

1. Report No.		2. Government Accession No.		3. Recipient's Catalog No.	
4. Title and Subtitle The Development and Test of Urban and Rural Pedestrian Safety Messages				5. Report Date November 1983	
				6. Performing Organization Code	
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9. Performing Organization Name and Address  Dunlap and Associates East, Inc. 17 Washington Street Norwalk, CT 06854				10. Work Unit No. (TRAIS)	
				11. Contract or Grant No. DTNH22-80-C-07475	
12. Sponsoring Agency Name and Address U.S. Department of Transportation National Highway Traffic Safety Administration 400 Seventh Street, S.W. Washington, DC 20590				13. Type of Report and Period Covered Final Report September 1980- November 1983	
				14. Sponsoring Agency Code	
15. Supplementary Notes					
16. Abstract The objective of this project was to identify, develop and produce public education messages for pedestrian safety. Pedestrian accident types and situations which had not been previously addressed through public education were selected. These included "riding toys," "Backing," "Ped Not in Road," "Visual Screens," "Intersection Dash," "Darts and Dashes," "School Bus," "Child Supervision," "Elderly," "Mail Box," and "Disabled Vehicle." Each type was analyzed to determine specific behavioral advice that could be adopted by pedestrians, parents or drivers and could be expected to reduce accidents. Prototype TV and radio scripts, pamphlets and posters were developed to carry this advice to identified target groups. These prototype media forms underwent focus group reaction testing. Three TV spots and a 15 minute in-class film were produced to finished form. The spots were targeted to adult pedestrians (Intersection Dash, :30 seconds), child pedestrians (Intersection Dash, :60 seconds) and children who play on riding toys (60 seconds). The in-class film was designed to follow the original Willy Whistle film and present more complex traffic situations to older children (7-14 years).					
17. Key Words Pedestrian Safety, Public Education, Audiovisuals, Accident Countermeasures			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) Unclassified		20. Security Classif. (of this page) Unclassified		21. No. of Pages 145	22. Price

## B. Backing

The paragraphs which follow cover the Backing accident type and report two separate analysis approaches. First, a sample of hard-copy Backing accidents (N=131) was drawn from the Los Angeles and RUPED data files. It was found that the reports appeared to cluster in the following manner:

Parking Lot - typically backing from parking space (N=44, 34% of sample)

Driveway - typically exiting residential drive (N=37, 28% of sample)

On-Road - backing in traveled lane (N=32, 24% of sample)

On-Road - enter/exit parking space (N=13, 10% of sample)

Analysis for each of these clusters is reported below. Second, available computer files were run to provide statistical information based on Backing accidents in Los Angeles, New Orleans and Washington, D.C. Highlights of this statistical information appear at the end of this Background section.

Definition: Vehicle backing with driver unaware of pedestrian(s) in its path and pedestrian(s) unaware of vehicle maneuver.

Description: Parking Lot Events, based on hard-copy analysis of 44 reports from Los Angeles and RUPED.

Driver Age - 34% of drivers involved in backing accidents in parking lots were 20-29 years of age; 27% were classified as hit and run, 9% in the 60 plus age group, 7% in the 40-49 age group, 7% were prior drivers and 5% were in the 15-19 age group.

Driver Sex - Males are more often involved in backing accidents in parking lots than females (55% vs. 11%).

Point of Impact - The point of impact with the pedestrian(s) in 46% of the backing accidents was the middle of the rear bumper, 20% each with the passenger's side rear bumper and driver's side door, followed by 7% each with the driver's side rear bumper and passenger's side door.

Vehicle Maneuver - 80% of the backing accidents occurred when the vehicle was backing straight, 14% when backing to the right and 4% when backing to the left.

Time of Day/Day of Week - Backing events in parking lots are most likely to occur during the hours 0600-1659 (57%) followed by the hours 2100-0550 (27%) and 1700-2059 (16%). However, if time of day is looked at in terms of day vs. night (0600-1659 vs. 1700-0559) events occur almost equally (57% vs. 43%, respectively). Tuesday, Friday and Saturday are the

most likely days for these events to occur (18% each), Sunday and Monday the next most likely (14% each), followed by Thursday and Wednesday (11% and 7%, respectively).

Pedestrian Age - 23% of pedestrians involved in backing accidents in parking lots were in the age group 60 plus; 18% in the age group 30-39; 11% each in the age groups 15-19, 20-29 and 50-59; 9% each in the age groups 0-4 and 40-49; 5% in the age group 5-9; and 2% in the age group 10-14.

Pedestrian Sex - Males and females are involved in backing accidents in parking lots almost equally (52% vs. 48%, respectively).

Type of Vehicle - 77% of all vehicles involved in backing accidents in parking lots were cars, 9% vans and 7% each for trucks and pick-ups.

Type of Parking Lot - 23% of the backing accidents took place in commercial parking lots; 11% in shopping center parking lots; 7% each in bar or restaurant and apartment building parking lots; 5% in fast food (i.e., McDonald's) parking lots; 2% each in church, motel, industrial, outdoor theater and garage structures, and 36% in unspecified parking lots.

#### Behavior (accident generating):

##### Drivers--

Exiting vehicle with engine running--prior driver events (vehicle slips out of gear)

Most drivers just don't see peds: "I didn't see him until someone told me I hit him."

Driver attention conflict--driver concerned about oncoming traffic and parked vehicles on either side

##### Pedestrians--

Most peds just not looking; those that are, don't expect car to back up ("I thought he saw me").

Inattentive--peds do not see the parking lot environment as a roadway environment (moving traffic despite low speeds)

#### Countermeasure Concepts:

Conspicuous bags for purchases from stores in shopping center--

brightly colored  
retroreflective

Conspicuous shopping carts--

cart flags  
brightly colored  
retroreflective

Drivers--walk completely around vehicle before exiting parking space

Peds--LISTEN for engine noise; LOOK for back up lights; become attentive to the traffic environment--use the same rules--remember, parking lots have moving traffic

\* \* \* \* \*

Description: Driveway events, based on hard-copy analysis of 37 reports from Los Angeles and RUPED.

Pedestrian Age - 32% of pedestrians involved in Driveway accidents were in the age group 0-4; 27% in the age group 60 plus; 22% in the group 5-9; 11% in the 20-29 age group; and 3% each in the age groups 10-14, 15-19 and 50-59.

Pedestrian Sex - Males are more likely to be involved in driveway events than females (62% vs. 38%, respectively).

Time of Day - Driveway enter/exit events are most likely to occur during the hours 0600-1659 (65%), followed by the hours 1700-2059 (30%) and 2100-0550 (5%).

Behavior (accident generating):

Drivers--

Not checking for peds around entire vehicle

Not slowing down when reaching intersection of sidewalk and driveway

Unaware of potential peds (children playing in or near yard)

Pedestrians--

Playing in or near yard; unaware of moving vehicle (preoccupied)

Most incidents involve peds walking on sidewalk intersecting with driveway--they think drivers backing from driveway see them and will stop

Countermeasure Concepts:

Drivers--

Slow down when reaching the point where driveway and sidewalk intersect and check for peds

Check entire area around vehicle before backing

Check for children playing in or near driveway/yard

Peds--

Slow down at driveways that intersect with sidewalks--  
LISTEN and LOOK for backing vehicles

Avoid recreational activities in driveway

\* \* \* \* \*

Description: On-road, backing in traveled lane, based on hard-copy analysis of 32 reports from Los Angeles and RUPED.

Pedestrian Age - 38% of pedestrians involved in backing accidents on-road in the traveled lane were in the age group 60 plus; 16% in the age group 20-29; 12% in the age group 30-39; 9% each in the groups 5-9 and 40-49; 6% each in the groups 10-14 and 15-19; and 3% in the group 0-4.

Pedestrian Sex - Females are slightly more likely to be involved in this accident type than males (56% vs. 44%, respectively).

Time of Day - Backing accidents, on-road, in the traveled lane are most likely to occur during the hours 1700-2059 (41%), followed by the hours 0600-1659 (34%) and 2100-0559 (25%).

Behavior (accident generating):

Drivers--

Driver attention conflict--concerned with other vehicles in the roadway

Pedestrians--

Crossing street between parked cars (events split almost evenly between intersection and non-intersection locations)

Countermeasure Concepts:

Drivers--

When backing, look over both shoulders for peds

Back slowly--check for peds crossing

Pedestrians--

Cross only at intersection locations

LOOK and LISTEN for cars backing

\* \* \* \* \*

Description: On-road parking space exit/enter, based on hard-copy analysis of 13 reports from Los Angeles and RUPED.

Behavior (accident generating):

Drivers--

Driver attention conflict--drivers concerned with maneuvering vehicle in or out of parking space. Most events occurred in parallel parking situations, and nearly all involved vehicle entering parking space.

Most drivers unaware of pedestrians (possibly looking over right shoulder only)

Backing rapidly

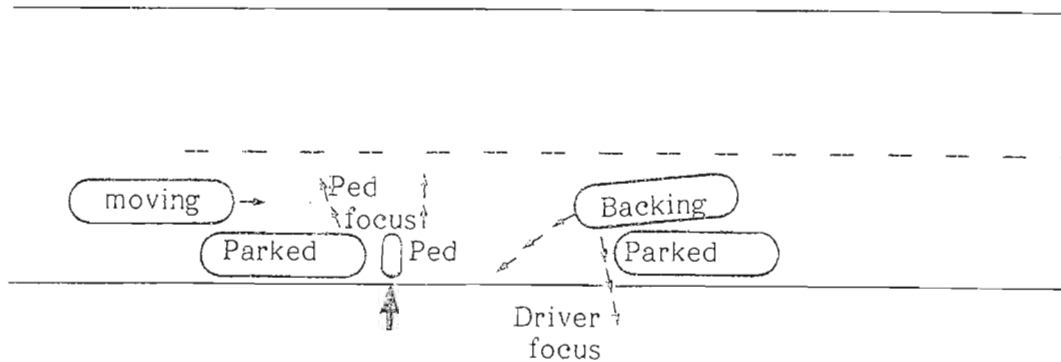
Pedestrians--

Crossing behind vehicle performing parking maneuver

Most pedestrians crossing road at non-intersection locations

Both Drivers and Pedestrians--

Attention conflict--the diagram below illustrates the attention conflicts experienced by both driver and ped--each focusing on targets opposite each other.



Countermeasure Concepts:

Drivers—

Look over BOTH shoulders before backing into parking space

Pedestrians--

Cross in the right half of an open parking space so that you will be in the line of sight of a backing vehicle entering parking space

\* \* \* \* \*

Backing accidents were assembled from the Los Angeles, Washington, D.C. and New Orleans data bases. Each of these data bases were formed by retrospective coding of Police Accident Reports. The specific reports reviewed were all reported pedestrian accidents for 1973-1975 in Los Angeles, 1976 for Washington, D.C. and 1973-1975 for New Orleans. Unweighted averages for Backing accidents in the three cities were calculated by adding the appropriate percentages and dividing by three. Data is reported separately by cities in those cases where significant city differences appear to exist. The number of Backing accidents in each city's data base were: Los Angeles-441 (71%); Washington-58 (9%); and New Orleans-119 (19%).

Driver Age - Most drivers involved in backing accidents were in the age groups 26-35 and 20-25 (22% and 15% average, respectively); followed by the age groups 36-45, 46-55, 56-65, 16-19 and 65 plus (presented in order of frequency) with the remainder (an average of 33%) classified as unknown.

Driver Sex - Males are more often involved in backing accidents than females (62% vs. 19% average, respectively).

- Time of Day/Day of Week - Backing accidents are most likely to occur during the hours 1200-1759 (49%, average); followed by the hours 0600-1159 (26%, average); 1800-2359 (22%, average); and 2400-0559 (3% average). When looked at in terms of day vs. night (0600-1759 vs. 1800-0559), an average of 75% of the events occur during the daylight hours as compared to an average of 25% during the nighttime hours. Day of week varied significantly across the three cities. In Los Angeles, Friday and Thursday were the most likely days backing events occurred (17% and 16%, respectively). In New Orleans, Saturday and Tuesday were the most likely days (18% and 16%, respectively). In Washington, Tuesday and Monday the most likely (22% and 19%, respectively).
- Pedestrian Age - The age group 25-34 had the highest percentage of accidents in two of the three cities (New Orleans and Washington, 21% each). In Los Angeles, the age group 65 plus had the highest percentage (17%). When averaged across the three cities, backing accidents occur more frequently in the 25-34 and 65 plus age groups (19% and 14% averaged, respectively).
- Pedestrian Sex - Males are slightly more likely to be involved in backing accidents than females (54% vs. 46%, averaged, respectively).
- Type of Vehicle - An average of 74% across all three cities of all vehicles involved in backing accidents were cars; 14% (average) were trucks; 11% (average) were classified as other; and 1% (average) were taxis.
- Type of Road - No data available for Washington, D.C. The majority of backing accidents in New Orleans and Los Angeles occurred in off-road locations (i.e., driveway, parking lot, alley, etc.). In New Orleans, the second most likely location for backing accidents was on one-way streets, followed by divided roadways and two-way roads. In Los Angeles, the second most likely location for backing accidents was on two-way roads followed by one-way streets.
- Locale - No data available for Washington, D.C. An average of 58% of the backing accidents in New Orleans and Los Angeles occurred in commercial areas and an average of 28% took place in residential areas.
- Accident occurred at intersection/crosswalk - An average of 79% of backing accidents occurred at non-intersection locations. Similarly, an average of 91% of backing accidents occurred at non-crosswalk locations.
- Culpability - No data available for New Orleans. An average of 74% of the accidents were judged as driver culpable; 16% both ped



and driver culpable; 4% the ped culpable and 2% as neither culpable.

Second Accident Type - The most frequently cited second accident type in all three cities was "Non-Pedestrian Activity in the Roadway" (4% average) followed by "Probable Non-Accident" (3% average).

#### Recommendations:

It was felt that at least two messages could be used to address the Backing accident type. The first is directed to pedestrians in the parking lot situation:

*Parking lots are an extension of the roadway. There are moving vehicles and therefore the situation is dangerous for pedestrians. Much of the danger seems to be from backing vehicles. Backing drivers have many attention conflicts. Indeed, they may be overloaded and fail to see a pedestrian. Even if the driver is paying particular attention to pedestrian traffic, they may fail to see a pedestrian if that pedestrian is in their "blind spot." Therefore, it is up to the pedestrian to prevent these accidents. They must: (1) be aware, parking areas are extensions of the roadway; (2) look for signs of a possible vehicle--driver in vehicle, lights on (especially back up lights), motor running, exhaust. If any of these signs exist, don't walk behind the vehicle until you are sure of the driver's intentions.*

The second message is directed toward drivers who, in particular, are backing out of driveways:

*Backing your vehicle is always a dangerous maneuver. Despite the slow speeds, it is very difficult to see what is behind your vehicle and pedestrians don't expect you to back into them. Always search as carefully as you can behind your vehicle before backing. Use special caution when backing out of driveways: (1) look behind your car before you get in, pay particular attention to any children that may be nearby; (2) look again before you start backing and back up slowly; (3) come to a full stop and look again before the sidewalk or other area where pedestrians might cross behind your vehicle; and (4) if you must back out when children are present, maintain visual contact with the children as you back and be prepared to stop should one move behind your vehicle.*

The first of these messages was drafted as a TV spot with two posters. The second was drafted as a radio spot for drivers. These messages, along with their respective focus group comments, appear on the following pages.

# SAVE MITCHELL INC

Crossways Park North/Woodbury, L.I.,  
New York 11797 (516) 384-9595

CLIENT NHTSA  
MEDIA TV :60  
DATE \_\_\_\_\_  
JOB NO. BACKING

COPY

#3 :60 BACKING

1. FULL ON the back end of a car in a parking lot space. All of a sudden the back-up lights go on and it shoots out toward the camera, zoom in to completely fill the screen. Too many people forget that the back end of a car can be just as dangerous as the front!
2. Another car, halfway out of a curbside parking place. The driver completes cutting his wheels and is just about to start forward. A woman, in the street, steps back up onto the curb. Nobody using common sense would intentionally step in front of a car that's obviously about to go forward, or . . .
3. CLOSEUP of the same woman, looking out toward the street, watching the traffic. . . . try to cross through a stream of moving traffic.
4. FROM HER POV: A fairly heavy stream of traffic going by. But the danger can be just as great . . .
5. CLOSE, LOW ANGLE: The cars going by. . . . when those same cars go backwards.
6. CLOSEUP: The same woman, as she turns her head in the opposite direction. . . . and you have to be alert for less obvious warning signals:
7. FULL ON: The back-up lights of a car about to back into a curbside parking place. . . . back-up lights . . .
8. FULL ON: The tail-pipe of a car with exhaust coming out of it, as the back-up lights go on. . . . engine exhaust . . .
9. Looking into a car to see the driver looking back. . . . a driver looking behind the car . . .
10. FULL ON A car, at the end of a driveway with its backing lights on. . . . situations in which backing is likely.
11. IN A PARKING LOT: A car stops to allow a pair of pedestrians to cross in front of it. (They took a slight chance, but got away with it.) Cars are designed for drivers to see what's in front of them.
12. INSIDE A CAR, TIGHT, as the shift lever is moved to "R".

# SAVE MITCHELL INC

Crossways Park North/Woodbury, L.I.,  
New York 11797 (516) 384-9595

CLIENT NHTSA

MEDIA TV :60

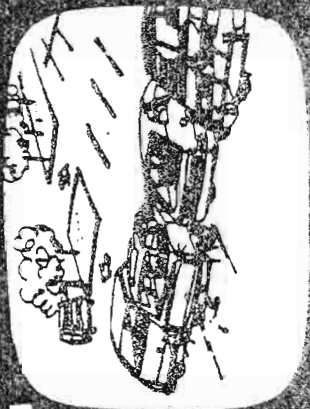
DATE \_\_\_\_\_

JOB NO. BACKING

COPY

## #3 :60 BACKING cont.

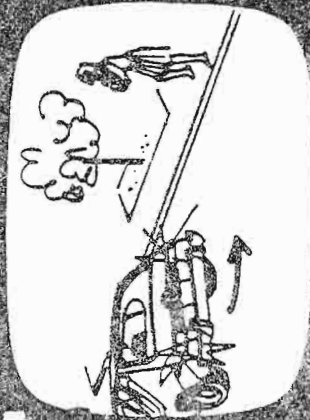
13. FULL ON: The back-up lights of the car.
14. INSIDE THE CAR, looking out to the rear as it starts to back. . . . visibility to the rear is severely limited, and if you're behind the car . . .
15. OUTSIDE THE BACKING CAR, as a pedestrian, coming from the left stops just in time. . . . the chances are against the driver seeing you . . .
16. INSIDE THE CAR: The driver turns back to check the clearance of his left front fender. . . . even if he's looking. He's in an awkward position, and there's . . .
17. FROM THE DRIVER'S POV: The clearance to the left front of the car. . . . a lot more to look for . . .
18. FROM THE DRIVER'S POV: The clearance to the right front of the car. . . . and think about.
19. CLOSEUP of a different pedestrian watching a car. So you do the looking and thinking . . .
20. A stopped car, about to start backing into a curbside parking place. (Zoom) The back-up lights are on. Obviously, this driver is going to back up.
21. A car, with driver, in a parking lot space. His engine is on, he is looking back, and his back-up lights are on. (Zoom to exhaust) Obviously, this driver is going to back out.
22. PARKING AREA. A car, with driver, back-up lights on, about to start backing out. When you see the signs that a car is about to go backwards, don't get behind it . . .
23. FULL ON: The rear end of a car, with its backing lights on, as it backs up into the camera to fill the screen. The back end can be just as dangerous as the front!



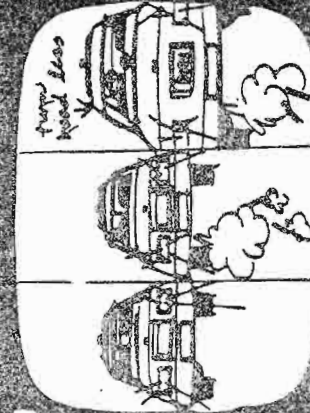
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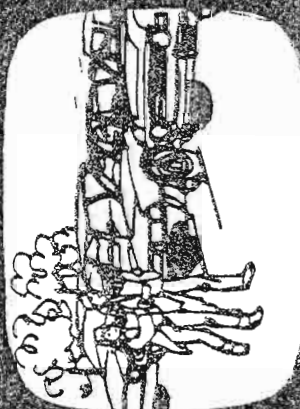
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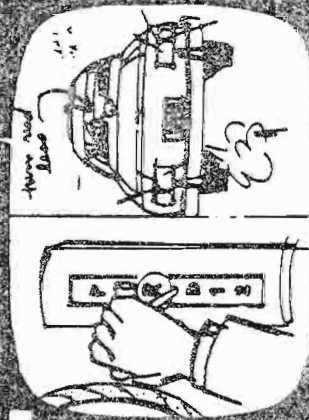
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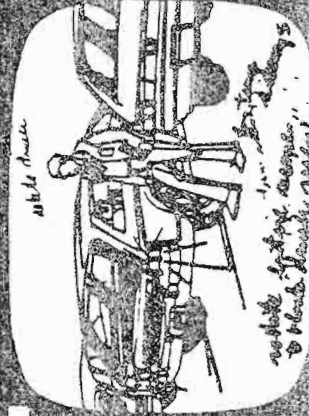
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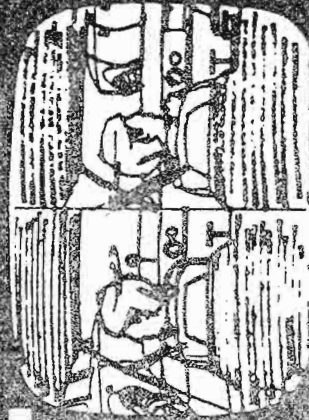
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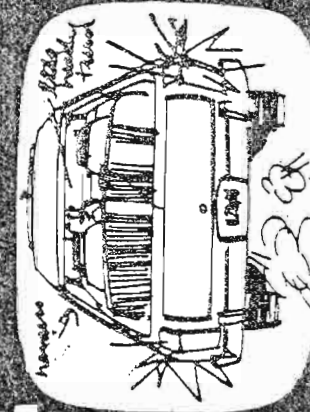
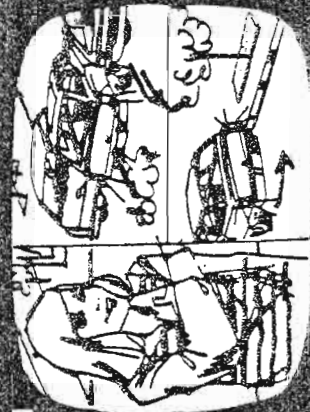
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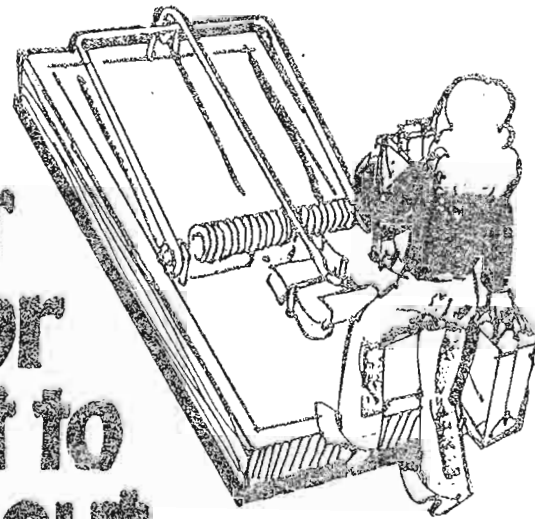


**SAFE  
MUTUAL  
INC**

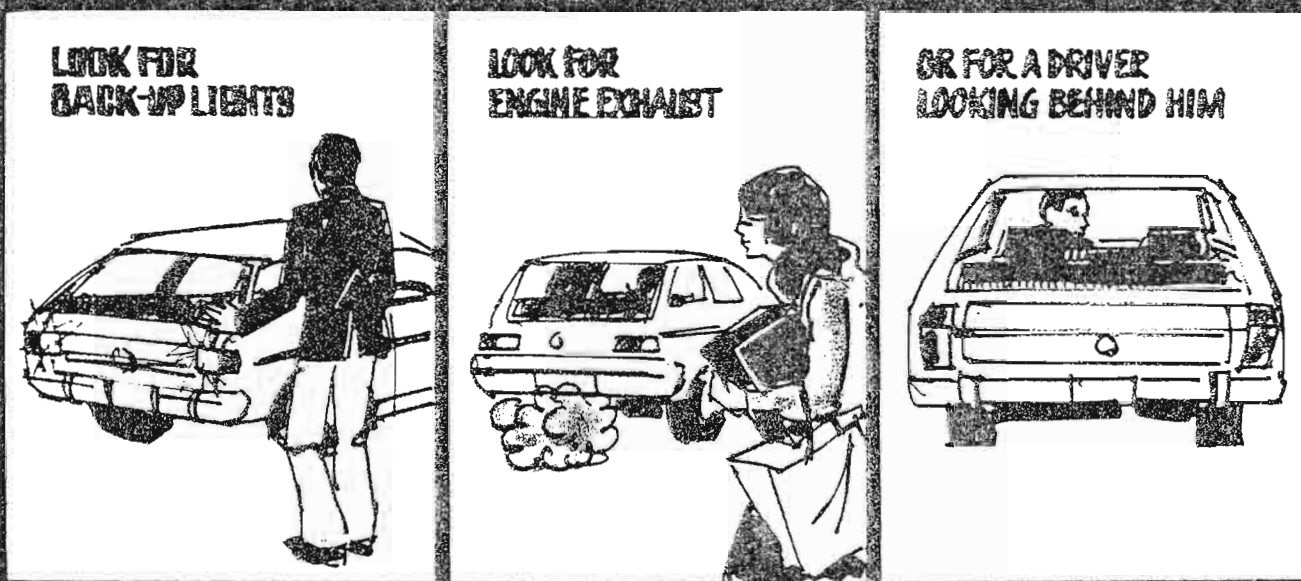
Executive Plaza  
New York, N.Y. 10020  
New York 977-2777 (1-811-283-6222)

# **THE PARKING LOT IS A PEDESTRIAN ACCIDENT TRAP.**

**Always look out for  
moving vehicles or  
vehicles about to  
back out.**



# WHENEVER...WHEREVER YOU WALK BEHIND A PARKED CAR



**THE BACK END OF A CAR CAN BE JUST AS DANGEROUS AS THE FRONT**

FOCUS GROUP  
SUMMARY AND CONCLUSIONS

#3 Backing (TV: 60 seconds)

The test audience felt that this spot contains an important message. They thought that it would increase pedestrian awareness of the dangers they encounter when walking in a parking lot.

They considered the safety measures suggested (i.e., watch for the signs of a car backing up--exhaust, back-up lights) to be good. They were less sure that the advice to look for a driver in the car was practical.

The test audience noted that most people in parking lots rely on the driver to see them and feel that the pedestrian has the right of way. They hoped that this spot would encourage people to think about the dangers and realize they have to look out for themselves.

The test audience felt that the message medium under consideration would be appropriate and felt that the presentation is simple and direct. They expressed the hope that this spot would get good exposure on TV.

**SAVE  
MITCHELL  
INC**

Crossways Park North/Woodbury, L.I.,  
New York 11797 (516) 364-0595

CLIENT NHTSA  
MEDIA Radio :30  
DATE \_\_\_\_\_  
JOB NO. DRIVER BACKING

COPY

#4 :30 RADIO - DRIVER BACKING

AXR: Did you know where your children were when you backed out of your driveway this morning? They could have been right behind you! Make it a rule to check carefully around the car before you back out. Better yet, if you know your children are out, teach them to stand in front of the car and wave as you go . . .

KIDS: (IN UNISON) So long, Dad . . . Have a good day, Dad . . . 'Bye, Daddy . . .

AXR: If you can see them in front of you, you can't hit them behind you. Then look to the rear and back out slowly . . . especially before you come to a sidewalk. This gives everybody a margin of safety.

MAN #1: I call that being a good neighbor . . .

MAN #2: Me too . . . have a good day!



FOCUS GROUP  
SUMMARY AND CONCLUSIONS

#4 Driver Backing (Radio: 30 seconds)

This radio spot was well received by all members of the test audience. They felt that it conveyed an important message and that the prescribed safety measures were practical.

Some members in two of the groups had difficulty understanding the instruction to be careful before backing out over a sidewalk. This part of the message did not come through clearly.

Overall, however, the test audience liked the spot and thought that radio would be an effective way to present the message.