Things such as using studded tires,

wearing seatbelts, particularly using seatbelts and safety seats for children and driving at lower speeds. This was an interesting reflection in the latent constructs of these articles, showing a positive change in public perception.

3. Other Text Search Results

Additional text searches are detailed in Table 2. These include words such as "drunk" or "drunk driving," with an actual decrease in documents from 24 in the period before Anchorage Safe Communities to 22 in the period after, or a decrease of 8.3%. Others included words such as "DUI," "driving under," and "DWI," all to get at the same concept of driving under the influence of alcohol. In each of these cases, the number of documents or text units actually decreased. The changes for "DUI" and "driving under" were either not significant because of the small number of documents and text units that changed or, in the case of driving under the influence, two documents were evident before the beginning of the program with zero after. Dividing by zero is not a relevant calculation to this analysis. "DWI" decreased by nine documents or by 45%.

Other searches for concepts "BAC" or blood alcohol content resulted in an increase of only one document or four text units, which were not relevant calculations. "Red light" also decreased in the number of documents, actually decreasing by 40% in the number of documents, or 32.1% in the number of text units. In subsequent searches, the word "fatal" increased in the number of documents by three, the number of text units by nine, or a 50% increase. Searches for the word "injury," "injuries," and "injured," resulted in an increase of 30 documents or 87 text units. The text units actually increased by 152.6%. This means that there was an increase in the manifest construct or the frequency of the text unit that mentioned the words "injury," "injuries," or "injured." However, on further examination, there was no significant change in the latent constructs dealing with public perception or social communication of the concept of "injuries." Even when searching for some shift in public perception or usage from the term "accident" to "injury" or "injuries," this could not be substantiated by the researchers.

The concept of "road rage" was submitted to a text search in the context of the survey completed by Craciun Research Group Incorporated. However, no documents existed prior to the program and only two documents with two text units were shown in the period two years following the beginning of the program.

In comparing the words and concepts of accident and collision, the researchers found that the word "accident" resulted in an increase of three documents in the period subsequent to the start of Anchorage Safe Communities program. The word "collision" increased by 11 documents, or a total of 100% increase. It's important to remember in making this comparison, however, that a qualitative content analysis can not be assumed to be causal in relation. Therefore, it cannot be presumed that the word "accident" is replaced by the word "collision."

"Pedestrian" was a text search of interest because of the emphasis of the Anchorage Safe Communities on pedestrian safety. This concept was found to show an increase from four documents prior to the program to ten documents after, which is an increase of 6 documents or 150% change. There was an increase of 8 text units prior to the beginning of the program to 22 text units, or an increase of 175%. Likewise, for the concept of "safety," fourteen documents existed in the two-year period prior to the program and 36 programs subsequent. This is a change of 22 documents, or an increase of 157.1%. The greatest increase for the word "safety" is in text units – from 26 text units to 84, an increase of 58 units or 223.1%.

The researchers were unable to find in these changes any latent variables that showed any significant sociological constructs that changed in people's perception. What actually changed was the manifest construct dealing with the frequency with which these concepts were mentioned. This was discussed above in reference to the number of program specific articles, so the researchers feel that the increase in frequency of these concepts or words in the actual documents was due to the increase in the number of program specific articles. The one latent variable that may have increased was the one mentioned above in reference to letters to the editor and opinion articles that also show an increase in positive public perception of seatbelts and traffic safety.

4. Discussion of Research Questions

In responding to the detailed research questions above, then, did the reporting of traffic "accidents" change to "collision"?

Researchers showed that no significant causal relationship could be demonstrated through the available data. However, public perception most probably changed as reflected in the letters to the editor and the opinion pieces.

Did witness comments change?

The researchers could find no significant change in either the number or the tone of the comments related to specific crashes or incidents.

Did reporting of safety measures such as seatbelts change?

Yes, as detailed above in the section on the text search for seatbelt, comments increased as well as the tone and quality of those comments.

Did reporting of injuries or fatalities change? Although the number of text units related to the words "injury," "injuries," and "injured" increased by 152.6%, the researchers could find no sociological construct that changed when they examined comments related to injuries or fatalities.

5. Conclusions

It can be concluded from the content analysis of 184 articles in the *Anchorage Daily News* that the Anchorage Safe Communities program has been successful in relaying

its messages about pedestrian safety and traffic safety through the media, at least print media. Examples include articles in crucial months, such as October and May that emphasize safety during holiday weekends – Labor Day and Memorial Day, as well as focusing on hazards of the winter months such as shortened length of days, the beginning of school, and the first snow fall or poor weather. Anchorage Safe Communities was also then successful in relating messages to the public about special campaigns, such as the safety radio for teens and other programs that have been sponsored. They have also been very successful in joining with other organizations to sponsor programs. These have ranged from:

- October of 1998, the “Little Kids in the Dark” program sponsored by the Southern Region Emergency Medical Services council;
- November 1998, Anchorage Police Department enforcement citations for drivers and passengers without seatbelts, which was a national mobilization before Thanksgiving. However, Anchorage Police Department broadened the national initiative to include the entire holiday season through the end of December;
- May 1999, a program was called “Troopers Boost Holiday Patrols”;
- June 1999, Anchorage Police Department had the “Buckle Up” program; and
- June 1999, media attention was given to the volunteer red light running prevention initiative called the “Volunteer Witness Program.”

So, Anchorage Safe Communities coalition has been successful in sponsoring its own initiatives as well as working with other organizations on safety initiatives.

Another success of the Anchorage Safe Communities program seems to have been reflected in letters to the editor. As mentioned above, letters dealing with seatbelts, and specifically one from a 15 year old reflecting the positive outlook that this teen had toward seatbelts and safety. Finally, Anchorage Safe Communities appears to have been successful in achieving the cooperation of both business and community members. Many of these were listed above, but these were confirmed through analysis in several places in the described documents.

In conclusion, the content analysis for Anchorage Safe Communities would indicate that a significant increase in media attention has been placed on those sociological constructs that form the framework for the Anchorage Safe Communities program. Ideas such as wearing seatbelts to insure traffic safety, reflective clothing for pedestrians, and a number of other similar initiatives have certainly gained media attention. This, as well as the cooperation of the agencies involved in the coalition, have attained significant media attention in the period following the inception of the Anchorage Safe Communities program and has successfully reported its message.

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VI. PROCESS EVALUATION OF ANCHORAGE SAFE COMMUNITIES

This section presents three assessments of the performance of the Anchorage Safe Communities effort. The first subsection summarizes the opinions of site visitors to the Anchorage Safe Communities Program. The second addresses the perceived effectiveness of the Anchorage Safe Communities Coalition, the group with the overall responsibility for overseeing the community interventions. The third subsection presents the evaluators' view on the extent to which the Anchorage Safe Communities project met the stated goals and objectives contained in the initial or amended grant application.

A. Summary of External Site Visits

Over the course of the project, numerous project reviews have been done by federal agencies (see Appendix B for detailed site reports). The single conclusion of all the site visits is unanimous. They consistently praise Anchorage Safe Communities for focusing community opinion on the issue of motor vehicle safety in Anchorage, and applaud its ability to maintain a cohesive set of strategies to address this serious problem.

B. Survey of Coalition Effectiveness

Coalitions are difficult to maintain. They require substantial amounts of staff time, and consume resources to support their activities and continued networking responsibilities.

The purpose of this part of the evaluation is to determine the perceived extent to which the coalition contributed to the success of Anchorage Safe Communities. The basic methodology was adapted from work by Knowlton Johnson in his examination of the effectiveness of coalitions to prevent youth substance abuse.

The overall approach was to develop a survey for all coalition members who had served over the three-year duration of the project. A copy of the instrument is shown in Appendix L. The results of that survey were used to develop an interview schedule for key informant interviews of dominant players during the course of the project.

1. Coalition Maintenance

The Alaska Injury Prevention Center, formerly known as the Anchorage Safe Communities Coalition, was founded in 1996. This coalition continues to flourish today under the direction of Ron Perkins, Executive Director, and its Board of Directors.

The Coalition met the needs of the Anchorage community by forming in 1996 to address the myriad needs for focused attention on safety concerns, affecting all members of the community. Today, the Alaska Injury Prevention Center continues the initial efforts of the Coalition with efforts in:

- Motor Vehicle and Pedestrian Safety
- Home and Leisure Safety
- Worker's and Workplace Safety
- Prevention of Assaults and Homicide
- Suicide Prevention
- Elder's Safety
- Kid's Safety
- Anti Drunk Driving
- Evaluation
- Sexual Assault

Maintenance of a coalition takes effort and commitment by participants. According to Berkowitz and Wolff (2000), there are several reasons that a coalition continues to thrive or fades away over time. They suggest that a coalition can grow, spin off, change focus, cut back, or end.

1. For a coalition to grow, the entity must maintain access to resources within the community to meet needs and expectations of the target issues. The coalition leader is the key player in growth, ensuring that the focus of the coalition stays on its goals and purpose, and that no direct services are provided by the coalition.
2. For a coalition to spin off into other areas, the coalition acts a catalyst for an initial effort and then fades away as other agencies are either formed or begin to take on the administrative and direct service aspects of the original issues or needs.
3. For a coalition to change focus and maintain itself, the members must respond to changing community needs and creatively change with the times and issues.
4. When a coalition cuts back, it recognizes that it needs to remain focused on a single or smaller group of issues or needs, and purposefully does not expand its scope or commitments.
5. For a coalition to end (in a positive fashion) the members acknowledge that the original purpose was met and the coalition disbands as an entity.

The Anchorage Safe Communities Coalition has evolved into the Alaska Injury Prevention Center. The Coalition has changed and expanded its focus over time to meet the needs of the community and the interests of its members. This has been a successful enterprise that has maintained both interest and momentum for the past four years.

Berkowitz and Wolff (2000) also describe three key factors that lead to long term maintenance of a coalition. These are 1) accomplishment, 2) institutional consensus, and a 3) "good feeling" both within the coalition and in the community.

1. This Coalition has definitely accomplished its mission of addressing safety needs in the community. Accomplishments lead to further interest and commitment to the Coalition and its efforts.
2. Institutional consensus has also been achieved through both Coalition members and the community at large by recognizing the Coalition's efforts and valuing these efforts and the commitment of the individuals and agencies involved in the Coalition. All of the participants are looking to the future with an expectation that the Coalition serves a purpose and will continue into the future.
3. The "good feeling" phenomenon is also very important to the maintenance of a coalition effort. The members and the community both need to feel valued and to believe that they are making a contribution to efforts that are truly needed. If members and the community all feel connected to the Coalition and its mission, individuals and agencies alike will remain committed to the Coalition efforts.

As reflected in the survey results and in the key informant interview results presented below, the Alaska Injury Prevention Center meets all of the "requirements" for a strong coalition with a long term future. These results and impressions are discussed in the following sections of this report.

2. Survey Results

A 64 question survey was mailed to all 46 past and present members of the Coalition. A total of 17 of the surveys was returned for a response rate of 37%. A primary mailing occurred in early October, with a second mailing and a follow-up letter to all members in early November 2000. All responses were anonymous.

The survey included items in the following areas:

- A. Representation, Cohesiveness, and Leadership
- B. Problem-Solving, Decision Making, and Communication
- C. Time Demands
- D. Empowerment
- E. Commitment
- F. Participation Over the Past Year
- G. Member Characteristics

The results of the survey in each of these areas are shown below.

Section A: Representation, Cohesiveness, and Leadership

This section of the survey contained 16 items, and the results for this area were all very positive of the leadership and cohesiveness of the membership. The responses for "generally yes" and "definitely yes" combined in 12 of the 16 items, in a range from 58% to 88.2%, which indicates a strong satisfaction rate. "Cohesiveness" and "unified

manner” were strongest in the “somewhat yes” responses, with 47.1% and 41.2%, respectfully. [See questions A:1-16 in Appendix L]

For *Representation, Cohesiveness, and Leadership*, the survey showed positive responses and strong support for board relationships and the director.

Section B: Problem Solving, Decision Making, and Communication

This section of the survey contained 18 items, and the results were very positive for communication and members working well together. The strongest responses included a 70.6% response rate for “generally yes” relating to “effectively dealing with barriers such as turf issues and denial.”

In response to a question about “my coalition never gets anything accomplished,” was 88.2% stating “no.” This suggests a very positive attitude towards goals. There was a 64.7% “no” response to “a few members are trying to make all the decisions,” indicating a positive feeling towards cohesiveness and working well together as a board.

One area to note was the 29.4% response to the statement “My coalition shares information with Coalitions in other communities in the region or state.” This response was equal to both the “definitely yes” and “generally yes” responses. This may indicate a need for more communication between subgroups on the Board or more discussion with the membership about communication with other entities. [See questions B:1-18 in Appendix L]

For *Problem Solving, Decision Making, and Communication*, the survey showed very positive responses about members’ views, perceptions, and feelings about board functions and working with other board members.

Section C: Time Demands

This section of the survey contained four items and focused on the members’ views about the time the Coalition takes from other endeavors in the community. These items focused on impressions about the time commitments of each member over the past year.

The results were very positive, indicating that the Coalition does not demand time from its members that exceed the mission or the effort. 76.5% of the respondents indicated that the Coalition did not demand too much personal or agency time. [See questions C:1-4 in Appendix L]

For *Time Demands*, the survey showed that the members are generally comfortable with the time demands and commitment.

Section D: Empowerment

This section of the survey contained four items seeking responses to the members' impressions of their personal and Coalition effectiveness, and their influence in the community.

In three of the four responses, the impression of the members was that the Coalition could make a difference and could maintain community involvement.

The response with the broadest response rate was related to the question "How likely is it that you can personally influence the direction of the Coalition?" 29.4% of the respondents answered "somewhat yes," 35.3% answered "generally yes," and 23.5% answered "definitely yes." [See questions D:1-4 in Appendix L]

For *Empowerment*, the survey showed very strong positive feelings about the condition and influence of the Coalition in the community.

Section E: Commitment

This survey section contained five questions that focused on the members' feelings about their level of commitment and leadership in the Coalition. The responses were all strongly positive to all five questions. [See questions E:1-5 in Appendix L]

For *Commitment*, the survey showed a very strong commitment to the Coalition, the mission, and members' willingness to continue their participation, enthusiasm, and leadership on behalf of the community.

Section F: Participation Over the Past Year

This section of the survey contained five primary questions regarding Coalition participation over the past year of service.

The first question asked for responses regarding the members' relationships in the community between the Coalition and other organizations. The responses indicated strong relationships between individual members, their employment agencies, and other coalitions, boards, and efforts in the general community. The responses ranged from 63.6% to 100% in the "many times" and "several times" combined categories.

The only response that indicated only a minimal involvement level was Section F.f. : "...sought funding through various advocacy strategies..." This item had a 17.6% response rate for "never," a 17.6% response rate for "once or twice," a 17.6% response rate for "several times," and 11.8% for "many times."

The second question in this section asked for responses regarding the types of activities each respondent had participated in for the Coalition. The breakdown by item is listed in Table 3:

Table 3. Participation in Types of Activities*
(N=16)

	% YES	% NO
Coalition organization	50	50
Media awareness	56.3	43.8
Coalition training	37.5	62.5
Training of trainers	18.8	81.3
Fundraising	43.8	56.3
Community events	93.8	6.3
Parent/Family education	25	75
Donations	62.5	37.5
Grant writing	81.3	18.8
Other (only 4 of 16 responses)	75	25

* 1 response missing

The third question asked for each respondent's primary area of participation over the past year.

Table 4. Primary Area of Participation in Activities*
(N=14)

	# of members
Coalition organization	5
Media awareness	1
Coalition training	0
Training of trainers	0
Fundraising	0
Community events	2
Parent/Family education	1
Donations	0
Grant writing	1
Other	4

* 3 responses missing

The fourth question asked respondents what type of effort they offered for their primary area of participation as indicated in Question 3 (above).

Table 5. Type of Effort for Primary Area of Participation
(N=17)

	% Many	% Several
Telephone calls	31.3	25.0
Shared information with other agencies	58.8	35.3
Shared information with the community	25.0	56.3
Project Planning	37.5	25.0
Other	50.0	50.0

The fifth question asked respondents what Coalition projects they have been involved with since 1996. Respondents were able to include as many projects as needed.

Table 6. Involvement in Projects Since 1996*
(N=14)

	# of participants
Motor Vehicle and Pedestrian Safety	12
Home and Leisure Safety	3
Worker's and Workplace Safety	3
Prevention of Assaults and Homicide	2
Suicide Prevention	1
Elder's Safety	1
Kid's Safety	5
Other...Anti Drunk Driving	1
Evaluation	1
Sexual Assault	1

* 3 responses missing

[See questions F:1-5 in Appendix L]

For *Participation Over the Past Year*, the survey showed a membership very active and interactive within the larger community. Members' areas of interest and types of activities were varied, apparently meeting the needs and demands of Coalition efforts.

Section G: Member Characteristics

This section of the survey contained 12 items that requested demographic information regarding each member. Three questions are not reported due to the lack of responses needed to make any calculation. These questions include:

- #1. Number of months a member since 1996?
- #6. Years and months in current employment position?
- #9. Age

The other demographic items are listed by question number designation in Table 7. Percents reported represent the most frequent responses.

Table 7. Demographic Characteristics

Question	Percent
#2. Level of participation in meetings	
Talked in all meetings	31.3 %
Talked in most meetings	50.0 %
#3. Average hours involved in Coalition activities each month?	
Over 8 hours per month	37.5 %
3 to 8 hours per month	25 %
0 to 2 hours per month	35.2 %
#4. Primary community organization or group the member represents on the Coalition?	
Health professional	23.5 %
Justice, law enforcement, local government	17.7 %
State government agency	17.6 %
Human/Social Services	11.8 %
#5. Member's home agency position title?	
Director/Management	88.2 %
Professional Staff	11.8 %
#7. Currently involved in other prevention programs?	
YES	58.8 %
NO	41.2 %
#8. Gender	
FEMALE	58.8 %
MALE	41.2 %
#10. Ethnicity	
Caucasian	93.8 %
African American	6.3 %
#11. Level of education?	
Post college graduate	58.8 %
College graduate	23.5 %
Some college	17.6 %
#12. Employment status?	
Full time employed	88.2 %
Less than 30 hours per week	5.9 %
Student (not employed)	5.9 %

[See questions G:1-12 in Appendix L]

For *Member Characteristics*, the Coalition is well educated, highly dedicated, fairly equally represented by gender, significantly Caucasian by ethnicity, and members are well placed in community agencies.

The level of commitment to the Coalition by both participants and their primary employment agencies is remarkable and indicative of the level of community involvement and support for this effort. If the survey respondents are representative of the entire Coalition, this is a powerful organization with many links to agencies and community members.

(This survey was adapted for local circumstances from a survey by Community Systems Research Institute, Inc.) [See Appendix L]

3. Key Informant Interview Results

Five individuals from the entire 46 member roster were randomly selected and interviewed telephonically as key informants. Initially, eight members were selected randomly and comprised the first group for contact; the first five respondents were then interviewed.

The telephone interview contained 13 questions, including demographic data. All reporting of key informant responses is offered anonymously and aggregately. Only one of the five key informants indicated that she or he had also responded to the mailed survey. Therefore, a total of 21 “non-duplicated” respondents have been involved in this evaluation process. This offers an overall response rate of 46% for this evaluation.

The key informants represented five different agencies or entities in the community. Four of the respondents were female and three were active members of the Coalition. The other two respondents have been involved in the past and still track Coalition activities.

The key informants have all been involved in the Coalition for more than two years and all joined either out of personal knowledge and interest in the Coalition or as part of their employment duties (i.e. encouraged to participate by their primary agency of employment).

Only one key informant has not been involved with any other boards or coalitions at some time in the community. All of the other key informants have been active and involved in multiple boards and organizations.

Two of the key informants indicated that the Coalition is different, in their experience, from other boards. Both had similar statements that this Coalition relies heavily on its paid staff for project coordination and follow through on projects. Both also indicated that this Coalition acts more in an advisory capacity to the community for many of its

projects than other boards in their experience. The other informants felt that, in their experience, this Coalition functions similarly to other boards.

The key informants offered comments and suggestions about the Coalition and its future. These comments and suggestions include:

- Continue Coalition evolution to maintain mission;
- Seek more public participation and “citizen” involvement (rather than the focus on agency representatives);
- Seek more community “buy in,” and increase media efforts to inform public of projects and activities;
- Seek more involvement from the education systems in the community and from parents;
- Enlist more business support and interest, include media information in local and state business publications, and pursue BIG business such as BP for interest and support;
- Have the Board work more closely together on their projects rather than maintain discreet subgroup projects;
- Develop and maintain a “cadre” of volunteers from the community to support community activities; and
- Be more innovative in seeking recognition, funding, and support from local agencies, businesses, and government.

“Looking Towards the Future” suggestions include:

- Maintain a strong strategic plan,
- Focus on fund raising efforts,
- Maintain strong and decisive leadership,
- Maintain staff positions for support,
- Constantly seek new recruits for the membership,
- Increase public awareness and access to the Coalition and the projects, and
- Maintain continuity and purpose.

The key informant responses seem to be very much in line with the general survey results. All indications are that the Coalition is functioning well and is highly productive. The suggestions primarily focus on increasing public awareness and recognition of the Coalition’s efforts.

4. Summary

This evaluation suggests that the Alaska Injury Prevention Center Coalition is a thriving organization that has evolved over the past four years into a stable and active entity in the local community. As suggested in the Introduction, a coalition must

choose a direction and either change to meet the needs of the target population or issues or disband.

This Coalition has evolved and changed to meet local concerns in Injury Prevention. The Coalition is comprised of highly committed individuals representing multiple agencies and interests throughout the community.

References

- Berkowitz, B. and Wolff, T. (2000). *The Spirit of the Coalition*. American Public Health Association: Washington, D.C.
- Community Systems Research Institute, Inc. (1999). *Partners in Rural Prevention*, Survey.

C. Goal and Objective Attainment

The goals and objectives for the original Anchorage Safe Communities grant (April 30 1997) laid out an ambitious plan for reducing injuries and fatalities resulting from motor vehicle crashes in Anchorage. This section summarized the accomplishment of the Anchorage Safe Communities program over the last three years relative to the original goals and objectives stated. The information used to develop this final status and the goals and objectives was taken from various sections of this evaluation report, from impressions of the evaluators, and from routine quarterly reports submitted by Anchorage Safe Communities staff.

Goal 1: ENGAGE THE COMMUNITY IN ADDRESSING MOTOR VEHICLE CRASH INJURIES AND DEATHS BY EXPANDING COMMUNITY INFLUENCE OF THE ASC PROGRAM.

Objective 1: To broaden the membership of the Anchorage Safe Communities Coalition

Final Status: This objective has been met. The Anchorage Safe Communities newsletter has broad distribution throughout the Anchorage community, and has recently been distributed throughout the Southcentral region. The faith community has been increasingly involved with Anchorage Safe Communities through contacts with more than 100 churches in Anchorage, the Matanuska-Susitna Valley, the Kenai Peninsula, Juneau, and Talkeetna. Newsletters and informational pages have been distributed during national child passenger safety week and other injury prevention events.

There has also been a significant increase in the availability and the reliability of data on motor vehicle injuries and fatalities. Data fact sheets have been developed, and motor vehicle crash data has been entered into geographic information databases for use by researchers and community members. However, efforts to link the Alaska trauma registry and the department of motor vehicle database have not yielded the expected results. Numerous attempts have been made to develop a consistent,

reliable, and reproducible database. However, the matching algorithms have prevented the database from yielding identical and reproducible results with successive iterations. Notwithstanding this limitation, the Anchorage Safe Communities has been active in developing an “injury atlas” for use within the Municipality of Anchorage.

Participation of local businesses in injury prevention activities has also improved. The local businesses and community partners involved include:

- Buckle Up Alaska
- School Parking Lot Safety
- Checks with the Anchorage School District
- Elmendorf Air Force Base Baby Health Fair and Checkup
- Parkside Church Bible Study
- Wendler Jr. High School Health Fair
- Army Corps of Engineers
- Elmendorf Air Force Base Safety Fair
- Alyeska Safety Fair
- Teen Safe Driving Rodeo Competition
- Botanical Gardens of Anchorage, and
- Technical Assistance to two new safe communities programs in Fairbanks and Sitka.

Objective 2: Engage the community in addressing motor vehicle crash injuries and deaths.

Final Status: This objective has been met. In addition to the numerous informational pieces produced by Anchorage Safe Communities (the injury atlas, info mapping, press releases, and community-sponsored events), the community has become far more aware of the extent of motor vehicle injuries through enhanced press coverage. The content analysis shown in this report demonstrates significant increases in the appearance of information regarding motor vehicle crashes and unsafe driving behaviors.

The television has also been used as a vehicle for disseminating additional information about Anchorage Safe Communities and motor vehicle injuries and fatalities. During the course of the project, public service announcements have been forwarded to all five local television stations to air during the holiday seasons. A brief informational video was prepared to introduce people in Anchorage and throughout the country to the Anchorage Safe Communities program. A speakers bureau was also developed and appears to be providing more and more material to Anchorage residents during community events.

A report of the economic costs of motor vehicle crashes was prepared in 1998 and 1999 using 1995 data. This study provided the first practical opportunity to attempt to use the “linked” data sets described in the original grant application. The data for the

study contained in this report covers a far wider period and uses more conservative economic cost estimation methodologies.

The Anchorage Safe Communities Coalition was developed and has been an active force in increasing public awareness of the importance of addressing motor vehicle injuries and fatalities and in sponsoring specific initiatives designed to address this critical issue. A detailed report of the Coalition's efforts strongly suggests that the Coalition has been an appropriate and effective mechanism for involving the community in motor vehicle safety activities.

GOAL 2: TO DEVELOP AND IMPLEMENT A SERIES OF INTERVENTIONS TO REDUCE MOTOR VEHICLE INJURIES AND DEATHS.

Objective 1: To develop a graduated licensing campaign and education program designed to introduce novice drivers gradually to driving first with supervision in low risk settings, then through exposure to riskier driving situations over time.

Final Status: This objective has been met. The Alaska legislature passed laws establishing graduated licensing in Alaska during quarter 2, year 1. The Anchorage Safe Communities Coalition believes this law could be strengthened and will work toward this in the upcoming legislative session.

A series of focus groups were conducted during the beginning of the project to learn more about teen high risk driving behaviors. The focus group report is summarized in the interventions and described in detail in an attachment to this final report. These high risk behaviors were addressed during the "Take the Lead" intervention that was mounted by Anchorage Safe Communities in coordination with the Anchorage School District.

Objective 2: To develop a "Peer to Peer Project" within the Anchorage School District.

Final Status: This objective was amended during the early months of the project because of the reluctance of the Anchorage School District to co-sponsor the project with Anchorage School District students. In lieu of the Peer to Peer project, the Anchorage Safe Communities mounted the "Take the Lead" project described in this report. The school district has been vigorous in its support of the Take the Lead initiative. In addition, Anchorage Safe Communities has sponsored the teen driving rodeo for two consecutive years. The rodeo features a written driving exam, skid monster and driving skills testing, and other activities for teenage participants from schools throughout the Anchorage and Matanuska-Susitna areas. More than 100 students participated with good media coverage for the event.

Objective 3: To develop a "1-800" child hotline for child restraints and car seats.

Final Status: This objective was modified during the early months of the project into one that supports the Alaska Safe Kids (ASK) child restraint and car seat programs. This revised objective has been met. The change from the original objective resulted from a series of focus groups sponsored by the evaluation team to assess community attitude toward the establishment of an 800 telephone hotline that would report parents who did not appropriately use child restraints and car seats. The intervention was modified to promote better use of car seats through enhanced technical assistance, training in proper car seat installation, and promotion of the value of child restraints.

The Anchorage Safe Communities developed a PSA (the Egg Mobile) with the Alaska Safe Kids program. The PSA won a statewide award for exceptional quality in public relations media. The United Way of Anchorage participated in the program by contributing car seats for those unable to pay.

The training for child safety technicians was also addressed in this intervention. The evaluation team worked with Anchorage Safe Communities to find ways of producing child safety technicians through abbreviated NHTSA training courses. The study recommendations were used to help NHTSA trainers provide more efficient, shorter courses throughout the state of Alaska.

Objective 4: To develop a community approach that identifies and solves potential problems that effect pedestrian safety and walkability.

Final Status: This objective has been partially met. The reflectorization programs have been implemented for high risk adult pedestrian populations. These reflectorization programs initially showed modest gains. However, in subsequent years, gains as high as 22% were noticed in selected high risk, high volume pedestrian areas.

Children's pedestrian safety was also addressed through the "Walk Your Kids to School" activities. These initiatives were warmly received by parents.

Objective 5: To implement a "Drunk Busters" program intended to increase Anchorage Police Department enforcement of the DWI laws.

Final Status: This objective was modified during the early phases of the project into an effort to monitor the processing of DWI offenses. The objective has been met. The Anchorage Safe Communities worked with the evaluation team, supplemented by the University of Alaska Justice Center, to learn more about the identification and processing of Anchorage drunk drivers. The Justice Center report identified numerous issues faced by Anchorage police in identifying and charging drunk drivers. The Institute for Circumpolar Health Studies analyzed the processing of drunk drivers and other alcohol related misdemeanors that were processed through the local magistrates and courts. This analysis showed that approximately 30% of those referred to Alcohol Safety Action Programs in lieu of jail time re-offended within a three-year period. Major contributors to these survival rates were identified in the study.

There has been significant community attention paid to DWI activities. Anchorage Safe Communities was a sponsor of community discussions on drunk driving, including a town hall for community discussion of DWI issues, and active participation in a Mayors' committee on drunk driving.

Objective 6: To support a reduction in the maximum blood alcohol level to .08.

Final Status: An initial estimate of the fiscal impact of passing .08 legislation was developed as part of the 1995 economic costs of motor vehicle crashes report, shown as an attachment to this document. Anchorage Safe Communities hosted a conference where noted researcher, Dr. Ralph Hingson, presented scientific information on the impact of .08 legislation on motor vehicle injuries and fatalities. The Alaska Chapter of Mothers Against Drunk Driving and the Alaska Center for Alcohol and Addiction Studies supported the cost of Dr. Hingson's visit to Alaska. The passage of .08 legislation has been resisted by the Alaska legislature. There is a strong possibility that a coalition being developed under the lead of MADD will advocate for passage of this legislation during upcoming legislative sessions.

GOAL 3: TO DEVELOP A DATA SYSTEM THAT WILL SUPPORT THE ONGOING MONITORING OF THE NATURE AND EXTENT OF MOTOR VEHICLE INJURIES AND DEATHS, AND SUPPORT PROGRAM EVALUATION EFFORTS.

Objective 1: To inventory and assess the utility of existing data in monitoring and evaluating injury control interventions.

Final Status: This objective has been partially met. Problems with linking the trauma registry and department of motor vehicle data to produce the anticipated "linked data set" have met with mixed results. Alternatively, the evaluation team has used trauma registry and DMV data separately to perform the summative evaluation and estimates of economic costs of motor vehicle e crashes.

Numerous additional information sources have been developed, including the injury atlas, the MapInfo, and other information sources for motor vehicle injuries and fatalities. Extensive qualitative data have also been developed. Numerous focus groups with high-risk teens, community members at large, and parents of young children have been used to assess community opinions regarding the use of child restraints and high-risk behaviors. A local survey research firm conducted an extensive survey of road rage in Anchorage.

Additional qualitative analyses have been conducted regarding the changing public opinions of motor vehicle injuries and fatalities in Anchorage through a content analysis of local newspaper articles. An additional study included information about the perceived effectiveness of the Anchorage Safe Communities Coalition in affecting public policy regarding motor vehicle fatalities and injuries in Anchorage.

VII. MOTOR VEHICLE INJURIES AND FATALITIES IN ANCHORAGE

Data on traffic crashes were obtained from the Alaska Department of Transportation (DOT). Separate data sets are maintained for crash incidents, the occupants in the vehicles involved in crashes, and the vehicles themselves. These three files were merged to give combined data which included variables from each data set. The information used for this analysis examined the specific incidents of motor vehicle crashes from 1991 through 1999. The actual raw number of crashes is shown in Table 21 (Section X).

A. Annual Changes

Figure 1 shows the number of motor vehicle crashes between 1991–1999. Over this nine-year period, there were a total of 78,537 recorded crashes. With the exception of 1993, the results show an increasing trend in the number of motor vehicle crashes until 1994. The number of crashes decreased from 1995 until 1998 and then increased again in 1999.

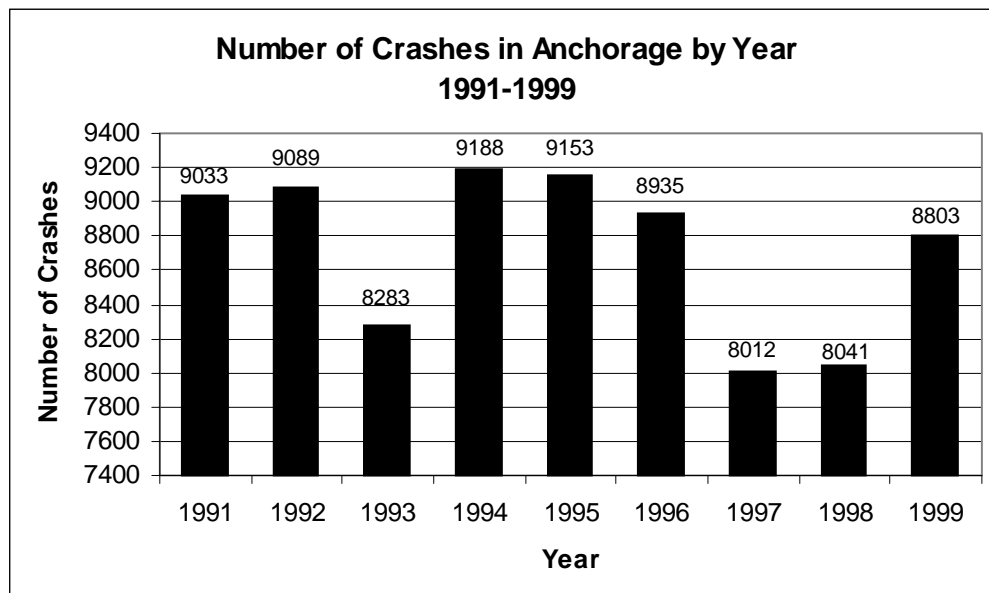


Figure 1

The traffic crashes per mile of highway, per population, per thousand drivers or population, or any other method for adjusting for the size of the Anchorage population or the number of road miles has not yet been calculated.

B. Monthly Fluctuations

Figure 2 shows the number of crashes in Anchorage by month. More crashes occurred during the winter months than the summer months.

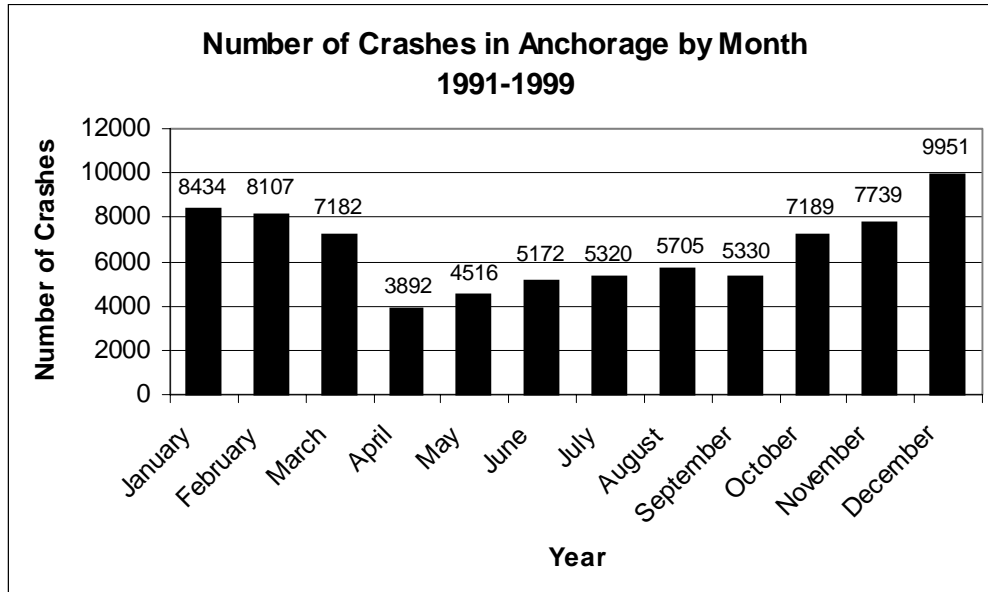


Figure 2

C. Yearly Changes in Motor Vehicle Damage, Injuries, and Fatalities

Figures 3 – 6 describe the changes in the results of motor vehicle crashes over the nine-year period of 1991–1999. These changes are presented as proportions of the total crashes. Crashes that involved property damage only, those with minor injuries, and those with major injuries are analyzed. The determination of minor vs. major injuries is made by the attending public safety officer. They are evaluated on site and without extensive clinical consultation. Crashes resulting in fatalities are also examined in this section.

1. Property Damage Only

Figure 3 shows that approximately $\frac{3}{4}$ of all crashes resulted in some property damage. Although the number fluctuates from year to year, it is generally between 70% and 76%. The average for all nine years in this study is 73.6%.

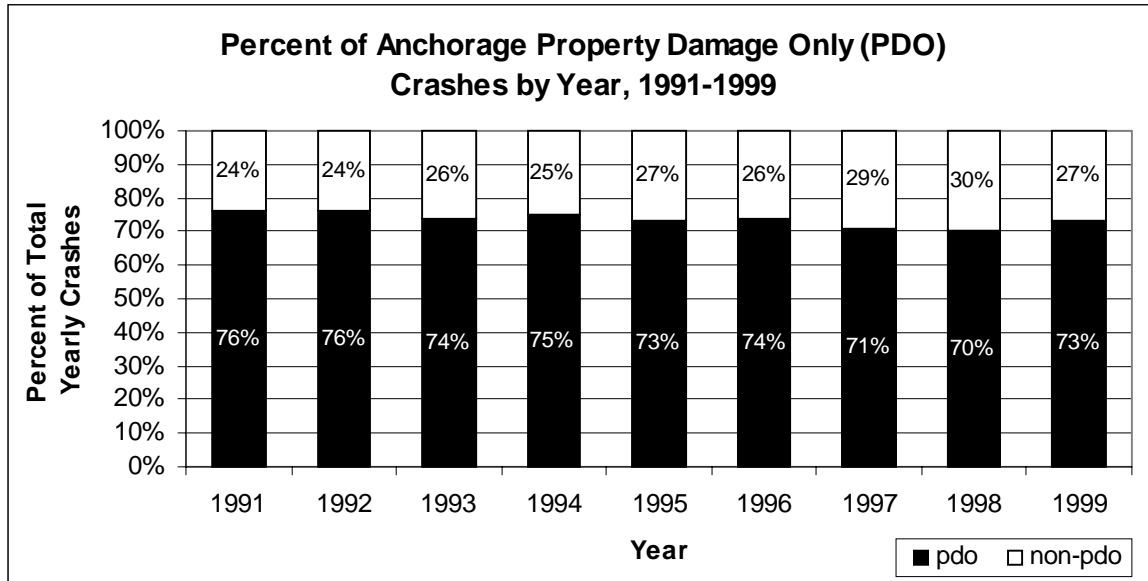


Figure 3

2. Minor Injuries

Figure 4 shows the proportion of yearly motor vehicle crashes that resulted in some minor injury. These type of injuries include minor bleeding or burns, bruises, abrasions, or complaints of pain. No visible injuries or suppositions of possible injuries are also categorized as minor injuries in the public safety data set.

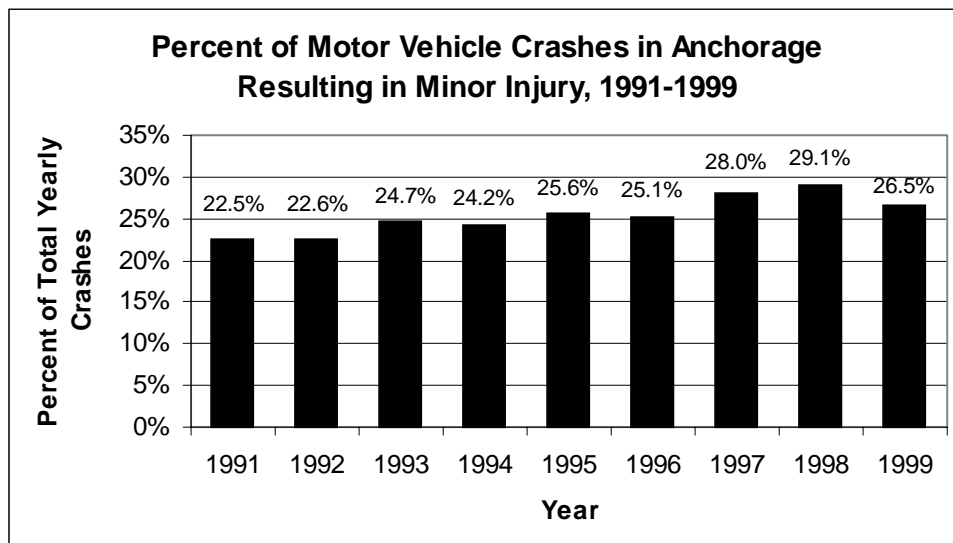


Figure 4

Approximately 25% of all motor vehicle crashes resulted in a minor injury to one or more of the vehicles' occupants. The numbers appear to range between 22% and 29%, with a mean of 25.3% over the nine-year period. It appears from the data that the proportion of motor vehicle crashes resulting in minor injuries is increasing over time. The 1999 data suggest the possibility of a downturn, but could be a statistical anomaly.

3. Major Injuries

Figure 5 shows the proportion of yearly motor vehicle crashes that resulted in major injuries over the nine years of the study. Major injuries include amputation, concussions, major internal injuries, severe bleeding, moderate or severe burns, obvious fractures or dislocations, or people who are clearly incapacitated by virtue of their injuries. Overall, 1.8% of all crashes leave one or more of the occupants of the vehicles with a major injury. The figures fluctuate from year to year, but generally range from 1.4% to 2.0% of all injuries. It appears that the proportion of major injuries has declined slightly since 1997.

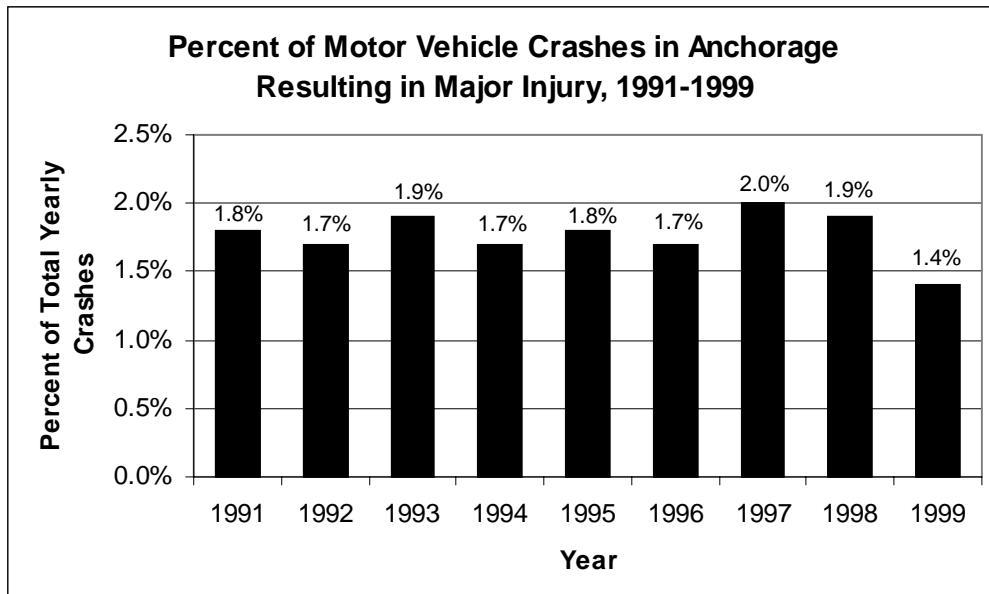


Figure 5

4. Pedestrian Injuries

Pedestrian injury rates are based on the mid-winter population in Anchorage between 1994 and 1998. Figure 6 shows that pedestrian injury rates were decreasing before the intervention began in October 1997, and continued to decrease after the intervention (see Appendix G for a description of the intervention process). Analysis of future data will show if this downward trend continues.

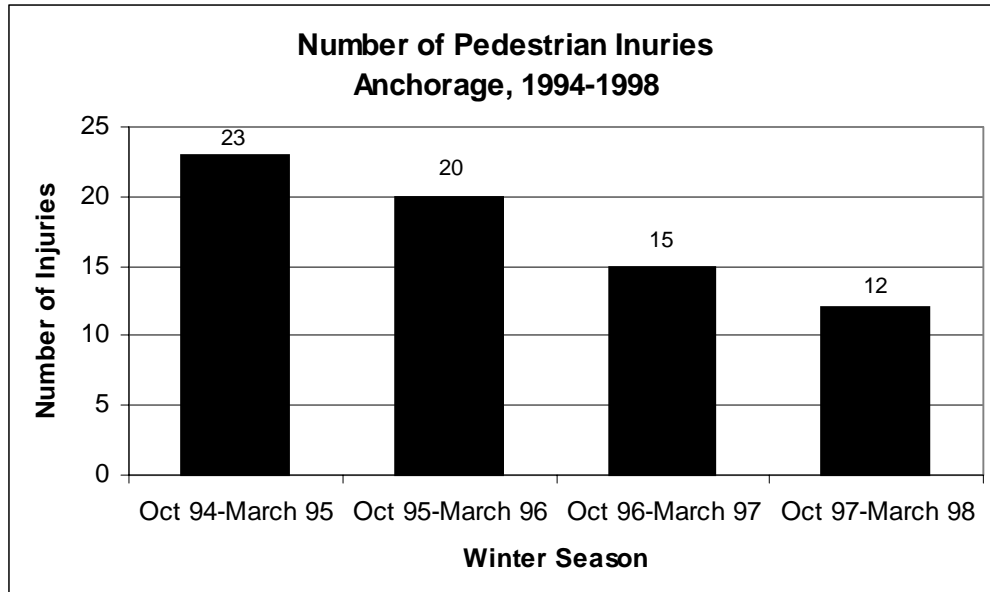


Figure 6

5. Fatalities

Figure 7 shows the proportion of yearly crashes that resulted in fatalities. Since 1991, 200 Alaskans have been killed on Anchorage highways according to the Department of Transportation's database. This accounts for only .3% of all incidents of motor vehicle crashes. The numbers range from a low of 11 fatalities in 1996 to a high of 36 fatalities in 1991. The number of motor vehicle fatalities does not appear to have declined significantly since the inception of the Anchorage Safe Communities program.

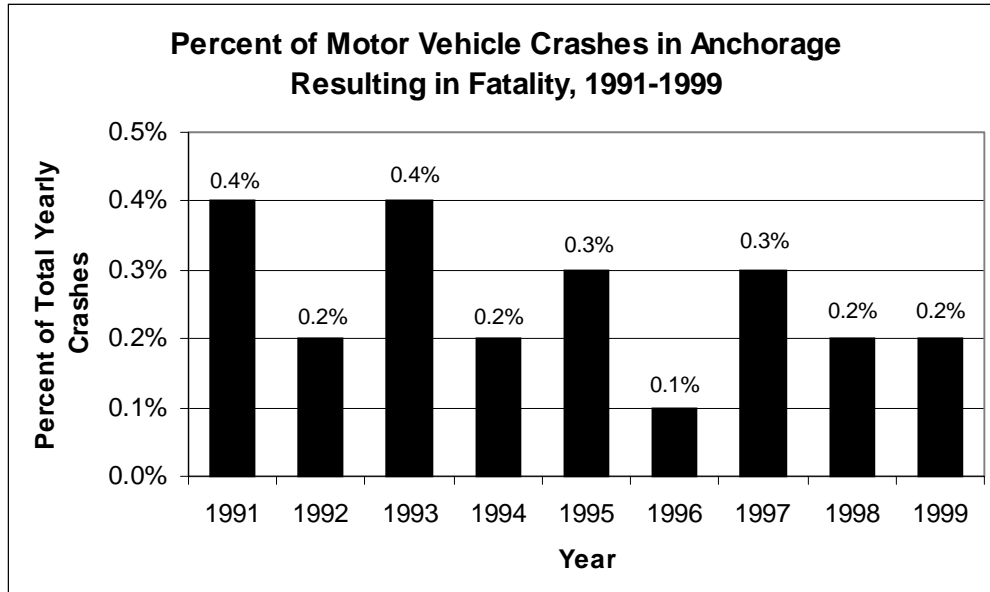


Figure 7

D. Monthly Changes in PDO Crashes, Minor Injuries, Major Injuries, and Fatalities.

Figures 8 – 11 describe how crash numbers are distributed by the month in which they occurred. This helps to explain some of the effects that season, or time of the year, may have on motor vehicle crashes.

1. Property damage only

Figure 8 shows that the percent of crashes involving property damage only increased by nearly 10% from early fall (September) until early spring (April). The percent of these crashes decreased in the late spring (May) and summer months.

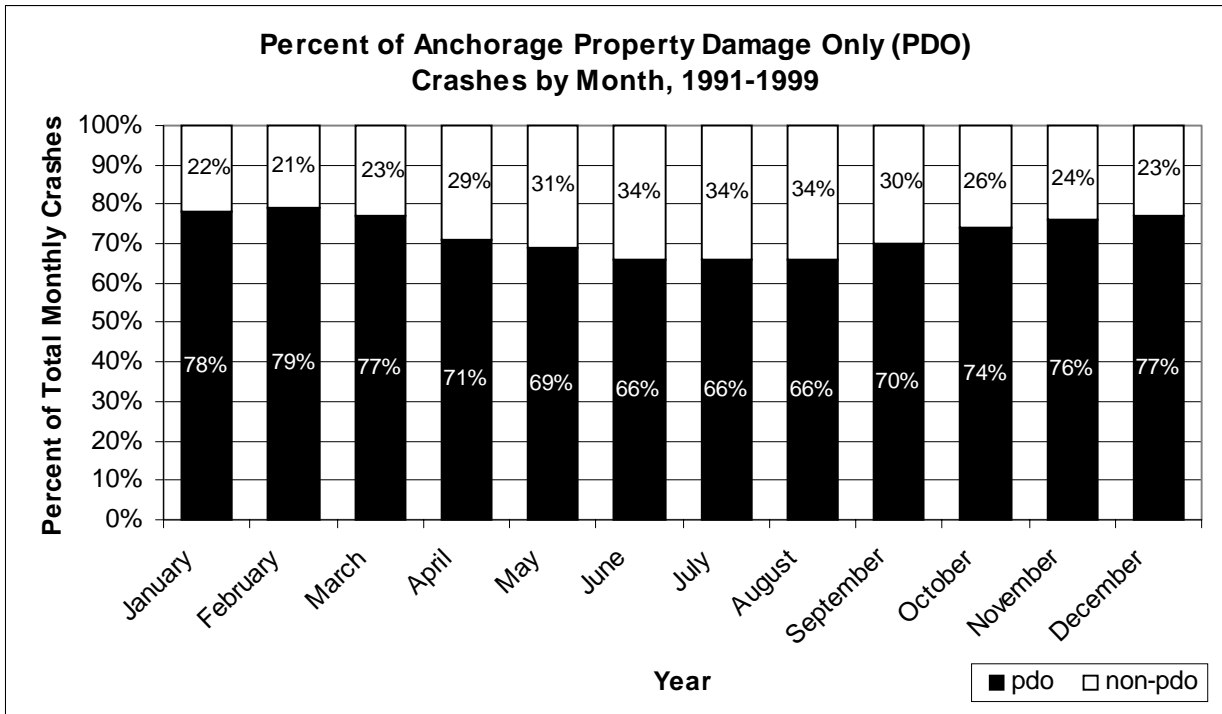


Figure 8

2. Minor Injuries and Major Injuries

Figures 9 and 10 show monthly changes in the proportion of yearly motor vehicle crashes that resulted in minor and major injuries, respectively. Both figures show that a higher percent of minor and major injuries occurred during the summer months (April, May, June, July, and August).

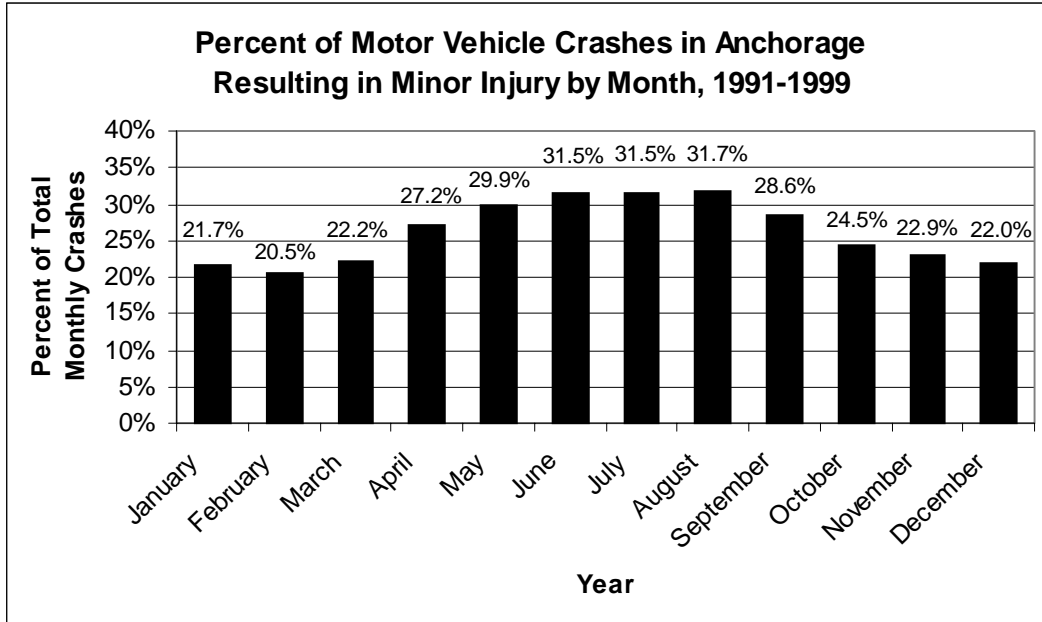


Figure 9

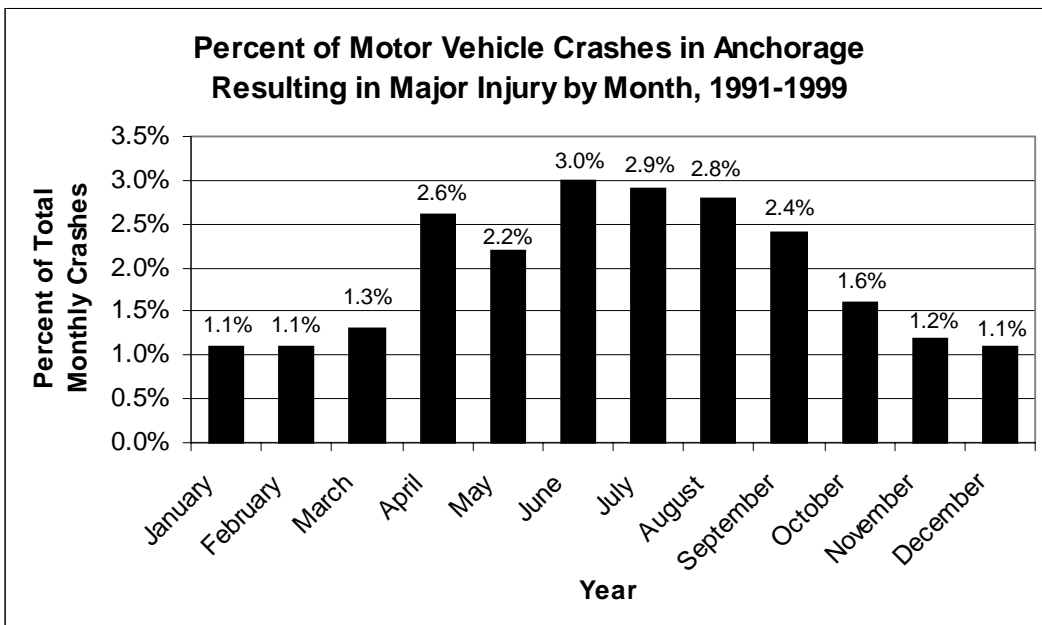


Figure 10

The summer months have the most light and the least hazardous driving conditions (i.e. mud, snow, and slush). These findings of higher proportions of crashes resulting in injuries during the summer months contrast sharply with earlier data showing the higher number of crashes occurring during the dark winter months. These findings could be related to increased driving speeds, holiday traffic, or motorists visiting Alaska who are unfamiliar with local roadways.

3. Fatalities

Data on fatalities shown in Figure 11 follow the same trend. The proportion of fatalities increased during the summer months.

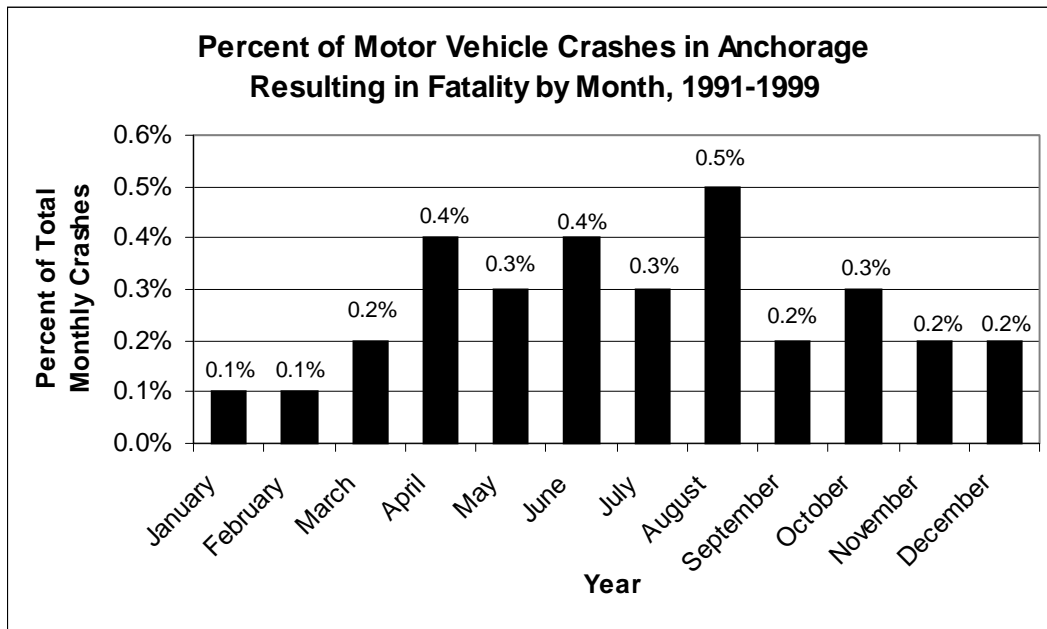


Figure 11

VIII. ECONOMIC COSTS OF MOTOR VEHICLE CRASHES: ANCHORAGE, 1991-1999

A. Introduction and Summary

There were 8,803 vehicle crashes reported in the borough of Anchorage in 1999 that killed 22 people, injured 3,440, and damaged 12,304 vehicles. The cost of these crashes was \$123 million: fatalities, \$23 million; injuries, \$73 million; and property damage, \$27 million.

The year 1999 was no different in important respects from other years this decade--in the number of crashes, deaths, injuries, and vehicles damaged. Thus, the annual costs in the borough ranged annually from a low of \$102 million (in 1992) to a high of \$123 million in 1999, all in current dollars. Inflation accounts for almost all the increase; in constant (1992) dollars, the range is much narrower.

The bulk of the cost of fatalities is lifetime earnings lost. The cost of injuries is mostly earnings lost and medical costs, and property damage is mostly attributed to damage to vehicles.

These estimates are the result of putting Anchorage data on deaths, injuries, and vehicles damaged into an economic model built by the National Highway Traffic Safety Administration (NHTSA), and of making cost adjustments. The adjustments reflect changes over time between the model's base year and the current year, and between the model's U.S. costs and Anchorage's costs.

There is no apparent reduction in the costs of crashes in Anchorage from the interventions. This is partly because the costs grow with inflation. More fundamentally, this is because, as shown in Section VII, there is no apparent reduction since the interventions began in the number of crashes, injuries, or fatalities. However, the interventions may still have reduced the numbers below what they might otherwise have been.

B. Concepts

The costs of crashes are readily measured by the cost of the repairs to property: the vehicles involved and other property.

The costs of travel time can also be added to property costs. Delays caused by crashes increase travel times. Since time is money, delays are costly. However, from an economic perspective these measures are inadequate. They ignore the costs of repairing the damage to the people involved. These are referred to as "human capital" costs.

Some of these costs are equally obvious. They include the costs the injured incur for operations, hospital beds, medicine, equipment, and home care. Although insurance

may cover most of these costs, they are borne by society as a whole; initial costs appear to be borne by the insurance companies, but they are borne by the general public in the form of insurance payments.

Some of these costs are less obvious, including the loss of income. In practice, this includes an estimate of what the individual who was injured or died would have earned during his or her lifetime. Lost earnings are a cost, in the sense that earnings are a measure of what an individual contributes to society--a contribution lost. There are even less obvious costs, which we do not now measure because we have not yet devised a method for doing so, unless they can be measured by the amount of medicine needed, or the days of work lost. They include the cost of reduction in the individual's quality of life (i.e. a mother paralyzed so that she can no longer hold her children, or a painter blinded), and the reduction in the quality of life in the friends and relatives of the individual injured or killed.

This more complete list of costs, which includes the human capital costs, is now used by the NHTSA.⁷ These include:

- Property damage (property damage only is referred to as PDO),
- Travel delay,
- Medical services,
- Emergency services,
- Vocational rehabilitation,
- Legal/court proceedings,
- Insurance administration (claim processing),
- Premature funeral (money spent now instead of years later),
- Market productivity (lost earnings),
- Household productivity (paying for hired help in the home), and
- Workplace (costs incurred by employers in replacing the employee).

The NHTSA has built an economic model⁸ that estimates these costs through the total number of:

1. Fatalities,
2. Injuries, and
3. Vehicles involved in PDO crashes.

C. Methods

Selected Anchorage numbers were used under the NHTSA model to estimate the Anchorage costs for 1991-1999. This was accomplished in 3 stages:

1. Entering the annual Alaska DOT reported Anchorage total numbers of fatalities, injuries, and PDO vehicles.

⁷ Blincoe LJ. 1994. *The Economic Cost of Motor Vehicle Crashes 1994*. NHTSA. Washington, D.C

⁸ NHTSA. Beltmenu.exe

2. Accepting the model's national proportions of total injuries, subdivided into 5 categories in increasing order of severity: Maximum Accident Severity (MAIS) 1-5 (each of which the model applies a different unit cost).
3. Adjusting the model's national unit cost estimates in two stages:
 - a. Changing the national model's base year of 1992 to Alaska's base year of 1992. For this purpose the formula $ANCIN1992/USINC1992$ was used, where A=Anchorage, INC=Per Capita Personal Income, and US=U.S.A.
 - b. Adjusting the Alaska base year 1992 to the other Alaska years. For this purpose the formula $ANCINT/ANCINC92$ was used, where T=current year.

The model's split of total injuries was accepted into the 5 groups (MAIS 1-5) for two reasons. First, the Alaska DOT's broad division into minor and major injuries fits consistently with one arrangement of NHTSA's finer divisions: DOT minor=MAIS1-2. Second, there is no other basis for splitting the injuries into the 5 injury categories needed by the model for estimating costs.

The initial plan was to use the 5 Alaska-specific injury categories used by the DHSS Trauma Registry (TR) data by merging the DOT data set with it. However, this effort was abandoned when discrepancies were identified between the two sources. Table 21 (see Section X) shows that, throughout the 1990s, the DOT consistently reported many higher fatalities in Anchorage than the TR. For example, in 1993, the DOT reported 34 fatalities versus 20 in the TR. The discrepancy was even greater for injuries: 3,194 for DOT versus 211 for the TR. The reason for these big differences is that many vehicle-related deaths and most vehicle-related injuries do not appear in the TR because they are not registered in hospitals.

For this study, the NHTSA model's options of adding unreported injuries and unreported PDO vehicles were not selected, although there is some unreporting of both. The model's proportions of unreported to reported crashes seem to be unconvincingly high--for PDO crashes in particular, and also for crashes involving injuries.

The NHTSA model assumes that the number of unreported vehicles damaged is almost as many as the number reported (92%). It also assumes that unreported injuries add almost a third as many as the reported injuries (29%). Although there are by definition no data on unreported crashes, it is probable that these proportions are too high due to the presence of Alaska State Troopers and municipal police officers on Alaska's road system, and the relatively few road miles in Alaska.

However, the drop in the number reported when the reporting requirements changed shows that there are some unreported injuries. The number of crashes involving PDO of less than \$2,000 dropped noticeably in 1996 (by 5%), and steeply in 1997 (by 17%), after state law was changed in mid-1996 requiring that only PDO of \$2,000 or more be reported. By contrast, the number of PDO crashes costing \$2,000 or more rose in 1996 (by 6%) and fell in 1997 (by 11%). Thus, this change in reporting requirements added more unreported crashes to an already unknown number because the people

involved in the accident did not know the reporting requirements, and/or the police force with jurisdiction did not undertake an investigation, but left it to the individuals to report to the Division of Motor Vehicles (unless there was an injury).

Per Capita Personal Income was used as the series for adjusting from national to Anchorage costs in the base year 1992, and for adjusting the Anchorage costs over time. By contrast, the Consumer Price Indexes (CPI) was used in the preliminary evaluations. In this final report, because the Anchorage CPI is less appropriate than per capita income for estimating the costs of crashes, the per capita income series was used instead. This is mainly because housing is by far the single biggest component in the Anchorage CPI (41.4% in 1998), due to the volatility of prices in the housing market in Anchorage, which increased rapidly in the early 1990s (Boucher J. *The Cost of Living in Alaska*. Alaska Economic Trends, June 2000. Alaska Department of Labor and Workforce Development. Juneau, Alaska, p. 3-17). This skews both the shift from the national to the Anchorage base in 1992, and the shift in the Anchorage CPI since then.

Table 8 shows the Beltmenu Unit Costs of Crashes in the USA in 1992, by Injury and Non-Injury components.

Table 8. 1992 USA Unit Costs Beltmenu (\$1 million)

	PDO	INJURIES - TOT	MAIS1	MAIS2	MAIS3	MAIS4	MAIS5	FATAL
INJURY COMPONENTS								
medical	0	387,171	800	6,442	21,702	66,593	291,634	4,326
premature funeral	0	0	0	0	0	0	0	3,207
emergency	26	3,141	144	319	479	1,090	1,109	998
voc rehab	0	1,073	14	93	202	263	501	0
market prod	0	267,671	1,125	10,578	34,602	48,630	172,736	484,720
hh prod	38	69,288	345	2,883	9,102	12,900	44,058	107,447
insurance adm	136	68,277	452	1,845	6,033	12,365	47,582	51,886
wkplace cost	32	12,570	164	1,246	2,777	3,025	5,358	7,059
legal/court	0	116,684	318	2,296	10,853	21,582	81,635	76,144
subtotal	232	925,875	3,362	25,702	85,750	166,448	644,613	735,787
NON-INJURY COMPONENTS								
travel delay	113	915	183	183	183	183	183	409
prop damage	1,242	27,228	3,089	3,177	5,464	7,908	7,590	8,650
subtotal	1,355	28,143	3,272	3,360	5,647	8,091	7,773	9,059
TOTAL	1,587	954,018	6,634	29,062	91,397	174,539	652,386	744,846

Source: National Highway Traffic Safety Administration. Beltmenu.exe

Table 9 shows the conversion factors used to shift first from the 1992 national to the 1992 Anchorage cost basis, and then from the 1992 Anchorage cost basis to the Anchorage cost basis for the years 1991 and 1993-1999.

Table 9. Per Capita Personal Income (\$1,000) and Conversion Factors: USA and Anchorage, 1991-1999

	USA Inc	ANC Inc	ANC Inc 92/ USA Inc 92 (1)	ANC Inc T/ ANC Inc 92 (2)
1991	23.3	26.9	N/A	0.97818
1992	23.9	27.5	1.15063(1)	1.00000
1993	24.8	28.5	N/A	1.03636
1994	25.3	29.1	N/A	1.05818
1995	25.8	29.5	N/A	1.07273
1996	26.1	30.3	N/A	1.10182
1997	27.0	31.6	N/A	1.14909
1998	27.8	32.7	N/A	1.18909
1999			N/A	1.21532(3)

Source for income data: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System

(1) converting from 1992 USA unit costs to 1992 Anchorage unit costs using per capita personal income in current dollars

(2) converting from 1992 Anchorage unit costs to other years' Anchorage unit costs using per capita personal income in current dollars; T=other year

(3) arithmetic average of 1991-1998 factors

ANC=Anchorage; Inc=Per capita personal income; N/A = not applicable

Table 10 shows the numbers entered into the Beltmenu model: the number of vehicles involved in PDO crashes, the total number of injuries, and the number of fatalities. It also shows the distribution of the total number of injuries across MAIS1-5 in constant proportions over time, as assumed by Beltmenu.

Table 10. Number of Vehicles Damaged in PDO Crashes, Injuries by Severity, Fatalities, and All Crashes, 1991-1999

YEAR	VEH-PDO	INJURIES - TOT	MAIS1	MAIS2	MAIS3	MAIS4	MAIS5	FATAL	ALL CRASHES
1991	13,384	3,029	2,543	341	122	16	8	41	9,129
1992	13,470	3,089	2,593	348	124	16	8	28	9,089
1993	11,851	3,194	2,681	360	128	17	8	34	8,288
1994	13,314	3,365	2,825	379	135	17	9	22	9,212
1995	12,875	3,493	2,932	394	140	18	9	24	9,190
1996	12,913	3,361	2,821	379	135	17	9	14	8,973
1997	10,953	3,405	2,858	384	137	18	9	24	8,013
1998	10,775	3,460	2,904	390	139	18	9	19	8,041
1999	12,304	3,440	2,888	388	138	18	9	22	8,805

Sources: Alaska Department of Transportation for VEH-PDO, INJURIES-TOT, FATAL, ALL CRASHES. NHTSA Beltmenu.exe for MAIS 1-5.

Tables 11-19 present the annual Anchorage costs for the period 1991-1999.

Table 11. Anchorage Total Costs (\$1 million), 1991

	PDO	INJURIES - TOT	MAIS1	MAIS2	MAIS3	MAIS4	MAIS5	FATAL	TOTAL
Injury Components									
medical	0.00	11.57	2.29	2.47	2.98	1.20	2.63	0.20	11.77
premature funeral	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.15
emergency	0.39	0.63	0.41	0.12	0.07	0.02	0.01	0.05	1.07
voc rehab	0.00	0.11	0.04	0.04	0.03	0.00	0.00	0.00	0.11
market prod	0.00	14.46	3.22	4.06	4.75	0.88	1.56	22.37	36.83
hh prod	0.57	3.97	0.99	1.11	1.25	0.23	0.40	4.96	9.50
insurance adm	2.05	3.48	1.29	0.71	0.83	0.22	0.43	2.39	7.92
wkplace cost	0.48	1.43	0.47	0.48	0.38	0.05	0.05	0.33	2.24
legal/court	0.00	4.41	0.91	0.88	1.49	0.39	0.74	3.51	7.92
subtotal	3.49	40.06	9.62	9.86	11.77	3.00	5.80	33.95	77.51
Non-injury Components									
travel delay	1.70	0.62	0.52	0.07	0.03	0.00	0.00	0.02	2.35
prop damage	18.71	11.02	8.84	1.22	0.75	0.14	0.07	0.40	30.13
subtotal	20.41	11.65	9.36	1.29	0.78	0.15	0.07	0.42	32.47
TOTAL	23.91	51.71	18.99	11.15	12.55	3.14	5.87	34.37	109.99

Source: Table3 8-10.

Table 12. Anchorage Total Costs (\$1 million), 1992

	PDO	INJURIES - TOT	MAIS1	MAIS2	MAIS3	MAIS4	MAIS5	FATAL	TOTAL
Injury Components									
medical	0.00	11.97	2.39	2.58	3.10	1.23	2.68	0.14	12.11
premature funeral	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.10
emergency	0.40	0.66	0.43	0.13	0.07	0.02	0.01	0.03	1.09
voc rehab	0.00	0.12	0.04	0.04	0.03	0.00	0.00	0.00	0.12
market prod	0.00	15.01	3.36	4.24	4.94	0.90	1.59	15.62	30.63
hh prod	0.59	4.13	1.03	1.15	1.30	0.24	0.41	3.46	8.18
insurance adm	2.11	3.61	1.35	0.74	0.86	0.23	0.44	1.67	7.39
wkplace cost	0.50	1.49	0.49	0.50	0.40	0.06	0.05	0.23	2.21
legal/court	0.00	4.57	0.95	0.92	1.55	0.40	0.75	2.45	7.02
subtotal	3.60	41.55	10.03	10.29	12.23	3.06	5.93	23.70	68.85
Non-injury Components									
travel delay	1.75	0.65	0.55	0.07	0.03	0.00	0.00	0.01	2.41
prop damage	19.25	11.48	9.22	1.27	0.78	0.15	0.07	0.28	31.01
subtotal	21.00	12.13	9.76	1.35	0.81	0.15	0.07	0.29	33.43
TOTAL	24.60	53.69	19.79	11.64	13.04	3.21	6.01	24.00	102.28

Source: Tables 8-10.

Table 13. Anchorage Total Costs (\$1 million), 1993

	PDO	INJURIES - TOT	MAIS1	MAIS2	MAIS3	MAIS4	MAIS5	FATAL	TOTAL
Injury Components									
medical	0.00	12.83	2.56	2.76	3.32	1.31	2.88	0.18	13.01
premature funeral	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.13
emergency	0.37	0.70	0.46	0.14	0.07	0.02	0.01	0.04	1.11
voc rehab	0.00	0.13	0.04	0.04	0.03	0.01	0.00	0.00	0.13
market prod	0.00	16.09	3.60	4.54	5.29	0.96	1.70	19.65	35.74
hh prod	0.54		1.10	1.24	1.39	0.25	0.43	4.36	9.31
insurance adm	1.92	3.87	1.45	0.79	0.92	0.24	0.47	2.10	7.90
wkplace cost	0.45	1.60	0.52	0.53	0.42	0.06	0.05	0.29	2.33
legal/court	0.00	4.89	1.02	0.99	1.66	0.43	0.81	3.09	7.98
subtotal	3.28	44.53	10.75	11.03	13.11	3.28	6.36	29.83	77.64
Non-injury Components									
travel delay	1.60	0.70	0.59	0.08	0.03	0.00	0.00	0.02	2.31
prop damage	17.55	12.31	9.88	1.36	0.84	0.16	0.07	0.35	30.21
subtotal	19.15	13.00	10.46	1.44	0.86	0.16	0.08	0.37	32.52
TOTAL	22.43	57.53	21.21	12.47	13.97	3.44	6.43	30.20	110.16

Source: Tables 8-10.

Table 14. Anchorage Total Costs (\$1 million), 1994

	PDO	INJURIES - TOT	MAIS1	MAIS2	MAIS3	MAIS4	MAIS5	FATAL	TOTAL
Injury Components									
medical	0.00		2.75	2.97	3.57	1.41	3.09	0.12	13.92
premature funeral	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.09
emergency	0.42	0.76	0.50	0.15	0.08	0.02	0.01	0.03	1.20
voc rehab	0.00	0.14	0.05	0.04	0.03	0.01	0.01	0.00	0.14
market prod	0.00	17.31	3.87	4.88	5.69	1.03	1.83	12.98	30.29
hh prod	0.62	4.76	1.19	1.33	1.50	0.27	0.47	2.88	8.25
insurance adm	2.20	4.17	1.55	0.85	0.99	0.26	0.50	1.39	7.76
wkplace cost	0.52	1.72	0.56	0.58	0.46	0.06	0.06	0.19	2.42
legal/court	0.00	5.26	1.09	1.06	1.78	0.46	0.87	2.04	7.30
subtotal	3.76	47.90	11.56	11.86	14.10	3.53	6.84	19.71	71.37
Non-injury Components									
travel delay	1.83	0.75	0.63	0.08	0.03	0.00	0.00	0.01	2.59
prop damage	20.13	13.24	10.62	1.47	0.90	0.17	0.08	0.23	33.60
subtotal	21.97	13.99	11.25	1.55	0.93	0.17	0.08	0.24	36.19
TOTAL	25.73	61.89	22.82	13.41	15.03	3.70	6.92	19.95	107.56

Source: Tables 8-10.

Table 15. Anchorage Total Costs (\$1 million), 1995

	PDO	INJURIES - TOT	MAIS1	MAIS2	MAIS3	MAIS4	MAIS5	FATAL	TOTAL
Injury Components									
medical	0.00	14.52	2.90	3.13	3.76	1.49	3.26	0.13	14.65
premature funeral	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.10
emergency	0.41	0.80	0.52	0.15	0.08	0.02	0.01	0.03	1.24
voc rehab	0.00	0.14	0.05	0.05	0.03	0.01	0.01	0.00	0.14
market prod	0.00	18.21	4.07	5.14	5.99	1.09	1.93	14.36	32.57
hh prod	0.60	5.00	1.25	1.40	1.58	0.29	0.49	3.18	8.79
insurance adm	2.16	4.38	1.64	0.90	1.04	0.28	0.53	1.54	8.08
wkplace cost	0.51	1.81	0.59	0.61	0.48	0.07	0.06	0.21	2.52
legal/court	0.00	5.54	1.15	1.12	1.88	0.48	0.91	2.26	7.79
subtotal	3.69	50.41	12.17	12.48	14.84	3.72	7.20	21.80	75.89
Non-injury Components									
travel delay	1.80	0.79	0.66	0.09	0.03	0.00	0.00	0.01	2.60
prop damage	19.74		11.18	1.54	0.95	0.18	0.08	0.26	33.92
subtotal	21.53	14.72	11.84	1.63	0.98	0.18	0.09	0.27	36.52
TOTAL	25.22	65.12	24.01	14.12	15.82	3.90	7.28	22.06	112.41

Source: Tables 8-10.

Table 16. Anchorage Total Costs (\$1 million), 1996

	PDO	INJURIES - TOT	MAIS1	MAIS2	MAIS3	MAIS4	MAIS5	FATAL	TOTAL
Injury Components									
medical	0.00	14.35	2.86	3.09	3.71	1.47	3.22	0.08	14.43
premature funeral	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
emergency	0.43	0.79	0.52	0.15	0.08	0.02	0.01	0.02	1.23
voc rehab	0.00	0.14	0.05	0.04	0.03	0.01	0.01	0.00	0.14
market prod	0.00	18.00	4.02	5.08	5.92	1.07	1.91	8.60	26.60
hh prod	0.62		1.23	1.38	1.56	0.28	0.49	1.91	7.47
insurance adm	2.23	4.33	1.62	0.89	1.03	0.27	0.53	0.92	7.48
wkplace cost	0.52	1.79	0.59	0.60	0.47	0.07	0.06	0.13	2.43
legal/court	0.00	5.47	1.14	1.10	1.86	0.48	0.90	1.35	6.82
subtotal	3.80	49.82	12.03	12.34	14.67	3.67	7.11	13.06	66.67
Non-injury Components									
travel delay	1.85	0.78	0.65	0.09	0.03	0.00	0.00	0.01	2.64
prop damage	20.33	13.77	11.05	1.53	0.93	0.17	0.08	0.15	34.25
subtotal	22.18	14.55	11.70	1.61	0.97	0.18	0.09	0.16	36.89
TOTAL	25.98	64.36	23.73	13.95	15.63	3.85	7.20	13.22	103.56

Source: Tables 8-10.

Table 17. Anchorage Total Costs (\$1 million), 1997

	PDO	INJURIES - TOT	MAIS1	MAIS2	MAIS3	MAIS4	MAIS5	FATAL	TOTAL
Injury Components									
medical	0.00	15.17	3.02	3.27	3.92	1.55	3.40	0.14	15.30
premature funeral	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.10
emergency	0.38	0.83	0.54	0.16	0.09	0.03	0.01	0.03	1.24
voc rehab	0.00	0.15	0.05	0.05	0.04	0.01	0.01	0.00	0.15
market prod	0.00	19.02	4.25	5.36	6.25	1.13	2.01	15.38	34.40
hh prod	0.55	5.23	1.30	1.46	1.64	0.30	0.51	3.41	9.19
insurance adm	1.97	4.58	1.71	0.94	1.09	0.29	0.55	1.65	8.19
wkplace cost	0.46	1.89	0.62	0.63	0.50	0.07	0.06	0.22	2.57
legal/court	0.00	5.78	1.20	1.16	1.96	0.50	0.95	2.42	8.20
subtotal	3.36	52.63	12.71	13.04	15.50	3.88	7.52	23.35	79.34
Non-injury Components									
travel delay	1.64	0.82	0.69	0.09	0.03	0.00	0.00	0.01	2.47
prop damage	17.99	14.55	11.67	1.61	0.99	0.18	0.09	0.27	32.81
subtotal	19.62	15.37	12.36	1.70	1.02	0.19	0.09	0.29	35.28
TOTAL	22.98	68.00	25.07	14.74	16.52	4.07	7.61	23.64	114.62

Source: Tables 8-10.

Table 18. Anchorage Total Costs (\$1 million), 1998

	PDO	INJURIES - TOT	MAIS1	MAIS2	MAIS3	MAIS4	MAIS5	FATAL	TOTAL
Injury Components									
medical	0.00		3.18	3.44	4.12	1.63	3.58	0.11	16.06
premature funeral	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.08
emergency	0.38	0.87	0.57	0.17	0.09	0.03	0.01	0.03	1.28
voc rehab	0.00	0.16	0.06	0.05	0.04	0.01	0.01	0.00	0.16
market prod	0.00	20.00	4.47	5.64	6.58	1.19	2.12	12.60	32.60
hh prod	0.56	5.49	1.37	1.54	1.73	0.32	0.54	2.79	8.85
insurance adm	2.00	4.81	1.80	0.98	1.15	0.30	0.58	1.35	8.17
wkplace cost	0.47	1.98	0.65	0.66	0.53	0.07	0.07	0.18	2.64
legal/court	0.00	6.08	1.26	1.22	2.06	0.53	1.00	1.98	8.06
subtotal	3.42	55.35	13.36	13.71	16.29	4.08	7.90	19.13	77.89
Non-injury Components									
travel delay	1.67	0.87	0.73	0.10	0.03	0.00	0.00	0.01	2.54
prop damage	18.31	15.29	12.27	1.69	1.04	0.19	0.09	0.22	33.83
subtotal	19.98	16.16	13.00	1.79	1.07	0.20	0.10	0.24	36.37
TOTAL	23.40	71.51	26.36	15.50	17.37	4.28	8.00	19.36	114.26

Source: Tables 8-10.

Table 19. Anchorage Total Costs (\$1 million), 1999

	PDO	INJURIES - TOT	MAIS1	MAIS2	MAIS3	MAIS4	MAIS5	FATAL	TOTAL
Injury Components									
medical	0.00	16.24	3.23	3.49	4.19	1.66	3.67	0.13	16.37
premature funeral	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.10
emergency	0.45	0.89	0.58	0.17	0.09	0.03	0.01	0.03	1.37
voc rehab	0.00	0.16	0.06	0.05	0.04	0.01	0.01	0.00	0.16
market prod	0.00	20.34	4.54	5.73	6.68	1.21	2.17	14.91	35.25
hh prod	0.65		1.39	1.56	1.76	0.32	0.55	3.31	9.55
insurance adm	2.34	4.90	1.83	1.00	1.16	0.31	0.60	1.60	8.83
wkplace cost	0.55	2.02	0.66	0.68	0.54	0.08	0.07	0.22	2.78
legal/court	0.00	6.19	1.28	1.24	2.10	0.54	1.03	2.34	8.53
subtotal	3.99	56.32	13.58	13.93	16.56	4.15	8.11	22.64	82.95
Non-injury Components									
travel delay	1.94	0.88	0.74	0.10	0.04	0.00	0.00	0.01	2.84
prop damage	21.37	15.54	12.47	1.72	1.06	0.20	0.10	0.27	37.18
subtotal	23.31	16.42	13.21	1.82	1.09	0.20	0.10	0.28	40.01
TOTAL	27.30	72.74	26.79	15.75	17.65	4.35	8.21	22.91	122.96

Source: Tables 8-10.

Earlier ICHS evaluation reports (see Appendix M) discussed the 1995 costs of crashes, which estimated these costs at \$476 million. One report⁹ provided detail on using Beltmenu in estimating these costs, and another report¹⁰ included and discussed the 1995 \$476 million cost estimate from the earlier report

The \$476 million in these two reports resulted from the following:

- The 1995 Anchorage numbers of 49 fatalities, 12,015 injuries, and 15,792 vehicles damaged;
- Accepting the model's option of adding unreported injuries and vehicles damaged; and
- Adjusting national to local costs by a combination of NHTSA national and state cost ratios in a base year and Anchorage Consumer Price Indexes over time published by the Alaska Department of Labor.

Another earlier ICHS report¹¹ reduced the 1995 costs to \$400 million. The reduction of \$76 million is the sum of a reduction of:

- \$35 million, by reducing fatalities from 49 to 24 (different sources gave 49 and 24); and
- \$12 million from PDO and \$29 million from injuries, by changing to a consistent use of Consumer Price Indexes.

⁹ Busch K. October 1998. Data report. Anchorage, Alaska. Working Paper.

¹⁰ ICHS. December 1998. *Economic costs of motor vehicle crashes, Anchorage 1995*. Preliminary evaluation report.

¹¹ ICHS. July 1999. *Economic consequences of motor vehicle crashes, Anchorage 1995*. Final report.

The cost estimates from these three reports are probably overstated for two reasons. First, they accept the NHTSA model's estimates of unreported injuries and PDO vehicles damaged. These add-ons account for \$113 million of the \$476 million, and for \$95 million of the \$400 million. Without them, the 1995 costs in Anchorage would be \$363 million (using 49 fatalities) or \$305 million (using 24 fatalities and a somewhat different CPI adjustment method).

Second, the 1995 injury number of 12,015 appears to be too high. Later data from DOT show consistent levels of between 3,000 and 3,500 annually over the period 1991-1999. If the 1995 injuries were reduced from 12,000 to 3,000, the 1995 costs as calculated by the earlier ICHS methods would fall from \$363 million (using the 49 fatalities version without the add-ons) to \$190 million, or from \$305 million to \$160 million (using the 22 fatalities version without the add-ons). This is more in line with our revised estimate of \$112 million for the 1995 costs in Anchorage.

These annual estimates are underestimates to the extent to which there were unreported injuries and unreported vehicle damage. Assuming that these costs are as high as 20% of those reported, the cost would rise in 1999 from \$123 million to \$143 million. This can be broken down into PDO costs, which rise from \$27.3 to \$32.8 million; injury costs, which rise from \$72.7 to \$87.3 million; and the costs of fatalities, which remain unchanged at \$22.9 million (an assumed 20% was selected by noting the 17% reduction in 1997 in reported crashes with property damage of less than \$2,000, and adding 3% for crashes costing more than \$2,000).

D. Costs

Tables 11-19 show that the annual cost of vehicle crashes in Anchorage ranged from \$102 million to \$123 million over the decade. This is the cost of deaths, injuries, and property damage.

Tables 10 and 19 combined show that the 1999 cost was \$123 million, including 22 fatalities (\$23 million), 3,441 reported injuries (\$73 million), and 12,304 vehicles damaged in 8,805 reported crashes (\$27 million).

Table 19 shows that the bulk of the \$73 million costs in injuries in 1999 is in the less severe injury categories, which have lower costs per injury, but which far outnumber the more severe injuries. This is typical of all years, and reflects the numbers in Table 8 and Table 10.

Table 8 shows that the 1992 national unit costs of injuries increase exponentially: MAIS-1 was \$3,400, MAIS-2 was \$25,700, MAIS-3 was \$85,800, MAIS-4 was \$166,400, and MAIS-5 was \$644,600. Table 10 shows that, in 1999, there were 2,888 MAIS-1 injuries, but only 9 MAIS-5 injuries.

Table 19 shows that the \$26.8 million for the least severe injuries (MAIS-1) is equally divided between injury costs (\$13.6 million) and property costs (\$13.2 million).

For all other categories of injuries and fatalities, almost all of the costs are injury costs related to two items: medical and market productivity (lost earnings).

The annual cost of vehicle crashes in Anchorage ranged from \$102 million to \$123 million over the decade. This is the cost of deaths, injuries, and property damage.

These cost estimates are based on three variables from the DOT data: fatalities, injuries, and PDO vehicles damaged, and based on the NHTSA model's estimates of unit costs for these three variables (ignoring the model's option of adding unreported injuries and vehicles damaged). Per capita personal income is used to adjust the model's unit costs from the nation to Anchorage for the base year 1992, and from the Anchorage base year to Anchorage in the years 1991 and 1993-1999.

These costs are underestimated by an unknown but probably not large amount, depending on the number of unreported crashes, which is unlikely to be anywhere near as many as the NHTSA builds into its model for the U.S. as a whole. The model almost doubles the total PDO crashes when it adds the unreported to the reported; the unreported may be more like another 20% for Alaska.

The Alaska DOT provides two cost-of-property-damage estimates: total costs of damage to vehicles and to other property. Vehicle damage accounts for almost all the property damage. In 1999, vehicle damage cost \$27.4 million, versus \$0.65 million for other property. Applying the ratio of vehicle damage per crash to crashes involving PDO only, all of which are provided by the Alaska DOT (see Table 21, Section X), yields DOT based estimates of vehicle damage to vehicles damaged in PDO crashes only, which are almost always less than but consistently close to the NHTSA estimates. The following DOT and the NHTSA numbers are in million dollars (the NHTSA numbers are from Tables 11-19): 1991, \$17.2/\$18.7; 1992, \$17.8/\$19.2; 1993, \$16.8/\$17.6; 1994, \$18.5/\$20.1; 1996, \$21.6/\$20.3; 1997, \$17.5/\$18.0; 1998, \$17.5/\$18.3; 1999, \$19.9/\$21.4.

IX. OTHER PROJECTS GENERATED

A. DWI Task Force

A special citizen's task force on DUI (Driving Under the Influence) was proposed by Mayor George Wuerch and created by a resolution of the Anchorage Assembly on July 18, 2000. The Task Force was created to advise the Mayor and the Assembly on appropriate legislative action necessary to prevent and deter drunken driving in Anchorage. The Task Force consisted of twenty original members, two ex-officio members, two alternates, and one replacement member.

The Task Force's charter outlined the following issues to address:

- State and/or municipal legislation to prevent and deter drunken driving, particularly those previously convicted of driving under the influence of alcohol;
- Enforcement of existing laws and ordinances;
- Other government programs; and
- Other organizations, both public and private, that can be of assistance.

The Task Force created three subcommittees to carry out its work in the following areas:

1. Current Laws Subcommittee - examined current laws on the books, and addressed issues of enforcement and sentencing without additional legislation;
2. Courts Subcommittee - examined alternative legal venues for prosecuting offenders, such as DWI and Drug Courts; and
3. Alternative Solutions Subcommittee - examined what additional approaches can be taken to address the problem of drinking and driving, and considered sentencing alternatives.

X. CRASHES: THE NUMBERS AND PATTERNS OVER TIME

This section presents and discusses the number and pattern of crashes involving vehicles in the Borough of Anchorage, Fairbanks North Star Borough, and Kenai Peninsula Borough over the period 1989-1999. It is based almost exclusively on DOT data. (DOT uses the word “accidents” rather than the more appropriate word “crashes,” which is used by the NHTSA and others.)

A. The Boroughs Compared

Table 20 shows the numbers that are used in the accompanying Figures 12-18.

**Table 20. Borough Traffic Crashes by Type
Anchorage, Fairbanks, and Kenai, 1989-1999**

Borough	Year										
	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
ANC/FAI/KEN BOROUGH											
All Crashes (ALL)	11,619	12,787	12,542	12,496	11,396	12,228	12,097	11,947	10,904	10,798	nya
Property Damage Only (PDO)	8,771	9,868	9,475	9,441	8,449	9,179	8,862	8,854	7,679	7,526	nya
Injury Plus Fatal (IPF)	2,848	2,919	3,067	3,055	2,947	3,049	3,235	3,093	3,225	3,272	nya
ANCHORAGE BOROUGH											
All Crashes (ALL)	8,397	9,465	9,129	9,089	8,288	9,212	9,190	8,973	8,013	8,041	nya
Property Damage Only (PDO)	6,424	7,344	6,959	6,943	6,147	6,874	6,718	6,634	5,670	5,612	nya
Injury Plus Fatal (IPF)	1,973	2,121	2,170	2,146	2,141	2,338	2,472	2,339	2,343	2,429	nya
FAIRBANKS NORTH STAR BOROUGH											
All Crashes (ALL)	1,973	2,061	2,143	2,232	2,103	1,905	1,800	1,838	1,851	1,717	nya
Property Damage Only (PDO)	1,439	1,568	1,597	1,645	1,595	1,452	1,352	1,402	1,319	1,214	nya
Injury Plus Fatal (IPF)	534	493	546	587	508	453	448	436	532	503	nya
KENAI PENINSULA BOROUGH											
All Crashes (ALL)	1,249	1,261	1,270	1,175	1,005	1,111	1,107	1,136	1,040	1,040	nya
Property Damage Only (PDO)	908	956	919	853	707	853	792	818	690	700	nya
Injury Plus Fatal (IPF)	341	305	351	322	298	258	315	318	350	340	nya

Sources: Alaska Department of Transportation and Public Facilities. Headquarters Planning Division. Borough Traffic Crashes By Type, 1989-1999. Juneau, Alaska

All=PDO+IPF

nya=not yet available

Figures 12-15 compare the types of crashes over time--first, for all 3 boroughs combined, and then for each borough individually.

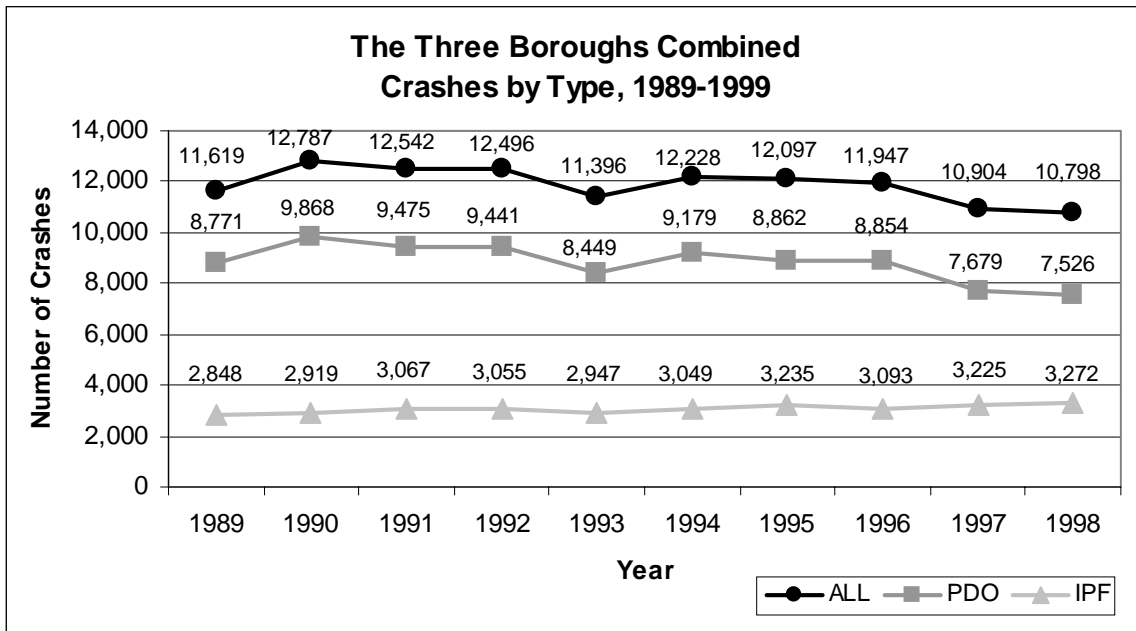


Figure 12

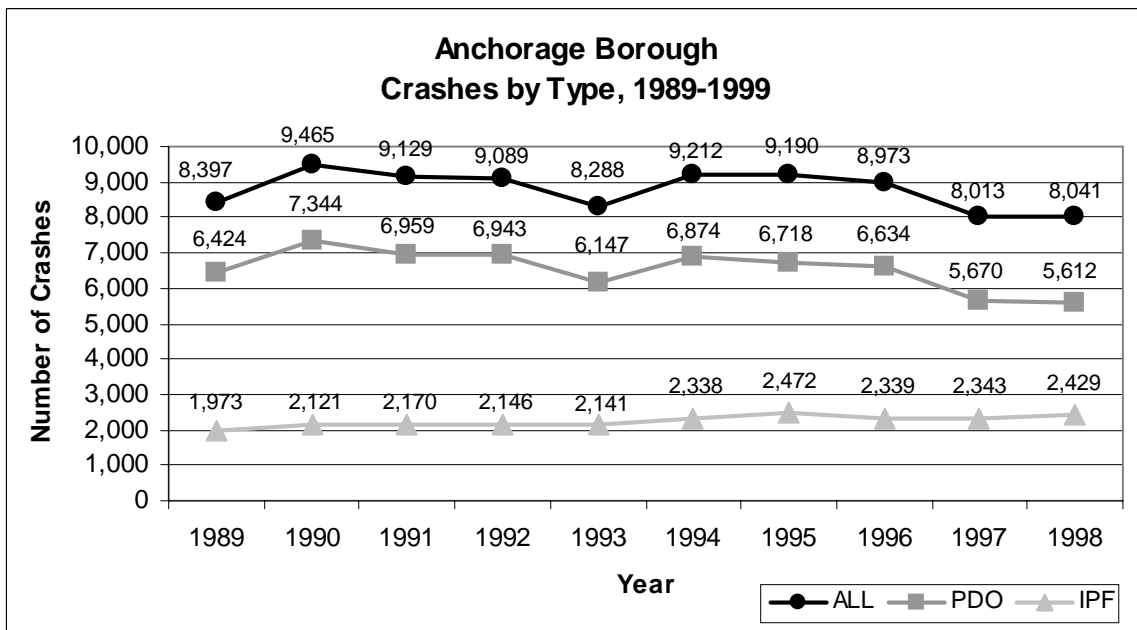


Figure 13

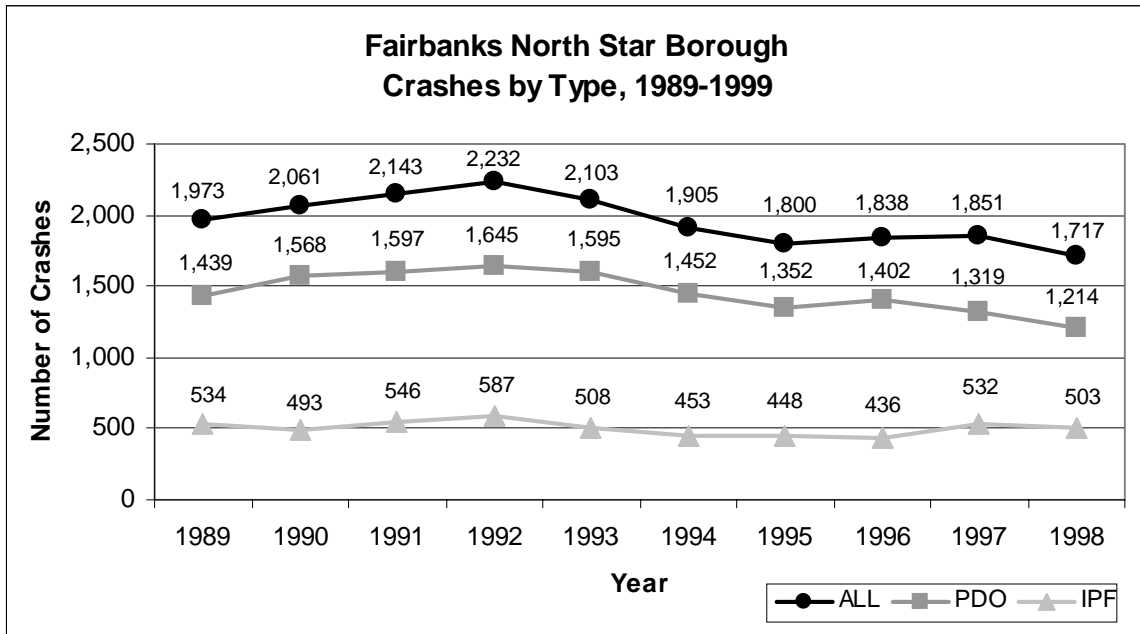


Figure 14

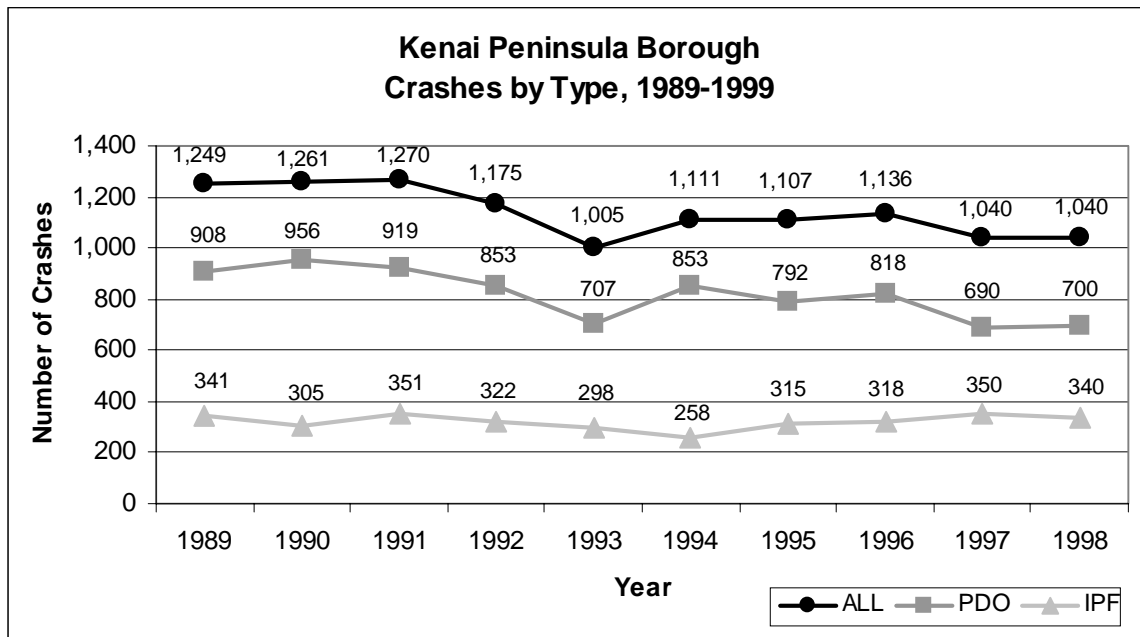


Figure 15

The trend of all crashes combined over time reflects the trend in PDO (property damage only) crashes, which predominate. There is considerable fluctuation annually. There appears to have been a drop in all crashes combined in 1997 and 1998. However, this probably reflects the change in 1996 in the law on reporting: PDO crashes with less than \$2,000 damage do not need to be reported. One cannot attribute it to the interventions. More generally, the annual fluctuations are so great that they would likely conceal changes in the number of crashes that the interventions may have achieved.

IPF (injuries plus fatalities) crashes increased in 1997 and again in 1998. There appears to be a long-run trend that is slightly upward. Again, no intervention-caused reduction can be ascertained. This is not to say that the interventions have not reduced the number of PDO and IPF crashes; they may have been fewer than they otherwise would have been.

Figures 13, 14, and 15 do not suggest that Anchorage has reduced its crashes by more than Fairbanks or Kenai. Again, this does not reveal any differences comparing the boroughs that may be attributed to the fact that the interventions took place in Anchorage alone. All three boroughs had substantial reductions in PDO crashes in 1997; all three had IPF crashes that were fairly steady in number, and may have even been increasing slightly over the decade.

Figures 16, 17, and 18 compare the trends in the types of crashes, borough by borough.

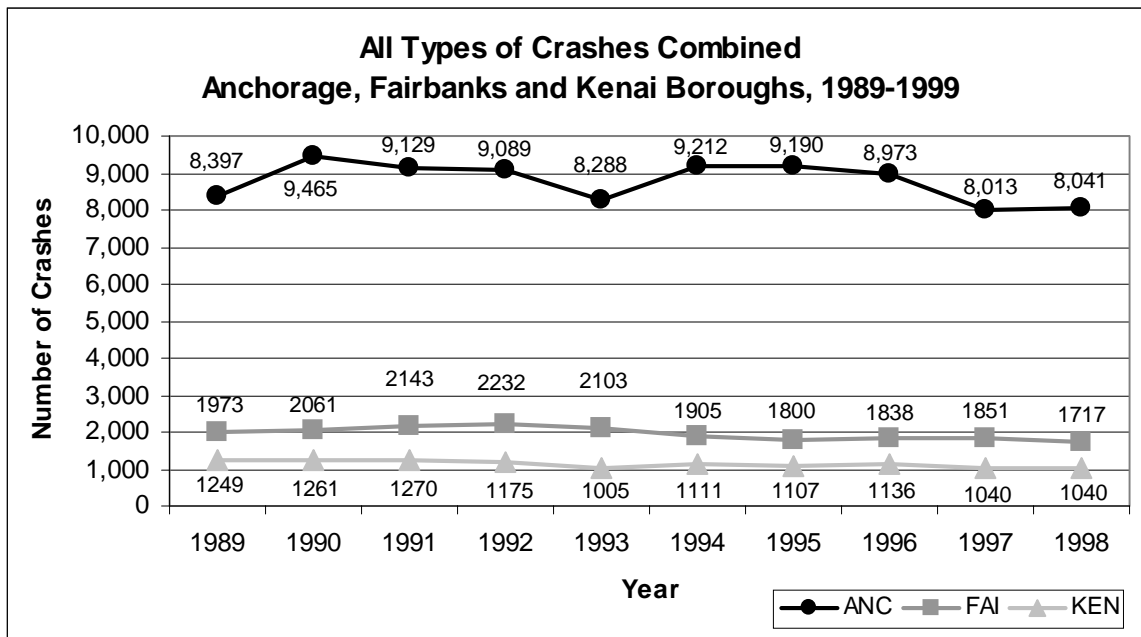


Figure 16

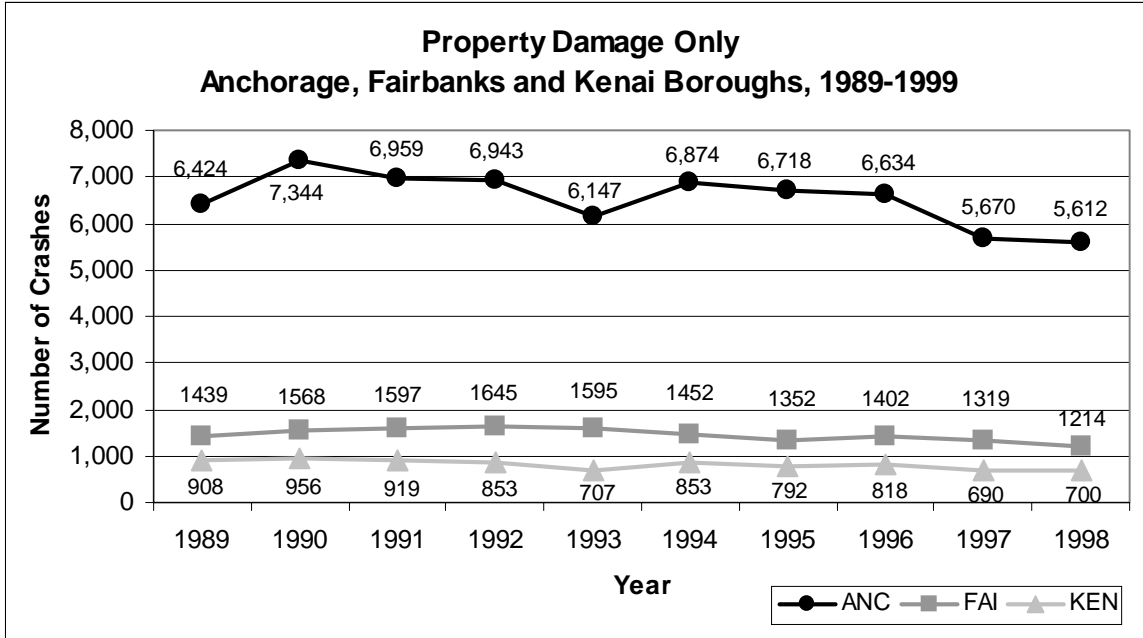


Figure 17

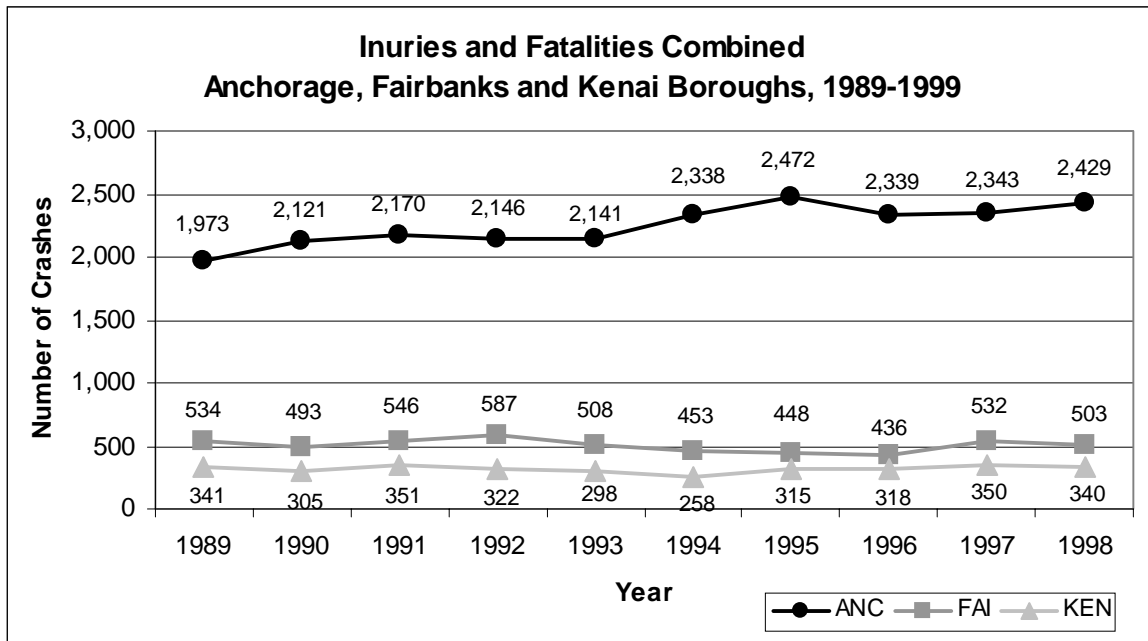


Figure 18

Anchorage had between two and three times more crashes (both types) than Fairbanks and Kenai combined. The reduction of PDO crashes in Anchorage in 1997 is especially striking (a drop of 17%) when compared with the much smaller drop in Fairbanks (8%). However, IPF crashes in Anchorage have increased steadily over the last decade, except for a slight, one-time reduction in 1996. The number of IPF crashes in the other two boroughs over the last decade is essentially unchanged.

1. Anchorage

Table 21 (next page) and Figure 19 and Figure 20 show more detail on the number and pattern of Anchorage crashes over the period 1991-1999.

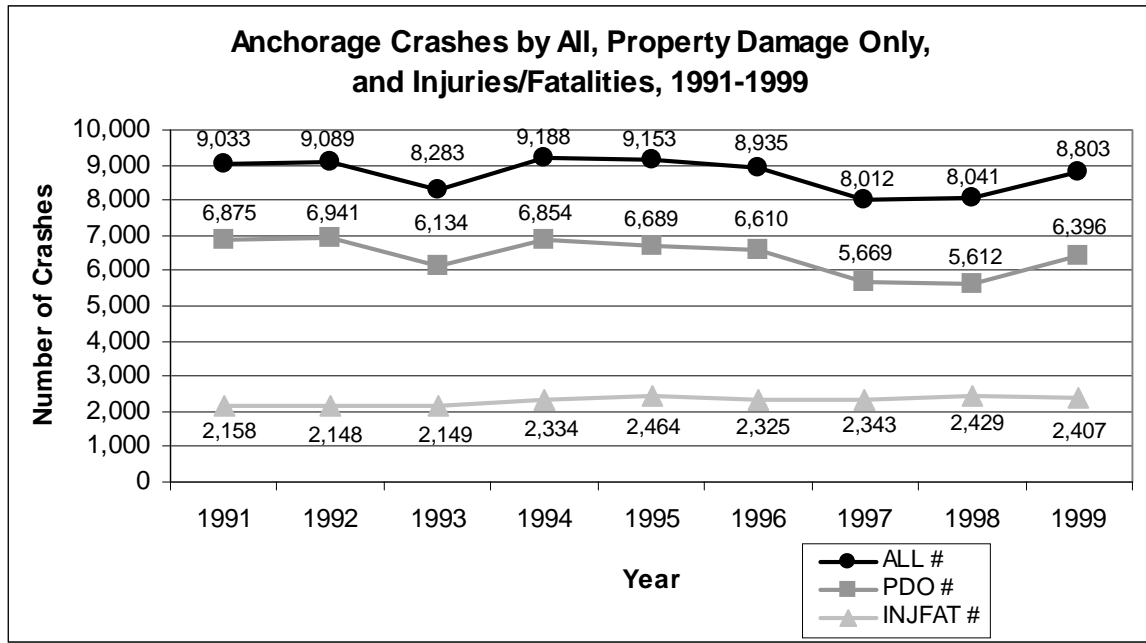


Figure 19

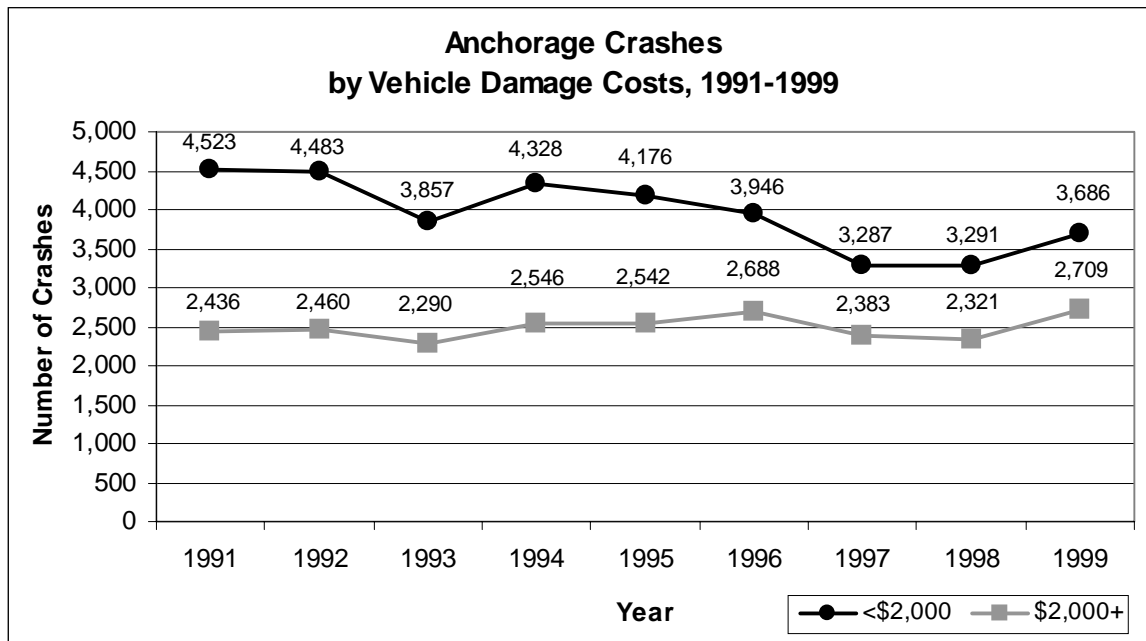


Figure 20

**Table 21. Vehicle Crashes Causing Property Damage, Injuries, and Fatalities.
Borough of Anchorage. 1991-1999**

	1991	1992	1993	1994	1995	1996	1997	1998	1999
DOT CRASH DATA									
CRASHES CAUSING PROPERTY DAMAGE ONLY (PDO)									
Number (1)	6,959	6,943	6,147	6,874	6,718	6,634	5,670	5,612	6,395
Number (2)	6,875	6,941	6,134	6,854	6,689	6,610	5,669	5,612	6,396
Damage to vehicles (\$)	13,850,231	13,995,877	13,271,995	14,535,890	16,185,590	17,025,596	13,824,723	13,397,162	15,755,190
Other property damage (\$)	575,262	485,592	349,296	457,831	1,738,766	718,056	470,515	368,298	466,657
Number with damage to vehicles <\$2,000	4,523	4,483	3,857	4,328	4,176	3,946	3,287	3,291	3,686
Number with damage to vehicles >\$2,000	2,436	2,460	2,290	2,546	2,542	2,688	2,383	2,321	2,709
CRASHES CAUSING INJURIES AND/OR FATALITIES									
Number (1)	2,170	2,146	2,141	2,338	2,472	2,339	2,343	2,429	2,389
Number (2)	2,158	2,148	2,149	2,334	2,464	2,325	2,343	2,429	2,407
Damage to vehicles (\$)	8,754,038	9,339,699	9,341,302	10,193,523	13,680,890	12,171,554	10,869,222	11,706,981	11,690,708
Other property damage (\$)	323,240	178,186	197,050	194,651	246,253	170,120	188,635	532,695	182,110
ALL CRASHES									
Number (1)	9,129	9,089	8,288	9,212	9,190	8,973	8,013	8,041	8,805
Number (2)	9,033	9,089	8,283	9,188	9,153	8,935	8,012	8,041	8,803
Damage to vehicles (\$)	22,604,269	23,335,576	22,613,297	24,729,413	29,866,480	29,197,150	24,693,945	25,104,143	27,445,898
Other property damage (\$)	898,502	663,778	546,346	652,482	1,985,019	888,176	659,150	900,993	648,767
Fatalities and Injuries	3,070	3,117	3,228	3,387	3,517	3,375	3,429	3,479	3,462
Fatalities	41	28	34	22	24	14	24	19	22
Injuries	3,029	3,089	3,194	3,365	3,493	3,361	3,405	3,460	3,440
Major injuries	183	177	179	179	183	165	183	168	133
Minor injuries	2,846	2,912	3,015	3,186	3,310	3,196	3,222	3,292	3,307
	1991	1992	1993	1994	1995	1996	1997	1998	1999
DHSS TRAUMA REGISTRY									
Fatalities and Injuries	241	212	231	191	239	196	224	248	243
Fatalities	25	11	20	10	10	6	13	16	13
Injuries	216	201	211	181	229	190	211	232	230

Sources: Alaska DOT; Alaska DHSS
(1) = DOT Data Set 1; (2) = DOT Data Set 2

Table 21 shows that all crashes combined, and PDO crashes only, move in tandem, fluctuating appreciably from year to year, and appear to have increased since 1997. IPF crashes, however, have changed little over the decade. These numbers alone do not lead to the conclusion that the interventions have had a detectable effect on the number of crashes of either kind.

The regression analysis in the pages below is a more formal way of coming to the same conclusion: there is no detectable effect by year or month.

Table 21 shows that the data from the DOT crashes Data Set 1 and the DOT crashes Data Set 2 are very close. This means that the DOT crashes Data Set 2 could be used with confidence to prepare Table 20 and Table 21. (The DOT crashes data for Fairbanks and Kenai for 1991-1995 were not available in data set 1.) It also means that the Anchorage data from Data Set 1 for 1991-1999 could be used with confidence to undertake statistical analyses. The results of those analyses are summarized in Chapter VII, Section C.

Table 21 shows the huge discrepancies between injuries and fatalities reported by DOT, and those reported by DHSS' Trauma Registry. The discrepancies are obviously too great to attempt to merge the two data sets.

Figure 20 shows that the number of crashes that caused damage to vehicles changed radically after the 1996 statute, which required that only crashes with property damage of \$2,000 or more be reported. Those crashes with less than \$2,000 damage dropped appreciably in 1996, and markedly in 1997. This drop was likely an artifact of reporting. This fact alone bedevils any attempt to establish a relationship between interventions and crashes.

The DOT data on the number of PDO crashes, fatalities, and injuries in this table are the numbers used to estimate the economic costs of the 1999 crashes. Note that the DOT property damage estimate of \$28 million in 1999 is almost precisely the same as the property damage estimate of \$29 million estimated by the NHTSA model.

A linear regression using the month and year of motor vehicle crashes in Anchorage was used to test the hypothesis that there was no significant change in motor vehicle crashes associated with the Anchorage Safe Communities program. The intervention point was the inception of the Anchorage Safe Communities program in September 1997. Crashes occurring before September 1997 were contrasted with those happening after that date.

A demonstrable effect would be reflected in a "u" shaped curve of observed and expected cumulative probabilities. The results shown in Figure 21, on the other hand, array themselves in a straight line. These results show that there was no significant difference between the pre and post periods. This lack of a difference between the number of motor vehicle crashes before and after the ASC program does not necessarily mean that no progress has been made. The results of the content

analysis (see Section V) strongly suggest that there has been a significant increase in the awareness of Anchorage residents about motor vehicle safety. These precede changes in behavior and, eventually, motor vehicle crashes.

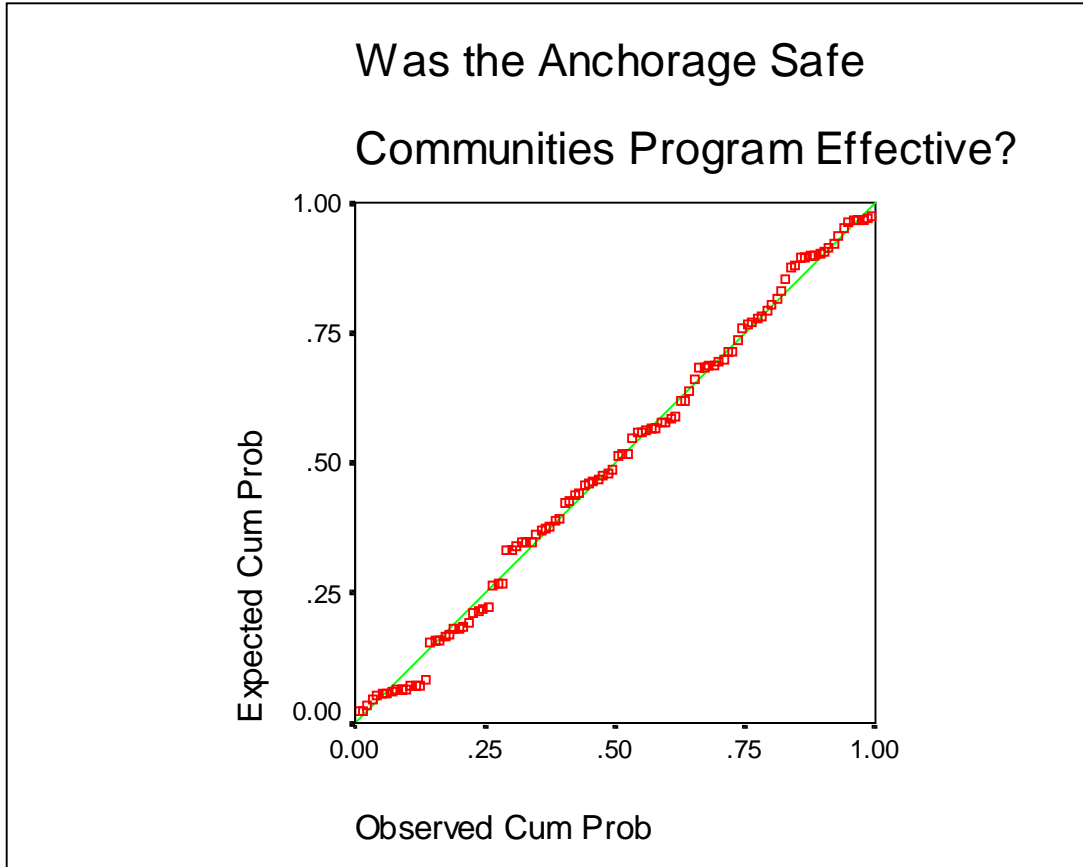


Figure 21

XI. CONCLUSIONS AND LESSONS LEARNED

The following lessons learned are derived from an overview of the three years of experience; in some cases these lessons are tied to specific interventions proposed and implemented by the Anchorage Safe Communities coalition. Other lessons learned are derived from the aggregate experience of working with the Coalition over a three-year period of time.

1. Anchorage teens recognize the value of motor vehicle safety. Although many teens, especially high risk teens with behavioral and criminal history, perceive themselves as “bullet proof,” they, nonetheless, are amazed at their ability to survive a lot of their risk-taking behaviors, especially in the area of motor vehicle safety. They appear to recognize their own vulnerability in situations in which they place themselves. Teens in Anchorage appear to be well aware of the risks they undertake, and are therefore susceptible to carefully targeted messages that advise them on appropriate risk avoidance behavior. This is especially important when the risk-taking behavior is “other directed” or influences the survival, health, or safety of a peer, close family member, or younger child.
2. Injury prevention programs can be effectively marketed to high risk teens. The Anchorage Safe Communities sponsored a number of programs, especially the “Taking the Lead” program and other efforts to market the importance of motor vehicle injury prevention. Peer designed messages were thought to be the most effective way of marketing injury prevention. The efforts that were perceived to be the most effective were marketing efforts tied to peer death. These reinforce the value of prevention each time the teen sees a specific incident resulting in the death of another teen. The most graphic example of this was the death of Jessie Withrow, a popular Anchorage teen who had returned to Anchorage after her first year in college and was killed by a drunk driver.
3. The attitude toward motor vehicle injuries and fatalities are changing in Anchorage. Community norms and behaviors take a long time to change. There is strong evidence that this change has started in Anchorage. Even though there appears to be no significant deflection in the number of motor vehicle injuries and fatalities immediately following the implementation of Anchorage Safe Communities, there is strong evidence of a significant change in the public awareness of motor vehicle injuries and fatalities, and the ways of preventing these. An in-depth content analysis of local newspapers strongly confirms this view.

The length of time required by Scandinavian countries to change community attitudes and behaviors toward drinking and driving strongly suggests that Anchorage is moving in a very positive direction. The change in community norms will take a long time, but there is evidence to suggest that we are on our way.

4. Community coalitions are an important ingredient in raising the visibility and attention to injury prevention activities. Coalitions are especially important in

raising the visibility of problems with “marginalized” groups, or groups that typically don’t receive the kind of attention that their situation warrants. Among the most important are the risk-taking behaviors of teens, and the dangers and risks faced by inebriated pedestrians. The Anchorage Safe Communities coalition was able to help focus attention on the risks faced by these two groups using information obtained from the groups themselves as a way of structuring appropriate intervention.

The coalition was also instrumental in helping to focus a sustained effort on very difficult driving behaviors in Anchorage. The most visible successes of the coalition were in maintaining community attention on high risk driving behaviors, especially red light running and maintaining the community visibility on drunken driving. This is evidenced by the continued contribution of the Coalition to the Mayor’s coalition on DWIs and other association efforts endorsed and encouraged by Coalition members, especially Mothers Against Drunk Driving.

5. The Coalition provided a forum for the coordination of interventions among groups that typically do not get together on a routine basis. The coalition was formed of government representatives and representatives from business and industry who had a common goal in mind – the reduction of motor vehicle injuries and fatalities. The coalition meetings gave them an opportunity to coordinate their efforts and leverage current events occurring within the community to better promote individual interventions. The networks and relationships that were built during the operation of the coalition appear to be enduring, and have provided and asset to Anchorage in furthering injury prevention efforts.
6. Motor vehicle crashes are expensive. The total cost of motor vehicle crashes in Anchorage ranged from \$102 million in 1992 to \$123 million in 1999, all in current dollars. Inflation accounts for almost all the increase in motor vehicle injury costs. These costs, adjusted for inflation, are consistent over time. The importance of understanding the economic contribution of motor vehicle crashes places the value of prevention activities in some overall economic context. The modest costs of managing the Anchorage Safe Communities Coalition and its attendant interventions have started a process of changing community norms with respect to motor vehicle injuries and fatalities. This modest cost could result in significant dividends in reduced cost of motor vehicle crashes over time if these efforts are allowed to continue. The return on investment appears to have high potential.
7. Media relations in injury control are critical. It was clear that we have yet to develop appropriate and tested marketing techniques for injury control. Anchorage Safe Communities has demonstrated its ability to get the importance of injury prevention before the Anchorage public, as reflected in the analysis of newspaper articles over the lifetime of the Anchorage Safe Communities project. However, the media relations must continue in order to maintain the momentum of the C change in community norms and behaviors, with respect to motor vehicle injuries. In addition, these media relations must be maintained, and the techniques must be

further refined and tested to assure an effective way of changing community attitudes and behaviors.

8. Having a center of activity (the Alaska Injury Prevention Center) is an asset to Anchorage and Alaska. Anchorage Safe Communities was the beginning of what is expected to be a long-term effort in injury prevention in Anchorage and throughout Alaska. It has demonstrated the need for and value of focused injury prevention efforts. It has also spawned numerous other groups that have taken substantial leadership roles in reducing high risk behavior and sponsoring ways of reducing motor vehicle injuries. Among them are the Mayor's task force on drunk driving, the "CBASS" (Community Based Action for a Safer Society) focusing on community justice, and the increased visibility of MADD (Mothers Against Drunk Driving).
9. Summative evaluations do not show a significant reduction in motor vehicle injuries and fatalities in Anchorage. The summative data does not show a significant deflection in the number of motor vehicle injuries in the period preceding Anchorage Safe Communities implementation and those years where Anchorage Safe Communities was in operation. It appears as if it is far too early to detect such changes. It is encouraging, however, to note that enforcement campaigns continue (red-light runners and DWI), that community norms are changing (the significant increase in mentions of motor vehicle injuries in local newspapers following the funding of Anchorage Safe Communities), and that other groups have developed as spin-offs of Anchorage Safe Communities (the Mayor's Task Force on DWI, CBASS, and others.) Although there is no significant deflection in the number of injuries and fatalities in Anchorage, the activities of Anchorage Safe Communities strongly suggest that these deflections will be detectable in future years.
10. There is some evidence that the funding of Anchorage Safe Communities changed the community commitment to injury prevention. There have been informal reports that are concerned that measurement of the effectiveness of coalition sponsored interventions may have created a "sentinel effect" that increased the coalition's commitment to interventions. The concern for measurement may have also contributed to the evolution of the coalition membership and focus. There is some evidence in the participation by key informants in coalition effective measurement that: increased community membership was associated with a decrease in participation by the original founders or innovators that gave rise to the Anchorage Safe Communities project grant. It is interesting to note that these two phenomenon offset one another, and the overall energy that the coalition generated to support its initiatives did not decline and may have even increased.

XII. WORKING PAPERS

During the course of the project, the evaluation team developed a number of working papers designed to help the coalition better target its efforts. A list of these papers is shown below.

Burgess, D., Foster, S., Landon, B., Hudson, D., "Anchorage Safe Communities: Content Analysis of Articles from the Anchorage Daily News" November 2000.

Busch, K., Saylor, B., Smith, S., "Economic Costs of Motor Vehicle Crashes, Anchorage 1995" December 1998 (Preliminary Report)

Busch, K., Saylor, B., Smith, S., "Economic Costs of Motor Vehicle Crashes, Anchorage 1995" July 1999 (Final Report)

Craciun Research Group, "Road Rage Report," June 25, 1999.

Crum, P., Langworthery, R., Segal, B., "Patterns of Adjudication for DWI Arrestees" UAA Justice Center, December 18, 1997.

Hughes, C., Foster, S. "A Survey of Coalition Effectiveness" December 1999

Marshall, D., "The Economic Costs of Motor Vehicle Crashes: Anchorage 1991 – 1999" December 2000.

Sallee, D. Reflective Wear for Pedestrian Safety, Alaska Department of Health and Social Services (no date)

Saylor, B., Burgess, D., Hughes, G., Heitkamp, K., Fair, M., Smith S., "Alaska Alcohol Safety Action Program: ICHS Efficacy Study Report," July 1999.

Saylor, B., Heitkamp, K., Landon, B., Rutan, B., Smith, S, "Reflective Wear for Pedestrians: Adult Pedestrian Safety Program Baseline Data," December 1998.

Saylor, B., Heitkamp, K., Smith, S. "Reflective Wear for Pedestrians: Adult Pedestrian Safety Program Pretest and Posttest Data," July 1999

Zeiger, S., Saylor, B., Smith, S., "Child Restraints and Car Seat Hotline: Preliminary Evaluation Report," December 1998.

Zeiger, S., Saylor, B., Smith, S., "Teenage Driving Behavior: A Focus Group Report" December 1998.

Appendix A

Draft Evaluation Plan

Appendix B

Site Reports

Appendix C

Teenage Driving Behavior: A Focus Group Report

Appendix D

"Taking the Lead" A Preliminary Evaluation Report

Appendix E

Child Restraints and Car Seat Hotline: Preliminary Evaluation Report

Appendix F

Reflective Wear for Pedestrians: Adult Pedestrian Safety Program Baseline Data

Appendix G

Reflective Wear for Pedestrians: Adult Pedestrian Safety Program Pretest and Posttest Data

Appendix H

**Reflective Wear for Pedestrian Safety
(Diane Sallee, Alaska Dept. of Health and Social Services)**

Appendix I

Patterns of Adjudication for DWI Arrestees

Appendix J

Alaska Alcohol Safety action Program: ICHS Efficacy Study Report

Appendix K

Road Rage Report: Craciun Associates

Appendix L

A Survey Instrument of Coalition Effectiveness

Appendix M

Economic Costs of Motor Vehicle Crashes, Anchorage 1995 (Final Report)