



U.S. Department  
of Transportation

**National Highway  
Traffic Safety  
Administration**

# **Computer Accident Typing for Bicyclist Accidents**

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## **Coder's Handbook**



# INTRODUCTION

This Coder's Handbook is part of a package of materials developed by the National Highway Traffic Safety Administration (NHTSA) to enable states and communities to classify (i.e., "type") their bicyclist/motor vehicle accidents. By determining the frequency of occurrence of the various bicyclist accident types, safety planners can select the NHTSA accident countermeasures which are of greatest value to the communities.

This classification approach, called Computer Accident Typing or CAT involves coding information from a police accident report. The coded information is input to a computer which determines the bicyclist accident type.

In addition to this handbook, the complete set of materials also contains:

1. An Administrator's Guide.
2. A training program for coders which include slides, an audiotape, and a booklet of practice cases.

Accurate coding requires strict adherence to the instructions contained in these materials. The coder should complete the training program before using this handbook to code accident reports.

This handbook contains a series of tabbed sections. These explain each of the categories of information which must be coded in order for the computer to assign an accident type.

# INSTRUCTIONS FOR CODING

To begin coding, you will need this handbook, a supply of police accident reports and a data form with the accident report numbers written in.<sup>1</sup> Code each report as follows:

1. Read the police accident report carefully and completely:
  - First, read the narrative. In cases of conflicting stories give:
    - . First priority to officer's conclusions.
    - . Second priority to witness statements.
    - . Third priority to bicyclist and driver statements.
  - Next, review the information in the specific information categories (i.e., the "check off" boxes), such as time, day, violations, weather, bicyclist and driver actions, and roadway information.
  - Finally, examine the diagram. Remember that diagrams are seldom drawn to scale. Although a diagram might appear to show an accident occurred at an intersection, for example, check the report form for the actual measurement of the point of impact from the nearest intersection.
2. Read each of the CAT statements in order. There are eight statements. Each statement has a set of alternatives and each alternative has a code number beside it.
3. Within each statement, review the alternatives in order:
  - Above each statement listing there is a section providing an explanation, sometimes with examples or illustrations, for each alternative. Read this information carefully.
  - Choose the first alternative in each statement that fits the information on the report.

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<sup>1</sup>The data form is included in the Administrator's Guide

4. Place the code number for that alternative in the proper column next to the accident report number on the data form.
5. Under Statement 1, "Exceptions," if you select an alternative other than zero, you are done coding that report. Place the code in column one of the data form, and go on to the next report. If you select the zero code (in most cases you will), continue on to Statement 2.
6. Avoid using zero alternatives that are shaded. Review the report again and attempt to select another alternative.

If more than one bicyclist is involved in an accident, the first bicyclist struck defines the accident. Consider only the circumstances surrounding the collision with the first bicyclist in determining the type.

# DEFINITION OF TERMS

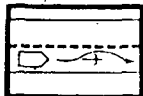
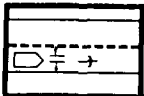
**CYCLIST** - The rider of a bicycle or an adult tricycle.

**FAILED TO DETECT** - The operator did not see the other vehicle until after a crash was imminent. Failure to detect may be the result of a physical obstruction to view such as vehicles, bushes, sunglare, or the result of operator inattention.

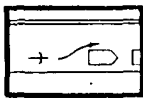
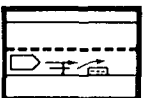
**FAILURE TO YIELD** - The operator did not stop and allow the vehicle with the right-of-way to proceed. For example, when entering the road from a driveway, an operator should stop and wait for approaching traffic to clear. Not doing so would constitute failing to yield. If an operator stops but fails to wait (e.g., because the operator did not detect the other vehicle), this is also "Failure to Yield."



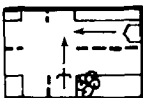
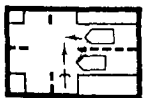
**INTERSECTION** - An accident is defined as occurring at an intersection when the point of impact was in the center of the intersection or within the crosswalks. All other locations are considered midblock.



**MISJUDGED PASSING SPACE** - A motorist did not allow enough lateral distance between the vehicle and the cyclist as the cyclist is being overtaken or passed, or the motorist pulled back into the lane before completely passing the cyclist.



**OBSTRUCTION, PATH** - The intended path (the cyclist's) was blocked by some physical obstruction, such as a car, a storm sewer grate, a pedestrian, or any object which would necessitate a change in course to proceed.



**OBSTRUCTED VIEW** - The operator's view was obscured. Obstructions could be moving or standing traffic, parked cars, bushes, sunglare, etc.

**OPERATOR** - Either the motor vehicle driver or the cyclist when no distinction between them is required.

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## **SUMMARY DIRECTIONS**

For each accident report:

1. Study the report.
2. Read each statement in order.
3. Choose the first alternative that applies under each heading.
4. Place the code number of the alternative on the proper column of the data form.
5. Avoid using the shaded "Unknown or None of the Above" codes.

# STATEMENT 1 DEFINITIONS

## ALTERNATIVE 1. Motorist or Cyclist Intentionally Caused the Accident

The officer concludes the collision was deliberate or charges an operator with assault. This is not to be used unless one operator was attempting to strike the other. Intentionally causing an accident should not be confused with improper driving or inattention, or cases in which the operator was reckless but did not intend to strike another vehicle.

## ALTERNATIVE 2. Officer Indicated No Accident Occurred

The report states no collision actually took place between the two parties.

## ALTERNATIVE 3. Accident Did not Involve a Cyclist

The report is not actually about a bicycle accident. For example, it might describe an accident between a motor vehicle and a moped.

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ALTERNATIVE 4. Cyclist Was Riding a Child's Vehicle Such as a "Big Wheel" Type Vehicle, Tricycle or Bicycle With Training Wheels

The cyclist was not on a bicycle or adult tricycle, but rather a play vehicle having three or more wheels.

ALTERNATIVE 5. Cyclist Was Struck by Falling Cargo

The cyclist was not directly struck by a motor vehicle but by some object that came loose from the vehicle, e.g., a hub cap or muffler, or by falling cargo, but not something (e.g., lumber) projecting from the vehicle.

- \* 1. Motorist or Cyclist Intentionally Caused the Accident
- \* 2. Officer Indicated No Accident Occurred
- \* 3. Accident Did Not Involve a Cyclist
- \* 4. Cyclist Was Riding a Child's Vehicle Such as a "Big Wheel" Type Vehicle, Tricycle or Bicycle With Training Wheels (Not Adult Tricycle)
- \* 5. Cyclist Was Struck by Falling Cargo
- 0. Unknown or None of the Above.

\* If you select any of these alternatives, you are done coding the report.

# 1 EXCEPTIONS



# STATEMENT 2 & 3 DEFINITIONS & DIAGRAMS

These statements describe the "overall" actions the operator was performing in approaching the point of impact.

## ALTERNATIVE - Backing

The motor vehicle (only) was backing up when the collision occurred.

## ALTERNATIVE - Stopped, Standing or No Direction

The operator was not moving when the collision occurred. He/she could have been, for example, waiting for a light, parked, or riding in circles.

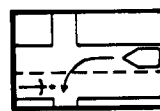
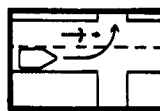
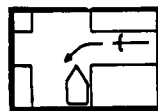
## ALTERNATIVE - Going Forward

The operator's "overall" direction was forward; not turning. For example, although a vehicle may be changing lanes or weaving, if the operator's general direction is not changing, that would be considered "going forward."



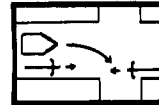
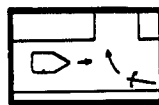
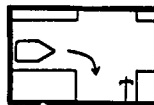
ALTERNATIVE - Turning Left

The operator was preparing to, carrying out, or completing a left turn when the collision occurred.



ALTERNATIVE - Turning Right

The operator was preparing to, carrying out or completing a right turn when the collision occurred.



**2** MOTORIST PRIMARY MOTION

- |                         |                                 |
|-------------------------|---------------------------------|
| 1. Backing              | 4. Turning Left                 |
| 2. Stopped, or Standing | 5. Turning Right                |
| 3. Going Forward        | 0. Unknown or None of the Above |

**3** CYCLIST PRIMARY MOTION

- |                                      |                                 |
|--------------------------------------|---------------------------------|
| 1. Stopped or Standing, No Direction | 4. Turning Right                |
| 2. Going Forward                     | 0. Unknown or None of the Above |
| 3. Turning Left                      |                                 |

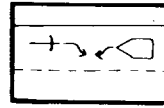
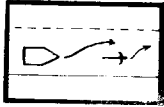
**2 & 3 PRIMARY MOTION**

# STATEMENT 4 DEFINITIONS & DIAGRAMS

This statement describes the actions of the motorist or cyclist momentarily preceding the collision.

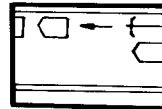
## ALTERNATIVE 1. Motorist and Cyclist Attempted Evasive Actions Which Were Counteractive

In attempting to avoid the accident, both the motorist and the cyclist turned in the same direction which resulted in the collision.



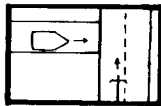
## ALTERNATIVE 2. Cyclist Attempted to Avoid Obstruction

The cyclist swerved to avoid an obstruction, such as a parked car, storm-sewer grate or pedestrian. This alternative applies whether the cyclist successfully avoided the obstruction and was struck by the overtaking motorist or avoided the overtaking vehicle and struck the obstruction.



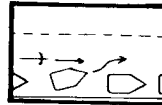
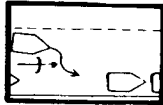
## ALTERNATIVE 3. Motorist Drove Out of a Driveway or Alley

The motor vehicle was entering the roadway from a residential or commercial driveway, or an alley, when the accident occurred.



## ALTERNATIVE 4. Motorist Exited or Entered On-Street Parking

The motor vehicle was in the process of parallel parking or pulling away from a parking space when the collision occurred.



## ALTERNATIVE 5. Cyclist on Sidewalk Entered Road From Driveway

The cyclist was initially riding parallel to the roadway on the sidewalk when the cyclist turned and rode into the roadway from a driveway.



## ALTERNATIVE 6. The Cyclist Entered the Road From a Residential Driveway or Alley

The cyclist rode down a driveway or alley and out into the street.





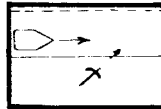
ALTERNATIVE 7. Cyclist Entered the Roadway From a Commercial Driveway

The cyclist rode down a commercial (business, store or parking lot) driveway and out into the street.



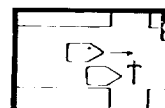
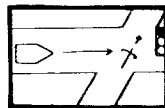
ALTERNATIVE 8. Cyclist Entered Road Over Curb or Shoulder (Midblock)

The cyclist entered the road across a shoulder or curb (not a driveway), not at an intersection.



ALTERNATIVE 9. Cyclist Did Not Clear Intersection Before Light Turned Green For Other Traffic

The cyclist entered an intersection as the light was changing. Before the cycle had crossed the intersection, the light turned green for cross traffic which struck the cyclist. Do not use this code if the light turned red for the cyclist before he entered the intersection.



- |  |   |
|--|---|
| 1. Motorist and Cyclist Attempted Evasive Actions Which Were Counteractive | 6. Cyclist Entered Road From Residential Driveway or Alley                        |
| 2. Cyclist Attempted to Avoid Obstruction                                  | 7. Cyclist Entered Road From a Commercial Driveway                                |
| 3. Motorist Drove Out of Driveway or Alley                                 | 8. Cyclist Entered Road Over Curb or Shoulder (Midblock)                          |
| 4. Motorist Exited or Entered On-Street Parking                            | 9. Cyclist Did Not Clear Intersection Before Light Turned Green for Other Traffic |
| 5. Cyclist on Sidewalk Entered Road From Driveway                          | 0. Unknown or None of the Above   |

## 4 OPERATOR ACTIONS

# STATEMENT 5 DEFINITIONS & DIAGRAMS

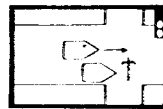
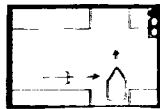
This statement describes the location of the operators when the collision occurred, i.e., the point of impact.

## ALTERNATIVE 1. Parking Lot or Other Non-Roadway Location

The accident occurred in a parking lot or in a non-roadway location, such as a gas station, alley, lot, private property or a ballfield.

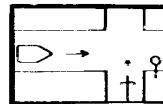
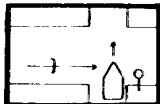
## ALTERNATIVE 2. Intersection Controlled by a Signal

The point of impact was within the center of the intersection, or in a crosswalk (marked or unmarked), which was controlled by a red-amber-green signal (not a flashing light).



## ALTERNATIVE 3. Intersection Controlled by a Stop Sign

The point of impact was within the center of the intersection or crosswalk of an intersection controlled by a sign or a flashing signal.



ALTERNATIVE 4. Intersection, No Control

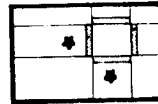
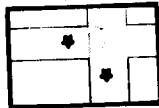
The point of impact was in the center, or in the crosswalk, of an intersection without controls.

ALTERNATIVE 5. Intersection, Other

Use this code if the intersection was controlled by a "Yield" sign, the intersection control does not fit into Alternatives 2, 3, or 4, above, or the report does not indicate the type of control present.

ALTERNATIVE 6. Midblock

The accident occurred outside of an intersection or crosswalk.



1. Parking Lot or Other Non-Roadway
2. Intersection Controlled by a Signal
3. Intersection Controlled by a Stop Sign
4. Intersection, No Control

5. Intersection, Other
6. Midblock
0. Unknown or None of the Above

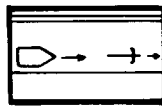
# 5 ACCIDENT LOCATION

# STATEMENT 6 DEFINITIONS & DIAGRAMS

This statement describes the approach of the motor vehicle and cycle with respect to each other.

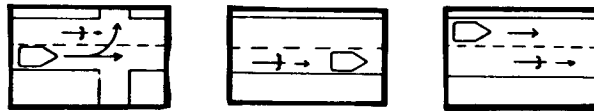
## ALTERNATIVE 1. Parallel Paths, Same Direction - Cyclist Overtaking

Both the motor vehicle and the cycle were headed in the same direction on the same road. The cyclist was coming from behind the motorist, i.e., approaching from the rear.



## ALTERNATIVE 2. Parallel Paths, Same Direction - Motorist Overtaking

Both the motor vehicle and the cycle were headed in the same direction on the same road. The motorist was behind and approaching the cyclist from the rear.



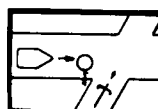
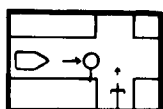
## ALTERNATIVE 3. Parallel Paths, Facing Approach

The motor vehicle and cycle were heading toward each other on the same road.



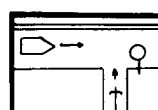
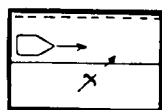
ALTERNATIVE 4. Crossing Paths - Cyclist Right-of-Way

The motor vehicle and cycle's paths were intersecting, either at a right or other angle. The motorist should stop, yielding the right-of-way to the cyclist. For example, when a motorist enters the road from a driveway or has a stop sign or red light, a cyclist on the road has the right-of-way.



ALTERNATIVE 5. Crossing Paths - Motorist Right-of-Way

The motor vehicle and cycle's paths were intersecting at either a right or other angle. The cyclist should stop, yielding the right-of-way to the motorist. For example, as a cyclist approaches a stop sign, the cyclist should stop, yielding the right-of-way to traffic which does not have a stop sign. The cyclist should yield the right-of-way when entering the road from a curb or driveway.



PARALLEL PATHS	CROSSING PATHS
<ol style="list-style-type: none"> <li>1. Same Direction, <u>Cyclist</u> Overtaking</li> <li>2. Same Direction, <u>Motorist</u> Overtaking</li> <li>3. Facing Approach</li> </ol>	<ol style="list-style-type: none"> <li>4. Cyclist Right-of-Way</li> <li>5. Motorist Right-of-Way</li> </ol>
<p>0. Unknown or None of the Above</p>	

# 6 INITIAL APPROACH PATHS



# STATEMENT 7 & 8 DEFINITIONS & DIAGRAMS

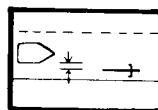
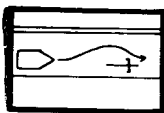
These statements describe motorist and cyclist actions or violations which contributed to the accident.

## ALTERNATIVE - Ran Sign or Signal

The operator proceeded through an intersection controlled by a sign or signal, disregarding the traffic control.

## ALTERNATIVE - Misjudged Passing Space

A motorist (only) does not allow enough space between the vehicle and the cyclist as the cycle is being overtaken and passed, or the motorist pulls in too quickly after passing the cyclist.

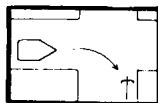
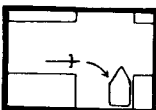


## ALTERNATIVE - Failed to Detect Cyclist--Stopped/Standing Traffic

The motorist did not see the cyclist until after a crash was imminent because of stopped/standing (not parked) vehicles which partially or fully blocked the motorist's view.

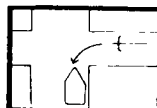
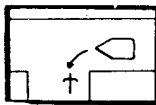
## ALTERNATIVE - Swing Wide on Right Turn

An operator turned right too wide entering the other lane of traffic, resulting in the collision.



## ALTERNATIVE - Cut Corner on Left Turn

The operator turned left too sharply entering the other lane of traffic, resulting in the collision.

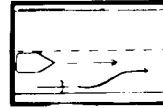
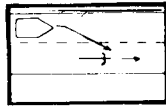


## ALTERNATIVE - Driving on Wrong Side of Street

The operator was going the wrong way, for example, on the left side of a two-way street.

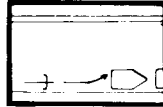
## ALTERNATIVE - Lost Control

The motor vehicle or the cycle went out of control, causing the operator to swerve into the other vehicle. The loss of control could occur as the result of mechanical failure, road conditions (i.e., ice, potholes), collision with another object (pedestrian, parked car), or lack of skill. The loss of control must occur prior to the collision with the other operator.



ALTERNATIVE - Struck a Parked Vehicle

The cyclist collided with a vehicle in a parking lane; not a vehicle stopped in a traffic lane.



ALTERNATIVE - Failed to Detect Cyclist, Other Reason

The motorist failed to see the cyclist until after the crash was imminent and the report indicates one or more of the following factors:

- . Darkness, no light on bicycle
- . Sun glare, bushes, buildings, parked vehicles or other physical obstructions
- . Motorist inattention, carelessness
- . Motorist alcohol or drug use.

**7 MOTORIST ERROR**

- |  |   |
|--|---|
| 1. Ran Sign or Signal                                    | 6. Driving on Wrong Side of the Street    |
| 2. Misjudged Passing Space                               | 7. Lost Control                           |
| 3. Failed to Detect Cyclist--Stopped or Standing Traffic | 8. Failed to Detect Cyclist, Other Reason |
| 4. Swing Wide on Right Turn                              | 0. Unknown or None of the Above           |
| 5. Cut Corner on Left Turn                               |   |

**8 CYCLIST ERROR**

- |                             |                                   |
|-----------------------------|-----------------------------------|
| 1. Ran Sign or Signal       | 5. Riding on Wrong Side of Street |
| 2. Swing Wide on Right Turn | 6. Lost Control of Cycle          |
| 3. Cut Corner on Left Turn  | 0. Unknown or None of the Above   |
| 4. Struck a Parked Vehicle  |                                   |

**7&8 OPERATOR ERROR**

DOT HS 806 348  
January 1983