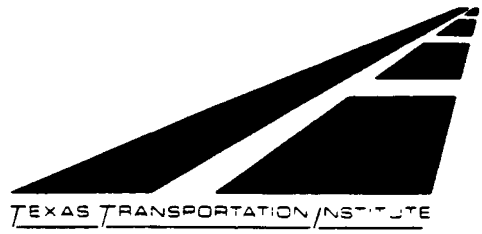

TRAFFIC ACCIDENT RECORDS ENHANCEMENT

Final Report

Prepared For The

State Department of Highways

and Public Transportation

September 1988

TEXAS TRANSPORTATION INSTITUTE

THE TEXAS A&M UNIVERSITY SYSTEM
COLLEGE STATION, TEXAS

TRAFFIC ACCIDENT RECORDS ENHANCEMENT

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and
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September, 1988
Final Report

A Report from the
Texas Transportation Institute
Texas A&M University
College Station, Texas 77843

Prepared for the
Texas State Department of Highways
and Public Transportation

DISCLAIMER

The contents of this report reflect the views of the authors who are responsible for the opinions, findings, and conclusions presented herein. The contents do not necessarily reflect the official views, or policies of the Texas State Department of Highways & Public Transportation, National Highway Traffic Safety Administration, or of the Texas Department of Public Safety. This report does not constitute a standard, specification, or regulation.

TABLE OF CONTENTS

TRAFFIC ACCIDENT RECORDS ENHANCEMENT PROJECT REPORT

INTRODUCTION

The Texas Highway Safety Program is dependent upon a valid and reliable accident data base for purposes of identifying highway safety problems, defining countermeasures to redress those problems, and evaluating the effectiveness of ongoing projects and programs. Without such a data base the quality of the States safety program will be materially and adversely affected.

Recent reports have suggested that the accuracy of information being collected and reported on the accident report form by peace officers is declining. Inaccuracy are attributed to both lack of adequate training and low motivation resulting from insufficient feedback on performance (1-4). Since this report is used to build the accident data base, concern about quality are warranted.

It has been determined that the "traffic law enforcement segment of the law enforcement community is strongly in favor of improving the accuracy of accident records. Since this segment investigates or reviews the investigation of the majority of accidents, it should have a great deal of influence on the implementation of any improvement program (5)."

It has also been determined that a supplemental accident reporting training program could be introduced into the schedules of most police agencies in one form or another. Such a course would likely improve accuracy in reporting by both raising the knowledge level and increasing the motivation of reporting officers.

If such a program is to be successful, it is necessary that it contain appropriate information. That requires that the criteria for accurate reporting be well known and agreed upon by the various agencies using the accident data base. Once these criteria are specified and defined, then a curriculum and materials can be developed for a training program that will facilitate understanding and retention. Implementation of the training program should produce increased accuracy of accident reporting and subsequent improvement of the accuracy of the data base.

OBJECTIVES

The objectives of the project as initially conceived were as follows:

1. To develop a complete dictionary of definitions of the parameters of at least 15 variables used on the accident report form.

2. To develop a curriculum for a supplemental training program designed to improve the accuracy of accident reporting.

3. To develop the materials for at least two modules of the accident reporting improvement training program.

4. Develop a plan for distributing training modules.

These objectives, with the exception of number two, were accomplished, in some form, during the course of the project. The method of accomplishment, however, departed from the approach initially planned. This departure led to the conclusion that objective two would need to be delayed until such time that all modifications to accident records, underway and proposed, had been addressed or completed.

The approach that evolved for completing objectives one, three, and four was the committee or workshop method. Although it was initially planned that a committee of interested parties would assist in the development of the dictionary of definitions, once formed its contribution extended well beyond expectation.

The section that follows describes the Accident Record Accuracy Advisory Committee and the results of its four meetings.

ADVISORY COMMITTEE MEETINGS

The advisory committee was composed of representatives from law enforcement, traffic engineers, transportation researchers, data and statistical analysis personnel, and communications specialists. A complete list of members is attached as Appendix A. Plans were made for convening the committee for at least three meetings. Eventually four meetings were held. The individuals selected were divided into three working groups with the responsibility for reviewing the accident report form (ST-3), the guidelines or instructions for completing the ST-3, the coding manual and other materials shared by the participants. The objectives of the advisory committee included but were not limited to:

- Identify sources of inaccuracies on the accident form (ST-3) that might be corrected by supplemental training of law enforcement personnel.

- Develop a dictionary of common definitions that could be used to reduce inaccuracies.

- Recommend other training activities that might improve accident record accuracy.

- Make other recommendations for improving the accuracy of accident records.

- Recommend future activities of the Advisory Committee.

First Meeting - The first meeting produced broad statements of concern relative to the total reporting process. These concerns were reviewed by the project staff and an agenda was developed for developing the specific information needed to compete the project. The agenda for the first meeting included:

- o reviewing the scope of work with the committee,
- o assignment of the committee to subcommittees,
- o subcommittee meeting to organize and make assignments for next meeting.

The committee members were asked to solicit input from their home agency or organization. This included bringing relevant documents from their agency to the next meeting. They were also asked to review the objectives and make initial recommendations as to how the second meeting and subsequent meetings could be more efficient.

These recommendations were used for planing the indepth analysis during the second advisory committee meeting.

Second Meeting - The second meeting was designed to provide the members as much time as possible to develop definitions, review all relevant documents and make recommendations. The subcommittees met as planned, reviewed the appropriate documents, and produced subcommittee reports that the project staff summarized (see Appendix B). The subcommittee reports contain many overlapping comments. These were reduced to interest areas. Specific topics of these interest areas were are presented in Appendix C and are listed below.

a. Problem areas on ST3 with potential for immediate training or motivation solutions.

b. Suggestions for future improvements in training, manuals, and procedures.

c. Terms used in ST3 requiring definition.

d. Suggested improvements to the motor vehicle traffic accident coding instructions.

e. Suggested improvements in the instructions to police for reporting accidents.

f. General comments.

Third Meeting - These areas were reviewed at the third committee meeting and translated into action items. It was also decided that an additional meeting would be required to review the status of the action items. The following is a summary of those agencies which agreed to follow through on these items.

DPS / TLE - Review the suggested improvements to the Instructions to Police for reporting accidents.

DPS / Statistical Services - Review suggested improvements to the Motor Vehicle Traffic Accident Coding Instructions.

SHDPT - Define pertinent terms used in the ST-3

TECLOSE - Develop alternative training material distribution strategies.

TTI - Identify two subject areas for developing videotape, news letter or other communication for use by law enforcement agencies. Develop appropriate training package for subject areas selected.

Forth Meeting - The forth committee meeting reviewed the status of each action item. The responses were:

DPS / TLE - Review of suggested improvements to the instructions to police for reporting accidents is still underway. It was also determined that DPS / Statistical Services probably has a more direct interest in this area and should also be involved in this review. The results of this effort will be provided at the next meeting.

DPS / Statistical Services - Review of suggested improvements to the Motor Vehicle Traffic Accident Coding Instructions was presented (see Appendix D).

SDHPT - Definitions of pertinent terms were presented (see Appendix E). Additional work needs to be assigned to complete this task. Several terms cannot be identified without input from the total committee and indepth research into how these terms are understood in the field.

TECLOSE - The most viable training material distribution strategy seemed to be to designate each of the 82 certified police training academies and the 130 law enforcement agencies licensed to provide and disseminate inservice training as a distribution center for this information.

TECLOSE would serve as the records center and each distribution center would keep them informed on usage and supply needs.

TTI - The two areas selected for developing the prototype videotapes were:

- Why Accurate Accident Reports - this is meant to be a motivational tape.
- Inconsistences In Accident Reporting

"Why Accurate Accident Reports" was presented. The scripts and taping for both tapes have been completed.

RECOMMENDATIONS

The meeting ended with the committee making recommendations for future activities. These activities include but should not be limited to:

- Establish and maintain a standing committee (or committees) composed of agency representatives from the state and local level to recommend changes in the accident record keeping process and to review changes that are proposed.
- Review scripts and training materials before distribution.
- Review implementation procedures for training materials distribution system.
- Establishing procedure for completing the development of a dictionary of terms.

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May 19, 1988

Committee 1

Highway Department needs to develop an illustrated guide of TCD's including cost of device - concrete barrier, cost of repair, culvert, headwall

Videotape

1. Accident report form
2. Sign
3. Pavement marker
4. T signal

Expand Training to TECLOSE as well as to continuing education - 40 hours usual continuing education requirement by TECLOSE. Training needs to understand importance of accident report funds.

Accuracy of location

Newsletter to police community

Road Class (pg. 5)

-City street name is used even if street route. Need to include road class.

-Concurrent routes

-Interstate main lanes with major route parallel to IH that may also be a frontage road.

Light Condition

-#3 not lighted - refers to ambient light on roadway from street lights, businesses, high most ill.

First harmful event

-First harmful event, may not be most harmful event.

-Driver abilities should not enter into determination.

-De-emphasize most harmful event - opinion.

Severity

-Still using old codes - A, B, C, F, P; may need to remove from form. Should be ranked in order.

-Weather #1 clear (cloudy) not 2 choices, only one

-Smoke - explain

-Explain hail or sleet - as other

-Separate snowy & sleet

-Fuel spill have been coded as wet or other need new category. Spill accident did not create spill but spill caused an accident.

Road Condition

-Construction zone, where does construction zone begin and end.

-Need more training based on shoulder drop-off.

-Change defective shoulder to shoulder related.

-Road condition change to contributing road conditions.

Traffic Control

-Group signs together.

Object Struck

-#28 Vehicle hit work zone barricade, etc.

-#39 Vehicle hit concrete barrier.

-#45 Use crash cushion.

-#53 Use work zone.

-#36 & 55 Place together.

Define

-Grade Separation

-At Grade Intersection (Grade Level)

-Intersection

-Double White Line

-Urban

-Rural

-Daylight

-Fixed Object

-Barrier - Concrete, Guardrail, Curb

-Barricade

-Shoulder

-Improved Shoulder

-Sign - Small

-Barr Ditch

-Wind - cause of accident

-Delineator Post

-Traffic Signal

-Flashing Beacon (Intersection, Advance Warning Sign)

-School Zone Flashing Beacon

-Drum - trash can

-Narrow Bridge - look for "Narrow Bridge" sign

-Construction related

-Intersection definition needs to include crosswalk related accidents - intersection = stop line to stop line

-Culvert

-Headwall

-Luminaire pole

-Utility pole

Previously wrecked vehicle - vehicle stored on row or vehicle in accident, leaves and is in another wreck highway sign - clarify sign support and delineator support.

Fixed Object

School bus - State Board of Education and/or VCS also includes accidents related to loading and unloading passengers.

pg. 14 - #5 - Connection - collector/distributor

#2 - Frontage Road

Other Factor

-Add spill

-#14 - need to define

-#34 - Domestic or wild animal

44 & 45

-#60 School bus type accidents should include all accidents involving school buses even if the bus was a non-contact vehicle.

-#72 and 73 change construction to work, delete maintenance

MAY 20, 1988

Direction of Travel

-Cardinal direction based on compose, severity of accident will determine accuracy.

Form A2 - same as above

pg. 49

Vehicle Body Style

-Group 30 and 38 consecutively

Vehicle Type

-Classification based on license plate or motor vehicle registration.

-07 - would be helpful if this category would include manufactured homes being delivered.

Damage Scale

-Emphasize using manual.

-Do not adapt coding to motorcycles, bicycles.

Driver Race & Sex

-The + maybe used when the driver is unknown.

-Most of the time info taken from drivers license.

Driver License Status

-Need to add foreign countries.

Contributing Factors

-#2 - includes driving to fast for conditions even when under posted speed limit.

-This area may need more training as this determination must be based on fact.

Driver Severity of Injury

-Order needs to be progressively worse.

Driver Restraining Device

-#4 mark if air bag deployed.

Instructions to Police for Reporting Accidents

General Instructions

-#4 - need to expand example to cover 3 car accidents with one car avoiding collision but receiving damage evasive action.

pg. 2 -d. crossover - not a legal intersection. Need to coordinate with coding manual.

-may need to add collector/distributor type road.

pg. 5 -reference to grid square should be changed to mile post.

pg. 1,4 -reference to 500' should be 528' to be consistent with .1 mi. accuracy

pg. 10 -race - should be consistent with driver's license and coding manual.

pg. 12 -damage to property other than vehicle.

Include description in narrative; some objects when struck may not exhibit damage such as structures with foundations, even if it does not approve to be more than $250 damage it should be noted.

pg. 13 -charges filed, should include other charges not associated with accidents. Emphasize in training.

pg. 16 -Injury code - order by severity of injury.

pg. 15 -Child rest should be added to pg. 53 of coding manual.

pg. 21 -If nothing goes into box place a dash - emphasize in training.

Driver Ejected from Vehicle

-#1 use even if passenger partially out vehicle.

Part of Vehicle Causing Injury

-Add gear shift

-Training should emphasize importance of this and that officer should take some time to fill out.

Part of Body Injured

-Usually officer uses medical examiner opinion however coding people may not understand terminology. Some thought may be needed to expanding list.

Emergency Medical

-Includes air flight emergency response.

Type Specimen Taken for Alcohol/Drug

-Add category pending.

pg. 59 Casualty or Occupant Seat Position

-Will help in training to emphasize occupant injury and part of car causing injury to assist in determining seat position.

pg.61 Type Specimen etc.

-Add "pending"

pg. 58 c. Motorcycle, motorscooters, or moped passenger change to be consistent with definitions in VCS =

-Motorcycle

-Moped

-Motor assisted cycle

pg. 62 Pedestrian as Pedalcyclist

Common Inaccuracies or Omissions in Reporting

1. Insufficient information provided to determine if accident should be classified trafficway or non-trafficway.

A. Easement or Row boundaries not given.

2. Peace officer or Fire Fighter on emergency.

A. "Yes" black marked, but no statement in narrative.

B. Many agencies think just on duty is only requirement to mark "yes".

3. Many problems with contributing factors.

A. Marked on wrong unit.

B. "Driver Inattention" and "Faulty Evasive Action" are greatly over used.

4. If investigator determines that non-contact vehicle is involved in

accident, information on non-contact unit should be reported the same as if in actual contact.

5. Injury severity.

A. Often omitted

B. Often "N" shown in injury code, but statement in narrative indicates there was an injury.

6. Disposition of killed or injured often omitted or disposition only is shown and data called for in other items is omitted.

7. BAC tests and results.

A. "Yes" shown instead of type test.

B. Type test shown as "breath" and driver is dead at scene.

C. Test results often unreported unless statistical services requests them.

8. Many discrepancies in reporting on "driverless" vehicles. Drivers information shown on front of report and statement in narrative clearly states that driver was not in vehicle.

9. Passengers shown in wrong units on back of report.

10. Damage rating often reversed on units on back of report.

11. Pedestrians and pedalcyclists injury information reported in wrong place on back of report.

12. Fail to complete ST-3X on motorcyclists and pedestrians when killed or injured.

13. Date of accident and day of week do not agree.

14. Type restraint reported as "yes" only.

15. Narrative

A. Incomplete

B. Not descriptive

C. Discrepancy in Unit number as shown in diagram and on front of report.

16. Two separate accidents reported as 1 on 1 report. This is often done if 2 vehicles collide (classified MV type accident) and another vehicle, in avoiding the collision, collides with some fixed object (classified as F.O. type accident). This should be reported as 2 separate accidents on 2 separate reports.

Committee #2

Suggestions and Comments

1. Instruction manual not clear and not enough detail.
2. Investigators should be given 1 instruction manual to carry as reference, and it should include at least the following:
   A. Detailed instructions for completing each item on the ST-3 and ST-3X.
   B. Most current vehicle damage scale.
   C. Pictures and definitions of "street/highway" furniture.
   D. Possibly manual on classification of MVTA.

3. Investigators and supervisors must be convinced of the importance of accuracy in completing the report. Must remove concept that the report is just being used for insurance settlements. Indication is that inquiries investigators receive are usually from the drivers or insurance companies, not from engineers or research organizations.

4. Training should include discussion of each individual item on the report and investigators should be advised who uses each item and what for.

5. One person at DPS and one in each agency should be designated for liaison between the two to answer questions and/or handle inaccuracies in reporting. Possibly an "800" number should be established.

6. Video alone, without someone to answer questions, will not help. Unless the video gets an officer directly involved, it will not gain their attention.

7. Many location problems are evident.

A. Each city should have a street code list with numbers assigned to each street and new streets and new streets and numbers should be added as new streets open. Do not allow code change each year, maybe every 5 years. Use this method rather than DPS encoding the first 5 digits of the street name.

B. All county roads should be identified by number and name, if named.

C. The term "service road" should be eliminated.

From Manual = (frontage road)

D. Problems exists in defining and determining if accident is "intersection" or "intersection related".

E. Block numbers should be reported.

F. Secondary locations should show proper distance and direction from reference point used.

8. Narrative:

9. Video/Script

#6 Video training-

Needs to have an officer involved in the actual production of video. Also

should have persons from engineering, DPS, and TCLEOSE involved in actual script approval and production.

INSTRUCTION IN WRITING NARRATIVE ON ST-3

1. Begin with "The Investigation Revealed"
2. First sentence should state direction of unit one, what unit one was doing, which lane, other information on unit one.
3. Same as above except for unit two.
4. State what went wrong.
5. What was the result of that - what did each unit do then.
6. If drivers of the units disagree with officer - state so.
7. Any other evidence at scene.

I. OBJECTIVES #1: To identify sources of inaccuracies.

A. Location-not clearly defined. For example: I-35W maybe shown as the local name of "South Freeway."

B. Type of Drivers License - wrong type shown. Most drivers have an operators license and it habit forming to list "op".

C. Insurance information - not completed fully, policy number is sometimes omitted.

D. Property Damage other than vehicles - property description is

sometimes not clear and the name and address of owner are not available. State of Texas is often used with no address. Damage estimate in dollars is an uneducated guess.

E. Narrative section - sometimes insufficient information listed as to why accident occurred and the statements of drivers/witnesses should be briefly described.

F. Factors contributing to accident - citations or charges are not always listed and should be supported by evidence contained in the report.

G. Other occupants and seat belts are not listed.

II. OBJECTIVE #2: Develop a dictionary of common definitions.

This objective should be addressed by engineers and records personnel with final input by law enforcement. The development of a dictionary should be very limited in scope to avoid creating a burden on Field Investigator at emergency situation.

III. OBJECTIVE #3: Recommend training activities.

A. The instructions for reporting accidents must be totally comprehensive and readily available for all law enforcement officers.

1. Everything a Field Investigator needs to accurately report an

accident should be found in the instruction booklet without other references.

2. Instruction booklet should include any dictionary and damage ratings. Field Investigators carry a considerable amount of equipment and will not carry several different accident booklets. Especially when a booklet pertains to only one portion of the report.

B. Academy Training - Accident reports instructions should be uniform throughout the State. Lesson plans and films should be provided. Films should be of sufficient length to thoroughly cover the more difficult areas of the report.

C. In Service Training - Produce a few 10 minute Roll Call VCR films. They should be produced and provided without cost. Police should be involved in the production of the film.

IV. OBJECTIVE #4: Other recommendations for improving accident reporting.

A. Establish a report review in local agencies.

Each agency should be encouraged to develop review procedures prior to sending the reports to DPS.

1. several review procedures could be submitted as examples.
2. each agency could designate a contact person for DPS.

B. Report review within DPS.

1. DPS could reject reports.
2. DPS could inform agency of problems experienced.
3. DPS records could designate a contact person for local agencies.
4. DPS could recognize agencies (by size Departments)
   For excellent reporting, for example:
   "Your Agency is considered by DPS records to be excellent/good/
   in accident reporting.

V. Future activity of advisory committee may be to advise, supervise or help implement their recommendations.

Identify each piece of information as to what agency (Local, Regional, State, DPS, Engineers, Human Factors, etc.) uses a particular piece of information and how. This would define the necessity of collecting that particular piece of data and would perhaps eliminate the reporting of some information.

Require that each agency identify a liaison within the department or agency to work with state traffic safety personnel. The agency liaison should be specifically and extensively trained in accident reporting. This person could act as a resource person for departmental training and as a continual resource for day to day questions that a patrol officer might encounter in completing the ST-3. The liaison could identify reporting deficiencies within an agency and could immediately correct the problem. Theliaison could also work with local traffic engineering personnel.

SUBCOMMITTEE REPORT - ENGINEERING

Advisory Committee

The objectives of the work of this subcommittee is to recommend improvements or supplemental training needed to improve the accuracy and reliability of the data gathered on the accident report form (st3). This group dealt specifically with the engineering aspects of the data gathered.

1. Supplemental training to law enforcement officers from an engineering perspective.
2. Providing better instructions on completing the st3.
3. Clarifying areas of confusion.
4. Explain in a series of five to ten minute videos and short written materials the various points of filling out the report.

First video

" dispel the myth"

1. Who uses the accident data.
    A. Engineering.
        1. Redesign road sign.
        2. Safety improvements.
        3. Construction/maintenance.
        4. Signalization, speed zoning, etc.
        5. Money allocation for improvements.
    B. Law enforcement.
        1. Allocation of resources.
        2. Allocation of personnel.

3. Analysis.

C. Automobile engineering.

1. Vehicle design.

2. Safety improvements.

D. Legislative action.

1. Law changes/policy changes

2. Resource allocation.

E. Public information and education

F. Insurance.

G. Litigation.

1. Tort and liability.

2. Vicarious liability.

Identify problems in the order of their appearance

on the st-3 accuracy in st-3

a. Route identification and location

b. Time - convert to 24 hour clock

c. Day/date correlation

d. Construction zone

1. Posted or not posted

2. If checked, explain type of zone and activity taking place in the narrative.

e. Vehicle description

1. Create video to visualize the different types and styles.

2. Provide short written documentation.

3. Possible solution is the capture of the vin number.

4. Pictorial drawings of vehicle description styles for truck training

f. Lessee/owner

1. Define lease and ownership and the difference between the two.

2. Clarify short term rental

g. Liability insurance

1. Emphasize if the yes block is checked a policy number and company name is needed.

2. If unavailable check no.

h. Objects struck

Broken into the following categories

1. Signs

2. Poles

3. Bridges

4. Barricades (rails, post,gates)

5. Walls

6. Attenuation devices

Emphasize breakaway v. Fixed

Stationary v. Moveable

Provide up-dated pictorial drawings with cost estimates

A video to explain the differences between/within each category

Examine the definition of the different objects

J. Light condition - weather - surface condition - type road surface

These four areas can be covered in a single video

1. Under light conditions it is important that if the lights are inoperative this is noted in the narrative
2. Under weather conditions there is the capability to capture two items with the most important one in the officer's opinion being listed first.

K. Road conditions

1. Unbiased observation of unusual conditions present on the roadway. These observations should not be conclusive.
2. This is not a repeat of weather and surface conditions

L. Injury code and safety restraints

1. A clear definition of the difference between incapacitating and non-incapacitating injury
2. A definition or examples of passive restraints

M. Narrative

1. Detailed video showing good and bad examples of narratives
2. Clarify driving strategy, faulty evasive action, operational factor, condition factor
3. First harmful event
4. Maximum engagement
5. Manner of collision
6. This is the place to put any information not clearly explained

elsewhere on the report

7. Encourage the use of supplementary sheets

N. Diagram

1. Discourage line diagrams utilizing arrows
2. Show examples on video of "good vs. Bad" diagrams

Summary and Recommendations

We have been asked to work within the limitations of the existing st-3 form and dps coding manual. It is apparent to members of this committee that both are inadequate and are in need of major revisions. A multi-disciplinary group and necessary funding would be needed to accomplish this task. Specifically, there are inconsistences between information gathered and information coded. If the information is needed code it. If no one is going to use it do not gather it. There is a need to cut down on the amount of interpretation needed between the report and the data baSE.

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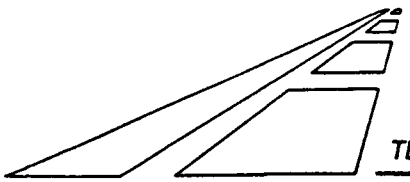

TEXAS TRANSPORTATION INSTITUTE

HUMAN FACTORS DIVISION
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MAIN CAMPUS

Area Code 409
Telephone 845 • 2736
TexAn 857-2736

June 3, 1988

Dear Advisory Committee Member,

Enclosed you will find a summary of comments received from the three sub-committees addressing the issue of improving the accuracy of accident reporting. These comments were included in the following categories:

1. Problem areas on ST3 with potential for immediate training/motivation solutions.

2. Suggestions for future improvements in training, manuals, and procedures.

3. Terms used in the ST# requiring definition.

4. Suggested improvements to the motor vehicle traffic accident coding instructions.

5. Suggested improvements in the instructions to police for reporting accidents.

6. General comments.

Please review these comments for completeness. We will entertain further comments or changes at the committee meeting on June 13th. At the close of that meeting we also hope to have an action plan for implementing the suggestions of the committee.

THE TEXAS A&M UNIVERSITY SYSTEM • COLLEGE STATION, TEXAS 77843-3135

PROBLEM AREAS ON ST3 WITH POTENTIAL FOR IMMEDIATE TRAINING/MOTIVATION SOLUTIONS

1. Road on which accident occurred
   Insufficient information provided - location (unique identifier), trafficway/nontrafficway
2. Construction zone
   Lack of definition of construction/maintenance zone
3. Day/date
   Should correspond
4. Unit 1, Motor vehicle
   Inaccurate vehicle descriptions
5. Driver License
   Wrong class or type shown
6. Lessee - Owner
   Incorrect identification - classification of rental vehicles
7. Peace officer or fire fighter on emergency?
   Lack of follow up in narrative - classification of accidents involving emergencies outside of formal duty hours.
8. Liability Insurance
   Lack of Policy
9. Damage to property other than vehicles
   Object definitions - Address of owner - Cost estimate
10. Road Condition
    See two forms
11. Type Specimen Taken
    Failure to use code
12. Result
    Failure to report
13. Type restraint used
    Failure to use code
14. Injury Code
    Omitted or inconsistent with narrative
15. Disposition of Killed or Injured
    Incomplete data
16. Investigator's Narrative
    Incomplete, not descriptive, contradictory
17. Factors and Conditions Contributing
    Inconsistent with other information in report
18. General Problem
    Lack of consistency of information on both sides of form

Clarification is needed for the following problem areas:
1. Driverless vehicles
2. Diagram

SUGGESTIONS FOR FUTURE IMPROVEMENTS IN TRAINING, MANUALS, AND PROCEDURES

1. The instructions for reporting accidents must be totally comprehensive and readily available for all law enforcement officers. Everything a Field Investigator needs to accurately report an accident should be found in the instruction booklet without other references. The instruction booklet should include at least the following:
   A. Detailed instructions for completing each item on the ST-3 and ST-3X.
   B. Most current vehicle damage scale.
   C. Pictures and definitions of "street/highway" furniture. (The Highway Department needs to develop an illustrated guide of TCD's including cost of device - concrete barrier, cost of repair, culvert, headwall).
   D. Possibly manual on classification of MVTA.

2. Investigators and supervisors must be convinced of the importance of accuracy in completing the report. Must remove concept that the report is just being used for insurance settlements. Indication is that inquiries investigators receive are usually from the drivers or insurance companies, not from engineers or research organizations.

3. Training should include discussion of each individual item on the report and investigators should be advised who uses each item and what for.

4. Video training - Needs to have an officer involved in the actual production of video. Also, should have persons from engineering, DPS, and TCLEOSE involved in actual script approval and production.

5. Academy Training - Accident reports instructions should be uniform throughout the State. Lesson plans and films should be provided. Films should be of sufficient length to thoroughly cover the more difficult areas of the report. Expand training and continuing education.

6. In Service Training - Produce a few 10 minute Roll Call VCR films. They should be produced and provided without cost. Police should be involved in the production of the film.

7. Video alone, without someone to answer questions, will not help. Unless the video gets an officer directly involved, it will not gain their attention.

8. One person at DPS and one in each agency should be designated for liaison between the two to answer questions and/or handle inaccuracies in reporting. Possibly an "800" number should be established.

TERMS USED IN THE ST3 REQUIRING DEFINITION

Define

- -Grade Separation
- -At Grade Intersection (Grade Level)
- -Intersection
- -Double White Line
- -Urban
- -Rural
- -Daylight
- -Smoke
- -Fixed Object
- -Barrier - Concrete, Guardrail, Curb
- -Barricade
- -Shoulder
- -Improved Shoulder
- -Sign - Small
- -Barr Ditch
- -Wind - cause of accident
- -Delineator Post
- -Traffic Signal
- -Flashing Beacon (Intersection, Advance Warning Sign)
- -School Zone Flashing Beacon
- -Drum - trash can
- -Narrow Bridge - look for "Narrow Bridge" sign
- -Construction related
- -Intersection definition needs to include crosswalk related accidents - intersection = stop line to stop line
- -Culvert
- -Headwall
- -Luminaire pole
- -Utility pole

General Comment

These definitions should be addressed by engineers and records personnel with final input by law enforcement. The development of a dictionary should be very limited in scope to avoid creating a burden on Field Investigator at emergency situation.

SUGGESTED IMPROVEMENTS TO THE MOTOR VEHICLE TRAFFIC ACCIDENT CODING INSTRUCTIONS

Road Class (pg. 5)
- -City street name is used even if street route. Need to include road class.
- -Concurrent routes
- -Interstate main lanes with major route parallel to IH that may also be a frontage road.

Light Condition (pg. 6)
- -#3 not lighted - refers to ambient light on roadway from street lights, businesses, high mast illumination.

First harmful event
- -First harmful event, may not be most harmful event.
- -Driver abilities should not enter into determination.
- -De-emphasize most harmful event - opinion.

Severity (pg. 7)
- -Still using old codes - A, B, C, F, P; may need to remove from form. Should be ranked in order.

Weather
- -#1 clear (cloudy) not 2 choices, only one
- -Smoke - explain
- -Explain hail or sleet - as other
- -Separate snowy & sleet
- -Fuel spill have been coded as wet or other need new category. Spill accident did not create spill but spill caused an accident.

Road Condition
- -Construction zone, where does construction zone begin and end.
- -Need more training based on shoulder drop-off.
- -Change defective shoulder to shoulder related.
- -Road condition change to contributing road conditions.

Traffic Control (pg. 8)
- -Group signs together.

Object Struck (pg. 11)
- -Define terms
- -#28 Vehicle hit work zone barricade, etc.
- -#39 Vehicle hit concrete barrier.
- -#45 Use crash cushion.
- -#53 Use work zone.
- -#36 & 55 Place together.
- -#52 Previously wrecked vehicle - vehicle stopped in right of way or vehicle in accident, leaves and is in another wreck highway sign.
- -clarify sign support and delineator support.

Other Factor (pg. 13)
- -Add spill
- -#14 - need to define
- -#34 - Domestic or wild animal
- -#44 & 45 combine
- -#60 School bus type accidents should include all accidents involving school buses even if the bus was a non-contact vehicle.
- -State Board of Education and/or VCS also includes accidents related to loading and unloading passengers.
- -#72 and 73 change construction to work, delete maintenance

Part of Roadway (pg. 14)
- -#5 - Connection - collector/distributor
- -#2 - Frontage Road

Direction of Travel (pg. 15)
- -Cardinal direction based on compass, severity of accident will determine accuracy.

Vehicle Body Style (pg. 49)
- -Group 30 and 38 consecutively

Vehicle Type
- -Classification based on license plate or motor vehicle registration.
- -07 - would be helpful if this category would include manufactured homes being delivered.

Damage Scale (pg. 50)
- -Emphasize using manual.
- -Do not adapt coding to motorcycles, bicycles.

Driver Race & Sex (pg. 51)
- -The + maybe used when the driver is unknown.
- -Most of the time info taken from drivers license.

Driver License Status
- -Need to add foreign countries.

Contributing Factors (pg. 52)
- -#2 - includes driving to fast for conditions even when under posted speed limit.
- -This area may need more training as this determination must be based on fact.

Driver Severity of Injury (pg. 53)
- -Order needs to be progressively worse.

Driver Restraining Device
- -#4 mark if air bag deployed.

Casualty or Occupant Seat Position (pg. 58)
- -c. Motorcycle, motorscooters, or moped passenger change to be consistent with definitions in VCS =
  - -Motorcycle
  - -Moped
  - -Motor assisted cycle
- -Will help in training to emphasize occupant injury and part of car causing injury to assist in determining seat position.

Driver Ejected from Vehicle
- -#1 use even if passenger partially out vehicle.

Part of Vehicle Causing Injury
- -Add gear shift
- -Training should emphasize importance of this and that officer should take some time to fill out.

Part of Body Injured (pg. 60)
- -Usually officer uses medical examiner opinion however coding people may not understand terminology. Some thought may be needed to expanding list.

Emergency Medical
- -Includes air flight emergency response.

Type Specimen Taken for Alcohol/Drug (pg. 61)
- -Add category pending.

SUGGESTED IMPROVEMENTS IN THE INSTRUCTIONS TO POLICE FOR REPORTING ACCIDENTS

General Instructions
-#4 - need to expand example to cover 3 car accidents with one car avoiding collision but receiving damage evasive action.

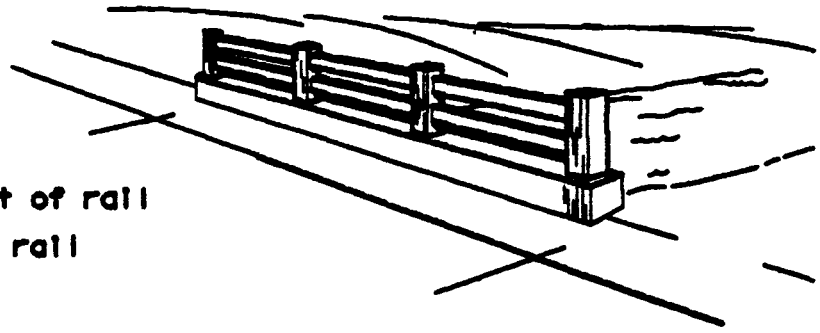
pg. 2 -d. crossover - not a legal intersection. Need to coordinate with coding manual.
-may need to add collector/distributor type road.
pg. 5 -reference to grid square should be changed to mile post.
pg. 1,4 -reference to 500' should be 528' to be consistent with .1 mi. accuracy
pg. 10 -race - should be consistent with driver's license and coding manual.
pg. 12 -damage to property other than vehicle.
Include description in narrative; some objects when struck may not exhibit damage such as structures with foundations, even if it does not approve to be more than $250 damage it should be noted.
pg. 13 -charges filed, should include other charges not associated with accidents. Emphasize in training.
pg. 16 -Injury code - order by severity of injury.
pg. 15 -Child rest should be added to pg. 53 of coding manual.
pg. 21 -If nothing goes into box place a dash - emphasize in training.

GENERAL COMMENTS

We have been asked to work within the limitations of the existing ST-3 form and DPS coding manual. It is apparent to members of this committee that both are inadequate and are in need of major revisions. A multi-disciplinary group and necessary funding would be needed to accomplish this task. Specifically, there are inconsistences between information gathered and information coded. If the information is needed code it. If no one is going to use it do not gather it. There is a need to cut down on the amount of interpretation needed between the report and the data base.

STATE DEPARTMENT OF HIGHWAYS AND PUBLIC TRANSPORTATION

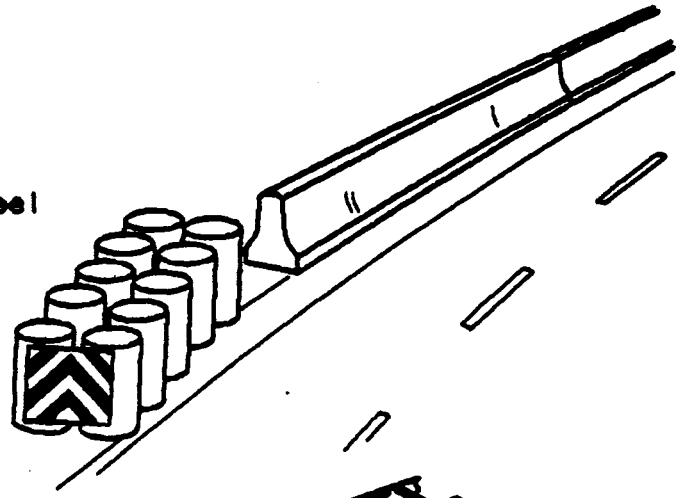
Prepared by Lewis Rhodes | Drawn by F. Dian Naumann



BRIDGE RAIL

concrete $140. per foot of rail

steel $40. per foot of rail



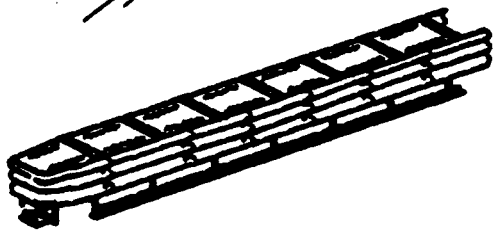
CONCRETE BARRIER

$30. per foot, major cracks or exposed reinforcing steel

CRASH CUSHION

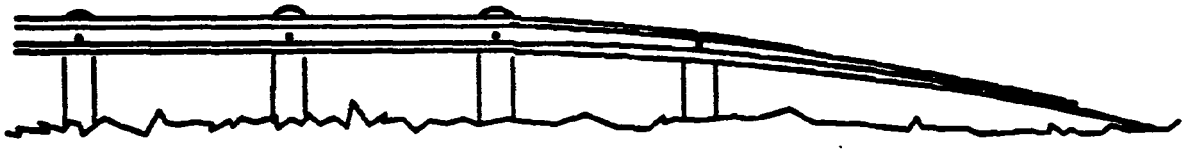
drum type $8,000.

sand filled plastic container $4,000.



modular $6,000.

GUARD FENCE



Tangent Section $15. per foot

Turn-Down End $400 each

Posts

wood - $35. each

steel - $96. each

1988

BARRIERS

STATE DEPARTMENT OF HIGHWAYS AND PUBLIC TRANSPORTATION

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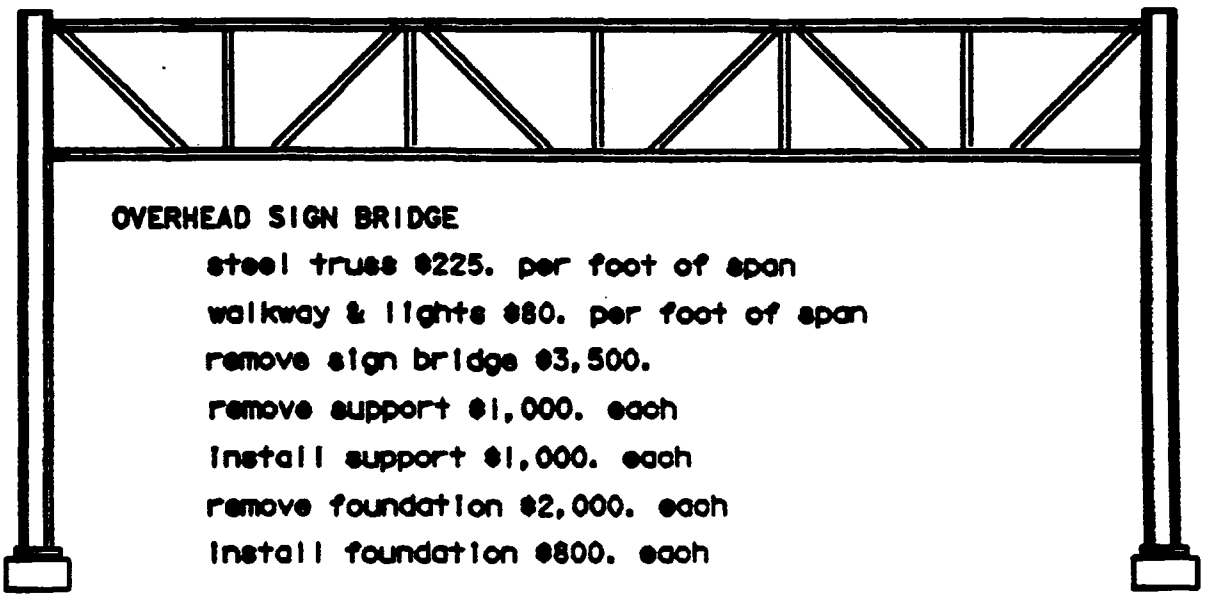
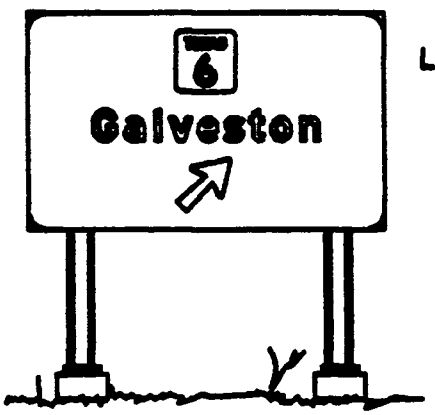


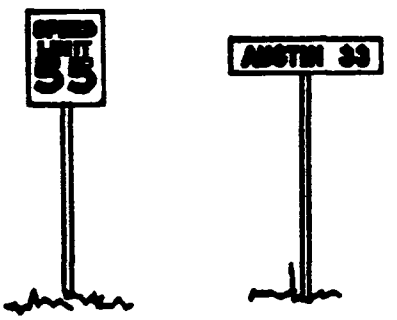
OVERHEAD SIGN BRIDGE

steel truss $225. per foot of span
walkway & lights $80. per foot of span
remove sign bridge $3,500.
remove support $1,000. each
install support $1,000. each
remove foundation $2,000. each
install foundation $800. each

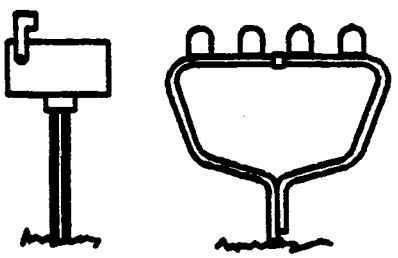


LARGE GUIDE SIGN

sign $15. per sq.ft.
support $300. each
foundation $300. each



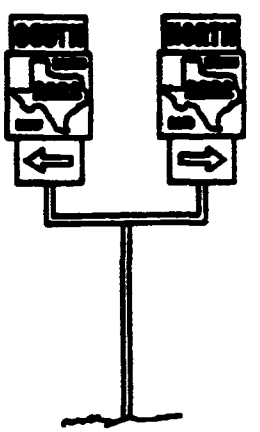
SMALL SIGNS
$200. each



MAIL BOX SUPPORTS
single $70.
multi-support $200.

OBJECT MARKER
$25.

DELINEATOR
$15.



MULTI-SIGN MOUNT
$500.

SIGNS

STATE DEPARTMENT OF HIGHWAYS AND PUBLIC TRANSPORTATION

Prepared by Lewis Rhodes

Drawn by F. Dian Naumann

MAST ARM TRAFFIC SIGNAL

pole $1,000.

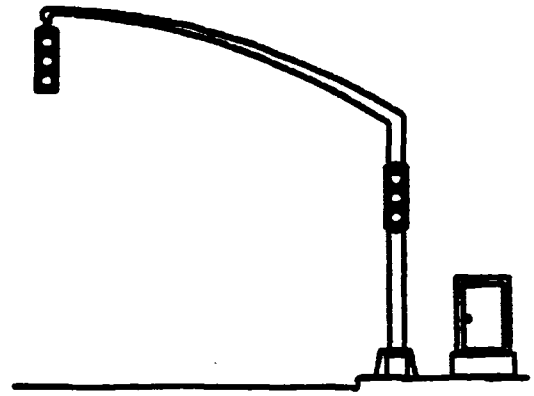
mast arm $500.

TRAFFIC SIGNAL CONTROLLER

remove $300.

install $5,000.

foundation $800.



LUMINAIRE & TRAFFIC SIGNAL

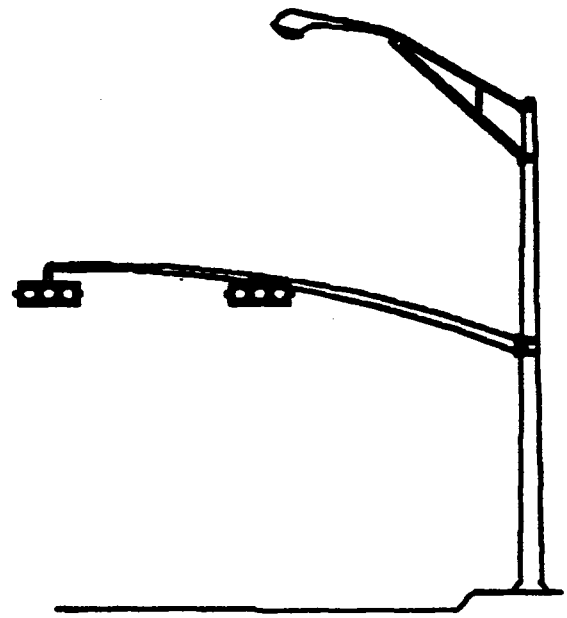
pole $2,000.

mast arm $500.

LUMINAIRE ONLY

remove $150.

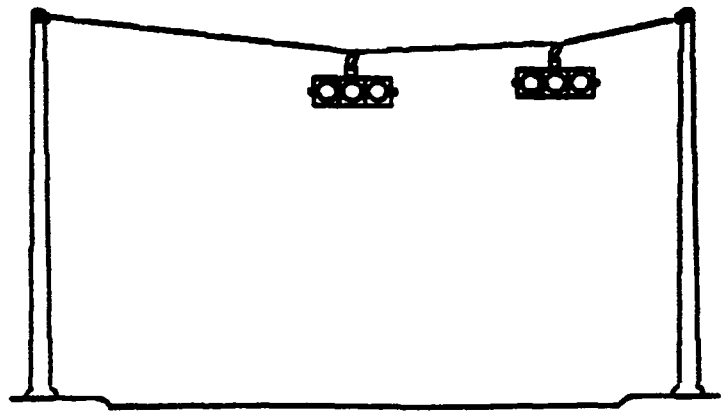
install $2,000



SPAN WIRE TRAFFIC SIGNAL

pole $1,300. each

signal head $300. each



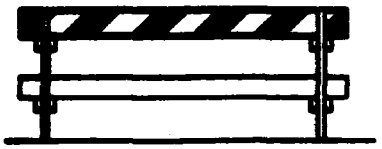
TRAFFIC SIGNALS

1988

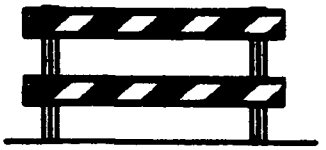
STATE DEPARTMENT OF HIGHWAYS AND PUBLIC TRANSPORTATION

Prepared by Lewis Rhodes | Drawn by F. Dian Naumann

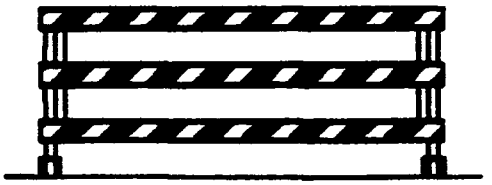
BARRICADES



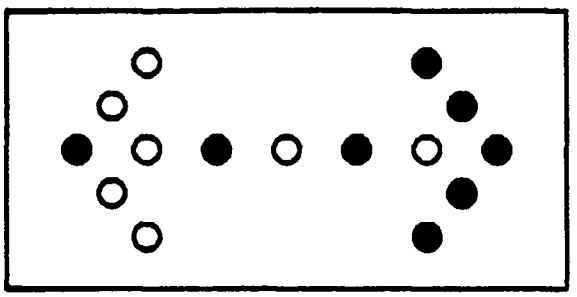
Type I
$20. per foot



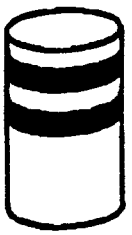
Type II
$25. per foot



Type III
$30. per foot



ARROW PANEL
$4,000. each



DRUMS
$75. each

VERTICAL PANEL
$50. each

WARNING LIGHTS
$20. each

1988

WORK ZONE

TRAFFIC ACCIDENT RECORDS
ADVISORY COMMITTEE
(September 19, 1988)

The Statistical Services Bureau of the Department of Public Safety agreed to review the suggestions for improvements to the Motor Vehicle Traffic Accident Coding Instructions. As a result of this review, the following actions and/or comments are applicable:

1. Road Class (pg 5)
   The intent of the suggestion concerning the coding procedures is somewhat unclear. If the intent is to encourage the officer to include road class on the ST-3, this suggestion should be in the instructional portion or in the training segment. Generally, if the officer accurately identifies any one of the concurrent routes, the accident will be accurately located.

2. Light Condition (pg 6)
   The intent of this suggestion is also somewhat unclear. The lighted and not lighted codes mean ambient light; however, the coder will collect the code indicated on the report and will not interpret whether ambient light was present. This suggestion may also have been aimed at the investigator and should be included in the instructional or training portion.

3. First Harmful Event
   The accident must be classified according to nationally accepted standards, the first harmful event. The code values reflect these national classifications. Again, if the suggestion was to assist the officer in reporting or classifying an accident, it should be in the instruction or training portion. Realistically, if the officer does a good job of investigating the accident and reporting the accident, classification is fairly easy. In addition, the officer normally doesn't classify an accident, nor must he.

4. Severity (pg 7)
   The order of the severity codes as well as the code values will be addressed during reprogramming.

5. Weather
   Weather and Surface Condition codes will be revised during reprogramming to match the ST-3.

6. Road Condition
   Several code changes in Road Condition will be made when reprogramming occurs. The suggestions about where a construction zones begin and end and shoulder drop-offs seem more related to the investigation of the accident and the investigator. They probably should be in the instructional or training section.

7. Traffic Control (pg 8)
   These codes will be addressed during reprogramming.

8. Object Struck (pg 11)
   The object struck codes are based on Highway Deptartment needs and will be revised based on their recommendation and needs. This data element may be moved to the vehicle records.

9. Other Factor (pg 13)
   This data element will be reworked during reprogramming.

10. Part of Roadway (pg 14)
    The intent of this suggestion is unclear.

11. Direction of Travel (pg 15)
    The intent of this suggestion is unclear.

12. Vehicle Body Style (pg 49)
    Manufactured homes are included in code 07. Classification of Vehicles will probably end up based on VIN. Vehicle Registration or plates is not as accurate as VIN.

13. Damage Scale (pg 50)
    The suggestion to "Emphasize using manual" belongs with the instructional or training section and not coding. Code clerks should not need to use the manual. The case of special codes for motorcycles is needed simply to identify a motorcycle and not to relate to damage.

14. Driver Race and Sex (pg 51)
    The relationship to coding is unclear.

15. Driver License Status
    This code will be revised during reprogramming to comply with ANSI-D20 and the Commercial Driver's License requirements. This will include some expanded foreign countries and states.

16. Contributing Factors (pg 52)
    The use of "speeding under limit-unsafe", may be changed to "speed-under limit unsafe." Prior to doing so, it must also be changed on the ST-3.

17. Driver Severity of Injury (pg 53)
    Code order will be addressed during reprogramming.

18. Driver Restraining Device
    The instructions to police indicate the codes of restraint devices "used" should be shown. The code manual does not need to indicate this. This suggestion probably belongs with the instructional or training section.

19. Casualty or Occupant Seat Position (pg 58)
    This suggestion implies this code is used to identify a vehicle. It does not. The identification of a vehicle occurs in a B record.

20. Driver Ejected From Vehicle
    A new code indicating partially ejected can be added when reprogramming occurs.

21. Part of Vehicle Causing Injury
    A code for gear shift can be added during reprogramming. The comment on training is applicable to the training portion but should not affect the code manual.

22. Part of Body Injured (pg 60)
The investigator seldom, if ever, uses the medical examiners technical terminology. The code values are designed to take what the officer reports. Certainly, the codes may be expanded during reprogramming.

23. Emergency Medical
A new code indicating air flight response can be added during reprogramming.

24. Type Specimen Taken for Alcohol/Drug (pg 61)
There is no logical reason why a pending code should be added. An investigator knows within hours of an accident whether or not a test was taken. If an officer delays obtaining the specimen for an extended period of time, the test would not be valid.

TERMS USED IN THE ST3 REQUIRING DEFINITION

DEFINE	DEFINITION
GRADE SEPARATION	A grade separation is crossing at different levels of two roadways ways,or a roadway and railway (i.e. overpass/underpass).
AT GRADE INTERSECTION (grade level)	Is an intersection where all roadways cross or join at the same level. Sometimes controlled by stop sign or traffic signal.
INTERSECTION	The general area where two or more roadways and/or streets join or cross
URBAN AREA	
RURAL	
DAYLIGHT	means one-half hour before sunrise to one-half hour after sunset
SMOKE	
FIXED OBJECT	Any installation which is not a part of the highway proper or earthen sod, which is attached to the ground or to a structure, i.e. guardrail signs,bridge railing,trees,utility poles etc.
BARRIER	That object designed to prevent a vehicle from entering or leaving a specific area, i.e. guardrail, curb, median barrier etc.
BARRICADE	That object, usually orange and white and portable, which calls attention to a non-normnal highway conditions; warning signs may/or may not be attached to it, used in maintenance and construction zones

SHOULDER	That part of the highway which is directly adjacent to the edge of travelled lane; it may be paved and part of the highway, or it may have a gravel surface or a dirt sod surface.
IMPROVER SHOULDERS	is constructed as part of the highway (paved) or of gravel-not dirt or sod.
SIGN-SMALL	A HIGHWAY sign usually smaller than 20 square feet.
BARR DITCH	A ditch adjacent to the highway(Usually parallel) which collects and moves water off the highway.
WIND-CAUSE OF ACCIDENT (CATACLYSM)	
DELINEATOR POST	A warning sign device which calls attentions to a fixed object or unusual condition by means of an attached reflectorized material attached to the top of a 3-4 foot metal or plastic post.
TRAFFIC SIGNAL	A stop and go traffic light that control vehicle and pedestrian traffic.
FLASHING BEACONS	A flashing overhead orange or red light usually at an intersection or yellow or red light attached to a sign which calls special attention to that sign.
SCHOOL-ZONE FLASHING BEACON	A flashing beacon either overhead or (usually) mounted to the school zone sign calling attention to an active school zone.
DRUM-TRASH CAN	
NARROW BRIDGE	Usually a 'NARROW BRIDGE" sign is present. A bridge whose travelled width is less than the approaching roadway width.
CONSTRUCTION RELATED	
MAINTENANCE RELATED	

CULVERT	A device located beneath the roadway primarily used to carry water from one side of the road to the other, constructed of concrete or metal pipe.
HEADWALL	That part of a culvert resembling a curb located at the point where the ground meets the top of the culver usually 3 to 12 inches in height.
LUMINAIRE POLE	A pole (usually metal) used primarily to support a overhead light fixture which illuminates the roadway.
UTILITY POLE	A pole (usually wooded) which may have attached to it electrical, telephone, cable tv. It may have street lights.
TRAFFIC SIGNAL POLE	A pole (metal or wooden)which primarily supports a traffic signal or flashing beacon; it may also have street lights attached to it.
ATTENUATORS	Devices usually placed at bridge columns,end of concret walls or barriers, etc., to absorb a vehicle impact; may be constructed of metal barrels, sand, water or air filled containers, etc.
GUARD FENCE	Usually metal guardrail attached to wooden or steel post placed to protect the vehicle from an object or condition not usually attached to another structure i.e. steep sloops,fixed objects etc.
BRIDGE RAIL	That section of usually metal guardrail which is located on the bridge.
MEDIAN BARRIER	That metal guard fence or concrete barrier that separates the opposing travel lanes of a divided highway.
RAMP	
CONNECTOR	
TRANSITWAY	