



TOWARD THE DEVELOPMENT OF A NATIONAL PEDESTRIAN
SAFETY PROGRAM: AN EVALUATIVE REVIEW OF
EXISTING EDUCATIONAL MATERIALS

Kathryn E. H. Race

National Safety Council
444 North Michigan Avenue
Chicago, Illinois 60611

National Pedestrian Safety Program: Walk Alert
Contract No. DTFH61-86-C-00058
Report No. FHWA/RD-88/119



TECHNICAL REPORT
June, 1988

Document is available to the U. S. public through the
National Technical Information Service,
Springfield, VA 22161

Prepared for

U. S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
WASHINGTON, DC 20590

REPRODUCED BY
U.S. DEPARTMENT OF COMMERCE
NATIONAL TECHNICAL INFORMATION SERVICE
SPRINGFIELD, VA. 22161

Forward

This report, FHWA/RD-88/119, details an evaluative review of existing educational materials in the area of pedestrian safety. Although efforts were made to identify all existing materials available during this study period, it is likely that these efforts fell short of a comprehensive search in an absolute sense. No known educational material, however, was intentionally excluded. Using criteria specified in this report, materials were selected for use in a national pedestrian safety program -- Walk Alert. Walk Alert is a broad-based program incorporating education measures as well as engineering, enforcement and evaluation. It should be noted that the focus of this technical report is on the educational component of this national effort. The opinions, findings, and recommendations contained herein are those of the author and do not necessarily represent those of the U. S. Department of Transportation.

Notice

This document is disseminated under the sponsorship of the Department of Transportation in the interest of information exchange. The United States Government assumes no liability for the contents or use thereof.

1. Report No. FHWA/RD-88/119		2. Government Accession No. PB89 1136091AS		3. Recipient's Catalog No.	
4. Title and Subtitle Toward the Development of a National Pedestrian Safety Program: An Evaluative Review of Existing Education Materials				5. Report Date June 1988	
				6. Performing Organization Code	
7. Author(s) Kathryn E. H. Race				8. Performing Organization Report No.	
9. Performing Organization Name and Address National Safety Council 444 North Michigan Avenue Chicago, IL 60611				10. Work Unit No. (TRAIS) 3A460065	
				11. Contract or Grant No. DTEH61-86-C-00058	
12. Sponsoring Agency Name and Address U. S. Department of Transportation Federal Highway Administration Washington, DC 20590				13. Type of Report and Period Covered Technical Report July 1986 - June 1987	
				14. Sponsoring Agency Code	
15. Supplementary Notes Federal Highway Administration's Contracting Officer's Technical Representative: Dr. John C. Fegan, HSR-20					
16. Abstract The principal objective of this study was to develop a comprehensive set of educational materials for use in a National Pedestrian Safety Program: Walk Alert. Accordingly, existing materials were identified and collected from 217 out of the 452 organizations and agencies contacted throughout the U.S. and in other countries. A total of 274 pedestrian safety educational materials were forwarded to the National Safety Council. These materials were subjected to an evaluative review which consisted of a standardized procedure of independent review and group consensus guided by 11 criteria. The objectives of this evaluative review were to: (1) determine the accuracy, quality and adequacy of existing materials, (2) identify information gaps in existing materials, and (3) recommend material development needs and priorities. 44 educational materials were selected for national program use, including 10 print pieces, 6 programs and 18 audiovisuals for children; 2 print materials and 1 audiovisual for older adults; and 3 print materials and 4 audiovisuals for adults. To facilitate the completion of the second and third objectives of this evaluative review, pedestrian safety messages were identified and organized into 10 message groups: (1) search behavior, (2) being seen (conspicuity), (3) supervision, (4) boundaries, (5) developmental/aging differences, (6) recreation, (7) traffic signs, signals and markings, (8) visual screens, (9) intersections, and (10) alcohol. These message groups were arranged by target audience and for each audience materials and messages were compared to identify information gaps, new materials and the message content of these proposed pieces. Conclusions and recommendations regarding the national program and materials are then presented and discussed.					
17. Key Words PEDESTRIAN SAFETY, Educational Programs and materials, behavioral messages, material needs and recommendations			18. Distribution Statement Document is available to the U.S. Public through the National Technical Information Service, Springfield VA 22161		
19. Security Classif. (of this report) None		20. Security Classif. (of this page) None		21. No. of Pages 114	
				22. Price / MF PC \$14.95 / MF 6.95	

1944

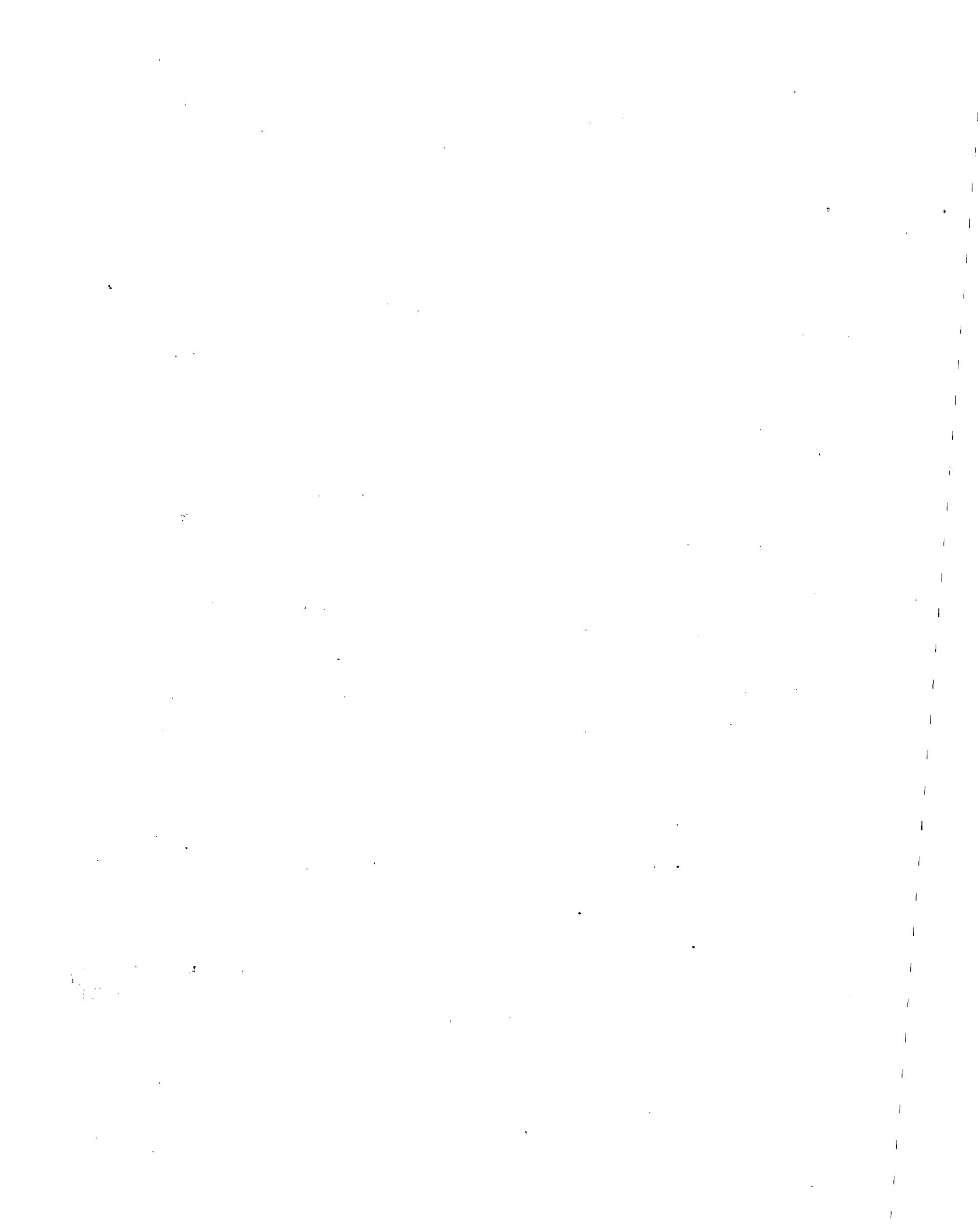
1945

1946

1947

Preface

The evaluative review of materials of this magnitude could not have been possible without the painstaking and patient effort of each member of the review team. A sincere thank you is due: Fred Ranck, Principal Investigator, Sharon Gamache, Assistant Principal Investigator, Ted Dudzik, Margaret Gladden, Hans Grigo, Donna Siegfried, and Janice Sutkus; as well as to Tim Kennedy and Steve Dearing who served as alternate reviewers. The valuable suggestions of members of the National Pedestrian Safety Program Advisory Committee are gratefully acknowledged as well as the professional and technical assistance of Carole Unterberg and Sheila DeBonis. Special thanks is due Carole Huybrecht, Jacqueline Waddell, and Becky Finkelstein for their support efforts and again to Jacqueline Waddell for her typing and preparation of this report.



Summary

This technical report details an evaluative review of existing pedestrian safety educational materials conducted as part of a contract with the Federal Highway Administration (FHWA) and the National Highway Traffic Safety Administration (NHTSA) to develop and implement a National Pedestrian Safety Program: Walk Alert (Contract No. DTFH61-86-C-00058). The principal objective of this study was to develop a comprehensive set of educational materials for use in this national program. Accordingly, existing materials were identified, collected and subjected to an evaluative review based on specifically developed criteria. The objectives of this evaluative review were to:

- 1) determine the accuracy, quality and adequacy of existing materials,
- 2) identify information gaps in existing materials,
- 3) recommend material development needs and priorities.

To identify and collect existing pedestrian safety educational materials project staff contacted by telephone a total of 452 organizations and agencies. Included in these contacts were government agencies at the federal, state, and local levels such as: departments of transportation, education, aging, and public safety. Also contacted were state and local safety councils, both national and local public service organizations as well as private companies, universities, and professional organizations.

Appropriate materials were defined as booklets, films, slide presentations, videotapes, TV and radio public service announcements, posters, curricula, community programs, lesson plans or any other educational or informational materials on pedestrian safety. A total of 217 organizations and agencies forwarded 274 educational materials to the National Safety Council.

To begin the evaluative review process, each educational material was classified by general type (i.e., program, print material or audiovisual) and by intended audience (i.e., preschool, elementary-aged, high school, general public, older adults). Those materials initially screened and retained for subsequent evaluative review were further classified as specific to pedestrian safety (targeted) or traffic safety in general (nontargeted), classified by pedestrian accident type, briefly described by material content and major activity, and were also classified as national or local in nature. To determine the accuracy, quality and adequacy of these educational materials, 11 criteria were used to judge these materials based on assessment by independent review and group consensus.

The preliminary and final evaluative review of pedestrian safety educational materials resulted in the selection of 44 items for use in a national program. Of these, 15 were print materials, 6 were programs, and 23

were audiovisuals. Most of the selected materials were geared toward children (i.e., 10 print pieces, all 6 of the programs, and 18 of the audiovisual materials). Only 2 print materials and 1 audiovisual were directed toward older adults. Similarly, 3 print materials and 4 audiovisuals were targeted toward the general public (adults).

To facilitate the completion of the second and third objectives of this evaluative review, central pedestrian safety messages were identified and organized according to the following 10 groups: (1) search behavior, (2) being seen (conspicuity), (3) supervision, (4) boundaries, (5) developmental/aging differences, (6) recreation, (7) traffic signs, signals, and markings, (8) visual screens, (9) intersections, and (10) alcohol. These message groups were also arranged by target audience although it was not intended that all 10 message groups would be applicable to all target audiences.

Recommended educational materials and these central message groups were then matched for each of the target audiences. Such a comparison was used to identify information gaps, needed material types and the message content of proposed educational materials.

The results of this evaluative review of existing pedestrian safety educational materials led to the following main conclusions:

- ° Existing pedestrian safety educational materials were often outdated and did not reflect state-of-the-art information (with notable exception). There is definite need to develop materials that set forth a comprehensive set of basic pedestrian safety messages.
- ° The frequency of information gaps in selected and recommended pedestrian safety educational materials underscores the need to develop additional educational materials for nearly all target groups identified in this project.
- ° Pedestrian safety programs at the community and state level collectively represent an activity that must be revived. Needed support efforts include the increased awareness and accessibility to recommended pedestrian safety educational materials, the development of new materials to address the information needs uncovered during this present effort and the availability of funds to carry out these program activities.

It should be noted that the scope of this national pedestrian safety program is broad-based, incorporating education measures as well as engineering, enforcement, and evaluation. The focus of this technical report, however, is on education measures and in particular the determination of high-quality existing pedestrian safety education materials for use in this national program. Accordingly, the following recommendations are from this present effort. A full list of recommendations based on a comprehensive overview and profile of this national program will be presented in the final report for this project.

1. Pedestrian safety educational materials need to be developed with particular attention given to pedestrian safety messages not currently covered in existing materials. In priority order, these gaps by target group are:

- Adults (general)
- Older Adult
- High School
- Junior High School
- Kindergarten through Third Grade
- Adult/Young Adult Pedestrian Alcohol Messages

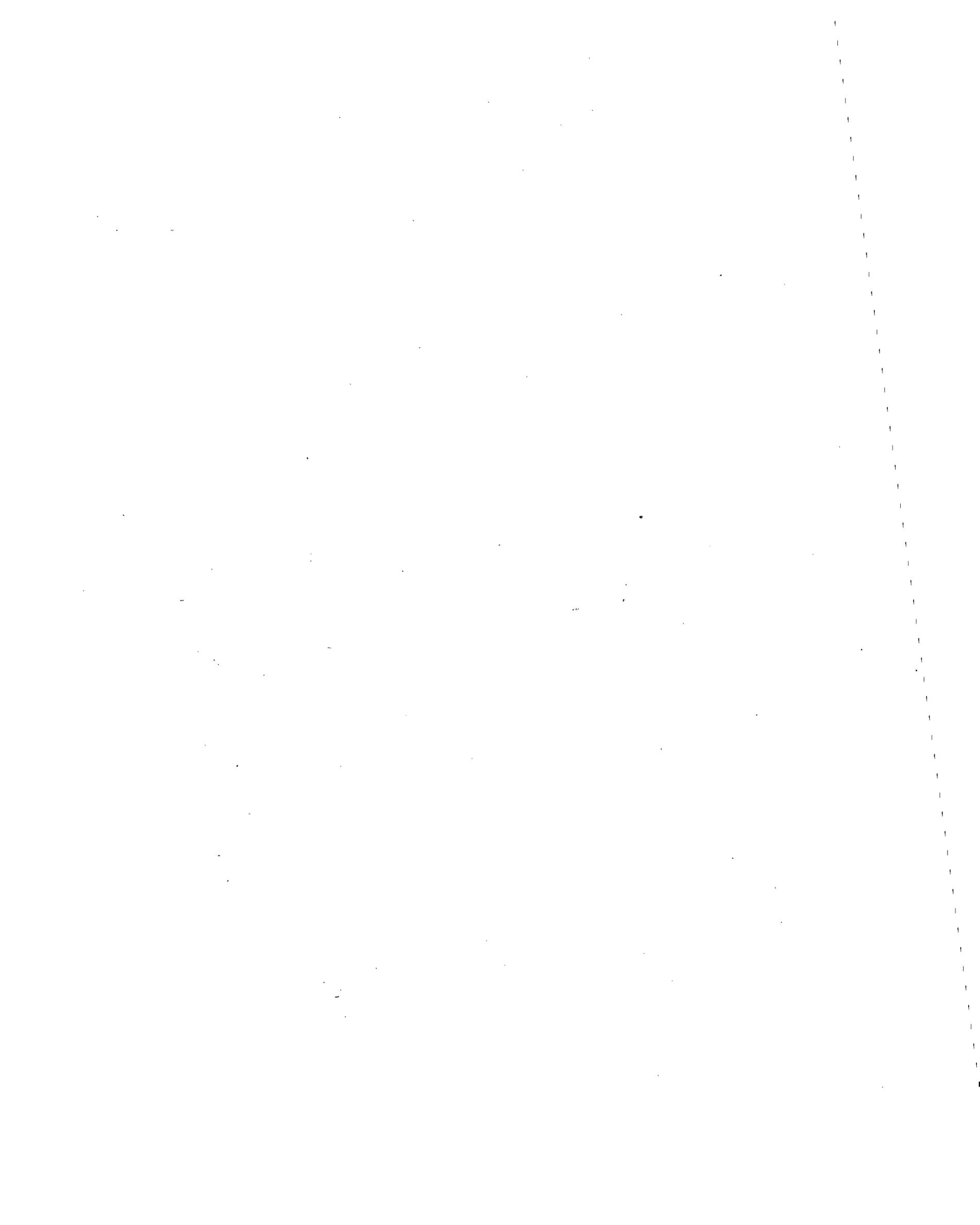
As part of this contract, project staff and consultants have undertaken the development of one booklet for each of the following target groups: older adult, junior high school, high school, an activity piece for kindergarten through third grade, plus a general audience brochure on pedestrian safety through additional support from NHTSA. Additional print and other educational materials are needed to address the gaps found for pedestrian alcohol messages for adults and junior high/high school students, search messages, day and night time conspicuity, and materials for grades 4-6.

2. Program materials are needed for the older adult, and adult pedestrian as well as the following school-related target audiences: grades 4 through 6, junior high and high school students.
3. Audiovisual materials are especially needed for junior high and high school students, adult and older adult pedestrians.
4. In the development of any new pedestrian safety educational material, a comprehensive approach should be taken based upon the central pedestrian safety messages appropriate for the intended audience to ensure that state-of-the-art information is imparted and major accident problem areas are addressed.
5. The framework of pedestrian safety messages proposed in this report should be empirically tested. In particular a target group's receptivity to specific educational messages and the effectiveness of these messages in reducing pedestrian accidents should be systematically evaluated.
6. The national program should support the wide use of recommended educational materials by program planners and others through increased awareness of the existence and ease of accessibility of these materials.
7. The national program should provide strategies for the dissemination of educational messages and materials for harder to reach audiences.
8. The national program should provide suggested mechanisms whereby the necessary support for a pedestrian safety program can be developed at the local ("grassroots") and state levels.

9. The national program should increase the awareness of community leaders and program planners on the severity of the pedestrian accident problem for all identified target audiences.
10. The development, use and evaluation of pedestrian safety educational materials and programs should be supported with the funds needed to carry out these activities as availability and priority of needs permit.

Table of Contents

Abstract.....	i
Preface.....	ii
Summary.....	iii
List of Tables.....	viii
INTRODUCTION	
Background.....	1
Pedestrian Safety: National Effort.....	4
Objectives.....	4
METHOD	
Collection of Materials.....	5
Classification Variable and Criteria Development.....	9
Initial Screening of Materials.....	10
Evaluative Review of Materials.....	10
Identification of Information Gaps.....	13
RESULTS	
Collection of Materials.....	18
Classification of Materials.....	18
Initial Screening.....	19
Evaluative Review of Materials.....	19
Educational Materials for Children.....	19
Educational Materials for Older Adults.....	29
Educational Materials for the General Public (Adults).....	32
Identification of Information Gaps.....	32
Preschool.....	33
Kindergarten through Third Grade.....	33
Grades 4 through 6.....	36
Junior High and High School Students.....	43
Adults.....	52
Older Adults.....	52
Drivers.....	60
CONCLUSIONS	
Young Children.....	65
Junior High and High School Students.....	65
Adults.....	66
Older Adults.....	66
RECOMMENDATIONS.....	69
REFERENCES	71
APPENDICES	
Appendix A	A-1
Appendix B	B-1
Appendix C	C-1
Appendix D	D-1
Appendix E	E-1



List of Tables

Table Number		Page
1	Description of Major Pedestrian Accident Types.....	2
2	Contacted Organizations by Type and Geographic Location.....	6
3	Criteria Used to Evaluate Educational Materials.....	11
4	Pedestrian Accidents by Common Types and Key Pedestrian Errors.....	14
5	Collected Educational Materials by Organization Type.....	16
6	Summary of Selected Pedestrian Safety Educational Materials: Print Materials for Children.....	20
7	Summary of Selected Pedestrian Safety Educational Materials: Children Programs.....	23
8	Summary of Selected Pedestrian Safety Educational Materials: Audio-visuals for Children.....	25
9	Summary of Selected Pedestrian Safety Educational Materials: Print Materials for Older Adults and General Public.....	30
10	Summary of Selected Pedestrian Safety Educational Materials: Audio-visuals for Older Adults and General Public.....	31
11	Pedestrian Safety Messages by Target Group: Preschool.....	34
12	Summary of Material Type by Critical Message Group: Preschool.....	35
13	Pedestrian Safety Messages by Target Group: K-3	37
14	Summary of Material Type by Critical Message Group: Kindergarten through Grade 3.....	39
15	Pedestrian Safety Messages by Target Group: Grades 4-6.....	41
16	Summary of Material Type by Critical Message Group: Grades 4 through 6.....	44
17	Pedestrian Safety Messages by Target Group: Junior High (7/8 Grades).....	46
18	Summary of Material by Critical Message Group: Junior High School (Grades 7 and 8).....	48

List of Tables (Continued)

Table Number		Page
19	Pedestrian Safety Messages by Target Group: High School.....	49
20	Summary of Material Type by Critical Message Group: High School....	51
21	Pedestrian Safety Messages by Target Group: Adult.....	53
22	Summary of Material Type by Critical Message Group: Adult.....	55
23	Pedestrian Safety Messages by Target Group: Older Adult.....	56
24	Summary of Material Type by Critical Message Group: Older Adult....	59
25	Pedestrian Safety Messages by Target Group: Driver.....	61
26	Summary of Material Type by Critical Message Group: Driver.....	63

INTRODUCTION

This technical report details an evaluative review of existing pedestrian safety educational materials conducted as part of a contract with the Federal Highway Administration (FHWA) and the National Highway Traffic Safety Administration (NHTSA) to develop and implement a National Pedestrian Safety Program: Walk Alert (Contract DTFH61-86-C-00058). After brief review of related background information and research, the objectives, method and procedure used to conduct this evaluation are described, and results are summarized and discussed. Conclusions from the evaluative review of existing pedestrian safety educational materials are presented as well as recommendations, with particular emphasis given to future development of educational materials and the establishment of educational material priorities.

Background

Pedestrian traffic collisions are a major cause of death and injury in the United States. Pedestrian deaths accounted for about 18% of the annual motor vehicle fatalities in the 1980s but have varied markedly (e.g., 9,700 pedestrian deaths in 1980 versus 8,200 in 1983) (National Safety Council, 1987). Additionally, about 80,000 pedestrians are injured each year. Such pedestrian traffic crashes are predominately an urban problem, with over 70% of the annual pedestrian fatalities occurring in nonrural areas; and in urban areas, more than one third of the motor vehicle fatalities can be pedestrians.

A landmark study conducted by Snyder and Knoblauch (1971) demonstrated that a relatively limited number of collision situations occur often enough such that a pedestrian accident classification system would be warranted. This research showed that investigated accidents could be grouped by specific accident types and characterized by age of the victim, circumstances, and behavioral responses of the pedestrian and driver. Of the some 30 accident types identified by this investigation, seven accounted for more than half of the total. These seven major accident types are shown in Table 1 extracted from National Highway Traffic Safety Administration (1975, 1981) and Federal Highway Administration (1984) sources. Other less common accident types are briefly described in Appendix A (Snyder & Knoblauch, 1971; Knoblauch, 1976).

More recent research supports the premise that a few major accident types account for most of the pedestrian deaths and injuries (Blomberg, Preusser, Hale, & Leaf, 1983a). The relative frequency of each can vary, however, by geographic location (Blomberg, Preusser, Hale, & Leaf, 1983b; Knoblauch, 1975), urban versus rural area (Knoblauch, 1976) and from city to city (Thackray, 1982; Liebermann, 1984). In addition, the research by Snyder and Knoblauch (1971) suggested that pedestrians of specific age groups can be characterized by different accident types. This too has been supported by subsequent research. For example, at least half of the midblock dash/dart accidents occur to children 9 years of age and younger (Blomberg, Preusser, Hale, & Leaf, 1983a). On the other hand, vehicle turn/merge and multiple threat accidents predominately involve adult pedestrians (Blomberg, Preusser, Hale, & Leaf, 1983b).

Table 1

Description of Major Pedestrian Accident Types

Accident Type	Description
<p>Midblock Dash/ Dart Out</p>	<p>A person appears suddenly from the roadside, usually some distance from an intersection. The person may be running and parked cars may obstruct driver vision. Quick appearance and brief time exposure to the driver are critical factors. Usually, the dart-out victim is looking only forward and is struck less than halfway across the street. The driver, traveling at a normal rate of speed, does not see the person in time to stop.</p> <p>Children of preschool and elementary school age are the most frequent victims. All age groups, however, are involved even those over 65.</p>
<p>Intersection Dash</p>	<p>Similar to midblock dash/dart out, this type of accident occurs in or near a marked or unmarked intersection crosswalk. A person runs across the intersection, is seen too late by the driver and is struck. This type of accident usually occurs in nonresidential areas.</p> <p>Children aged 5-9 predominate, although all age groups are involved.</p>
<p>Vehicle Turn/ Merge</p>	<p>A driver is turning into or merging with traffic. The driver's attention is centered on vehicle traffic heading in one direction. A pedestrian, approaching from a different direction and unseen by the driver, is struck. The critical factor here is driver conflict: The driver's attention, focused exclusively on the availability of an opening in traffic, causes an inability to search for the pedestrian coming from the opposite direction.</p> <p>This type of accident occurs almost always at intersections in nonresidential areas.</p> <p>Almost half of the pedestrians involved are aged 45 or older, although all age groups are involved.</p>

Table 1 (Continued)

Description of Major Pedestrian Accident Types

Accident Type	Description
Multiple Threat	<p>A vehicle has stopped in one traffic lane to avoid hitting a pedestrian attempting to cross. A second vehicle, going in the same direction, approaches in another traffic lane. The pedestrian, who continues walking, cannot be seen by the approaching driver since the stopped vehicle blocks the line of sight. The pedestrian is struck after stepping out from the front of the stopped vehicle. The yielding vehicle(s) forms a visual screen between the pedestrian and the striking vehicle. This accident occurs mainly at intersections and in marked crosswalks.</p> <p>All age groups are represented.</p>
Bus Stop Related	<p>A bus has stopped to discharge passengers. A person leaves the bus, begins to cross the road in front of the bus and is struck by a vehicle. This almost always happens at intersections and usually in non-residential areas.</p> <p>All age groups are involved.</p>
Vendor-Ice Cream Truck	<p>A person is struck by a vehicle while going to or from a street vendor. This accident occurs almost exclusively in residential areas and away from intersections. Most occur as the pedestrian is leaving the truck.</p> <p>This type of accident almost always involves children under 14 years of age.</p>
Backing Up	<p>Either by failing to see a vehicle backing up or not being seen by the driver, a person is struck. Pedestrian is likely to be walking normally at the time. This type of accident occurs mainly in commercial or commercial-residential areas, at or near intersections, and at any time during the day.</p> <p>Backing-up accidents occur to all age groups, with a slight emphasis on those who are older than 50.</p>

This research has had a major influence on pedestrian safety efforts. These accident types have formed the basis of an accident type typography developed by NHTSA (1981) and FHWA (1984) for use in accident investigation and problem identification. As important, because these accident types tend to be associated with behavioral errors on the part of either the pedestrian and/or driver, these should be amenable to countermeasure actions. Such countermeasures should be directed toward changing these behaviors either through the imparting of information via education programs or messages, initiating specific traffic safety regulations or ordinances, or modifying the physical environment to reduce or eliminate the likelihood of inappropriate pedestrian/driver responses (Farina, 1984). (See Appendix A.)

Pedestrian Safety: National Effort

Although pedestrian safety programs have been implemented in various cities and local areas, with some shown to be effective in reducing pedestrian accidents and producing desired behavioral change (Thackray, 1982; Preusser & Blomberg, 1984), there has not been a coordinated safety effort on a national level. Consequently, the lack of a national focal point has inhibited the development and testing of countermeasures, has precluded an effective exchange of this information, and has missed the opportunity to provide continuity between separate and smaller pedestrian safety program efforts.

Recognizing the need for a coordinated effort at the national level sponsored by federal, state, and local government agencies and organizations, the Federal Highway Administration and the National Highway Traffic Safety Administration contracted with the National Safety Council to develop and implement a National Pedestrian Safety Program. The scope of this program is intentionally broad incorporating education measures as well as engineering, enforcement and evaluation. This technical report, however, will focus on education measures and in particular the selection of existing pedestrian safety educational materials for use in a national program effort. The complete overview and profile of this national program will be presented in the final report for this project.

Objectives

The principal objective of this project was to develop a comprehensive set of educational materials for use in this national program. To this end, existing materials throughout the U. S. (and to a lesser extent in other countries) were identified and collected, and subjected to an evaluative review. The objectives of the evaluative review of existing pedestrian safety educational materials were to: (1) determine the accuracy, quality and adequacy of existing materials, (2) identify information gaps in existing materials, and (3) recommend material needs and priorities.

METHOD

Existing pedestrian safety educational materials identified and collected during this project were evaluated by a user need assessment procedure. Such a procedure has been previously used by the National Safety Council and has been shown to be an effective method of evaluating educational materials as well as

identifying areas in need of further development (Klones, Planek, Race, & Gamache, 1980).

The conduct of this project involved five major tasks:

1. Collection of materials
2. Classification variable and criteria development
3. Initial screening of materials
4. Evaluative review of materials
5. Identification of information gaps

Throughout this project, the staff coordinated its efforts with three private consultants and members of a National Pedestrian Safety Program (NPSP) Advisory Committee. The NPSP Advisory Committee was created specifically for this contract and consisted of 18 members who collectively represented a broad base of pedestrian safety experience. These included members who represented organizations that have direct outreach to major national program target audiences (such as the Parent Teacher Association and other public service organizations) or to professionals in, or concerned with, the field of traffic safety (e.g., National Association of Governor's Highway Safety Representatives, Institute of Transportation Engineers). In addition, representatives from selected federal, state, and local government agencies plus representatives from organizations that develop or disseminate pedestrian safety educational materials (such as the American Automobile Association) were members of this committee. A list of the Advisory Committee membership and consultants who served on this project are shown in Appendix B.

Collection of Materials

To identify and collect existing pedestrian safety educational materials, project staff contacted via telephone a total of 452 organizations and agencies during a 3-month period. Appropriate materials were defined as booklets, films, slide presentations, videotapes, TV and radio public service announcements, posters, curricula, community programs, lesson plans, or any other educational or informational materials on pedestrian safety. Organizations or agencies that had such materials were asked for a brief description of these and asked to forward copies to the National Safety Council. All organizations, including those without pedestrian materials, were asked for other agency/organization referrals. The general level of cooperation by these contacted organizations was high, both in supplying materials and additional referrals.

As can be seen in Table 2 the search for this material was extensive, covering numerous types of organizations and geographic areas. About half of the contacts were made to government agencies at the state and local levels. At the federal level, in addition to NHTSA and FHWA, other agencies such as the U. S. Department of Health and Human Services were contacted. At the state level, each Governor's Representative for Highway Safety, Highway Department

Table 2

Contacted Organizations by Type and Geographic Location

Regional/State	Government Agencies		Public Service		Misc ^d	Total
	Highway ^a Safety	All ^b Others	Safety Council	Organiza- ^c tions/Clubs		
National/Federal Level	3	4	1	46	23	77
<u>Region I^e</u>						
Connecticut	1	5	1	0	2	9
Maine	1	2	1	0	3	7
Massachusetts	1	3	1	0	3	9
New Hampshire	1	2	2	0	0	4
Rhode Island	1	2	0	0	0	3
Vermont	1	1	0	0	0	2
New Jersey	2	2	0	0	0	4
New York	1	2	0	1	6	10
<u>Region III</u>						
Delaware	2	0	1	0	1	4
Dist. of Columbia	1	0	0	0	0	1
Maryland	2	2	1	1	2	8
Pennsylvania	2	1	0	0	0	3
Virginia	1	1	1	2	1	6
West Virginia	3	2	1	0	0	6
<u>Region IV</u>						
Alabama	3	3	2	2	0	10
Florida	2	3	15	2	0	22
Georgia	2	3	1	2	0	8
Kentucky	1	2	0	1	0	4
Mississippi	2	1	0	1	0	4
N. Carolina	2	2	0	0	2	6
S. Carolina	2	2	0	0	0	4
Tennessee	1	1	0	1	0	3

Table 2 (Continued)

Contacted Organizations by Type and Geographic Location

Regional/State	Government Agencies		Public Service		Misc.	Total
	Highway Safety	All Others	Safety Council	Organizations/Clubs		
<u>Region V</u>						
Illinois	2	5	1	4	15	27
Indiana	2	2	0	1	1	6
Michigan	2	2	0	1	1	6
Minnesota	1	3	1	2	2	9
Ohio	3	2	3	2	2	12
Wisconsin	3	1	0	3	1	8
<u>Region VI</u>						
Arkansas	3	3	1	1	0	8
Louisiana	2	1	2	1	1	7
New Mexico	2	2	0	0	0	4
Oklahoma	2	1	2	1	0	6
Texas	2	3	2	2	0	9
<u>Region VII</u>						
Iowa	1	4	1	2	1	9
Kansas	2	2	0	2	0	6
Missouri	3	1	2	4	0	10
Nebraska	3	2	2	1	1	9
<u>Region VIII</u>						
Colorado	2	4	1	2	0	9
Montana	1	2	1	0	1	5
North Dakota	2	1	1	0	0	4
South Dakota	2	1	1	2	0	6
Utah	2	1	1	1	0	5
Wyoming	2	2	1	0	0	5
<u>Region IX</u>						
Arizona	3	3	3	1	1	11
California	4	3	7	3	9	26
Hawaii	1	1	0	0	0	2
Nevada	3	3	0	0	0	6

Table 2 (Continued)

Contacted Organizations by Type and Geographic Location

Regional/State	Government Agencies		Public Service		Misc.	Total
	Highway Safety	All Others	Safety Council	Organizations/Clubs		
<u>Region X</u>						
Alaska	2	2	0	1	0	15
Idaho	2	1	0	2	0	5
Oregon	2	2	0	0	0	4
Washington	1	1	0	0	1	3
<u>European/Foreign</u>						
Canada	0	0	0	0	2	2
Great Britain	1	0	0	0	0	1
India	0	1	0	0	0	1
Sweden	2	0	0	0	0	2
Total	103	108	60	99	82	452

^aIncludes: Office of Governor's Highway Safety Representatives. Department of Highway Safety, Department of Motor Vehicles, Department of Transportation, Traffic Engineering Division.

^bIncludes: Department of Education, Department of Public Safety, Department of Health, Department of Environment, Department of Public Works, Department of Justice, State Highway Patrol, State/Local Law Enforcement Agencies.

^cAlso includes medical and health organizations.

^dIncludes private companies, universities and professional organizations.

^eGeographic groupings of states based on Federal Highway Administration Regions. These footnotes apply to Table 5 as well

and Department of Motor Vehicles was contacted. Also included were state level departments of education, public safety, health and justice. In addition, both state and local departments on aging were contacted as well as many of the state police departments and several large city police departments, especially those with known pedestrian activities (e.g., Denver, Chicago, Milwaukee).

In addition to 60 state and local safety councils, approximately 100 other public service organizations both national and local were contacted. These included organizations of education (Parent Teacher Association), youth (Boy/Girl Scouts of America), service clubs (Lions, Rotary), special interest groups (American Foundation for the Blind), farm (4-H Clubs, Farm Bureaus) and religious groups (Mormon Church, National Council of Catholic Women). Also contacted were insurance and other private companies, universities, and professional organizations (American Academy of Pediatrics) with known interest or activity in traffic safety.

Classification Variable and Criteria Development

To begin the evaluative review process, each received educational material was classified by general type and by intended audience. This classification by general type of education material was developed so that subsequent comparisons could be made. This classification distinguished among:

Programs:	composed of a variety of educational aids plus a mechanism for distribution or information dissemination.
Print materials:	including a variety of printed pieces developed and/or distributed.
Audiovisual materials:	defined as films, filmstrips, video cassettes, slide presentations, and public service announcements (PSAs).

In addition, each item was classified by the following age groups:

Preschool

Elementary school (specified by grade level, if possible)

High school

General public (adults)

Older adults (age 65 or more)

Those materials initially screened and retained for subsequent evaluative review were further classified using the following categories. An item was classified as targeted if it addressed pedestrian safety specifically or a particular problem area associated with pedestrian accidents, or as nontargeted if pedestrian safety issues were included within a wider traffic safety framework. Targeted materials were further classified by type of pedestrian accident type (e.g., dart and dash, multiple threat) and a brief description of

content and major activity (e.g., child at play, intersection cross) were noted. Nontargeted materials were retained for further review if they addressed a problem area not adequately covered by other pedestrian safety materials. Retained materials were further categorized as being national or local in nature. Materials classified as national were generally developed and produced by federal agencies or national organizations and intended for nationwide use. Local level materials were developed and produced by agencies in the communities for which they were intended. Finally, the full title of each material and a unique code number were used throughout the evaluative process.

The objective of the review process was to provide a brief description of the materials evaluated and a procedure that facilitated judgment about the adequacy and usefulness of these materials. To augment these classification variables, 11 criteria were developed that provided the structural framework for this review and served to enhance assessment consistency among the reviewers. As shown in Table 3, these criteria addressed the significance of the accident problem area, accuracy of the content, overall appeal and quality in addition to other attributes of each material.

Initial Screening of Materials

All materials retained for review were educational or instructional in nature although those not written in English were not reviewed. The following were excluded from this review process: State Rules-of-the-Road books and other related materials, and news releases or articles on local or state pedestrian programs. Engineering studies, demonstration projects and technical reports were also not reviewed. (A select bibliography of engineering and enforcement documents is shown in Appendix C.)

Print and program materials were initially screened by project staff and by two consultants from Dunlap and Associates, Inc. Materials excluded from further review tended to contain pedestrian safety messages that were: (1) inaccurate or misleading, (2) irrelevant or inappropriate for the intended audience, or (3) of insufficient coverage to warrant further consideration. Audiovisual materials were initially screened by project staff and were eliminated if judged to be nontargeted or out of date. These initial judgments were based on descriptions of these materials in audiovisual catalogues.

Evaluative Review of Materials

Evaluative review by project staff consisted of the independent assessment of each material by two raters. Ten members of the project staff participated in this review and each was assigned specific groups of educational materials based on his or her area of expertise. Each material was rated on the 11 criteria listed in Table 3, using a seven-point scale for each criterion (7 = high, 1 = low). All criteria were weighted equally; for example, a value of 6 on the Significance of Accident Problem Area criterion and a 6 for Appropriateness of Material for Intended Audience criterion contributed equally to the total score. Thus, a total of 77 points per rating were possible. Raters recorded their judgments of each material on a preprinted form, an example of which is shown in Appendix D.

Each material was ranked from high to low based on the combined total score from the two preliminary review ratings. Project staff then met to

Table 3

Criteria Used to Evaluate Educational Materials

Criteria	Relevant Question(s)
Significance of Accident Problem Area	<ul style="list-style-type: none"> • Does this material address a major pedestrian safety problem area? • Is this problem area of particular importance to the selected target audience?
Match Between Pedestrian Safety Problem Need and Subject Matter	<ul style="list-style-type: none"> • Does the subject matter present a realistic solution to this pedestrian safety problem area? • Would such a solution, if implemented, likely prevent or mitigate the pedestrian accident(s) in question?
Appropriateness of Material for Intended Audience	<ul style="list-style-type: none"> • Is the content of the material (e.g., simplicity of language, pictorial content) appropriate for the selected target audience? • Is the type of material (e.g., coloring book for young children) appropriate for the selected target audience?
Accuracy of Content	<ul style="list-style-type: none"> • Does the contained information agree with accepted opinions or state-of-the-art pedestrian safety knowledge?
Adequacy of Subject Matter	<ul style="list-style-type: none"> • Is the subject matter adequately covered in the time (or space) allotted?
Clarity of Content	<ul style="list-style-type: none"> • Is the subject matter stated clearly?
Adequacy of Pictorial Content	<ul style="list-style-type: none"> • Has color been used effectively? • Is the number of illustrations adequate? • Do the illustrations add to the clarity of the message?

Table 3 (Continued)

Criteria Used to Evaluate Educational Materials

Criteria	Relevant Question(s)
Match between Design and Content of Message	<ul style="list-style-type: none"> • Does its packaging characteristics enhance the content of the material? • Does the overall look of the material increase the likelihood of its contents being read?
Overall Quality of Material	<ul style="list-style-type: none"> • Overall, is the material of high quality?
Overall Appeal of Material	<ul style="list-style-type: none"> • Is the overall visual appeal or attractiveness of the material high? • Is the overall look of the material unique in any desirable way?
Potential Usefulness to National Program	<ul style="list-style-type: none"> • Can this material be incorporated into the National Program as, for example, a resource material, or as part of the curriculum for an educational component?

discuss these rankings and assess each educational material. During these meetings, the reviewer responsible for a given item briefly summarized it by type, intended audience, and content. At this time, major strengths and weaknesses of the material were pinpointed by the reviewers who were also asked to provide an explanation of why a high, medium or low rating was given. Thus, selected materials were based on the results of both independent review and collective staff opinion.

Print material selected by project staff were also briefly assessed by members of the NPSP Advisory Committee. This review by advisory committee members occurred during a 1½ day meeting held in Chicago, Illinois on February 4 and 5, 1987. During this part of the meeting's agenda, advisory committee members were divided into smaller working panels each comprised of four or five individuals. Each panel was given a preselected package of materials that contained a designated group(s) of print material and two to three programs oriented toward children. This review by panel members was also guided by the criteria in Table 3 and group discussion was used to attain consensus of opinion on each material, with assessments recorded on the preprinted form already mentioned. Because of practical limitations and time constraints, audiovisual materials were not reviewed by advisory committee members.

After the preliminary evaluation of all materials by project staff and the review of selected materials by the advisory committee were completed, project staff met during a series of meetings to discuss and select those materials acceptable for use in the National Pedestrian Safety Program. Particular attention was also given to the identification of areas where no existing material was available.

Identification of Information Gaps

As previously cited, past research has shown that common pedestrian accident types are often associated with behavioral errors on the part of either the pedestrian and/or the driver (Snyder & Knoblauch, 1971). Shown in Table 4 are examples of frequent pedestrian behavioral errors. Failure to search adequately is listed under all but one of the 13 accident types shown in Table 4, although no doubt such search behavior is different when crossing the street versus working, walking or standing on the roadway. Also evident, is the close association with failure to search and quick appearance in the roadway. Under circumstances without visual obstruction, the pedestrian enters the roadway without stopping at the curb and before completing an adequate search. Under circumstances with objects in or near the roadway that obstruct either the driver's or pedestrian's vision, the pedestrian does not stop at the outside edge of the obstructing vehicle or object (e.g., parked car, stopped bus or car) and also does not complete an adequate search prior to street crossing. And, to a lesser extent, the problem of night time detection and recognition of the pedestrian by the driver is also evident.

Such pedestrian behaviors should be amenable to change through the imparting of educational or informational messages (Blomberg, Preusser, Hale, & Leaf, 1983a; 1983b). Moreover, state-of-the-art pedestrian safety information, research and expert opinion suggest that there are central pedestrian safety messages that need to be imparted to specific age groups. For example, project consultants and staff recognized that appropriate search behavior in crossing

Table 4

Pedestrian Accidents by Common Types and Key Pedestrian Errors

Accident Type	Frequent Errors by Pedestrian
Midblock Dash/Dart Out	<ul style="list-style-type: none"> • Failure to search adequately • Sudden appearance in roadway
Intersection Dash	<ul style="list-style-type: none"> • Failure to search adequately • Appearing suddenly in front of vehicle
Vehicle Turn/Merge	<ul style="list-style-type: none"> • Inattention to traffic • Making an inadequate search • Failing to anticipate the course of the vehicle
Multiple Threat	<ul style="list-style-type: none"> • Failure to search for additional vehicles beyond the one stopped • Watching traffic but not collision vehicle
Bus Stop-Related	<ul style="list-style-type: none"> • Failure to stop and search adequately • Choosing a course with restricted visibility • Quick appearance in street • Inattention to traffic
Vendor-Ice Cream Truck	<ul style="list-style-type: none"> • Failure to adequately search • Obstructed vision • Quick appearance in street
Backing Up	<ul style="list-style-type: none"> • Failure to search adequately • Attention toward moving traffic • Failure to detect in time
School Bus- Related	<ul style="list-style-type: none"> • Failure to search adequately • Obstructed vision
Mail Box- Related	<ul style="list-style-type: none"> • Obstructed vision • Failure to search adequately • Quick appearance in roadway
Walking along Roadway	<ul style="list-style-type: none"> • Failure to search adequately • Walking with traffic (can't see collision vehicle) • Wearing dark clothes at night

Table 4 (Continued)

Pedestrian Accidents by Common Types and Key Pedestrian Errors

Accident Type	Frequent Errors by Pedestrian
Working on Road	<ul style="list-style-type: none"> • Conspicuity of worker is low • Failure to search and detect collision vehicle
Hitchhiking	<ul style="list-style-type: none"> • Pedestrian walking/standing in unexpected location • Alcohol related • Conspicuity of pedestrian is low
Disabled Vehicle-Related	<ul style="list-style-type: none"> • Conspicuity of pedestrian is low • In unexpected locations • Fail to search for and detect collision vehicle

Sources: Federal Highway Administration (1978, 1984). National Highway Traffic Safety Administration (1981)

the street safely is a central message that should be imparted to pedestrians of all ages and especially to young children. On the other hand, it is also clear that these messages will vary depending on the intended audience given the activity, responsibility, developmental and aging differences among them. For example, night time conspicuity is an important issue for older children, young adult and adult pedestrians, yet day time conspicuity is a more serious concern for the older adult pedestrian.

The identification of central pedestrian safety messages by target group represents a comprehensive approach to the problem of determining information gaps in existing pedestrian safety materials and a rationale for the establishment of material development priorities. Project staff formulated these messages on the basis of major pedestrian accident types (FHWA, 1984), past research (e.g., Preusser, Blomberg, Edwards, Farrell, & Preusser, 1983; Blomberg, Preusser, Hale, & Leaf, 1983a; 1983b), and state-of-the-art opinion.

RESULTS

This section will briefly highlight the results from the collection, classification, and initial screening of existing educational materials. The results of the evaluative review process will be discussed in more detail regarding the content and characteristics of selected educational materials for use in a National Pedestrian Safety Program, identified central pedestrian safety messages by target group, and identified information gaps.

Table 5

Collected Educational Materials by Organization Type

Regional/State	Government Agencies		Public Service		Misc.	Total
	Highway Safety	All Others	Safety Council	Organizations/Clubs		
National/Federal Level	3	1	1	16	9	30
<u>Region I</u>						
Connecticut	1	4	0	0	2	7
Maine	1	1	0	0	0	2
Massachusetts	1	0	1	0	3	5
New Hampshire	1	1	0	0	0	2
Rhode Island	1	1	0	0	0	2
Vermont	1	1	0	0	0	2
Jersey	2	2	0	0	0	4
New York	1	2	0	0	2	5
<u>Region III</u>						
Delaware	2	0	0	0	0	2
Dist. of Columbia	1	0	0	0	0	1
Maryland	2	1	0	0	1	4
Pennsylvania	2	1	0	0	0	3
Virginia	1	1	1	2	0	5
West Virginia	2	1	1	0	0	4
<u>Region IV</u>						
Alabama	2	2	0	1	0	5
Florida	2	2	1	0	0	5
Georgia	1	0	0	0	0	1
Kentucky	1	2	0	0	0	3
Mississippi	2	1	0	0	0	3
N. Carolina	1	2	0	0	2	5
S. Carolina	1	1	0	0	0	2
Tennessee	1	0	0	0	0	1

Table 5 (Continued)

Collected Educational Materials by Organization Type

Regional/State	Government Agencies		Public Service		Misc.	Total
	Highway Safety	All Others	Safety Council	Organizations/Clubs		
<u>Region V</u>						
Illinois	2	3	0	1	4	10
Indiana	2	1	0	0	0	3
Michigan	2	2	0	0	0	4
Minnesota	1	2	0	1	2	6
Ohio	2	0	0	1	1	4
Wisconsin	3	1	0	1	0	5
<u>Region VI</u>						
Arkansas	2	0	0	0	0	2
Louisiana	1	1	0	1	0	3
New Mexico	2	1	0	0	0	3
Oklahoma	2	1	0	0	0	3
Texas	2	2	0	2	0	6
<u>Region VII</u>						
Iowa	1	3	0	0	0	4
Kansas	2	0	0	0	0	2
Missouri	2	1	1	1	0	5
Nebraska	3	0	1	0	0	4
<u>Region VIII</u>						
Colorado	2	3	0	0	0	5
Montana	1	2	0	0	0	3
North Dakota	2	0	0	0	0	2
South Dakota	1	0	1	0	0	2
Utah	2	1	0	0	0	3
Wyoming	2	1	0	0	0	3
<u>Region IX</u>						
Arizona	2	0	0	0	1	3
California	3	1	1	1	5	11
Hawaii	1	0	0	0	0	1
Nevada	2	0	0	0	0	2

Table 5 (Continued)

Collected Educational Materials by Organization Type

Regional/State	Government Agencies		Public Service		Misc.	Total
	Highway Safety	All Others	Safety Council	Organizations/Clubs		
<u>Region X</u>						
Alaska	1	0	0	1	0	12
Idaho	1	0	0	0	0	1
Oregon	2	2	0	0	0	4
Washington	1	1	0	0	1	3
<u>European/Foreign</u>						
Canada	0	0	0	0	1	1
Great Britain	1	0	0	0	0	1
India	0	1	0	0	0	1
Sweden	2	0	0	0	0	2
Total	88	57	9	29	34	217

Collection of Materials

Of those organizations and agencies contacted, 217 or 48% forwarded pedestrian safety materials to the National Safety Council. A breakdown of organizations with materials by organizational type and geographic location is shown in Table 5. (See Appendix E for a listing of these organizations.) Most materials came from state government agencies although federal and local agencies were also represented. At the state level, materials from departments of transportation, education, health, and public safety were most frequent. In addition, materials were also gathered from national level public service organizations (most notably the American Automobile Association), state and local safety councils, professional organizations and private companies.

Classification of Materials

As anticipated, the majority of existing educational materials were geared to preschool and elementary-aged children. Materials geared toward the general public (adults) and older adults were less prevalent. Accordingly, the collected materials were grouped by the following general categories:

- A. Child Coloring Books (10)
- B. Child Booklets/Brochures (19)
- C. Child Programs (42)
- D. Child Miscellaneous (29)
- E. Older Adult Booklets and Other Materials (11)
- F. General Public Booklets/Brochures (24)
- G. General Public Programs (11)
- H. General Public Miscellaneous (13)
- I. Child Audiovisuals (59)
- J. Older Adult Audiovisuals (4)
- K. General Public Audiovisuals (14)
- L. Miscellaneous Audiovisuals (38)

A total of 274 educational materials were thus classified, including 106 print materials, 53 programs, and 115 audiovisuals. These totals excluded received materials that were not educational or instructional in nature (e.g., technical reports) as well as duplicate items. A complete listing of the classified materials, by material type and title, is presented in Appendix F.

Initial Screening

After initial screening of print and program materials by the Dunlap consultants, 142 or 89% of these materials were evaluated by project staff. After the initial screening of audiovisual materials, 77 or 67% were subjected to evaluative review.

Evaluative Review of Materials

The preliminary and final evaluative review of pedestrian safety educational materials resulted in the selection of 44 items for use in a National Pedestrian Safety Program.¹ Of these, 15 were print materials, 6 were programs, and 23 were audiovisuals. Most of the materials were geared toward children, that is, 10 print pieces, all 6 of the programs, and 18 of the audiovisual materials. Only 2 print materials and 1 audiovisual were directed toward older adults. Similarly, 3 print materials and 4 audiovisuals were targeted toward the general public (adults).

Selected Educational Materials for Children. Shown in Table 6 are the selected print materials for children. Of these, "Parents, Children and Traffic" (B-13) is the only booklet or brochure geared toward preschoolers (that is, parents on behalf of preschoolers). It describes a behavioral plan to help children develop an understanding of streets and off-limit boundaries. Two of these booklets, "What Parents Should Know About Children & Traffic" (B-3) and "Parents - Safeguard Your Child" (B-13) are geared toward parents of elementary-aged children. Both address walking to and from school and illustrate search behavior. "Parents Can Be Serious Traffic Hazards" (B-14) is geared toward parents of school-aged children who drive them to and from school. It alerts these drivers to potential hazards associated with varied and congested vehicle traffic in and around the school area. "D. C. Walker's Safety Book" (B-7) is the only booklet for elementary school children. It is also the only booklet developed on a local basis (that is, Washington, DC) and may, therefore, have limited use in a national program. It does, however, provide good material in an entertaining and creative manner and may be a good reference source.

Most of the Group D items listed in Table 6 address school safety patrol programs. As such, most are directed toward school administrators and officials. A noted exception is the "Annual 'School's Open: Drive Carefully' Program" (D-11) which is an information campaign designed to alert drivers to the beginning of the school year. Project staff thought that there is need for safety patrol material in a national program but it should not be overemphasized. Therefore, only the best of this material was selected. This

¹See the National Pedestrian Safety Program: Walk Alert Program Guide for a source and availability listing of these items (National Safety Council, in preparation).

Table 6

Summary of Selected Pedestrian Safety Educational Materials: Print Material for Children

Material Type/ Code Number	Title	Description of Material	Targeted/ Nontargeted	Intended Audience	Major Activity	Intended Use	Comments
<u>Children</u> B-3 <u>Booklets/ Brochures</u>	What Parents Should Know About Children & Traffic	Booklet (16pp)	Nontargeted	Geared to parents for elementary school children	Safe walk- ing, rules, right way to cross streets	National	Hated very high by both re- viewers; Not all pedestrian materials
B-7	D.C. Walker's Safety Book	Booklet (12pp)	Targeted	Elementary school children	How to walk safely	Local (Washington DC)	Presents material in entertain- ing fashion through creative and comic artwork; covers walking safely - crossing the street
B-9	Parents, Children and Traffic	Brochure (tri-fold)	Targeted	Geared to parents for preschoolers	Crossing the street	National	How-to's for preschoolers: How to be near, in, and cross street safely.
B-13	Parents - Safeguard Your Child	Brochure (four-fold)	Nontargeted	Geared to parents for elementary children	Walking to school	National	Mostly walking to/from school, choosing safe routes; some bicycle information, gives 7 safe walking tips and uses "Look all Ways" instead of Left- Right-Left.
B-14	Parents Can Be Serious Traffic Hazards	Brochure (6pp)	Targeted	Geared to parents for school-aged children	Traffic in and around schools -- dropping off/picking up children	National	Gives good information on how parents can help reduce traffic hazards at or near schools; geared toward drivers.
<u>Children</u> D-4 <u>Misc.</u>	State of Washington School Safety Patrol	Manual (24pp)	Targeted	School Adminis- trators	School safety patrol	State	Need for National Program to cover school safety patrols but not overemphasize.
D-5	School Traffic Safety/ School Crossings	Manual (20pp)	Targeted	School Adminis- trators	School safety patrol	State	Analyzing, initiating, and con- ducting school traffic safety programs.

Table 6 (Continued)

Summary of Selected Pedestrian Safety Educational Materials: Print Material for Children

Material Type/ Code Number	Title	Description of Material	Targeted/ Nontargeted	Intended Audience	Major Activity	Intended Use	Comments
D-11	Annual "School's Open: Drive Carefully" Program	Promotional material, restaurant place mats, table tents, shopping bags, posters	Targeted	Geared to adult drivers	To remind drivers school is starting/be aware of child pedestrian	National	Usable
D-12	School Trip Safety	Brochure (10pp)	Targeted	School adminis- trators, school boards, PTAs, police.	Going to & from school safely	National	Emphasizes the need for a pro- gram involved with school trip safety.
D-20	School Safety Patrol Advanced Training Program	Program guide (70pp)	Targeted	School Safety su- pervisor for ele- mentary children	School- related	National	Training program for school pa- trol officers: Very complete for the subject it addresses.

is in part due to the generally safe nature of the school trip (i.e., to and from), perhaps because of the effectiveness of these programs. It cannot be interpreted, however, that such programs are a sufficient safeguard for young children since many accidents involving this age group occur during after-school hours and during play. It was also noted by staff that such material should emphasize that even in the presence of a crossing guard, the child must still execute his or her own search behavior before entering the street.

The selected child programs are shown in Table 7. It should be noted that the "Guidelines for the Development of Safe Walking Trip Maps, Volume V" (C-23) is a good accompanying piece to the already mentioned school safety patrol materials.

Except for "Guidelines for a K-12 Traffic Safety Education Curriculum, Volume II" (C-22), the remaining programs are designed for preschoolers and very young elementary-aged children (kindergarten through third grade). "Walking in Traffic Safely, WITS" (C-6) is the product of a joint effort by the Head Start Bureau, U. S. Department of Health and Human Services and the National Highway Traffic Safety Administration, U. S. Department of Transportation. The program consists of 9 storybooks graduated by age from preschoolers (aged 2 years and under) up to 6 years old; and each is well marked, clearly indicating the intended age group. These booklets are accompanied by teacher and parent support materials.

The main objective of "Preschool Pedestrian Safety Program, Watchful Willie" (C-14) is to teach preschoolers to stay out of the street when not with an adult. It was designed specifically to address midblock dash/dart out accidents, a common pedestrian accident type among this age group. The five messages conveyed in this program are: (1) streets are for cars, (2) sidewalks are for walkers (both boundary messages), (3) always stop at the curb (a boundary-oriented message and the first step in proper search behavior), (4) only cross the street with someone older (supervision message), and (5) cars are bigger than I am. These messages are supported by teacher lesson plans built around each message plus coloring pages and posters.

The central message of always stop at the curb and only cross with someone older are supported in three of the five public service announcements (PSAs) shown in Table 8. The first in this series of PSAs is: "Watchful Willie Speaks" (I-33); it introduces the character, Watchful Willie (a hand puppet), and the above messages. "Watchful Willie and Action" (I-34) illustrates these messages by showing an adult and child crossing the street together. They both stop at the curb and execute left-right-left search behavior before crossing. "Watchful Willie and Sassy" (I-35) shows the dangers of parked cars blocking clear vision of the street and restates the main message of always stop at the curb and only cross with someone older. The last PSA in this series, "Watchful Willie: Where to Play" (I-36), encourages children to play in the backyard away from the street and driveway.

The program guide, "Child and Traffic" (C-26) in Table 7 and the accompanying film, "Children and Traffic: Why Are They Different" (I-47) in Table 8 comprised a program designed for preschool and young elementary children. This program was developed by Deutscher Verkehrssicherheitsrat (German Traffic Safety Council), West Germany, has been translated into English

Table 7

Summary of Selected Pedestrian Safety Educational Materials: Child Programs

Material Type/ Code Number	Title	Description of Material	Targeted/ Nontargeted	Intended Audience	Major Activity	Intended Use	Comments
<u>Programs</u> <u>for</u> <u>Children</u> C-6	Walking in Traffic Safety WITS	Includes: 9 storybooks 2 classroom guides, 9 booklets for par- ents and 2 brochures	Targeted	Teachers, parents, children (Pre- school to 6 years old)	Crossing streets, recognizing boundaries, going to school	National	Good materials but could be condensed; shows L-R-L but not emphasized. Provides plenty of instruction material.
C-8	Safe Street Cross- ing Training Program (Willy Whistle)	Variety of materials including teacher's guide, prin- cipal's man- ual, admin- istrators handbook, & brochures for parents	Targeted	K-3 Parent/teacher material also	Emphasizes L-R-L when- ever child enters the street; avoidance of dart- outs and mid-block crossing	National	Program with one principal theme L-R-L search behavior. Struc- tured activities to facilitate search habit.
C-14	Preschool Pedestrian Safety Program (Watchful Willie)	Teacher's guide & hand puppet	Targeted	Teachers for pre- schoolers	Crossing safely with an adult	National	General play, midblock dart, safe play areas, needs L-R-L update, has curb problem.
C-22	Guidelines for a K-12 Traffic Safety Edu- cation Curriculum Vol II	Guidelines for curriculum development and review	Nontargeted	K-12	Pedestrian, bicycle, alcohol and occupant safety	National	Covers all major activities. Has particular potential in providing model, objectives, competencies, & school year schedule for each grade.
C-23	Guidelines for the Development of Safe Walking Trip Maps Vol V	Manual (35pp)	Targeted	Elementary school children	Safe routes to school	National	Step-by-step procedures for developing, implementing, and maintaining safe route to school maps.
C-26	Child and Traffic	Booklet (36pp)	Targeted	Parents for pre- school and young elementary child- ren	Safe street crossing	National (West Ger- many)	Provides a brief, simple outline of major aspects of traffic safety.

and is available from the American Automobile Association in the United States. The program guide and film discusses the effects and limitations of maturation on children's knowledge and perceptions of traffic safety. These materials point out, for example, that as individuals, children develop differentially, they do not always understand the difference between seeing and being seen, are very poor judges of safe gaps in traffic, cannot always differentiate between a stationary and moving vehicle and have other maturation limitations such as a shorter attention span and distractability (Phinney, Colker, & Cosgrove, 1985). Although this program is excellent, it needs to be supported with other materials because these pieces alone do not show any preventive or corrective messages.

"Safe Street Crossing Training Program (Willy Whistle)" (C-6) in Table 7 was specifically developed to address the problem of midblock dash/dart out accidents among children in kindergarten through third grade. The program has one central theme, that is, the training of appropriate pedestrian search behavior any time a child enters the street, including street entry during play. Accordingly, the behavioral message of this program is:

1. Stop at the curb, edge of the traveled portion of the road, or outside edge of a parked car.
2. Look left-right-and left again to see if a car is coming.
3. If a car is coming, let the car pass and look left-right-left again. (Preusser & Blomberg, 1984; 1985).

It should be noted that a great deal of development and research went into this search behavior message (Dueker, 1975; 1981; Thackray, 1982; Blomberg, Preusser, Hale, & Leaf, 1983a; Preusser & Blomberg, 1984; 1985). Although it is simple and direct in content it should not be construed as simplistic. The first element of the message, stop at the curb, is designed to reduce the likelihood of quick entry into the roadway by children. The message, "look left-right and left again" provides an extra check on traffic approaching in the first half of the street crossing. Also, this message has been augmented with directional arrows to assist young children who may still confuse their left from their right. The message, let the car pass, has been incorporated because children at this age are still likely to have trouble judging safe gaps in traffic as well as differentiating between a moving and stopped car (Phinney, Colker, & Cosgrove, 1985). Also, this procedure affords the driver of the vehicle an opportunity to spot the child and take appropriate action, if necessary. This procedure will hereafter be referred to as left-right-left search behavior or more simply as left-right-left.

This program consists of a variety of materials, including a teacher's guide, principal's manual, administrator's handbook, brochures for parents, posters and an accompanying film "Willy Whistle" (I-6) shown in Table 8. An important part of the program involves repetitive practice by children of this search behavior during structured activities conducted in both simulated and actual street environments and centered on street entry during play.

Table 8

Summary of Selected Pedestrian Safety Educational Materials: Audiovisuals for Children

Material Type/ Code Number	Title	Description of Material	Targeted/ Nontargeted	Intended Audience	Major Activity	Intended Use	Comments
<u>Films/</u> I-2 <u>Videotapes</u>	Stop, Look & Think	VHS Video- tape (11 Minutes)	Targeted	Grades 4-6	Street crossings at crosswalks	National	Police set up a series of circum- stances to illustrate to children how important it is to cross at crosswalks. L-R-L scan. Police - man isn't wearing safety belt.
I-6	Willy Whistle	3/4" Video- tape/16mm film (6½ minutes)	Targeted	Elementary age children (K-3)	Crossing streets/ avoidance of dart and dash	National	Covers: stop at the curb, look L-R-L, coming out from behind parked cars (stop, L-R-L). Excel- lent.
I-8	And Keep On Looking	3/4" Video- tape/16mm film (15 minutes)	Targeted	Grades 4-6	More complex street crossing situations	National	Street crossing involving multiple threat situations, in front of school bus, parking lots, L-R-L scan before obeying walk lights at intersections.
I-27	Two Sleeping Lions	VHS Video- tape (4½ minutes)	Targeted	Elementary age children	Don't cross between parked cars	National	Artwork is dated; okay as part of total classroom package.
I-42	Walk Safely	16mm film (13 minutes)	Targeted	Elementary age children	Covers all major ac- cident areas, mid- block, parked cars, multiple threat	National	Good L-R-L, midblock, multiple threat. Shows a wrong way then the correct way. Children narrate; good summary at the end.
I-45	Safety on Street and Sidewalk	½" VHS Videotape (10 minutes)	Targeted	Grades 4-6	Depicts many pedes- trian situations	National	Strong emphasis on L-R-L. Not enough information on night time conspicuity.

Table 8 (Continued)

Summary of Selected Pedestrian Safety Educational Materials: Audiovisuals for Children

Material Type/ Code Number	Title	Description of Material	Targeted/ Nontargeted	Intended Audience	Major Activity	Intended Use	Comments
I-47	Children and Traffic: Why Are They Different	16mm film (13 minutes)	Targeted	General public for elementary school children	Child pedestrian problems	West Germany	Discusses the effect of maturation on children's knowledge and perceptions of traffic safety. Does not show any preventive measures, and no L-R-L. European setting.
I-54	The National Student Traffic Safety Test	16mm film (18 minutes)	Targeted	Grades 3-6	How to cross streets and walk along roadway	National	Discusses a variety of specific pedestrian situations. No L-R-L. Message and approach appear effective.
<u>Film-</u> <u>Strips</u> <u>flash</u>	I-21 The Adventures of Beltman	Audio film- strip (8 minutes) plus flash cards of signs and signals	Nontargeted	K-4	Half pedestrian/half occupant protection	National	Discusses intersection/midblock crossing. Major messages are: cross at intersection, scan before crossing; walk don't run. Could use L-R-L update.
<u>Public</u> <u>ervice</u> <u>nnounce-</u> <u>ments</u>	I-33 Watchful Willie Speaks	3/4" Video tape (30 seconds)	Targeted	Preschoolers	Street safety	Local (Milwaukee)	Central messages: stop at the curb, only cross with someone older.
	I-34 Watchful Willie and Actions	3/4" Video tape (30 seconds)	Targeted	Preschoolers	Safe street crossing	Local (Milwaukee)	Always stop at the curb--only cross with someone older. (urban/suburban setting).
	I-35 Watchful Willie and Sassy	3/4" Video tape (30 seconds)	Targeted	Preschoolers	Safe street crossing	Local (Milwaukee)	Same central message as above.
	I-36 Watchful Willie: Where to Play	3/4" Video tape (30 seconds)	Targeted	Preschoolers	Play away from street (backyard)	Local (Milwaukee)	Backyards are safer to play in (as opposed to front) away from traffic. Also reminds children to always stop at the curb.

Table B (Continued)

Summary of Selected Pedestrian Safety Educational Materials: Audiovisuals for Children

Material Type/ Code Number	Title	Description of Material	Targeted/ Nontargeted	Intended Audience	Major Activity	Intended Use	Comments
1-55	Willy Whistle: The Whole Story	16 mm (60 seconds)	Targeted	K-3	Correct midblock crossing	National	Quick and accurate presentation of left-right-left search behav- ior for midblock crossg with and without parked cars. Can be used alone or with other materials.
1-56	Willy Whistle: Pedes- trian Safety Curbs	16 mm (30 seconds)	Targeted	K-3	First part of search behavior	National	Main message is: always stop at the curb. Should at least be used with PSAs I-57 and I-58.
1-57	Willy Whistle: Search	16 mm (30 seconds)	Targeted	K-3	Illustrates L-R-L search behavior	National	Shows how to do a midblock crossing without parked cars, using left-right-left search behav- ior. Should be used with PSAs I-56 and I-58.
1-58	Willy Whistle: Pedes- trian Safety Parked Cars	16 mm (30 seconds)	Targeted	K-3	Illustrates L-R-L search behavior	National	Shows how to do a midblock crossing with parked cars, using left-right-left search behavior Should be used with PSAs I-56 and I-57.
1-59	Willy Whistle: Pedes- trian Safety Inter- section	16 mm (60 seconds)	Targeted	4-6	Illustrates L-R-L search behavior	National	Shows safe street crossing behav- ior (using left-right-left) at signalized intersections.

"Guidelines for a K-12 Traffic Safety Education Curriculum Vol II" (C-22) provides an outline of recommended pedestrian safety topics. These include: basic knowledge about traffic, crossing midblock and at intersections, avoiding a multiple threat situation, walking along the roadway, and entering/exiting a vehicle. As such, it is not a curriculum; however, it offers a good starting point in identifying topics and developing a program or materials. Additional sources will probably be helpful, since the outline format limits the level of detail in the presented information. Although left-right-left search behavior is discussed, it is not emphasized. Moreover, some of the suggested topics may not be appropriate for the recommended grade levels of kindergarten through second grade. The materials on basic knowledge of traffic signs and markings are good for grades four through six.

Shown in Table 8 are the audiovisual materials available for children, some of which have already been discussed. "Two Sleeping Lions" (I-27) is a very short film (4½ minutes) with one central theme: do not cross the street between parked cars. It was designed to address the midblock dash/dart-out problem. The "Adventures of Beltman" (I-21) is a film strip produced by NHTSA for kindergarten through fourth graders. Although midblock and intersection crossing is the main pedestrian safety focus, left-right-left search behavior is not emphasized. This is also true of the "National Student Traffic Safety Test" (I-54), an 18-minute film for grades three through six.

The film "Willy Whistle" (I-6) can be used in conjunction with the "Safe Street Crossing Training Program ("Willy Whistle" C-6) already mentioned or it can stand alone. Developed by Dunlap and Associates, Inc., it is a 6½-minute film designed for in-classroom use for kindergarten through third grade. In the film, an animated police whistle is used as the program's service mark and left-right-left search behavior is illustrated and reinforced. In support of this film, there are four Willy Whistle PSAs. "Willy Whistle: The Whole Story" (I-55), a 60-second PSA, provides useful reminders on how to execute safe midblock crossings in the presence or absence of parked cars. It uses a full presentation of the left-right-left search behavior already described. "Willy Whistle: Pedestrian Safety Parked Cars" (I-58) illustrates how parked cars can block the child's vision of the roadway and how left-right-left search behavior can correct for this. The other two PSAs divide the search message, that is, "always stop at the curb" ["Willy Whistle: Pedestrian Safety Curbs" (I-56)] and "look left, right and left again" in "Willy Whistle: Pedestrian Safety Search" (I-57).

"And Keep on Looking" (I-8) extends the left-right-left search behavior message in Willy Whistle to an older age group of children (Grades 4-6) and to more complicated street crossing situations. The film covers multiple threat situations, traffic signals, school bus situations, and backing-up accidents in parking lots. An important message of this film is that a "walk signal" or a "green light" means stop, search and then go, if it is safe to cross. In support of this film, is a 60-second PSA entitled, "Willy Whistle: Pedestrian Safety Intersection" (I-59) that illustrates safe street crossing at signalized intersections.

"Stop, Look & Think" (I-2) takes a slightly different approach to similar pedestrian safety topics for this age group. The police set up a series of circumstances to illustrate to children how important it is to cross at crosswalks. Left-right-left search behavior is used.

"Walk Safely" (I-42) covers major accident types, such as midblock, parked cars, and multiple threat, with children as narrators. The film shows a wrong way, then the right way to cross under these circumstances. It also has a good presentation of left-right-left search behavior and a good summary at the end. Finally, "Safety on Street and Sidewalk" (I-45) is directed toward elementary school (Grades 4-6) students. It depicts numerous pedestrian situations and strongly emphasizes left-right-left. Information, on night time conspicuity however, is limited.

Existing materials for children address urban pedestrian problems and accomplish this especially well for preschoolers and young elementary-aged children (kindergarten through third grade). There are, however, no comparable materials for rural preschoolers and children in kindergarten through grade seven. Also evident is the overall lack of materials for the older elementary and high school student in either urban or rural settings.

Selected Educational Materials for Older Adults. Selected print materials geared toward the older adult (age 65 or more) are shown in Table 9 (Group E). In general, the materials developed for this audience were few in number and some contained content that was unnecessary or not very informative. There is definite need to present the older adult in a positive light.

The two pieces summarized in Table 9 each have useful parts. "Pedestrian Safety for the Elderly" (E-3) is an instructor's manual developed by the Department of the Environment, Road Safety Traffic Local Division, Great Britain that offers good information on planning a program on pedestrian safety for older adults. It pinpoints special needs of this age group when in an instructional environment, and discusses changes due to aging that are associated with specific pedestrian problem areas. "Older Adult Pedestrian Safety" (E-5) is a booklet, produced by the American Automobile Association, that also offers helpful suggestions in the planning of a program for this age group. Moreover, the presented image of the older adult in this piece is exceptional and excellent. As important, this booklet discusses accident types and characteristics that are associated with the older adult pedestrian, that is, at intersections crossing with the signal, vehicle turn/merge accidents, the frequent occurrence of accidents during day time hours and in urban locations.

The only selected audiovisual material that addresses the older pedestrian is shown in Table 10. "Give Older Pedestrians a Break at Crossings" (J-2) is a 60-second PSA directed toward all drivers. Its main message is to remind drivers that older pedestrians tend to move more slowly and need more time to cross the street.

There is clearly a need to develop good educational materials for this group. Direct messages to the older pedestrian are likely to be more effective than messages geared toward the driver (although these are needed also). This need for more materials is evident given the very few pieces presented here, the expected growth of this age group in the future (Bureau of the Census, 1987) and their present day overrepresentation in pedestrian fatalities (Preusser, Blomberg, Edwards, Farrell, & Preusser, 1983). Emphasis on left-right-left search behavior is certainly appropriate for this target audience. Some modification to this message may be needed to compensate for

Table 9

Summary of Selected Pedestrian Safety Educational Materials: Print Materials for Older Adults and General Public

Material Type/ Code Number	Title	Description of Material	Targeted/ Nontargeted	Intended Audience	Major Activity	Intended Use	Comments
<u>Older Adult Materials</u> E-3	Pedestrian Safety for the Elderly	Instructor's Manual (20pp)	Targeted	Older adults	General road safety tips for pedestrians	Great Britain	Outdated but a useful resource.
E-5	Older Adult Pedestrian Safety	Booklet (10pp)	Targeted	Planner for older adult programs	Profile of older pedestrians, statistics & suggested solutions	National	Overview of older adult pedestrian problems and suggestions for programs. Not directed to older adults but rather about the problem. Excellent resource or reference material.
<u>General Public Booklets/ Brochures</u> F-13	A New Look At Pedestrian Safety	Booklet (18pp)	Targeted	Adults	General overview of pedestrian safety	National	Multiple threat, bus-stop related, ice cream vendor, backing up dart-out, intersection dash, turning vehicle. Parts can be used to educate the educators.
F-17	A Growing Problem...	Brochure	Targeted	Adults	Safe Crossing	State	Good search (L-R-L) emphasis. Too specific to Denver for national usage, but good concept and content.
G-11	Pedestrian Accident Reduction Guide	Program guide (40pp)	Targeted	State/local program planners	Major pedestrian accident types	National	Provides information on pedestrian accident types and countermeasures and how to set up pedestrian programs.

Table 10

Summary of Selected Pedestrian Safety Educational Materials: Audiovisuals for Older Adults and General Public

Material Type/ Code Number	Title	Description of Material	Targeted/ Nontargeted	Intended Audience	Major Activity	Intended Use	Comments
<u>Older Adults</u> J-2	Give Older Pedestrians a Break at Crossings	Public ser- vice announcement (60 seconds)	Targeted	Drivers	Tips on waiting for older pedestrian	National	Shows drivers the importance of waiting for the older, slower pedestrian.
<u>General Public</u> K-4	Pedestrian Safety by Design	Slide pre- sentation (10 minutes)	Targeted	General pub- lic/engineers/ public street officials	Acquaint viewers - innovative pavement design and rehabil- itation techniques	National	Discusses model pedestrian safety program with a variety of pro- posed countermeasures; both urban and rural settings. Statistics need updating.
K-6	Improving School Trip Safety	Slide pre- sentation (20 minutes)	Targeted	School Admin- istrators	Explains need and structure of school pedestrian program	National	How to set up a safe route to school program. Could be improved by showing a greater variety of crossing situations. Statistics may be dated; promotes AAA materials.
K-10	Intersection Adult Pedestrian Safety	Public ser- vice announcement (30 seconds) 16mm film	Targeted	General Adults	Don't depend on traffic walk signal	National	"Walk" signals mean stop at the curb, look L-R-L, and keep on looking while crossing.
K-11	Pedestrian Safety Multiple Threat Pedestrian	Public ser- vice announcement (60 seconds) 16mm film	Targeted	General Adults	How to avoid multiple threat accidents	National	Stop at outer edge of vehicle and look to see if vehicle is approaching in next lane. Better if 30 seconds in length without accident scene.

any restricted peripheral vision or head/neck movements. It is also important to emphasize that bright colored clothes can enhance day time conspicuity of these pedestrians.

Selected Educational Materials for the General Public (Adults). There are three booklets or brochures listed in Table 9 that are targeted toward the general public. "A New Look at Pedestrian Safety" (F-13) provides a general overview of pedestrian safety that may be especially helpful to community program planners. The major accident types included are: multiple threat, bus-stop-related, vendor-ice cream truck, backing up accidents, midblock dash/dart out, intersection dash, and vehicle turn/merge. Parts of this booklet can be used to educate the educators as well as the general public. "A Growing Problem" (F-17) is a booklet produced as part of the Denver Ped Safety Program and was developed by the Denver Police Protective Association. Although specific to Denver, it provides an excellent example of a brochure that is good in content and concept. The material on midblock crossing and left-right-left search behavior is excellent. "Pedestrian Accident Reduction Guide" (G-11) is a program guide geared toward community program planners. It provides a concise description of major pedestrian accident types, and presents a variety of countermeasures and helpful ideas on how to set up pedestrian programs.

The Group K public service announcements listed in Table 10 are intended for the general public (adults). The first of these, "Intersection Adult Pedestrian Safety" (K-10), extends the left-right-left search behavior message in "Willy Whistle" (I-6) and "And Keep on Looking" (I-8) to the adult population. Its main message is that walk signals mean stop at the curb, look left-right-left, go when it is clear, and keep on looking while crossing. The second PSA is "Pedestrian Safety Multiple Threat-Pedestrian" (K-11) which addresses how to avoid multiple threat accidents. The message is stop at the outer edge of the vehicle and look to see if another vehicle is approaching in the next lane before continuing the street-cross action.

"Pedestrian Safety by Design" (K-4) is a slide presentation for engineers and other public officials. It is intended to acquaint viewers to innovative pavement design and rehabilitation techniques. It provides a variety of proposed countermeasures and includes urban and rural settings. The last audiovisual "Improving School Trip Safety" (K-6) is geared to school administrators and may be a useful supplement to the school trip materials (Group D in Table 7) already discussed.

The need for pedestrian safety educational materials for adults is evident. Whether print, program or audiovisual, the material should emphasize the importance of completing an adequate search behavior and that left-right-left search behavior is appropriate in many situations, such as at intersections with walk signals or green lights, at bus stops, vehicle turn/merge and multiple threat situations. Messages need to be imparted in a quick and direct manner for these as well as other situations (e.g., at night, while jogging).

Identification of Information Gaps

An instrumental first step in the identification of material and information gaps is the formation of central pedestrian safety messages. As

previously mentioned, project staff formulated these messages based on major accident types, past research, and state-of-the-art knowledge. These were organized according to the following 10 groups: (1) search behavior, (2) being seen (conspicuity), (3) supervision, (4) boundaries, (5) developmental/aging differences, (6) recreation, (7) traffic signs, signals and markings, (8) visual screens, (9) intersections, and (10) alcohol. These message groups were also arranged by target audiences, that is for preschool, kindergarten through third grade, children in fourth through sixth grade, junior high and high school students, adults, older adults, and drivers. It was not intended, however, that all 10 message groups would be applicable to all target audiences. For the remainder of this section, the messages for a particular target audience will be presented and discussed, the comparison of existing materials to these messages will follow, and identified areas of focus for new materials will be discussed.

Preschool. As may be recalled from previous sections of this report, midblock dash/dart out accidents are a major accident type for this age group. Accordingly, the pedestrian safety messages shown in Table 11 are designed to keep these young children out or away from the street during all unattended times. As a result, these messages are essentially boundary-oriented and supervisory in nature. Proper search behavior should be conducted by the accompanying adult (or older child) and the preschooler should be encouraged to practice this behavior (to facilitate unsupervised street crossing when older). The child should understand the importance of the message, always stop at the curb, and only cross the street with someone older; and their behavior should follow these rules. Play areas should be designated away from the street and driveway, preferably the backyard or playground, to avoid the opportunity of street entry during play. Parents need to be aware of the developmental limitations of children of this age group and the importance of the modeling of left-right-left search behavior especially as their child approaches school age.

The match between these messages and existing materials is shown in Table 12. As can be seen, no one material covers all of the messages, although collectively some messages are covered better than others. Search behavior, because of its importance, should be emphasized. It is well covered in the listed programs and PSAs but could be augmented with additional print and other audiovisual materials. Regarding booklets, none are targeted directly toward preschoolers. Coloring or activity books are seen as a viable means of communicating pedestrian safety messages directly to young children through parental/caretaker assistance. It should be possible to impart messages such as always stop at the curb, only cross with someone older, in a clear and creative way through pictorial display. Also, more booklets directed toward parents that present left-right-left search behavior and the importance of practicing this behavior with their children should be undertaken. In addition, a short audiovisual presentation of these messages would bolster any program materials that are used for this age group.

Kindergarten Through Third Grade. Because of developmental and maturation limitations of this age group, it would be desirable to encourage only supervised street crossing for this target audience also. The introduction of school into the lives of these children, however, makes such advice impractical. Nevertheless, it seems appropriate to recommend that unsupervised

Table 11

Pedestrian Safety Messages by Target Group: Preschool

Message Group	Description
1. Search Behavior	<ul style="list-style-type: none"> A. The adult accompanying the child should stop at the curb and look left-right-left before crossing. B. Encourage child to follow this behavior.
2. Supervision	<ul style="list-style-type: none"> A. Only cross the street with someone who knows how to cross safely. B. Who are (safe) people that can help preschoolers cross the street.
3. Boundaries	<ul style="list-style-type: none"> A. Always stop at the curb (or edge of the road). B. Preschoolers should not be near or in the street or driveway. C. Preschoolers should not be allowed to cross the street alone.
4. Recreation	<ul style="list-style-type: none"> A. Driveways are not safe places for children to play. B. Designate play areas away from the street. C. Do not ride play vehicles into the street.
5. Developmental/ Aging Differences	<ul style="list-style-type: none"> A. Preschoolers do not generally know their left from their right. B. Cannot detect safe gaps in traffic (cannot detect whether a vehicle is moving or stopped; cannot accurately judge the speed of approaching vehicles).

Table 12

Summary of Material Type by Critical Message Group: Preschool

Message Group	TYPE OF MATERIAL		
	Print Material	Program	Audiovisual Material
Search behavior	A Growing Problem (Booklet)	WITS (Walking in Traffic Safely) Preschool Pedestrian Safety Program (Watchful Willie)	30-second PSAs: Watchful Willie Speaks Watchful Willie and Action Watchful Willie and Sassy
Supervision	Parents, Children and Traffic (Booklet) A Growing Problem (Booklet)	Preschool Pedestrian Safety Program (Watchful Willie) WITS (Walking in Traffic Safely)	30-second PSAs: Watchful Willie Speaks Watchful Willie and Action Watchful Willie and Sassy
Boundaries	Parents, Children and Traffic (Booklet)	Preschool Pedestrian Safety Program (Watchful Willie) WITS (Walking in Traffic Safely)	30-second PSAs: Watchful Willie Speaks Watchful Willie and Action Watchful Willie and Sassy
Recreation	Parents, Children and Traffic (Booklet)	Preschool Pedestrian Safety Program (Watchful Willie) Child and Traffic WITS (Walking in Traffic Safely)	Watchful Willie: Where to Play (30-second PSA)
Developmental/Aging Differences	Parents, Children and Traffic (Booklet)	Child and Traffic	Children and Traffic: Why are They Different (16 mm film)

street crossing for this age group be limited to quiet, residential streets only. Crossing guards (during the school trip), other adults and older children (during other times) should supervise the street-crossing behavior of these children at main street intersections with moderate to heavy traffic.

As previously mentioned, midblock dash/dart-out accidents continue to be a major problem for children in this age group. Accordingly, most of the messages listed in Table 13 address this accident type with emphasis on the education and training of left-right-left search behavior. These messages are designed to get children to execute search behavior in situations with or without visual screens. The main difference in these two situations is where the search behavior is executed, that is, at the curb for unobstructed vision and at the outside edge of a parked car, stopped vendor-ice cream truck, or stopped school bus when these objects block the child's vision. Supervision messages apply to major intersections, during the school trip and at night. Again, play areas should be designated away from the street. Also, there is need to provide children with basic traffic sign and signal instructions to prepare them for unsupervised street crossing at such intersections when older, plus messages designed to enhance day time conspicuity by wearing bright colored clothing.

It should be noted that messages such as, stop look and listen, look both (all) ways, look in both (all) directions are less specific than a left-right-left search message. It is especially important that the first half of the cross is double checked since it is a frequent location of vehicle-pedestrian contact for young children who are midblock pedestrian accident victims (Snyder & Knoblauch, 1971). Especially for the young children in this age group, however, it is important that left-right-left search messages be augmented with directional arrows or pictures to enhance adaptation of this behavior.

Existing materials clearly do not address all of the identified pedestrian safety messages for the kindergarten through third grade group, as indicated by the spatial gaps in Table 14. Although search behavior is covered well by both the listed program and audiovisual materials, booklets or brochures need to emphasize this message both to the child and parents. Day time conspicuity messages are only briefly mentioned in existing materials. Bright colors are especially helpful in the detection and recognition of young children by drivers on overcast days and during inclement weather when visibility is less acute. Both print and audiovisual materials should address this message. The same applies to boundary messages, which are not well covered in current print or audiovisual materials. No existing print material covers developmental/aging differences of children of this target audience. And, basic instructions on traffic signs, signals and intersections are obviously needed for this age group.

Grades 4 Through 6. The messages listed in Table 15 are designed to address more complicated vehicle/pedestrian situations. In part, this is because children in this target audience are generally allowed more freedom and execute unsupervised street crossings more frequently. It is also due to an accident profile that is more heterogeneous than their younger counterparts (Preusser & Blomberg, 1984) and more similar to young adult and adult age groups. Even though the messages in this group are similar to those identified for older target audiences, the manner of presentation of this content is and should be very different.

Table 13

Pedestrian Safety Messages by Target Group: K-3

Message Group	Description
1. Search Behavior	<ul style="list-style-type: none"> A. Always stop at the curb/edge of the road or outside edge of a parked car. B. Look left-right and left again to see if car is coming. C. If a car is coming, let the car pass and look left-right-left again. D. Execute search behavior when walking on a sidewalk and when a car is entering or exiting a driveway.
2. Being Seen (Conspicuity)	<ul style="list-style-type: none"> A. Wear bright colored clothing during the day.
3. Supervision	<ul style="list-style-type: none"> A. Only cross busy streets with someone who knows how to cross safely. B. Who are (safe) people that can help K-3 cross the street (safety patrol, crossing guard, parents, older siblings). C. K-3 pedestrians should not attempt to cross the street unsupervised at night. D. Safe route to school: The school trip is generally a safe trip. But even when the crossing guard tells K-3 to cross, they should still look left-right-left before entering the street. Crossing guards do not direct traffic, rather they look for gaps in traffic that are large enough to permit safe street crossing.
4. Boundaries	<ul style="list-style-type: none"> A. Always stop at the curb (or edge of the road). B. K-3 should not be allowed to cross major streets alone.

Table 13 (Continued)

Pedestrian Safety Messages by Target Group: K-3

Message Group	Description
4. Boundaries (Cont)	C. K-3 should not be allowed to cross the street alone at night.
5. Recreation	A. Driveways are not safe places for children to play. B. Designate play areas away from the street. C. Do not ride play vehicles into the street. D. Streets are not safe places for children to play.
6. Developmental/ Aging Differences	A. Differentiating left from right can still be a problem. B. Cannot detect safe gaps in traffic (cannot detect whether a vehicle is moving or stopped; cannot accurately judge the speed of approaching vehicles).
7. Traffic Signs, Signals & Markings	A. Provide basic instructions on traffic signs, signals, rules and crosswalks.
8. Intersections	A. Introduce look over the shoulder at intersections. B. Walk directly across the street. Do not go diagonally.
9. Visual Screen	A. If you cannot see what may be coming (cars, trucks) because your vision is blocked by something, go out to where you can see (e.g., outside edge of a parked car), stop and look left-right-left all over again. B. Above message is applicable for all visual screen situations (e.g., ice cream truck, school bus stop).

Table 14

Summary of Material Type by Critical Message Group: Kindergarten through Grade 3

Message Group	TYPE OF MATERIAL		
	Print Material	Program	Audiovisual Material
Search behavior	A Growing Problem (Booklet)	Safe Street Crossing Training Program (Willy Whistle) Guidelines for a K-12 Traffic Safety Education Curriculum Walking in Traffic Safety (WITS)	Willy Whistle (VHS; 16mm) Walk Safely (16mm) Willy Whistle PSAs: The Whole story, Stop at Curbs, Search, Parked Cars (16mm)
Conspicuity		Guidelines for a K-12 Traffic Safety Education Curriculum Vol II	
Supervision	What Parents Should Know About Children & Traffic (Booklet) Parents Can be Serious Traffic Hazards (Booklet) Parents, Safeguard Your Child (Booklet) A Growing Problem (Booklet) State of Washington School Safety Patrol (Manual) School Traffic Safety/School Crossings (Manual) Annual School's Open: Drive Carefully Program (promo materials) School Trip Safety (Brochure) School Safety Patrol Advanced Training Program (Prog. Guide)	Walking in Traffic Safety (WITS) Guidelines for the Development of Safe Walking Trip Maps Vol V	Improving School Trip Safety (slide presentation)
Boundaries		Walking in Traffic Safety (WITS) Guidelines for a K-12 Traffic Safety Education Curriculum Vol II	Two Sleeping Lions (VHS) Willy Whistle PSAs: The Whole Story, Stop at Curbs (16 mm)

Table 14 (Continued)

Summary of Material Type by Critical Message Group: Kindergarten through Grade 3

Message Group	TYPE OF MATERIAL		
	Print Material	Program	Audiovisual Material
Recreation	D.C. Walker's Safety Book (Booklet) Parents, Safeguard Your Child (Booklet)	Safe Street Crossing Training Program (Willy Whistle) Child and Traffic	Watchful Willie: Where to Play (30-second PSA)
Developmental/Aging Differences		Child and Traffic	Children and Traffic: Why are They Different (16mm)
Traffic Signs and Signals		Guidelines for a K-12 Traffic Safety Education Curriculum Vol II	
Intersections		Walking in Traffic Safely (WITS) Guidelines for a K-12 Traffic Safety Education Curriculum Vol II	The Adventures of Beltman (filmstrip) National Student Traffic Safety Test (16mm) Walk Safely (16mm)
Visual Screen	Parents Can Be Serious Traffic Hazards	Walking in Traffic Safely (WITS) Guidelines for a K-12 Traffic Safety Education Curriculum Vol II	Walk Safely (16mm) Willy Whistle PSAs: The Whole Story, Parked Cars (16mm)

Table 15

Pedestrian Safety Messages by Target Group: Grades 4-6

Message Group	Description
1. Search Behavior	<ul style="list-style-type: none"> A. Always stop at the curb/edge of the road before entering street or roadway. B. Always look left-right-left whenever and wherever you cross. And keep on looking until you have crossed the street safely. C. Watch for cars backing up in parking lots. D. In poor weather, don't let umbrellas or hoods block your view of approaching cars. (Drivers may not see as well either.)
2. Being Seen (Conspicuity)	<ul style="list-style-type: none"> A. Wear bright colored clothing during the day and wear fluorescent material during periods of limited visibility (e.g., dawn, dusk). B. Walking at night is very dangerous and should be avoided if possible. Should wear retroreflective materials, that outline the human form, and carry an active light source (e.g., lighted flashlight) to enhance nighttime conspicuity. Use the term retroflective.
3. Supervision (Safe Route to School)	<ul style="list-style-type: none"> A. The school trip is generally a safe trip. But even when the crossing guard tells 4-6 graders to cross, they should still look left-right-left before entering the street. B. Crossing guards do not direct traffic, rather they look for gaps in traffic that are large enough to permit safe street crossing.
4. Traffic Signs, Signals & Markings	<ul style="list-style-type: none"> A. Provide basic instructions on traffic signs, signals, rules, and crosswalks. B. Green lights, walk signals, and crosswalks do not mean that it is safe to cross. Rather, these are telling you to stop and look left-right-left to be sure it is safe. C. A flashing "Don't Walk" signal means do not

Table 15 (Continued)

Pedestrian Safety Messages by Target Group: Grades 4-6

Message Group	Description
Traffic Signs, Signals & Markings (continued)	<ul style="list-style-type: none"> <li data-bbox="732 363 1536 516">C. A flashing "Don't Walk" signal means do not start to cross the street if you have not yet entered the roadway. If you are in the street already, continue walking and complete your crossing. <li data-bbox="732 543 1536 604">D. A steady "Don't Walk" signal means that pedestrians should not be in the street. <li data-bbox="732 632 1536 730">E. When sidewalks are not available: Keep as far to the left of the roadway as possible (that is, walk facing traffic). <li data-bbox="732 758 1536 856">F. Where the law allows: In residential areas if you cross at midblock-remember to stop, search, and don't let parked cars block your view. <li data-bbox="732 846 1536 907">G. Heavily traveled streets: Do not jaywalk (midblock crossing). <li data-bbox="732 934 1536 1031">H. Pedestrians never have the right-of-way even in situations where the driver must yield the right of way.
5. Intersections	<ul style="list-style-type: none"> <li data-bbox="732 1094 1536 1155">A. Walk directly across the street, do not walk diagonally. <li data-bbox="732 1182 1536 1243">B. Include over-the-shoulder scan when executing L-R-L. <li data-bbox="732 1270 1536 1369">C. Make eye contact with the driver of a car stopped while you are crossing -- make sure driver knows you are there. <li data-bbox="732 1396 1536 1461">D. In poor weather (rain or snow) vehicle stopping distance is increased.
6. Visual Screen	<ul style="list-style-type: none"> <li data-bbox="732 1520 1536 1673">A. If you still cannot see what may be coming because your vision is blocked by something, go out to where you can see (e.g., outside edge of a parked car), stop and look left-right-left all over again. <li data-bbox="732 1701 1536 1797">B. Above message is applicable for all visual screen situations (e.g., ice cream truck, multiple threat, school/commercial bus stop).
7. Recreation	<ul style="list-style-type: none"> <li data-bbox="732 1856 1536 1915">A. Streets are not safe places for children to play.

Search behavior messages have been extended to more complicated situations, including visual screen and major intersections. An over-the-shoulder scan message has been added to help address the problem of vehicle turn/merge accidents at intersections. Conspicuity messages have been extended to both day and night time situations, although freedom and unsupervised street crossing at night is still likely to be somewhat restricted for this age group. As important, basic instructions involving major intersections are included such as the meaning of flashing "don't walk" signals, and the importance of executing left-right-left search behavior in the presence of a green light or walk signal.

Existing materials for grades 4 through 6 as shown in Table 16, do not adequately cover the appropriate central pedestrian safety messages (see Table 16). There are, for example, no available program materials, although "Guidelines for a K-12 Traffic Safety Education Curriculum Vol II" outlines the content for most of these central messages. Existing print materials cover school trip supervision which is needed but so are messages for search behavior, visual screens, and intersections as well as basic traffic signs and signals information. Such messages could readily be incorporated in a booklet or brochure for this age group. As mentioned, night time conspicuity should not be overlooked as well as the need for recreational reminders.

Junior High and High School Students. Pedestrian safety messages targeted toward junior high and high school students are virtually identical and will therefore be discussed together. These messages are and should be adult in level with most geared toward brief and concise presentation of this information. When presented, however, materials should visually depict peers rather than adults to enhance their appeal and audience receptivity. An important message added to this target audience is the risks associated with the alcohol-impaired pedestrian, an issue that no reviewed pedestrian safety educational material has adequately addressed for any of the appropriate target audiences. Also, night time conspicuity becomes a more important issue for these students as compared to younger elementary-aged children. Junior high school messages and existing materials are shown in Table 17 and 18, respectively.

The paucity of existing materials directed toward the junior high and high school audience is reflected in Table 18. As can be seen, there exists only one booklet (directed toward parents) and curriculum guidelines for this age group. Clearly brief but concise presentation of search behavior, conspicuity, traffic sign and signal reminders, intersections, visual screen situations (including commercial bus stops) recreation and alcohol messages are needed across the board.

Pedestrian safety messages for high school students are shown in Table 19 and the match between these messages and existing materials for this age group is shown in Table 20. Existing materials targeted toward high school students is improved somewhat relative to junior high school students as reflected in Table 20. It should be kept in mind, however, that many of the audiovisual materials are adult in level and feature adults. Therefore, these materials may not have the same appeal to teenage students. Finally, there are no print materials available specifically for this target group.

Table 16

Summary of Material Type by Critical Message Group: Grades 4 through 6

Message Group	TYPE OF MATERIAL		
	Print Material	Program	Audiovisual Material
Search Behavior		Guidelines for a K-12 Traffic Safety Education Curriculum Vol II	And Keep On Looking (VHS; 16mm) Walk Safely (16mm) Safety on Street and Sidewalk (VHS) Willy Whistle Intersection (60-second PSA)
Conspicuity		Guidelines for a K-12 Traffic Safety Education Curriculum Vol II	
Supervision	Parents Can Be Serious Traffic Hazards (Booklet) State of Washington School Safety Patrol (Manual) School Traffic Safety/School Crossing (Manual) School Trip Safety (Brochure) School Safety Patrol Advanced Training Program (Prog. Guide)		Improving School Trip Safety (Slide presentations)
Traffic Signs and Signals		Guidelines for a K-12 Traffic Safety Education Curriculum Vol II	Safety on Streets and Sidewalks (VHS) Willy Whistle Intersection (60-second PSA)
Intersections		Guidelines for a K-12 Traffic Safety Education Curriculum Vol II	The National Student Traffic Safety Test (16mm) Walk Safely (16mm) Adventures of Beltman (filmstrip) K-4 Safety on Street and Sidewalk (VHS) Willy Whistle Intersection (60-second PSA)

Table 16 (Continued)

Summary of Material Type by Critical Message Group: Grades 4 through 6

Message Group	TYPE OF MATERIAL		
	Print Material	Program	Audiovisual Material
Visual Screen		Guidelines for a K-12 Traffic Safety Education Curriculum Vol II	And Keep On Looking (VHS; 16mm) Walk Safely (16mm) Safety on Street and Sidewalk (VHS)
Recreation	D.C. Walker's Safety Book (Booklet)		

Table 17

Pedestrian Safety Messages by Target Group: Junior High (7/8 Grades)

Message Group	Description
1. Search Behavior	<ul style="list-style-type: none"> A. Always stop at the curb/edge of the road before entering the street or roadway. B. Always look left-right-left whenever and wherever you cross. And keep on looking until you have crossed the street safely. C. Watch for cars backing up in parking lots. D. In poor weather, don't let umbrellas or hoods block your view of approaching cars. (Drivers may not see as well either.)
2. Being Seen (Conspicuity)	<ul style="list-style-type: none"> A. Wear bright colored clothing during the day and wear fluorescent material during periods of limited visibility (e.g., dawn, dusk). B. Walking at night is very dangerous and should be avoided if possible. Should wear retro-reflective materials, that outline the human form, and carry an active light source (e.g., lighted flashlight) to enhance night time conspicuity. Use the term retroreflective.
3. Supervision	<ul style="list-style-type: none"> A. Safe route to school.
4. Traffic Signs, Signals & Markings	<ul style="list-style-type: none"> A. Provide basic instructions on traffic signs, signals, rules, and crosswalks. B. Green lights, walk signals, and crosswalks do not mean that it is safe to cross. Rather, these are telling you to stop and look left-right-left to be sure it is safe. C. A flashing "Don't Walk" signal means do not start to cross the street if you have not yet entered the roadway. If you are in the street already, continue walking and complete your trip. D. A steady "Don't Walk" signal means that pedestrians should not be in the street.

Table 17 (Continued)

Pedestrian Safety Messages by Target Group: Junior High (7/8 Grades)

Message Group	Description
Traffic Signs (Cont)	<p>E. When sidewalks are not available: Keep as far to the left of the roadway as possible, that is, walk facing traffic.</p> <p>F. Where the law allows: In residential areas if you cross at midblock remember to stop, search and don't let parked cars block your view.</p> <p>G. Heavily traveled streets: Do not jaywalk (midblock crossing).</p> <p>H. Pedestrians never have the right-of-way even in situations where the driver must yield the right of way.</p>
5. Intersections	<p>A. Walk directly across the street, do not walk diagonally.</p> <p>B. Include over-the-shoulder scan when executing L-R-L.</p> <p>C. Make eye contact with the driver of a car stopped while you are crossing -- make sure driver knows you are there.</p> <p>D. In poor weather (rain or snow) vehicle stopping distance is increased.</p>
6. Visual Screen	<p>A. If you still cannot see what may be coming because your vision is blocked by something, go out to where you can see (e.g., outside edge of a parked car), stop and look left-right-left all over again.</p> <p>B. Above message is applicable for all visual screen situations (e.g., multiple threat, school/commercial bus stop).</p>
7. Recreation	<p>A. Streets are not safe places to play.</p> <p>B. As a jogger or runner, stop and look left-right-left when crossing streets or roads. (Jog-in-place to maintain momentum.)</p>
8. Alcohol	<p>A. Impairment with alcohol and drugs puts you at increased risk as a pedestrian.</p>

Table 18

Summary of Material Type by Critical Message Group: Junior High School (Grades 7 and 8)

Message Group	TYPE OF MATERIAL		
	Print Material	Program	Audiovisual Material
Search Behavior		Guidelines for a K-12 Traffic Safety Education Curriculum Vol II	
Conspicuity		Guidelines for a K-12 Traffic Safety Education Curriculum Vol II	
Supervision	Parents Can Be Serious Traffic Hazards (Booklet)		
Traffic Signs and Signals		Guidelines for a K-12 Traffic Safety Education Curriculum Vol II	
Intersections		Guidelines for a K-12 Traffic Safety Education Curriculum Vol II	
Visual Screens		Guidelines for a K-12 Traffic Safety Education Curriculum Vol II	
Recreation			
Alcohol			

Table 19

Pedestrian Safety Messages by Target Group: High School

Message Group	Description
1. Search Behavior	<ul style="list-style-type: none"> A. Always stop at the curb/edge of the road before entering the street or roadway. B. Always look left-right-left whenever and wherever you cross. And keep on looking until you have crossed the street safely. C. Watch for cars backing up in parking lots. D. In poor weather, don't let umbrellas or hoods block your view of approaching cars. (Drivers may not see as well either.)
2. Being Seen (Conspicuity)	<ul style="list-style-type: none"> A. Wear bright colored clothing during the day and wear fluorescent material during periods of limited visibility (e.g., dawn, dusk). B. Walking at night is very dangerous and should be avoided if possible. Should wear retro-reflective materials, that outline the human form, and carry an active light source (e.g., lighted flashlight) to enhance night time conspicuity. Use the term retroreflective.
3. Traffic Signs, Signals & Markings	<ul style="list-style-type: none"> A. Provide basic instructions on traffic signs, signals, rules, and crosswalks. B. Green lights, walk signals, and crosswalks do not mean that it is safe to cross. Rather, these are telling you to stop and look left-right-left to be sure it is safe. C. A flashing "Don't Walk" signal means do not start to cross the street if you have not yet entered the roadway. If you are in the street already, continue walking and complete your trip. D. A steady "Don't Walk" signal means that pedestrians should not be in the street. E. When sidewalks are not available: Keep as far to the left of the roadway as possible, that is, walk facing traffic.

Table 19 (Continued)

Pedestrian Safety Messages by Target Group: High School

Message Group	Description
<p>Traffic Signs (Cont)</p>	
	<p>F. Where the law allows: In Residential areas if you cross at midblock remember to stop, search and don't let parked cars block your view.</p> <p>G. Heavily traveled streets: Do not jaywalk (midblock crossing).</p> <p>H. Pedestrians never have the right-of-way even in situations where the driver must yield the right of way.</p>
<p>4. Intersections</p>	<p>A. Walk directly across the street, do not walk diagonally.</p> <p>B. Include over-the-shoulder scan when executing L-R-L.</p> <p>C. Make eye contact with the driver of a car stopped while you are crossing -- make sure driver knows you are there.</p> <p>D. In poor weather (rain or snow) vehicle stopping distance is increased.</p>
<p>5. Visual Screen</p>	<p>A. If you still cannot see what may be coming because your vision is blocked by something, go out to where you can see (e.g., outside edge of a parked car), stop and look left-right-left all over again.</p> <p>B. Above message is applicable for all visual screen situations (e.g., multiple threat, school/commercial bus stop).</p>
<p>6. Recreation</p>	<p>A. As a jogger or runner, stop and look left-right-left when crossing streets or roads. (Jog-in-place to maintain momentum.)</p>
<p>7. Alcohol</p>	<p>A. Impairment with alcohol and drugs puts you at increased risk as a pedestrian.</p>

Table 20

Summary of Material Type by Critical Message Group: High School

Message Group	TYPE OF MATERIAL		
	Print Material	Program	Audiovisual Material
Search Behavior	A Growing Problem (Booklet)	Guidelines for a K-12 Traffic Safety Education Curriculum Vol II	Intersection Adult Pedestrian Safety (30-second PSA) Pedestrian Safety Multiple Threat Drive (60-second PSA)
Conspicuity		Guidelines for a K-12 Traffic Safety Education Curriculum Vol II	
Traffic Signs and Signals		Guidelines for a K-12 Traffic Safety Education Curriculum Vol II	Intersection Adult Pedestrian Safety (30-second PSA)
Intersections		Guidelines for a K-12 Traffic Safety Education Curriculum Vol II	Intersection Adult Pedestrian Safety (30-second PSA) Pedestrian Safety Multiple Threat Drive (60-second PSA)
Visual Screens		Guidelines for a K-12 Traffic Safety Education Curriculum Vol II	Pedestrian Safety Multiple Threat Drive (60-second PSA)
Recreation			
Alcohol			

Adults. Pedestrian safety messages directed toward adults are shown in Table 21 and are designed to address the complex vehicle-pedestrian situations that adults face. Accordingly, left-right-left search behavior has been emphasized and applied to various situations involving visual screens, such as multiple threat and commercial bus stops as well as other intersection situations. Of importance, are messages designed to deter quick street entry (either at intersections or midblock) as well as encouraging full search behavior when in the presence of a walk signal or green light. Also of importance are brief reminders regarding basic traffic signs and signals, day and night time conspicuity, pedestrian/recreational tips, and the risks associated with the drinking pedestrian.

It is clear from Table 22 that existing materials do not adequately impart the appropriate central pedestrian safety messages to adult pedestrians. A general booklet or brochure could easily impart some or most of these messages and would be a welcome addition. There are no program materials that exist for this audience. Listed PSAs cover search behavior, some traffic sign and signal messages, intersection and visual screen situations. Additional audiovisual materials for this target audience are clearly needed, especially regarding night time conspicuity, recreation, and alcohol messages.

Older Adults. Although the content of messages for the older adult is very similar to other target audiences, as shown in Table 23, there should be an important shift in emphasis. Such a shift in emphasis is based on an accident profile that shows an overrepresentation for this group of day-time, signalized-intersection accidents involving vehicle turn/merge, intersection dash, and multiple threat accident types. These, plus backing accidents, can account for at least half of the pedestrian accidents involving the older adult (Preusser, Blomberg, Edwards, Farrell, & Preusser, 1983).

Alcohol and night time conspicuity are far less of a problem for this as compared to other audiences. Probably, mention of these messages is warranted but a full discussion is not needed. Day time conspicuity does need emphasis and as pointed out by Preusser, et al. (1983) such inconspicuousness may be a function of the inadequate driver search, slower pedestrian movement, and the tendency of the older adult to wear conservative dark-colored clothing.

Intersection dash accident types are also a problem for this age group, not because of the speed at which they enter the street but because street entry occurs without adequate search behavior on the part of the pedestrian. Consequently, left-right-left search behavior should be emphasized also. This message should be particularly applied to visual screen situations, such as multiple threat, and at intersections in the presence of a walk signal or green light. Messages such as "walk signals/green lights mean look (left-right-left) and, if safe, then go" and "and keep on looking while crossing" are important. A full intersection scan message is needed to ensure that a check on turning vehicles has occurred. To compensate for restricted peripheral vision, a message may need to add a full-body turn reminder if head and/or neck movements are sufficiently restricted.

The program materials listed in Table 24 are useful resources but additional information would be needed if a community program for the older adult is intended. Also shown are two PSAs that are applicable to this audience, although not specifically targeted to this age group. Obviously,

Table 21

Pedestrian Safety Messages by Target Group: Adult

Message Group	Description
1. Search Behavior	<ul style="list-style-type: none"> A. Always stop at the curb/edge of the road before entering street or roadway. B. Always look left-right-left whenever and wherever you cross. And keep on looking until you have crossed the street safely. C. Watch for cars backing up in parking lots. D. In poor weather, don't let umbrellas or hoods block your view of approaching cars. (Drivers may not see as well either.)
2. Being Seen (Conspicuity)	<ul style="list-style-type: none"> A. Wear bright colored clothing during the day and wear fluorescent material during periods of limited visibility (e.g., dawn, dusk). B. Walking at night is very dangerous and should be avoided if possible. Should wear retro-reflective materials that outline the human form, and carry an active light source (e.g., lighted flashlight) to enhance night time conspicuity. Use the term retroreflective.
3. Traffic Signs, Signals & Markings	<ul style="list-style-type: none"> A. Provide basic instructions on traffic signs, signals, rules, and crosswalks. B. Green lights, walk signals, and crosswalks do not mean that it is safe to cross. Rather, these are telling you to stop and look left-right-left to be sure it is safe. C. A flashing "Don't Walk" signal means do not start to cross the street if you have not yet entered the roadway. If you are in the street already, continue walking and complete your trip. D. A steady "Don't Walk" signal means that pedestrians should not be in the street. E. When sidewalks are not available: Keep as far to the left of the roadway as possible, that is, walk facing traffic.

Table 21 (Continued)

Pedestrian Safety Messages by Target Group: Adult

Message Group	Description
Traffic Signs(Cont)	<p>F. Where the law allows: In Residential areas if you cross at midblock remember to stop, search and don't let parked cars block your view.</p> <p>G. Heavily traveled streets: Do not jaywalk (midblock crossing).</p> <p>H. Pedestrians never have the right-of-way even in situations where the driver must yield the right of way.</p>
4. Intersections	<p>A. Walk directly across the street, do not walk diagonally.</p> <p>B. Include over-the-shoulder scan when executing L-R-L.</p> <p>C. Make eye contact with the driver of a car stopped while you are crossing -- make sure driver knows you are there.</p> <p>D. In poor weather (rain or snow) vehicle stopping distance is increased.</p>
5. Visual Screen	<p>A. If you still cannot see what may be coming because your vision is blocked by something, go out to where you can see (e.g., outside edge of a parked car), stop and look left-right-left all over again.</p> <p>B. Above message is applicable for all visual screen situations (e.g., multiple threat, school/commercial bus stop).</p>
6. Recreation	<p>A. As a jogger or runner, stop and look left-right-left when crossing streets or roads. (Jog-in-place to maintain momentum.)</p>
7. Alcohol	<p>A. Impairment with alcohol and drugs puts you at increased risk as a pedestrian.</p>

Table 22

Summary of Material Type by Critical Message Group: Adults

Message Group	TYPE OF MATERIAL		
	Print Material	Program	Audiovisual Material
Search Behavior	A Growing Problem (Booklet)		Intersection Adult Pedestrian Safety (30-second PSA) Pedestrian Safety Multiple Threat Drive (60-second PSA)
Conspicuity			
Traffic Signs and Signals			Intersection Adult Pedestrian Safety (30-second PSA)
Intersections	A Growing Problem (Booklet)		Intersection Adult Pedestrian Safety (30-second PSA) Pedestrian Safety Multiple Threat Drive (60-second PSA)
Visual Screens			Pedestrian Safety Multiple Threat Drive (60-second PSA)
Recreation			
Alcohol			

Table 23

Pedestrian Safety Messages by Target Group: Older Adult

Message Group	Description
1. Search Behavior	<ul style="list-style-type: none"> A. Always stop at the curb/edge of the road before entering street or roadway. B. Always look left-right-left whenever and wherever you cross. And keep on looking until you have crossed the street safely. C. Watch for cars backing up in parking lots. D. In poor weather, don't let umbrellas or hoods block your view of approaching cars. (Drivers may not see as well either.)
2. Being Seen (Conspicuity)	<ul style="list-style-type: none"> A. Wear bright colored clothing during the day to be more conspicuous to drivers. Drab or gray outer garments make you less visible to drivers. Wear fluorescent materials during periods of limited visibility (e.g., dawn, dusk). B. Walking at night is very dangerous and should be avoided if possible. Should wear retro-reflective materials that outline the human form, and carry an active light source (e.g., lighted flashlight) to enhance night time conspicuity. Use the term retroreflective.
3. Traffic Signs, Signals & Markings	<ul style="list-style-type: none"> A. Provide basic instructions on traffic signs, signals, rules, and crosswalks. B. Green lights, walk signals, and crosswalks do not mean that it is safe to cross. Rather, these are telling you to stop and look left-right-left to be sure it is safe. C. A flashing "Don't Walk" signal means do not start to cross the street if you have not yet entered the roadway. If you are in the street already, continue walking and complete your trip. D. A steady "Don't Walk" signal means that pedestrians should not be in the street.

Table 23 (Continued)

Pedestrian Safety Messages by Target Group: Older Adult

Message Group	Description
Traffic Signs (Cont)	<ul style="list-style-type: none"> E. When sidewalks are not available: Keep as far to the left of the roadway as possible, that is, walk facing traffic. F. Where the law allows: In residential areas if you cross at midblock remember to stop, search and don't let parked cars block your view. G. Heavily traveled streets: Do not jaywalk (midblock crossing). H. Pedestrians never have the right-of-way even in situations where the driver must yield the right of way.
4. Intersections	<ul style="list-style-type: none"> A. Walk directly across the street, do not walk diagonally. B. Include over-the-shoulder scan when executing L-R-L. C. Make eye contact with the driver of a car stopped while you are crossing -- make sure driver knows you are there. D. In poor weather (rain or snow) vehicle stopping distance is increased.
5. Visual Screen	<ul style="list-style-type: none"> A. If you still cannot see what may be coming because your vision is blocked by something, go out to where you can see (e.g., outside edge of a parked car), stop and look left-right-left all over again. B. Above message is applicable for all visual screen situations (e.g., multiple threat, school/commercial bus stop).
6. Recreation	<ul style="list-style-type: none"> A. As a jogger or runner, stop and look left-right-left when crossing streets or roads. (Jog-in-place to maintain momentum.)

Table 23 (Continued)

Pedestrian Safety Messages by Target Group: Older Adult

Message Group	Description
7. Alcohol	A. Impairment with alcohol and drugs puts you at increased risk as a pedestrian.
8. Developmental/ Aging Differences	A. Slower body movements, including reaction time. B. Loss of peripheral vision (and hearing loss).

Table 24

Summary of Material Type by Critical Message Group: Older Adult

Message Group	TYPE OF MATERIAL		
	Print Material	Program	Audiovisual Material
Search Behavior		Pedestrian Safety for the Elderly	
Conspicuity		Pedestrian Safety for the Elderly Older Adult Pedestrian Safety	
Traffic Signs and Signals		Pedestrian Safety for the Elderly Older Adult Pedestrian Safety	
Intersections		Pedestrian Safety for the Elderly Older Adult Pedestrian Safety	Give Older Pedestrians a Break at Crossings (60-second PSA) Pedestrian Safety Multiple Threat Drive (60-second PSA)
Visual Screen		Pedestrian Safety for the Elderly	Pedestrian Safety Multiple Threat Drive (60-second PSA)
Recreation			
Alcohol		Older Adult Pedestrian Safety	
Developmental/Aging Differences		Pedestrian Safety for the Elderly Older Adult Pedestrian Safety	Give Older Pedestrians a Break at Crossings (60-second PSA)

from the spatial gaps in this table, the need for educational materials for this target audience is evident. There are no print materials for this group and no lengthy audiovisuals. None of the central pedestrian safety messages is adequately covered by any of the existing materials for older adults.

Although generalizations about slower reaction time and slowness of behavior in general (Biren & Williams, 1980) and other age-related performance decrements can be made, these should be done cautiously. In part this has to do with the overall appeal of the materials, which is likely to be low if a poor image of the older adult is presented or if negatives associated with aging are emphasized. Also, it should be kept in mind that choosing the age of 65 to define the older adult is arbitrary. Other things being equal, chronological age is a poor indicator of the aging process. In fact, biological age may not become a good predictor of age-related performance decay until advanced age (Willis & Baltes, 1980). Indeed, many older adults lead very active and independent lives. And, it may be that these messages need to be directed toward the more active of this age group because their activity is likely to put them at greater risk.

It is also noteworthy to recognize that the experience of old age is dynamic and not static. With improved health and life styles of the older adult, the curve of life may drop more gradually than was the case previously, preserving intellectual and physical vigor more close to the time of death (Swensen, 1983). If this premise is correct, not only will the overall number of older adults increase in the future, but so will the percent leading active, independent lives.

Drivers. Thus far, little attention has been given to driver behavior as it relates to vehicle-pedestrian situations. It is clear that for some accident types (e.g., vehicle turn/merge, multiple threat) both the driver and the pedestrian have committed behavioral errors (Blomberg, Preusser, Hale, & Leaf, 1983b). And in some situations, it is possible for one party to compensate for the behavioral errors of the other, e.g., a driver detects and brakes in time for a pedestrian that did not search (Farina, 1984). There are other situations, especially accident types involving quick street entry (midblock dash/dart-out, intersection dash) where the driver could do very little to avoid the accident.

Pedestrian safety messages targeted toward the driver are shown in Table 25. Especially amenable to altering driver behavior involves messages directed toward vehicle turn/merge and multiple threat accident types. For vehicle turn/merge situations, an important message for drivers is "to take a last look for pedestrians before turning." For visual screen situations involving a stopped vehicle in the traveled portion of the road (e.g., multiple threat, vendor-ice cream truck, bus) messages encouraging the driver to slow down and anticipate the possible appearance of a pedestrian are also important (Blomberg, Preusser, Hale, & Leaf, 1983b). Other messages may be less direct or less specific to particular accident types but are nevertheless helpful. These include encouraging drivers to watch for evidence of children at play in residential neighborhoods and to expect unusual or unexpected behavior from them if they cross the street. Similarly, early detection by the driver of an alcohol- or drug-impaired pedestrian may help the driver respond quickly to their erratic or unpredictable behavior. Also important are conspicuity and developmental/aging related messages.

Table 25

Pedestrian Safety Messages by Target Group: Driver

Message Group	Description
1. Search Behavior	<ul style="list-style-type: none"> A. As you drive, actively scan for pedestrians about to cross or enter your path. B. Watch for pedestrians when backing up in parking lots, driveways, etc. C. In poor weather, be aware that pedestrians may let umbrellas or hoods block their view of your car. (In poor weather, you may not see as well either.) D. In residential areas and near schools scan for pedestrians and be prepared to stop.
2. Being Seen (Conspicuity)	<ul style="list-style-type: none"> A. Older adults may be harder to see during the day because many wear conservative or muted colors. B. Pedestrians are very difficult to see at night in poorly lit or nonlighted areas.
3. Traffic Signs, Signals & Markings	<ul style="list-style-type: none"> A. Yield to pedestrians in your path. B. Watch for marked crosswalks and expect to stop.
4. Intersections	<ul style="list-style-type: none"> A. When turning, actively scan for pedestrians about to cross or enter your path. B. Drivers making a left or right turn, should look for other approaching vehicles then take a last look for pedestrians, before turning. C. When making a right-turn-on red, drivers should look for other approaching vehicles then look one more time for pedestrians before turning on red. D. In poor weather (rain or snow) vehicle stopping distance is increased.
5. Visual Screen	<ul style="list-style-type: none"> A. Watch for pedestrians entering the street from behind parked cars, stopped vehicles in the roadway (e.g., buses, ice cream trucks) and other visual screens.

Table 25 (Continued)

Pedestrian Safety Messages by Target Group: Driver

Message Group	Description
5. Visual Screen (Continued)	<p>B. Children are especially blocked by parked cars and other vehicles.</p> <p>C. If a car is stopped in a travelled lane, slow down, and ask yourself why the car is stopped (multiple threat) -- it may be hiding a pedestrian.</p>
6. Recreation	<p>A. Look for children at play when driving on residential streets, or near playgrounds or schools. Slow down if children are present.</p> <p>B. A ball in the street is likely to be followed by a child at play.</p> <p>C. Watch for joggers darting into the street.</p>
7. Alcohol	<p>A. The behavior of the alcohol-impaired pedestrian is not likely to be predictable.</p>
8. Developmental/ Aging Differences	<p>A. Young children perceive traffic situations differently:</p> <ol style="list-style-type: none"> 1) Cannot detect safe gaps in traffic. 2) Cannot detect whether a vehicle is moving or stationary. 3) Cannot accurately judge speed of approaching vehicle. <p>B. For the above and other reasons, the pedestrian behavior of young children is unpredictable.</p> <p>C. Older adults tend to move slower and, therefore, need more time to cross the street.</p> <p>D. Older adults may not see turning vehicles because of restricted peripheral vision or neck movement.</p>

Table 26

Summary of Material Type by Critical Message Group: Driver

Message Group	TYPE OF MATERIAL		
	Print Material	Program	Audiovisual Material
Search Behavior	What Parents Should Know About Children and Traffic (Booklet) Annual School's Open-Drive carefully Program (Promo Materials)		
Conspicuity			
Traffic Signs and Signals			
Intersections			Give Older Pedestrians a Break at Crossings (60-second PSA)
Visual Screens	Parents Can Be Serious Traffic Hazards (Booklet)		
Recreation	What Parents Should Know About Children and Traffic (Booklet)		
Alcohol			
Developmental/Aging Difference			Give Older Pedestrians a Break at Crossings (60-second PSA)

Table 26 shows the very few pedestrian safety educational materials directed toward drivers. Most of the print materials are directed toward school-age children and school-related pedestrian activity. The noted PSAs are geared toward multiple threat situations, vehicle turn/merge at intersections, and reminding drivers that the older adult pedestrian needs more time to cross the street. There is clearly a need for program materials of any type to address the appropriate central pedestrian safety messages to drivers.

CONCLUSIONS

The overall purpose of this project was to identify, collect, and evaluate existing pedestrian safety educational materials relative to their use in a national pedestrian safety program. To this end, project staff conducted an extensive search of such materials contacting various types of organizations at the national, state and local levels. The number of organizations contacted and the number of materials identified and received during this process attests to the thoroughness of this effort.

An initial objective of the evaluative review of existing pedestrian safety educational materials was to determine the accuracy, quality and adequacy of these materials. Accordingly, 11 criteria were used to judge these materials based on assessment by independent review and group consensus. To facilitate the completion of the second and third objectives of this evaluative review, that is, to identify information gaps in existing materials and to recommend material development priorities, central pedestrian safety messages were identified. These were further classified by target audiences. Materials and messages were then matched for each of these audiences. Such a comparison made it possible to identify needed material types and the message content of these proposed pieces.

The evaluative review of existing pedestrian safety educational materials resulted in the selection of 44 items for use in a national program.

Because the number of nonselected materials outnumber those that were selected, it is imperative that the national program serve to redirect education efforts in this area. A first order of business is to discourage the use of less effective messages and that these are not perpetuated in newly developed materials. Second, but no less important, is to ensure that there is an increased awareness by program planners and developers as to what pedestrian safety problems are most critical for which target audiences as well as what are the most critical or important messages for each target audience. Third, is the wide distribution and use of recommended materials and messages.

Existing materials selected for use in a national program do favor preschool and young elementary-aged children. No doubt there are many reasons for this but three appear to be most prominent. First, is the seriousness of pedestrian fatalities and injuries for children under 9 years of age (Blomberg, Preusser, Hale, & Leaf, 1983a). Second, the school system provides a readily available mechanism for dissemination of this material. Third, convincing program planners, and community leaders of the importance of this issue may be easiest when focused on the pedestrian safety of young children.

Such a premise has important implications for the development and implementation of a national program. It suggests that the national program and its materials need to provide strategies to disseminate materials and messages for harder to reach audiences. For example, a viable means of reaching adult target audiences is through public service announcements. These cannot serve as the only mode of dissemination of messages, however. Past research has demonstrated that air time for radio and television PSAs can be stiffly competitive and appropriate messages may be ineffective because of restricted airing, especially for adult-level messages (Blomberg, Preusser, Hale, & Leaf, 1983b).

It also suggests that there is need to increase the awareness of program planners and community leaders of the seriousness of the pedestrian accident problem for various age groups to build the needed support for a national program. It is incumbent on the national program to provide suggested modes of dissemination for harder to reach audiences, especially all nonschool-related audiences, and to suggest mechanisms whereby the necessary support for the program can be mustered.

Present results clearly show that additional educational materials are needed. Even though the most obvious information gaps occur for older age groups, additional materials are needed for each of the target audiences identified during this project. Accordingly, the following areas are recommended for further material development:

Young Children

1. Regarding parents and caretakers of preschoolers, additional print and audiovisual materials need to emphasize left-right-left search behavior, to help ensure that those responsible for supervising street crossing of preschoolers provide good role-model behavior.

2. For children in kindergarten through third grade, additional print material emphasizing search behavior would be helpful (such as activity booklets or coloring books). In addition, print and audiovisual materials need to cover day time conspicuity and boundary messages, provide basic instructions on traffic signs, signals, and markings as well as discussing how maturation and developmental limitations contribute to unsafe traffic perceptions and behaviors of young children.

3. For fourth through sixth grades, all messages need to be covered in program materials (none currently exist for this age group). In addition, audiovisual materials need to address day time conspicuity and recreational messages. Print materials for this age group need to cover visual screen and intersection situations, basic instructions on traffic signs and signals, plus day and night time conspicuity, recreation, and search behavior messages.

Junior High and High School Students

1. Program materials that cover all messages are needed for both junior high and high school level students. Such materials need not be extensive in length, a brief presentation of key messages could probably be covered in one concise short session.

2. Audiovisual materials covering all messages are needed for junior high and high school students.

3. Print materials for junior high school students need to address search behavior. Audiovisual materials for this age group need to include supervision reminders, for example, role-model behavior of these students for young siblings or other children.

4. Print materials for junior high and high school students need to address intersection and visual screen situations, day and especially night time conspicuity, traffic sign, signal and marking reminders, recreation and alcohol-related messages.

Adults

1. Program materials covering all messages are needed.

2. Additional print materials addressing search behavior would also be helpful.

3. Both print and audiovisual materials need to address night time conspicuity messages, traffic sign, signal and marking reminders (especially search behavior before street entry even in the presence of a walk signal or green light), visual screen and intersection situations, reminders for joggers and other pedestrian-related recreational activities. Alcohol messages are especially important for this target audience.

Older Adults

1. Print, program and audiovisual materials covering all messages are needed for this target audience.

2. Night time conspicuity and alcohol messages need mention but not emphasis. All other messages, especially intersection-related and day time conspicuity, need emphasis.

Although pedestrian accidents are largely an urban problem (National Safety Council, 1986), pedestrian safety issues associated with rural areas should not be ignored. It is evident that some rural pedestrian issues are covered in existing materials, such as, walking along roadway and night time conspicuity. It is also clear, however, that none of the reviewed materials were targeted specifically for rural areas for any of the identified target audiences. In some cases, rural and urban accident types are similar (e.g., midblock dash/dart-out, mailbox related accidents). Because many rural roads do not have curbs, "stop at the curb messages" need to be modified to "stop at the edge of the roadway." Also important, is pedestrian school-bus situations, especially the visual screen created by the bus for the bus driver and drivers of other vehicles. Regarding adults, because of the high speeds often permitted on rural roads, disabled-vehicle messages (once the driver is out of the vehicle and on the road) would also be helpful.

The present discussion would not be complete without highlighting the significance of alcohol as a contributing factor in pedestrian accidents. It is clear from present results that no reviewed material adequately addressed this issue for any of the relevant target audiences. It is also clear from past research that alcohol is a significant contributing factor in adult pedestrian fatalities for those aged 25-64 and 14-24 (Fell & Hazzard, 1985) and

a significant contributing factor in adult pedestrian injuries (Preusser & Blomberg, 1981).

Past research points both to the pervasiveness of the problem as well as the difficulty in counteracting it. For example, previous studies suggest that as many as 43% of adult pedestrians killed by a motor vehicle had been drinking (Zylman, Blomberg, & Preusser, 1974). Pedestrian accidents involving alcohol can be profiled by the following characteristics: middle-aged adults, most often males, occurring at night and often on weekends (Preusser & Blomberg, 1981), occurring at nonintersection locations, and generally involves severe intoxication levels, that is, blood alcohol concentrations of .20 or more (Fell & Hazzard, 1985). The very high levels of alcohol in the blood suggests that the drinking pedestrian may be only one aspect of a more serious drinking problem. Preusser and Blomberg (1981) found that alcohol-related pedestrian accidents were characterized by risk taking on the part of the pedestrian probably as a result of the effect of alcohol on judgment as well as direct psychomotor impairments such as staggering or falling.

It is also evident from these profiles that generating potentially useful countermeasures for this area is not likely to be easy (Fell & Hazzard, 1985). Blomberg and Fell (1979) suggest that the public could be informed of the seriousness of the pedestrian alcohol problem through a mass media campaign. Such messages could be directed toward changing subsequent behavior to avoid such intoxication levels. They suggest that one theme could focus on the socially unacceptable nature of alcohol abuse. Fell and Hazzard (1985) suggest that messages such as calling a cab or providing a ride home is as necessary for a pedestrian as it is for a driver. They suggest that these messages could be incorporated in bartender classes and training for other servers of alcohol. Such messages may be applicable to the general public also. For example:

If he's too drunk to drive
He may be too drunk to walk ...

(He's your friend) put him in a cab
or have someone drive him home.

Other countermeasures might include public drunkenness laws (Preusser & Blomberg, 1981) and dram shop laws applicable to drunken pedestrians (Fell & Hazzard, 1985).

With drinking and driving receiving more public attention, it may be possible to piggyback some drinking pedestrian messages to designated driver or other drinking-driver messages. An additional message to designated drivers (or friends in general) may be their responsibility to monitor the drinking of the other members of their party to make sure they stop or slow down before such intoxication levels are reached. For example:

(S)he's your friend, don't let
him (her) drink so much.

Other messages may point out that an intoxicated pedestrian can be hazardous to others, such as the driver of a vehicle who hits some other object to avoid striking the pedestrian. Driver tips on how to quickly detect an intoxicated pedestrian may be helpful.

These proposed messages are speculative and there is no available evidence to suggest their effectiveness. Here as in other areas of pedestrian safety messages, the seriousness of this problem points to the need for a field test of these and other alcohol-related pedestrian messages with regard to their receptivity and effectiveness.

In closing, a final word is needed about the central pedestrian safety messages formulated during this project in terms of their origin and what they represent. As previously stated, the initial work by Snyder and Knoblauch (1971) represented a landmark study that detailed the typography of pedestrian accidents in terms of major accident types and associated behavioral errors. The usefulness of this research is evidenced by the fact that subsequent investigators have consciously chosen to remain faithful to it when developmental research on the receptivity of various pedestrian safety messages was conducted (Blomberg & Preusser, 1975) as well as when conducting evaluation research on the effectiveness of specific pedestrian programs and messages (Blomberg, Preusser, Hale, & Leaf, 1983a; 1983b; Preusser & Blomberg, 1984). It was the intent of this present project to formulate messages that were compatible as much as possible with these past efforts.

As a result, what is collectively offered is a series of messages which represents a framework that is suggested from the results and implications of past research. This proposed framework, however, needs to be directly tested. For example, there is need to evaluate older adult messages, those geared toward older elementary and high school students, as well as alcohol-related messages. In addition, we need to know the receptivity of proposed night time conspicuity enhancers to selected target audiences and the effectiveness of these in real world traffic situations.

To support the efforts of a national pedestrian safety program, additional educational materials need to be produced and necessary developmental and evaluation research should be continued. Such activities require money and resources that may not be readily available at the state or local levels. Even more pressing is the eventual difficulty that a state or community will likely have in launching a pedestrian safety program as broad in scope as by this national program without supportive funds.

In summary, the results of this evaluative review of existing pedestrian safety educational materials suggest the following main conclusions:

- ° Existing pedestrian safety educational materials were often inadequate, often because these were outdated and did not reflect state-of-the-art information (with notable exception). There is definite need to develop materials that set forth a comprehensive set of basic pedestrian safety messages.
- ° The frequency of information gaps in selected and recommended pedestrian safety educational materials underscores the need to develop additional educational materials for nearly all of the target groups identified in this project.

• Pedestrian safety programs at the community and state level collectively represent an activity that must be revived. Needed support efforts include the increased awareness and accessibility to recommended pedestrian safety educational materials, the development of new materials to address the information needs uncovered during this present effort and the availability of funds to carry out these program activities.

RECOMMENDATIONS

Although the national pedestrian safety program is broad in scope, the focus of this technical report is on the educational component and material needs of this program. Accordingly, the following recommendations are based on this present effort. A full list of recommendations from a comprehensive overview and profile of this national program will be presented in the final report for this project. The following recommendations are made:

1. Pedestrian safety educational materials need to be developed with particular attention given to pedestrian safety messages not currently covered in existing materials. In priority order, these gaps by target group are:
 - Adults (general)
 - Older Adult
 - High School
 - Junior High School
 - Kindergarten through Third Grade
 - Adult/Young Adult Pedestrian Alcohol Messages

As part of this contract, project staff and consultants have undertaken the development of one booklet for each of the following target groups: older adult, junior high school, high school, and an activity piece for kindergarten through third grade. Through additional support from NHTSA, a general audience brochure on pedestrian safety has been developed. Additional print and other educational materials are needed to address the gaps found for pedestrian alcohol messages for adults and junior high/high school students, search messages, day and night time conspicuity, and materials for grades 4-6.

2. Program materials are needed for the older adult, and adult pedestrian as well as the following school-related target audiences: grades 4 through 6, junior high and high school students.
3. Audiovisual materials are especially needed for junior high and high school students, adult and older adult pedestrians.
4. In the development of any new pedestrian safety educational material, a comprehensive approach should be taken based upon the central pedestrian safety messages appropriate for the intended audience to ensure that state-of-the-art information is imparted and major accident problem areas are addressed.

5. The framework of pedestrian safety messages proposed in this report should be empirically tested. In particular a target group's receptivity to specified educational messages and the effectiveness of these messages in reducing pedestrian accidents should be systematically evaluated.
6. The national program should support the wide use of recommended educational materials by program planners and others through increased awareness of the existence and ease of accessibility of these materials.
7. The national program should provide strategies for the dissemination of educational messages and materials for harder to reach audiences.
8. The national program should provide suggested mechanisms whereby the necessary support for a pedestrian safety program can be developed at the local ("grassroots") and state levels.
9. The national program should increase the awareness of community leaders and program planners on the severity of the pedestrian accident problem for all identified target audiences.
10. The development, use, and evaluation of pedestrian safety educational materials and programs should be supported with the funds needed to carry out these activities as availability and priority of needs permit.

REFERENCES

- Birren, J. D., & Williams, M. V. (1980). Cognitive issues: Speed of behavior (introduction). In L. W. Poon (Ed.), Aging in the 1980s: Psychological issues (pp. 291-292). Washington, DC: American Psychological Association.
- Blomberg, R. D., & Fell, J. C. (1979, October). A comparison of alcohol involvement in pedestrians and pedestrian causalities. Proceedings of the American Association for Automotive Medicine. Louisville: Author.
- Blomberg, R. D., Hale, A., & Preusser, D. F. (1985, November). Experimental evaluation of alternative conspicuity enhancement techniques for pedestrians and bicyclists. In K. E. H. Race, T. W. Planek et al. (Eds.), Fourth Symposium on Traffic Safety Effectiveness (Impact) Evaluation Projects: Proceedings (DTNH22-84-C-05783). Washington, DC: National Highway Traffic Safety Administration.
- Blomberg, R. D., Hale, A., & Preusser, D. F. (1986). Conspicuity of pedestrians, bicyclists. Journal of Safety Research, 17(1), 1-12.
- Blomberg, R. S., Preusser, D. F., Hale, A., & Leaf, W. A. (1983a, November). Experimental field test of proposed pedestrian safety messages: Volume II, child messages (DOT-HS-4-00952). Washington, DC: National Highway Traffic Safety Administration.
- 1
Bureau of the Census. (1987, April). Population profile of the United States 1984/85 (Special studies series P-23, No. 150). Washington, DC: Department of Commerce.
- Dueker, R. L. (1975, March). Threat detection training programs for child pedestrian safety, Volume I: Conduct, results and recommendations. (DOT-HS-801-450). Washington, DC: National Highway Traffic Safety Administration.
- Dueker, R. L. (1981, December). Experimental field test of proposed anti-dart-out training programs: Volume 1, conduct and results. Final report (Contract #DOT-HS-4-00955). Washington, DC: National Highway Traffic Safety Administration.
- Farina, A. J., Jr. (1984, July). A new approach to pedestrian safety. Proceedings: Fourth Annual Pedestrian Conference (Report No. FHWA-TS-84-218). Washington, DC: U. S. Department of Transportation.
- Federal Highway Administration. (1978, June). Model pedestrian safety program user's manual (DOT-FH-11-9138). Washington, DC: U. S. Department of Transportation.
- Federal Highway Administration. (1984, July). Proceedings: Fourth Annual Pedestrian Conference (Report No. FHWA-TS-84-218). Washington, DC: U. S. Department of Transportation.

- Fell, J. C., & Hazzard, B. G. (1985, October). The role of alcohol involvement in fatal pedestrian collisions. Proceedings of the 29th Annual Conference of the American Association for Automotive Medicine. Washington, DC: Author.
- Klones, S. A., Planek, T. W., Race, K. E. H., & Gamache, S. L. (1980, September). An assessment of public fire education programs for low income urban residents (Final Report). Washington, DC: U. S. Fire Administration.
- Knoblauch, R. L. (1975, February). Urban pedestrian accident countermeasures experimental evaluation (DOT-HS-190-480). Washington, DC: U. S. Department of Transportation.
- Knoblauch, R. L. (1976, March). Causative factors and countermeasures for rural and suburban pedestrian accidents (DOT-HS-190-1-480). Washington, DC: U. S. Department of Transportation.
- Liebermann, E. (1984, July). Pedestrian safety program for San Francisco's downtown area. Proceedings: Fourth Annual Pedestrian Conference (Report No. FHWA-TS-84-218). Washington, DC: U. S. Department of Transportation.
- National Highway Traffic Safety Administration. (1975, November). A new look at pedestrian safety. Washington, DC: U. S. Department of Transportation.
- National Highway Traffic Safety Administration. (1981, November). Pedestrian accident reduction guide: Guidelines for a successful program, why the approach works, accident types, countermeasures (DOT-HS-805-850). Washington, DC: U. S. Department of Transportation.
- National Safety Council. (1987). Accident facts, 1987 edition. Chicago: Author.
- National Safety Council. National pedestrian Safety Program Walk Alert: Program Guide. (Contract #DTFH61-86-C-00058). Washington, DC: U.S. Department of Transportation. (In preparation)
- Phinney, J., Colker, L., & Cosgrove, M. (1985, January). Literature review of the pre-school pedestrian (DOT-HS-9-0-2264). Washington, DC: National Highway Traffic Safety Administration.
- Preusser, D. F., & Blomberg, R. D. (1981, September). A comparison of alcohol involvement in pedestrians and pedestrian causalities. In, T. W. Planek, K. E. H. Race et al. (Eds.), Symposium on Traffic Safety Effectiveness (Impact) Evaluation Projects: Proceedings (DTNH22-84-C-05783). Washington, DC: National Highway Traffic Safety Administration.
- Preusser, D. F., & Blomberg, R. D. (1984). Reducing child pedestrian accidents through public education. Journal of Safety Research, 15(2), 47-56.

- Preusser, D. F., & Blomberg, R. D. (1985, November). Reducing child pedestrian accidents through public education. In K. E. H. Race, T. W., Planek et al. (Eds.), Fourth Symposium on Traffic Safety Effectiveness (Impact) Evaluation Projects: Proceedings (DTNH22-84-C-05783). Washington, DC: National Highway Traffic Safety Administration.
- Preusser, D. F., Blomberg, R. D., Edwards, J. M., Farrell, M. L., & Preusser, C. W. (1983, November). The development and test of urban and rural pedestrian safety messages (DTNH22-80-C-07475). Washington, DC: National Highway Traffic Safety Administration.
- Snyder, M. B., & Knoblauch, R. L. (1971, January). Pedestrian safety: The identification of precipitating factors and possible countermeasures (FH-11-7312). Washington, DC: National Highway Traffic Safety Administration.
- Steed, D. K. (1982, October). Message to symposium participants. In, T. W. Planek, K. E. H. Race et al. (Eds.), Second Symposium on Traffic Safety Effectiveness (Impact) Evaluation Projects: Proceedings (DTNH22-81-C-05155). Washington, DC: National Highway Traffic Safety Administration.
- Swensen, C. H. (1983). A respectable old age. American Psychologist, 38(3), 327-334.
- Thackray, R. M., Jr. (1982, September). The Denver pedestrian safety project. In, T. W. Planek, K. E. H. Race et al. (Eds.), Second Symposium on Traffic Safety Effectiveness (Impact) Evaluation Projects: Proceedings (DTNH22-81-C-05155). Washington, DC: National Highway Traffic Safety Administration.
- Willis, S. L., & Baltes, P. B. (1980). Intelligence in adulthood and aging: Contemporary issues. In, L. W. Poon (Ed.), Aging in the 1980s: Psychological Issues (pp. 260-272). Washington, DC: American Psychological Association.
- Zylman, R., Blomberg, R. D., & Preusser, D. F. (1974, September). A review of the literature on the involvement of alcohol in pedestrian collisions resulting in death and injury (DOT-HS-801-413). Washington, DC: National Highway Traffic Safety Administration.

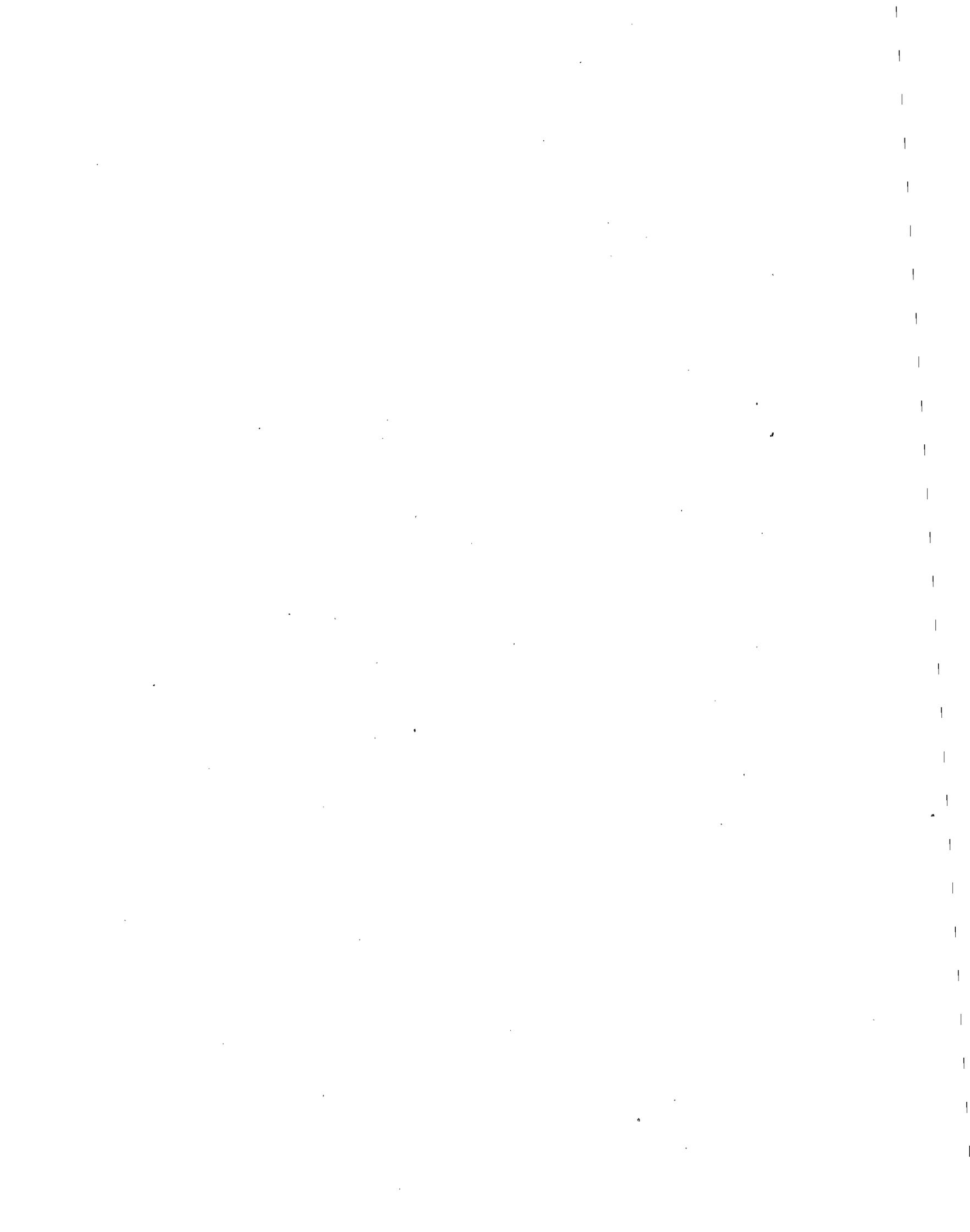


Table A-1

Description of Less Common Pedestrian Accident Types

Accident Type	Description
Disabled Vehicle-Related	Most pedestrians, who are not near the disabled vehicle are struck while attempting to cross a roadway. This type of accident occurs typically on a major highway after dark. The vehicle usually has been disabled by mechanical problems or an accident. Most are young males who are in an unexpected location and often fail to search for and detect the collision vehicle.
Trapped	The pedestrian is caught in an intersection when the traffic light changes and traffic starts to move.
School Bus-Related	The pedestrian is struck while going to or from a school bus or a school bus stop. Most pedestrians are struck while attempting to cross the road; only a few are hit while walking along the road. Some are struck by their own buses, but most are hit by other vehicles. Most accidents of this type occur on two-lane secondary highways. The pedestrians involved are of school age, with those aged 5 to 9 years predominating. A few older persons may be involved. The key pedestrian error is failure to search adequately because of distraction by other pedestrians.
Mail Box-Related	The pedestrian is struck going to or from a mailbox or newspaper box, often located on the other side of the road. Most of these accidents occur on high-speed, two-lane roads in country locations. Nearly all occur during daylight. Obstruction of vision by trees, brush, or other roadside items is a factor in only a few cases. The collision vehicle is moving at a typical highway speed. Most victims are children under 9, and nearly all are attempting to cross the roadway alone. The pedestrian fails to search adequately and frequently runs into the roadway alone.
Hitchhiking	The pedestrian is struck while hitchhiking, either while walking or stationary at the side of the road. Most of these accidents occur on major roadways in open areas of the country or in suburbs, and nearly all of the accidents occur at night. Most of the pedestrian victims are young males. Alcohol is a factor in the behavior of the pedestrian in a significant number of accidents. The pedestrian is often standing or walking in an unusual or unexpected place. Roadway lighting is likely to be inadequate or nonexistent. Most do not see the collision vehicle and therefore are not aware of the need for evasive action; or they think the driver sees them.

Table A-1 (Continued)

Description of Less Common Pedestrian Accident Types

Accident Type	Description
Walking Along Roadway	The pedestrian is struck while walking along a roadway, either on the edge or the shoulder. Most of these accidents occur on country roads after dark, and most occur on the roadway. Most are between 10-24 years of age and most are wearing dark clothing and are therefore hard to see. Most of the pedestrians are walking with traffic and their focus of attention is away from the collision vehicles; consequently, they fail to search for and detect the threats. Most of the victims are unaware of the need to take evasive action.
Working on Roadway	A person working on the roadway is struck by a vehicle in, or on the edge of, the roadway. Most accidents of this type occur in daylight; most of the victims are standing or walking, and very few are attempting to cross the road when struck. Victims are construction workers, flagmen, or others engaged in road work. Conspicuity of the workers by drivers is often low. Key pedestrian error is failure to search for and detect the collision vehicle.
Pedestrian Not in Roadway	The pedestrian is struck when not in roadway. He/she may be in a parking lot, driveway, private road, gas station, yard or ballfield. This type includes pedestrians who were standing on the curb, waiting to cross a roadway.
Pedestrian Walks Into Vehicle	The pedestrian did not appear suddenly in the path of the vehicle, but walked into the side, front, or rear of it. This type includes accidents that occurred both at and away from intersections.
Exiting From/Entering Parked Vehicle	The pedestrian is in the traffic lane next to a stopped vehicle, entering or leaving it.
Driverless Vehicle	The pedestrian is struck by a vehicle that is moving without a driver at the controls. A child may have set the vehicle in motion.
Expressway Crossing	The pedestrian is struck while attempting to cross a limited access expressway or expressway ramp.
Playing in Roadway	The pedestrian is struck while playing on foot in the roadway.

Table A-1 (Continued)

Description of Less Common Pedestrian Accident Types

Accident Type	Description
Play Vehicle-Related	The pedestrian is riding a play vehicle, such as a wagon, sled, or skateboard, but not a bicycle, tricycle, or "Big Wheel" toy, when struck.
Driver Violation	The only identifiable failure is that the driver seems to have committed one or more of the following violations: Careless driving, failure to yield right-of-way, failure to obey a traffic signal or sign, speeding, driving while intoxicated, or driving under the influence of alcohol.
Hot Pursuit	The pedestrian is struck by a vehicle on an emergency or police mission, or by a vehicle being pursued by the police.
Emergency/Police Vehicle-Related	The pedestrian is near an active police or emergency vehicle, such as a fire truck or ambulance, when struck.

Sources: Federal Highway Administration (1978). National Highway Traffic Safety Administration (1981). Federal Highway Administration (1984).

Table A-2

Pedestrian Accident Types and Potential Educational Countermeasures

Accident Type \ Countermeasures	Preschool					Elementary School						High Sch.			General Public				Older Adults						
	Parental Guidance	Safety Town/Safety Clubs	Television Programs	Walking In Traffic Safely	Watchful Willie	Officer Friendly	Education Within the Curriculum	Green Pennant Program	"Big Wheel" Spot	Willy Whistle Program	Safe Street Crossing	Child Intersection Dash TV Spot	"And Keep on Looking" Film	Assemblies	Drivers Education	Youth Traffic Court	Talks to Groups	Community Action Program	Use of the Mass Media	Multiple Threat Spot	Vehicle Turn-Merge Spot	Adult Intersection Dash Spot	Safety Courses	Talks to Groups	Community Contact Programs
Dart-out (First Half)					•				•																
Dart-out (Second Half)					•				•																
Midblock Dash																									
Intersection Dash											•	•										•			
Turn-Merge Conflict																					•				
Turning Vehicle												•	•												
Multiple Threat												•							•						
Bus Stop Related									•																
School Bus Stop Related									•																
Ice Cream Vendor																									
Trapped																									
Backup	•																								
Walking on Roadway																									
Result Vehicle-Vehicle Crash																									
Hitchhiking																									
Working in Roadway																									
Disabled Vehicle Related																									
Nighttime Situation																									
Handicapped Pedestrians																									
Pedestrian Safety in General	•	•	•	•	•	•	•	•	•	•			•	•	•	•	•	•				•	•	•	

Source: Model Pedestrian Safety Program User's Manual, April 1987 Federal Highway Administration

A-4



**National
Safety
Council**

2 February, 1987

**NATIONAL PEDESTRIAN SAFETY PROGRAM
ADVISORY COMMITTEE**

Judith L. Stone, Executive Director
National Association of Governors' Highway Safety
Representatives
444 North Capitol Street, N.W. Suite 524
Washington, D.C. 20001
(202) 624-5877

Barbara Bailey
National Association of Womens' Highway Safety Leaders
3042 16th Street, N.W.
Canton, Ohio 44708
(216) 456-6737

Dean Childs
Assistant Director, Traffic Safety Dept
American Automobile Association
8111 Gatehouse Road
Falls Church, VA 22047
(703) 222-6342

Rolland Meerdter
Division of State and Provincial Police
International Association of Chiefs of Police
Eleven FirstField Road
Gaithersburg, MD 20760
(301) 948-0922

Mark Norman
Director
Technical and Educational Affairs
Institute of Transportation Engineers
525 School Street, N.W.
Washington, D.C. 20024
(202) 554-8050

Bruce Herms
Associate Traffic Engineer
City of San Diego
City Operations Building
1222 First Avenue
San Diego, CA 92101-4154
(619) 236-5762

Donald La Fond
Facilitator, Project Basic Office
Maryland State Department of Education
200 W. Baltimore Street
Baltimore, MD 21201
(301) 838-7300

Dan Burden
State Bicycle Coordinator
Division of Planning and Programming
Florida Department of Transportation
605 Suwanne Street, M.S. 19
Tallahassee, Florida 32301
(904) 488-4640

Dr. Joseph Greensher
Chairman, Department of Pediatrics
Winthrop-University Hospital
259 First Street
Mineola, New York 11501
(516) 663-2288

Gary Deverman
National 4-H Council/Youth Program
700 Connecticut Avenue
Washington, D.C. 20015
(301) 656-9000

Steve Stiles (Alternate - Sue Grable)
American Association of Retired Persons
1909 K Street, N.W.
Washington, D.C. 20049
(202) 662-4863

Joan Greenwalt
Safety Specialist
The National PTA
700 North Rush
Chicago, IL 60611-2571
(312) 787-0977

Terry Witkowski
Managing Director
City of Milwaukee
841 North Broadway, Room 401
Milwaukee, Wisconsin 53202
(414) 278-2195

Joan Adelman, Chairman
Illinois Secretary of State Pedestrian and Bicycle
Safety Committee
Auxiliary to the American Optometric Association
2 Northcrest Court
Bloomington, Illinois 61701
(309) 662-1751

Joe Carney
Department of Public Works
Bureau of Traffic Engineering
& Operations
320 North Clark, Room 402
Chicago, Illinois 60611
(312) 744-8092

Thomas Krycinski
Deputy Director
Technical Services
Office of Highway Safety Planning
Michigan State Police
Lower Level
111 S. Capitol
Lansing, MI 48913
(517) 373-8011

Patricia Bartley
Global Program Manager
Personal Safety Products
Safety & Security Systems Division
3M Company
Building 223-3N
St. Paul, MN 55144
(612) 733-1632

Matthew Sielski
Traffic Engineering Consultant
1290 Carol Lane
Deerfield, IL 60015
(312) 945-5905

NATIONAL SAFETY COUNCIL

PROGRAM COORDINATOR

Fred Ranck
Manager
Highway Traffic Safety Department
National Safety Council
444 North Michigan Avenue
Chicago, Illinois 60611
(312) 527-4800 extension 8402

ASSISTANT PROGRAM COORDINATOR

Sharon Gamache
Manager
Community Safety Department
National Safety Council
444 North Michigan Avenue
Chicago, Illinois 60611
(312) 527-4800 extension 7201

LIASION FROM U.S. DOT

FHWA - John Fegan
Research Psychologist
Turner-Fairbank Highway Research Center
Federal Highway Administration
6300 Georgetown Pike, HSR-20
McLean, Virginia 22101

NHTSA - Dr. Virginia Litres
National Highway Traffic Safety
Administration (NTS-23)
400 7th Street, S. W.
Washington, D.C. 20590
(202) 366-2761

FIELD REPRESENTATIVE FOR THE PROJECT

Sheila DeBonis
727 Main Street
Hobart, Indiana 46342
(219) 942-9969

TECHNICAL CONSULTANTS TO THE PROJECT

Richard Blomberg
David Preusser
Dunlap and Associates, Inc.
1700 Washington Street
Norwalk, CT 06854
(203) 866-8464

Charles Zegeer
Staff Associate
University of North Carolina
Highway Safety Research Center
CTP 191A
Chapel Hill, NC 27514
(919) 962-7801



**RECOMMENDED ENGINEERING MATERIALS
ON PEDESTRIAN SAFETY**

The following represents a select bibliography of documents that are excellent information sources on pedestrian safety engineering and law enforcement countermeasures and practices. Each item was evaluated in a manner similar to that used for the evaluative review of pedestrian safety educational materials already discussed. Accordingly, each will be identified by its title and followed by a brief description of its content. (See also Table C.) The full reference for each of these documents is shown at the end of this appendix.

Model Pedestrian Safety Program: User's Guide: is the newly revised version of the FHWA's 1978 Model Pedestrian Safety Program User's Guide that outlines the six-step process in planning and creating a safer roadway environment for pedestrians. A six-step Model Pedestrian Safety Program is described, namely:

- GuideStep 1 Determine the extent of the pedestrian safety problem
- Step 2 Identify alternative solutions
- Step 3 Select the best alternative
- Step 4 Implement selected alternative
- Step 5 Evaluate the effectiveness of the implemented alternative
- Step 6 Maintain the pedestrian safety program

This program implementation manual is designed for engineers and traffic safety officials. It offers a comprehensive approach to pedestrian safety and includes engineering, enforcement and education measures. It provides an exhaustive discussion on a systematic approach to the development and implementation of a local pedestrian safety program. It is strongly recommended for use in any major pedestrian safety effort. The Model Pedestrian Safety Program User's Guide and Supplement are companion guides to the WALK ALERT Program Guide.

This 44-page guide is available from: National Technical Information Services, Springfield, VA 22161, (703) 487-4650, on a purchase basis.

Model Pedestrian Safety Program User's Guide Supplement: provides more detailed information on the many pedestrian safety countermeasures listed in the USER'S GUIDE. The countermeasures are grouped into three major areas of engineering, education, and enforcement. Within these groups, each countermeasure is discussed in terms of its advantages and disadvantages, implementation considerations, and conditions when the countermeasures would be most beneficial.

This 88-page supplement is available from: The FHWA, RDNT Report Center, HRD-11, 6300 Georgetown Pike, McLean, VA 22101, (703) 285-2144.

Computer and Manual Accident Typing for Pedestrian Accidents: have an administrator's guide plus three accompanying manuals for both the computer-based and manual systems. Collectively, these materials set forth a complete system for the collection, classification (coding) and analysis of pedestrian accident data that can be used to supplement the problem identification and evaluation phases of a pedestrian safety program effort. These materials remain the definitive guide for this purpose.

Both the Computer Accident Typing (CAT) and the Manual Accident Typing (MAT) Systems are available from the National Highway Traffic Safety Administration, 400 Seventh St. S.W., Washington, DC 20590, (202)366-2761.

Urban Intersection Improvements for Pedestrian Safety: is a five-volume set that addresses the identification and description of pedestrian safety operational problems and countermeasures at intersections (urban areas only). Volume I is the Executive Summary, Volume II is the Identification of the Problem, Volume III addresses signal timing, Volume IV covers pedestrian signal displays, and Volume V outlines evaluation procedures. The reports offer extensive discussion on the problems and proposed countermeasures associated with pedestrians traversing urban intersections, including those with or without traffic signals.

These reports are available from: National Technical Information Services, Springfield, VA 22161, (703) 487-4650.

School Trip Safety Program Guidelines: contains recommended procedures by the Institute of Transportation Engineers (ITE) for a school pedestrian safety program. These guidelines outline the major components of such programs as:

1. Preparation of policy for school trip safety
2. Assessment of the deficiencies and adequacies in walking routes
3. Conduct of traffic safety studies
4. Preparation of school-trip route maps
5. Selection of traffic control measures
6. Steps to implement improvements

The periodic monitoring and evaluation of this plan is also emphasized. These guidelines are recommended for any community school pedestrian safety program in need of development or improvement.

These guidelines are available from: The Institute of Transportation Engineers, 525 School Street, S.W., Suite 410, Washington, DC 20024-2729.

Planning School Trip Safety: is available only from ITE. It is a training program on the development, implementation, and evaluation of pedestrian safety plans for school children. It consists of a workbook and a series of three slide presentations. This program is targeted toward engineers, law enforcement officers, traffic safety specialists, and school administrators.

School Trip Safety and Urban Play Areas, Volume V - Guidelines for the Development of Safe Walking Trip Maps: outlines the procedures used to develop safe-route-to-school maps. This program manual details these procedures and may be used in conjunction with the ITE manual already mentioned.

Pedestrian Safety by Design: is a slide/tape presentation which offers a good introduction to pedestrian safety issues and is targeted to engineers and traffic safety specialists. This program discusses pedestrian traffic accidents and ways to reduce the potential for these accidents through engineering improvements. Emphasis is also placed on pedestrian facilities, accommodations for people with disabilities, and government responsibility. The program is intended for use by county highway departments, municipal traffic agencies, urban planning organizations, citizen safety groups, civic organizations, school authorities, and the general public.

This slide/tape presentation is available through the Governor's Representative for Highway Safety in Each state.

Pedestrian Accident Reduction Guide: serves as a general introduction to the NHTSA pedestrian safety program. It provides guidelines for a successful pedestrian safety program, contains information on accident types and describes countermeasures for preventing them.

This 40-page manual is available from: The National Highway Traffic Safety Administration, 400 Seventh St., S.W., Washington, DC 20590, (202) 366-2761.

Accessibility for Elderly and Handicapped Pedestrians - A Manual for Cities: outlines the means by which pedestrian facilities can be designed or modified to accommodate older adult and handicapped pedestrians. This is an excellent guide that can be used to incorporate the needs of these two groups within the overall pedestrian/traffic safety facilities plan of any municipality.

This publication is available only from: The National Technical Information Services, Springfield, VA 22161, (703) 487-4650.

The interested reader is also referred to the National Highway Traffic Safety Administration's pedestrian safety bibliography of selected research studies on pedestrian accident types and countermeasures (NHTSA, 1986).

Table C

Summary of Selected Pedestrian Safety Engineering Materials: Engineering/Law Enforcement

Code Number	Title	Description	Intended Audience	Major Activity	Intended Use	Comments
1	"Model Pedestrian Safety Program User's Manual" June 1978	Implementation Manual (258pp)	Engineering/ Traffic Safety Officials	Determine extent of ped safety problem; identify solutions. Selection of alternatives. Implementation and evaluation of effectiveness.	National	Complete user manual on development of a local ped safety program. Dated material; no longer available.
2	"Model Pedestrian Safety Program User's Guide" April 1987 & Supplement July 1987	Implementation Manual (44pp) (89pp)	Engineering/ Traffic Safety Officials	Up-to-date concise ped safety program user's guide outlines six steps to starting and expanding a local pedestrian safety program.	National	Complete, easy-to-use model program user's manuals available through NTIS. Supplement available through Walk Alert.
3	Computer and Manual "Accident Typing for Pedestrian Accidents" 1) Administrators guide January 1983 2) Manual System Training Manual January 1983 3) Manual System Coder's Handbook January 1983 4) Computer system Training Manual January 1983 5) Computer System Coder's Handbook 22pp 6) Computer & Manual System's Practice Case Booklet	 (101 pp) (46pp) (18pp) (64pp) (22pp) (64pp)	Engineering/Law Enforcement/ Traffic Safety Officials	Presents system for organizing data from pedestrian traffic accidents so that they can be summarized and analyzed as an assessment of the type and extent of ped safety problem. Both manual and computer-based systems are detailed in the training manuals. Exact data descriptions are set forth in the Computer & Manual Coder's Handbook.	National	This is the standard in "typing" ped accidents for program determination and evaluation.
4	"Urban Intersection Improvement for Pedestrian Safety" Volume I-- Vol I Executive Summary FHWA 1977 Vol II Identification of Problems Vol III Signal Timing Vol IV Ped Signal Displays Vol V Evaluation of Alternatives	 (100pp) (102pp) (164pp) (150pp) (235pp)	Engineering/ Traffic Safety Officials	Description and identification of safety and operational problems of pedestrians and vehicles at intersections and countermeasures.	National	Definitive program discussion but dated now, available only through NTIS.

Table C (Continued)

Summary of Selected Pedestrian Safety Engineering Materials: Engineering/Law Enforcement

Code Number	Title	Description	Intended Audience	Major Activity	Intended Use	Comments
5	"Pedestrians" Chapter and "Traffic Control and Roadway Elements - their Relationship to Highway Safety/Revised," HUFSA, 1970	(9pp)	Engineering/Law Enforcement/ Traffic Safety Officials	Overview of research findings and assessment of pedestrian safety.	National	Definitive program discussion but dated now, available through NTIS.
6	"School Trip Safety Program Guidelines" Recommended practice of ITE, 1984	(27pp)	Engineering/Law Enforcement/ Traffic Safety Officials/School Administrators	Outline recommended practice (six phases) in preparing the safe trip routes and program for school children walking to and from school.	National	Available from ITE.
7	"Volume V--Guidelines for the Development of Safe Walking Trip Maps," FHWA, 1975	(55pp)	Engineering/Law Enforcement/ Traffic Safety Officials/School Administrators	Procedures for Developing safe route to school maps.		Available from NTIS, somewhat dated.
8	"Planning school trip Safety, Transportation Training Series 620," ITE, 1980	(72pp) 3 trays of slides/tapes	Engineering/Law Enforcement/ Traffic Safety Officials/School Administrators	Training course in slide/tape format divided in three parts.	National	Workbook can be used along or with slide/tape with examination available from ITE.
9	"Pedestrian Safety by Design" FHWA, 1981	17-minute slide/tape program	Engineering/ Traffic Safety Officials	Slide/tape program on pedestrian traffic accidents and ways to reduce potential for pedestrian accident emphasis on pedestrian facilities.	National	Needs statistical update.
10	"Accessibility for Elderly and Handicapped Pedestrians - A Manual for Cities." FHWA, 1987	(200pp)	Engineering/ Traffic Safety Officials	Manual includes sections on planning and programming and on design of pedestrian facilities for handicapped and elderly pedestrians.	National	Availability through FHWA only.
11	"Pedestrian Accident Reduction Guide" NHTSA, 1981	(40pp)	Engineering/ Traffic Safety Officials	Guide serves as a general introduction to the NHTSA pedestrian safety program.	National	Statistics outdated.

REFERENCES

- Abrams, C. M., & Smith, S. A. (1977, December). Urban intersection improvements for pedestrian safety, Volume III: Signal timing for the pedestrian. Washington, DC: Federal Highway Administration. (NTIS No. PB-28699LL)
- Berger, W. G., Pain, R. F., & Robertson, H. D. (1977, December). Urban intersection improvements for pedestrian safety: Volume II. Washington, DC: Federal Highway Administration. (NTIS No. PB-28698LL)
- Federal Highway Administration. (1975). Volume V: Guidelines for the development of safety walking trip maps. Washington, DC: U. S. Department of Transportation. (NTIS No. PB-254902)
- Federal Highway Administration. (1977, December). Urban intersection improvements for pedestrian safety, Volume I. Washington, DC: U. S. Department of Transportation. (NTIS No. PB-28697LL)
- Institute for Transportation Engineers. (1980). Planning school trip safety. Transportation Training Series No. 620. Washington, DC: Author.
- Institute for Transportation Engineers. (1984). School trip safety program guidelines: Recommended practice. Washington, DC: Author.
- National Highway Traffic Safety Administration. (no date). Pedestrian safety bibliography: Selected current research and studies. Washington, DC: U. S. Department of Transportation.
- Nawrocki, R., & Petzold, R. G. (1977, December). Urban intersection improvements for pedestrian safety, Volume IV. Washington, DC: Federal Highway Administration. (NTIS No. PB-286500LL)
- Robertson, H. D. (1977, December). Urban intersection improvements for pedestrian safety. Volume V: Pedestrian signal displays and operations. Washington, DC: Federal Highway Administration. (NTIS No. PB-286500LL)
- Valletti, G. R., & McDivitt, J. A. (1978, June). Model pedestrian safety program user's manual. (Contract No. DOT-FH-11-9138). Washington, DC: Federal Highway Administration.

Reviewed by _____

Code Number _____

PEDESTRIAN SAFETY EDUCATIONAL MATERIALS: REVIEW FORM

Title of Program/
Material: _____Type: Program Print material Audiovisual

Specify: _____

 Targeted NontargetedBrief Description
of Content: _____Intended Audience: Preschool children Elementary school children High school children General public (Adults) Elderly Not
sure

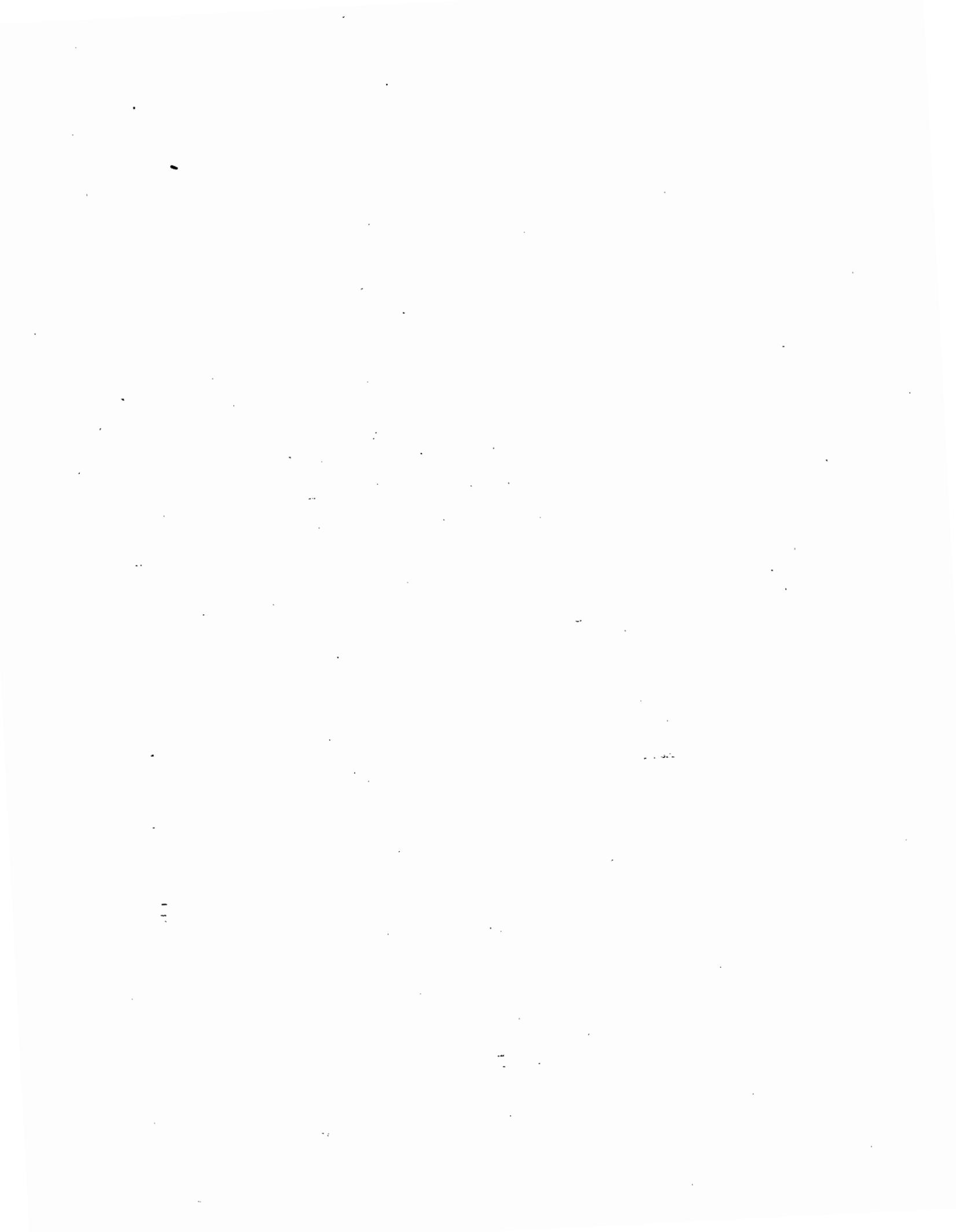
Major Activity: _____

Intended Use: National level Local levelUsing the scale provided, circle the appropriate number that best reflects
your assessment of this material on each of the following items:

	High					Low	
1. Significance of accident problem area	7	6	5	4	3	2	1
2. Match between need and subject matter	7	6	5	4	3	2	1
3. Appropriateness of material for intended audience	7	6	5	4	3	2	1
4. Accuracy of content	7	6	5	4	3	2	1
5. Adequacy of subject matter	7	6	5	4	3	2	1
6. Clarity of content	7	6	5	4	3	2	1
7. Adequacy of pictorial content	7	6	5	4	3	2	1
8. Match between design and content of material	7	6	5	4	3	2	1
9. Overall quality of material	7	6	5	4	3	2	1
10. Overall appeal of material	7	6	5	4	3	2	1
11. Potential usefulness to National Program	7	6	5	4	3	2	1

Comments:

(Use back of page if needed)



April 24, 1987

ORGANIZATIONS CONTACTED
THAT HAVE FORWARDED PEDESTRIAN SAFETY MATERIALS

Groups with Pedestrian Safety Materials which have been forwarded to the National Safety Council for evaluation:

National Association of Governors Highway Safety
Representatives

National Highway Traffic Safety Administration
Federal Highway Administration
U.S. Department of Health and Human Services

Arizona Traffic Division
Alabama Department of Transportation
Arkansas Highway Safety Office
California Office of Traffic Safety
Chicago Department of Public Works
Colorado Division of Highway Safety
Delaware Office of Highway Safety
District of Columbia Department of Transportation
Florida Department of Transportation
Indiana Office of Highway Safety
Illinois Department of Transportation
Kansas Department of Transportation
Maryland Public Affairs Office for Highway Safety
Maine Office of Public Safety
Michigan Office of Highway Safety
Michigan State Safety Commission
Minnesota Public Information Office
Mississippi Highway Safety
Missouri Office of Highway Safety
Montana Department of Justice
Nebraska Governors's Reps Office
Nebraska Office of Highway Safety
New Jersey Office of Highway Safety
New Mexico Department of Transportation
Nevada Office of Transportation Safety
North Dakota Traffic Safety Program
Ohio Department of Highway Safety
Oklahoma Office of Highway Safety
Oregon Office of Highway Safety
Pennsylvania DOT
Rhode Island Office of Safety
Texas Traffic Safety Section
Utah DOT
West Virginia Office of Highway Safety
Wisconsin Office of the Governor
Wisconsin DOT

Wyoming Governor's Reps Office
Wyoming State Patrol

Alabama State Department of Education
Colorado State Department of Education
Connecticut Department of Education
Florida State Department of Education
Illinois State Board of Education
Indiana State Department of Education
Iowa Department of Education
Kentucky State Department of Education
Louisiana State Department of Education
Maryland Department of Education
Michigan Department of Education
Mississippi Department of Education
Missouri State Department of Education
Montana Department of Education
New Jersey State Department of Education
New Mexico Department of Education
New York Department of Education
North Carolina State Department of Education
Oklahoma State Department of Education
Oregon Department of Education
Beaverton Schools, Oregon
Pennsylvania Department of Education
South Carolina Department of Education
Texas Department of Education
Utah Department of Education
Vermont Department of Education
Virginia Department of Education
Washington State Department of Education
West Virginia State Department of Education

Alabama Department of Public Safety
California Highway Patrol
Colorado State Patrol
City of Denver Protective Association
Connecticut Department of Public Safety
Connecticut State Police
Florida Highway Patrol
Glastonbury Connecticut Police Department
Iowa Department of Public Safety
Iowa State Patrol
Kentucky State Police
Minnesota Department of Public Safety
New Jersey Department of Law and Public Safety
New York City Police Department
Texas Department of Public Safety

AAA
AAMVA
Motor Vehicle Administrators in all 50 states were
 contacted and have furnished their states'
 Drivers Handbook
Liberty Mutual Insurance Company
Nationwide Insurance
Travelers Insurance
GEICO
Insurance Corporation of British Columbia
Channing L. Bete Company
Hallmark Mattel
Aims Media
American Association of Retired Persons
American Council of the Blind
American Federation of the Blind
American Foundation for the Blind
Automotive Safety Foundation
American School Health Association
Auxiliary to the American Optometric Association
Boys Clubs of America
Education Development Center
Encyclopedia Britanica
Fiesta Films
4-H Clubs- Alaska, Alabama, and Louisiana
Gold Coast Films
Highway Users Federation for Safety and Mobility
Institute of Transportation Engineers
Insurance Institute for Highway Safety
Journal Films
Lion Club International
Milwaukee Safety Commission
Missouri Congress of Parents and Teachers
MIT, Coronet and Centrion Educational Films
National Association of Visually Impaired
National Council on Aging
National Federation of the Blind
National P.T.A.
El Paso Council P.T.A.
National Safety Town Center
National Technical Information Service
Ohio Farm Bureau Federation
Optimist International
Outdoor Empire Publishing Company
Pilot Club International
City of San Diego
Rotary International
Ruritan
St. Cloud State University
3M Company
Texas Farm Bureau
Walter J. Klein Company, Inc.
Wisconsin Alcohol Clearinghouse

Dunlap and Associates, Inc.
University of North Carolina
Maryland Center for Public Broadcasting
Local AAA Illinois Motor Club and Virginia Motor Club
Injury Prevention Resource & Research Center of
New Hampshire
Walt Disney Educational Media Company
Reflectery
Chicago Police Department
Azima Association of Relators
Pyramin Films
Veterans of Safety International
helping Older People Help Themselves
Lutheran Brotherhood
Illinois Women's Highway Safety Leaders
Winthrop-University Hospital

National Safety Council (Chicago, Illinois)
Safety Council of Greater St. Louis, Missouri
Greater Charleston Safety Council
Omaha Safety Council
Pinellas County Chapter, National Safety Council,
Clearwater, Florida
San Diego County Safety Council
South Dakota Safety Council
Virginia Safety Association
Safety Council of Western Massachusetts
West Virginia Safety Council

European/Foreign

Loss Prevention Association of India
Swedish National Society for Road Safety (Stockholm)
National foreningen For Trafiksakerhetens Framjande (Sweden)
Road Safety Traffic Local Division of Great Britian

NATIONAL PEDESTRIAN SAFETY PROGRAM: REVIEW OF EDUCATIONAL MATERIALS

LIST OF MATERIALS BY GROUP

GROUP A:
CHILDREN COLORING BOOKS

- | | | |
|----|--|---------------|
| 1 | Safety and Me | |
| 2 | Watchful Willie Says Streets are for Cars | |
| 3 | Cars and You | |
| 4 | Look Both Ways | |
| 5 | Play It Safe | |
| 6 | About Traffic Safety | |
| 7 | Your State Patrol Coloring Book | [Eliminated]* |
| 8 | Chip and His Pals Talk About Safety | |
| 9 | The Rainbow Brite Play-It-Safe Coloring Book | |
| 10 | It's Your Move (plus teacher's guide) | |

GROUP B:
CHILDREN BOOKLETS/LEAFLETS

- | | | |
|----|---|---------------|
| 1 | Guide to a School Pedestrian Safety Program | |
| 2 | To School and Back | |
| 3 | What Parents Should Know About Children and Traffic | |
| 4 | Is It Safe to Cross Now? | |
| 5 | How to Walk to School Safely | |
| 6 | Be Your Brother's Keeper | |
| 7 | D. C. Walker's Safety Fun Book | |
| 8 | A Police Officer Talked to Us About Bike Safety | |
| 9 | Parents, Children and Traffic | |
| 10 | Bicycle and Pedestrian Safety Manual | [Eliminated]* |
| 11 | Watch Out For Us! | [Eliminated]* |
| 12 | Skateboarding Safety Handbook | |
| 13 | Parents, Safeguard Your Child | |
| 14 | Parents, Can Be Serious Traffic Hazards | |
| 15 | The Safest Route to School | |
| 16 | Tips for a Safe Halloween | |
| 17 | Rhyme and Reason | |
| 18 | Walk with Care...Everywhere | |
| 19 | The Child in Traffic | |

**GROUP C:
CHILDREN PROGRAMS**

- 1 Back to Basics
- 2 The Indiana K-6 Traffic Safety Education Curriculum
- 3 Pedestrian Safety: A Step in the Right Direction
- 4 Pedestrian, School Bus, Cycling Safety for Louisiana Schools
- 5 Safety Village Curriculum Guide
- 6 Head Start: Comprehensive Program for Pre-schoolers - Age 6
- 7 Missouri Safety Curriculum Resource Guide: Don't Be Puzzled About Safety [Eliminated]*
- 8 Safe Street Crossing Training Program (Willy Whistle)
- 9 Pedestrian Safety
- 10 Back to Basics, Kindergarten
- 11 Traffic Safety Education for Oregon Schools K-3 and 4-6 [Eliminated]*
- 12 Scotty the Scarecrow
- 13 Pre-school Pedestrian Teacher's Guide (Watchful Willie Puppet Show)
- 14 Preschool Pedestrian Safety Program (Watchful Willie)
- 15 Traffic Safety Education: Resource Curriculum K-3
- 16 A Resource File for Elementary Safety Education in Utah Schools--Unit 1
- 17 A Resource File for Elementary Safety Education in Utah Schools--Unit 2
- 18 Standards of Learning Objectives for Virginia Public Schools
- 19 Helping Children Develop Awareness of Traffic Hazards
- 20 Operation Darkness Mums and Dads and Children

GROUP C: (Continued)
CHILDREN PROGRAMS

- | | | |
|----|--|----------------|
| 21 | Teaching About Safety Elementary Education Resource Unit | |
| 22 | Guidelines for a K-12 Traffic Safety Education Curriculum | |
| 23 | Guidelines for the Development of Safe Walking | |
| 24 | Safety Through Songs | |
| 25 | The Children's Road Safety Club | |
| 26 | The Child and Traffic | |
| 27 | A Teacher's Guide for the Primary Level Traffic Safety Education Kit K-3 on Pedestrian Safety (1979) | [Eliminated]* |
| 28 | Discovering Traffic Safety | [Eliminated]* |
| 29 | A Guide to Curriculum Development in Health and Safety | [Eliminated]* |
| 30 | Safety Education Units for Illinois Elementary Schools Illinois Highway Safety Program K-5 | |
| 31 | Safety Education Units for Illinois Schools State Board of Education - Kindergarten | |
| 32 | Level One | |
| 33 | Level Two | |
| 34 | Level Three | |
| 35 | Level Four | |
| 36 | Level Five | |
| 37 | Level Six | |
| 38 | Level Seven | |
| 39 | Level Eight | |
| 40 | Ethnic Modification K-8 (In Spanish) | [Not Reviewed] |

GROUP D:
CHILDREN MISCELLANEOUS

- 1 Safety Town
- 2 Empty Shoes: A Child Pedestrian Safety Program
- 3 Traffic Safety Is No Accident
- 4 State of Washington School Safety Patrol Manual
- 5 School Traffic Safety/School Crossing
- 6 Official Traffic Safety Ranger/Teacher's Handbook
- 7 First Lesson: Safety
- 8 School Crossing Protection
- 9 Are you a Good Pedestrian?
- 10 Tammie the Traffic Light
- 11 1986 "School's Open - Drive Carefully" Program
- 12 School Trip Safety
- 13 The Young Pedestrian
- 14 School Bus Safety Program
- 15 Through the Year with Traffic Safety
- 16 42nd Annual National School Traffic Safety Poster Program
- 17 Preschool Children in Traffic
- 18 Thirty-fourth Annual Pre-school Child Traffic Training Program
- 19 Discovering Traffic Safety
- 20 School Safety Patrol Advanced Training Program 1986
- 21 Street & Bus Safety Guide for Virginia Schools
- 22 School Crossing Protection Manual - 1984
- 23 School Safety Patrol (24 pieces) - Montana
- 24 Michigan Handbook for Adult School Crossing Guards
- 25 A Guide for Police Traffic Officers Engineering Studies for Placement
of Adult School Crossing Guards (engineering studies)
- 26 Same title as above (Adult School Crossing Guards)
- 27 Look, Look Again and Think
- 28 School Safety Patrol (27 pieces) AAA [Eliminated]*
- 29 A Guide to Safety Towns

GROUP E:
OLDER ADULTS

- 1 Things Aren't What They Used to Be
- 2 About Accident Prevention & Older People
- 3 Pedestrian Safety for the Elderly: A Manual of Advice for Road
Safety Officers
- 4 A Short Course in Pedestrianism
- 5 Older Adult Pedestrian Safety
- 6 Save Our Seniors [Eliminated]*
- 7 Senior Pedestrian Safety Tips
- 8 Therapist Seeks Traffic Controls that Help Aged at Crossings
- 9 Adult Pedestrian Safety - Educator's Guide
- 10 Adult Pedestrian Safety Rules of the Road that Can Save Your Life
- 11 Pedestrian Exitilius - New York's Endangered Species

GROUP F:

GENERAL BOOKLETS/LEAFLETS

- 1 ABC's of Pedestrian Safety
- 2 Playing It Safe in the Street
- 3 How to Make Pedestrians Safer
- 4 Walk Safely with D. C. Walker
- 5 The Federal Role in Aiding Pedestrian Traffic
- 6 The Pedestrian: The Forgotten Man of Traffic Safety
- 7 Don't Put Yourself on the Spot Walk Alert
- 8 Pedestrian Safety Everyone's Concern
- 9 The Pedestrian Peril
- 10 Start Off on the Right Foot
- 11 Everyone is a Pedestrian Sometime
- 12 Mr. Pedestrian: You Are a Problem
- 13 A New Look at Pedestrian Safety
- 14 About Pedestrian Safety
- 15 Prelude to Danger: Autumn Leaves and Darkness
- 16 Watch Out for ...
- 17 A Growing Problem
- 18 -- Skipped --
- 19 -- Skipped --
- 20 A Guide for Pedestrians
- 21 Wisconsin Is a "Pedestrian Rights" State
- 22 Pedestrian Protection
- 23 Pedestrian Accident Typing - The First Step to Prevention
- 24 Pedestrians & Bicyclists
- 25 Illinois Bicycle & Pedestrian Rules of the Road
- 26 Safe Walking Tips (Also in Spanish)

GROUP G:

GENERAL PROGRAMS

- 1 Model Programs in Pedestrian & Bicycle Safety
for Wisconsin Communities [Eliminated]*
- 2 Pedestrian Appraisal Program [Eliminated]*
- 3 Let's Get the Facts [Eliminated]*
- 4 Wisconsin Pedestrian and Bicycle Safety Plan, 1986
- 5 A Checklist for Improving Pedestrian Safety in Your Community
- 6 Model Pedestrian Safety Program: Program Summary
- 7 -- Skipped --
- 8 Good Lookers Live Longer
- 9 Lutheran Brotherhood Pedestrian Safety Program [Eliminated]*
- 10 1985 AAA Pedestrian Protection Program/City of Milwaukee
- 11 Pedestrian Accident Reduction Guide/Guide for a Successful Program
- 12 Pedestrians

**GROUP H:
GENERAL MISCELLANEOUS**

- 1 Let's Shed Some Light on Pedestrian Safety
- 2 Nighttime Pedestrian Safety Program Guide
- 3 Hot Dots - A Bright Idea
- 4 I Stop for Pedestrians
- 5 Reflectorize: Be Safer--Be seen at Night
- 6 When your Life Is On the Line at Night ... We Have the Answers
- 7 Pedestrian & Bicycle Safety ... Are a Great Concern
- 8 Community Pedestrian Safety Check
- 9 The Safe Pedestrian Quiz
- 10 Why Pedestrians Need Nine Lives
- 11 How Good A Pedestrian Are You?
- 12 Pedestrians - Stay Alive in Traffic
- 13 Curbie Says ... Stop and Scan at Every Curb

**GROUP I:
CHILDREN AUDIOVISUALS**

- 1 Be Your Own Policeman
- 2 Stop Look and Think
- 3 Look Where You're Going
- 4 Pedestrians: Watch Out
- 5 Hush Puppy's Bright Idea
- 6 Willy Whistle
- 7 Fire--Big Wheel Safety
- 8 And Keep on Looking
- 9 I'm No Fool as a Pedestrian
- 10 Willie & Gus
- 11 Safety Through Songs
- 12 Way To Go - Lesson #1 & 2
- 13 Willie Rides the School Bus
- 14 Pedestrian Safety
- 15 Outside the School Bus
- 16 A Surprise for Otto
- 17 Otto Goes Ice Skating
- 18 Horse Play
- 19 Safety and You
- 20 When I Cross the Street
- 21 The Adventures of Beltman
- 22 Squeaky & His Playmates
- 23 Peter the Pigeon
- 24 Timothy the Turtle
- 25 Safely ... Walk to School

* As recommended by Dunlap & Associates, Inc.

GROUP I: (Continued)
CHILDREN AUDIOVISUALS

- 26 Inky & Blinky
- 27 Two Sleeping Lions
- 28 The Little White Line That Cried
- 29 Death Zones
- 30 First Curbie: PSAs from Milwaukee
- 31 Poster Contest
- 32 Curbie Pre-school
- 33 Watchful Willie Speaks
- 34 Watchful Willie & Action
- 35 Watchful Willie & Sassy
- 36 Watchful Willie Where to Play
- 37 Kid, Car & Curbie (Run)
- 38 Watchful Willie 2
- 39 Your Child & Traffic
- 40 Preschool Children in Traffic
- 41 Walking Safely to School
- 42 Walk Safely
- 43 Will Walkwrights Rules for
Happy Walking
- 44 Super Sidney Slide Show Series
- 45 Safety on the Streets and Sidewalks
- 46 Hidden Dangers
- 47 Children and Traffic -- Why are
They Different?
- 48 Otto Asks a Riddle
- 49 Otto Meets a Puppet
- 50 The Bright Yellow Raincoat
- 51 Tigger Becomes a Pedestrian
- 52 Will Walkwright's Safety Club
- 53 Eeyore Takes a Walk
- 54 National Student Traffic Safety Test

GROUP J:
OLDER ADULT AUDIOVISUALS

- 1 Things Aren't What They Used To Be
- 2 Give Older Pedestrians A Break
at Crossings
- 3 Senior Adults - Traffic Safety
and Alcohol
- 4 Safety Steps for Pedestrians

GROUP K:
GENERAL PUBLIC AUDIOVISUALS

- 1 Step Lightly
- 2 Everyone Is A Pedestrian Sometime
- 3 Safety in the Streets

GROUP K: (Continued)

GENERAL PUBLIC AUDIOVISUALS

- 4 Pedestrian Safety By Design
- 5 School's Open
- 6 Improving School Trip Safety
- 7 Watching Out for Joggers
- 8 Keeping Safe
- 9 Dead Right
- 10 Intersection Adults - Signals
- 11 Multiple Threat Drive
- 12 Turn at Intersection
- 13 Multiple Threat Cross
- 14 Pedestrian Safety--Cross at Intersection

**Audiovisual Materials Initially Screened
and Eliminated from Evaluative Review**

A to Z of Walking Safely
Be Safe - Be Seen
Beware the Children
Can You Stop on a Dime?
Child Traffic Safety
Danger - Warnings!
David Won't Be There Tomorrow
Discovering Traffic Safety
Good Lookers Live Longer
I Dare You
It's Your Move
Little People
On Your Way to School
On Your Own
Pedestrian/Bicycle Safety
Pedestrian Safety Awareness Campaign
Pedestrian Safety - Turn at Intersections
Peter & Elba: Travel Training of a Retardate
Pooh's School Bus Adventure
Portland's Traffic Safety Commission PSA Series
Primary Safety: On the Way to School
Primary Safety: On the Way to School (2nd ed.)
The Safety Way
Senior Power
Street Talk
The Talking Car
Texas Office of Traffic Safety's Pedestrian PSA Campaign
Thumbs Down on Hitchhiking
Traffic Watcher
Linda Velzey Is Dead
Walk - Don't Walk
Walk Safe, Young America
Walking Safely
Walking Safe
Will Walkwright's Rule for Happy Walking PSAs
Your Safety System
Your School Safety Patrol
Youth Traffic Safety

0406
||