

THE ONLY GOOD CYCLIST

NYC Bicycle Fatalities — Who's Responsible?

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for

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Executive Summary

Context and Purpose

THE ONLY GOOD CYCLIST is an analysis of fatal bicycle crashes with motor vehicles in New York City. It refutes police officials' claim that bicyclists, not drivers, are responsible for most cyclist deaths. We hope that it will help motivate officialdom to protect in fact what is supposed to be guaranteed by law: the simple right to ride a bike on city streets without fear of vehicular aggression and assault.

We present THE ONLY GOOD CYCLIST with a sense of urgency. Bicycle fatalities in New York City doubled last year to an all-time high of 35. When this news hit the media, Mayor Giuliani reacted with a promise to protect cyclists (and pedestrians) from dangerous drivers. This promise has proven empty; the police have done nothing to honor it.

Police officials justify this nonfeasance with the claim (given without supporting data or analysis) that “cyclist error” has been the “primary contributing factor” in three-fourths of recent fatal bicycle crashes with motor vehicles (see pp. 4-5 for a selection of the NYPD's statements).

To test this claim, and to determine how bicycle riders are being struck and killed on the streets of New York City, *Right Of Way* obtained police accident reports for 71 fatal bicycle crashes during the four-year period 1995-1998 (data for 1999 were not available). We categorized the crashes by type and classified them according to the level of driver or cyclist culpa-

bility in causing the crash. This report describes our method and presents our findings.

Right Of Way is a NYC-based advocacy group founded in 1996. Millions of New Yorkers have seen our “street memorials” marking some 250 sites where pedestrians and cyclists have been killed by motor vehicles. Our 1999 book *KILLED BY AUTOMOBILE* (which is posted at www.rightofway.org) analyzed the nearly 1,000 pedestrian fatalities here during 1994-1997. THE ONLY GOOD CYCLIST is the first installment of a larger study documenting misconduct that harms bicyclists in New York City, and commemorating those who have died.

Key Findings

1. Traffic-law violations by motorists are the main cause of fatal bicyclist accidents in New York City.

Through careful reconstruction of crash circumstances, we were able to assign responsibility in 53 of the 71 fatal bicycle crashes during 1995-1998 for which we obtained police crash reports. We determined that drivers were *highly culpable* in 30 cases, *partly culpable* in 11 cases, and *not culpable* in 12 cases. Driver misconduct was thus the principal cause in 57% (30 out of 53) of the cases and a contributory factor in 78% (30 plus 11, or 41, out of 53).

These figures do not take into account the fact that drivers were cited for driving while intoxicated in 3 cases and for unlicensed operation in 7 cases. Rather, we classified those cases according to the actions of

the driver and cyclist in the crash itself, as indicated in police reports. We are thus more lenient to drivers than the law is. If we had considered drunken driving or unlicensed driving as highly culpable *ipso facto*, then drivers would be *highly culpable* in 35 cases, *partly culpable* in 10 cases, and *not culpable* in 8 cases, establishing driver misconduct as the principal cause in 66% (35 out of 53) of the cases and a contributory factor in 85% (35 plus 10, or 45, out of 53).

Thus, although police blame cyclist error for three-fourths (75%) of cyclist fatalities, in fact, driver error was the principal cause in 57-66% of recent fatal bicycle crashes and at least a contributing cause in 78-85%.

See Table 1, p. 7. For corresponding (and similar) percentages for 1998 alone, see pp. 9-10.

2. The leading categories of driver misconduct leading to bicyclist fatalities, together accounting for the deaths of 33 cyclists, were:

- driver passing cyclist unsafely or aggressively (12 cases out of 53, or 23%; becomes 15 cases, or 28%, if 3 “dooring” fatalities are included here (see discussion on p. 8)
- driver turned into cyclist’s path (8 cases out of 53, or 15%)
- driver speeding (7½ cases out of 53, or 14%)
- driver ran red light or stop sign (5½ cases out of 53, or 10%)

(Note: “½” figures arise from allocating some cases to two causes, e.g., driver speeding and red-light-running would each be counted as ½ in a crash where both were involved.)

Of the remaining 8 cases in which driver misconduct contributed to the fatal crash, 3 cases involved “dooring” and 1 case involved wrong-way driving (we consider drivers highly culpable in each); and 4 involved the driver’s failure to exercise due caution (for which we considered the drivers partly culpable).

See Table 2, p. 8.

3. Bicyclist error caused far fewer fatal cyclist crashes than did driver misconduct.

Of the 53 fatal accidents for which crash responsibility could clearly be assigned, cyclist error was the primary cause in at most 12 cases. Moreover, if the nine cases in which the driver was intoxicated or unlicensed are automatically charged against the driver,

then cyclist error caused just 8 fatalities.¹ Thus, the share of 1995-1998 fatal cycling crashes attributable primarily to cyclist error is between 15% (8 out of 53) and 23% (12 out of 53), rather than the 75% share that the police blame on cyclists.

There were also 15 cases in which the driver’s account to the police blamed the cyclist, but no witness statement or other evidence corroborated that claim. Obviously, the testimony of a driver who has just killed another human being is unlikely to implicate the driver himself, and is therefore insufficient by itself to establish the victim’s guilt; accordingly, these 15 cases are best set aside as “cause unknown.” But even if, for the sake of argument, all 15 cases are reclassified as cyclist-culpable, the cyclist still bears primary responsibility in only 40% of the crashes (27 out of 68), or barely half of the 75% share of crashes that the police attribute to cyclist error.

(Note: 3 cases, including one hit-and-run, had no material information at all on the crash circumstances and had to be coded as unknown under all criteria.)

4. The leading categories of cyclist error leading to bicyclist fatalities were:

- cyclist ran red light or stop sign (4 cases out of 53, or 8%; but increasing to 13 cases out of 68, or 19%, if the driver’s uncorroborated testimony is accepted in 15 cases otherwise classified as “unknown”)
- cyclist traveling wrong way (5 cases out of 53, or 9%; increasing to 6 cases out of 68, or still 9%, if the driver’s uncorroborated testimony is accepted)

In the other 3 cases caused by cyclist error (rising to 8 if the driver’s uncorroborated testimony is accepted), either the cyclist abruptly changed lane (2 cases, rising to 4) or the cyclist emerged abruptly without warning (1 case, rising to 4).

See Table 2, p. 8.

¹ The driver in one 1998 fatality was cited for *both* DWI and driving with a suspended license, so the 3 instances of DWI and 7 of unlicensed operation correspond to 9 cases, not 10.

Introduction

This report is the first installment of a longer work-in-progress on the dangers faced by cyclists in New York City. We are publishing this fragment now because cyclists in New York are facing an unprecedented emergency.

For over a decade, the number of people killed riding bicycles in New York City hovered around 18 a year. But last year (1999), the number doubled to 35, by far the most cyclists killed in any year on record.

What was already a difficult and dangerous environment for cyclists has suddenly and frighteningly become far worse. To ride a bike in NYC — a civic-minded and life-affirming way to get around town — is now more than ever to defy the odds. One out of every 3 million trips by bike ended fatally last year, vs. one fatality per 25 million trips by car — a relative risk of around 8 to 1 (the disparity *per mile* is even greater).² Although health professionals, including the British Medical Association, have found that the cardiovascular health benefits of cycling outweigh the traffic risks by as much as 20-fold,³ such long-term statistical consolations do little to aid a cyclist who has just been run off the road, or struck, by a car.

The ever-present danger from motor vehicles is not a problem for cyclists alone. Some 200 pedestrians are killed by motor vehicles every year in the five boroughs, and many more are injured and permanently disabled. But walking in this city is only partially a matter of choice; all New Yorkers are necessarily pedestrians to a greater or lesser extent, no matter what the risks. Cycling, on the other hand, is discretionary, and the well-founded belief that cyclists are complete-

ly excluded from legal protection against superior force dissuades many New Yorkers from cycling and denies the city the tremendous social and environmental benefits of large-scale bicycle use.

Of all the factors that determine cyclists' safety on city streets, none is more important than how police enforce traffic laws that establish cyclists' right of way. In this respect, the Police Department's dereliction of duty has been nothing short of scandalous:

- The NYPD failed to inform cycling representatives and the public that the rate of cyclists killed in traffic was accelerating during 1999;
- after the record rise in cyclist fatalities was uncovered (by *Right Of Way*, at the start of the new year), the NYPD blamed the deaths on the cyclists while ignoring driver misconduct and police indifference;
- the NYPD disregarded Mayor Giuliani's Jan. 13 promise, in his "state of the city" speech, to deter reckless drivers from endangering cyclists and pedestrians, and instead targeted only dangerous *highway* driving — a tactic of no benefit to walkers and bike-riders.

The Cycling Environment in New York City

Bicycles are an important means of travel in New York City, accounting for 2%-3% of all vehicular trips, and a considerably higher percentage in and near the Manhattan central business district.⁴ These cyclists are a very heterogeneous group, including bike messengers and the new dot-com couriers; food-delivery cyclists, who operate almost exclusively in Manhattan; nine-to-fivers who commute on their bikes; students, artists, free-lancers and homemakers shuttling among school, jobs, appointments and kids; weekend touring cyclists and club riders in sporty bike garb; and kids, seniors and whole families who ride for casual recreation, primarily on neighborhood streets.

The risk of serious injury or death from motor vehicles has been a central fact of bicycling in New York City since the advent of automobiles 100 years ago. However, statistics on bicycle injuries and fatalities

² In the early 1990s, co-author Charles Komanoff estimated that 265,000 bicycle trips a day, or 97 million a year, were made in New York City (*Bicycle Blueprint*, Transportation Alternatives, 1993, pp. 157-158). Allowing for 10% growth to today, this equates to roughly 3 million trips per bicycle fatality. Concurrently, motor vehicle miles traveled in NYC were roughly 20 billion per year, implying 4 billion trips, assuming 5 miles per trip. Assuming 10% growth and eliminating motorcycles, the 182 motorist fatalities in 1999 equate to one per 25 million trips.

³ See, most recently, Meyer Hillman et al., "Promoting cycling as a way to a healthier life," April 1999, available from <http://kamen.uni-mb.si/velocity99/Proceedings.html> (go to p. 318); as well as Hillman's classic report for the British Medical Association, *Cycling: towards health and safety*, Oxford University Press, 1992.

⁴ The estimated annual trip figures from the early 1990s in footnote 2 are in a ratio of 40-1. Traffic counts conducted under co-author Komanoff's supervision during 1988-1992 established that bicycles accounted for 8%-10% of vehicles operating on midtown Manhattan avenues during mid-day on weekdays (*Bicycle Blueprint*, *op. cit.*, p. 158).

have only been collected regularly since the 1960s, and city agencies have never analyzed bicycle crashes, beyond perfunctory breakdowns by borough, time of day, and the cyclist's (but not the driver's!) age and gender.

Traffic fatalities in New York City have fallen significantly in recent years, with the two leading categories, motorists and pedestrians, each declining from around 300 deaths per year a decade ago to around 200 annually today. In contrast, over a recent 12-year period, from 1987 to 1998, annual bicyclist fatalities stayed within a relatively narrow range of 15-22, averaging 18. (Interestingly, though the total number remained stable, the *age* of cyclists killed rose, reflecting more cycling by adults and less by children.)

Until last year, the probability of a fatality per cycling trip in New York was several times that for driving, and many times greater than the rate for bicycling in cycle-friendly European cities. Yet these disparities have generally been either ignored or accepted as facts of life. Cycling, for adults, is unconventional, and, except when done by the occasional celebrity, is unglamorous and even *déclassé*. The very vulnerability of cyclists seems to inspire scorn, as if cyclists should pay for the folly of venturing onto the streets in the first place. And so dead cyclists are little lamented, when they are noticed at all.

That cycling in New York City is dangerous isn't surprising. Virtually the entire street system is given over to motor vehicles. Traffic engineering is obsessively devoted to bringing ever more cars into the city and moving them faster, to the exclusion of all other considerations. As a result, traffic grows ever heavier and more brutish, and drivers ever more frustrated and furious, as their socially fostered sense of entitlement clashes daily with the reality of urban streets.

In this car-mad and car-maddened jungle, police make no effort whatsoever to enforce cyclists' right of way. Tellingly, there are no records of police *ever* citing drivers for violating bicyclists' right of way, even though cyclists' right to use the road is explicitly stated in the state's vehicle and traffic law.⁵ Riding thus requires at least as much chutzpah as calories, and en-

⁵ New York State Vehicle & Traffic Law, §1231, states, "Every person riding a bicycle upon a roadway shall be granted all of the rights and shall be subject to all of the duties applicable to the driver of a vehicle." §1122, §1129 and §1146 protect cyclists from unsafe passing, tailgating and lack of due care by drivers, respectively.

tails continual jousting for position against less nimble but far more powerful motor vehicles.

Cyclists usually end up occupying the interstitial spaces in the street system. Most learn that they must "bend" the law for the sake of their own safety — for example, by exploiting gaps in traffic at red lights, and thereby gaining a brief respite from pursuing automobiles.⁶

Bombshell: Cycling Deaths Double in 1999

At the close of 1999, NYC police officials let slip that 35 cyclists were killed in crashes with motor vehicles that year. This was the highest number of cycling fatalities in any year on record and almost double the "established" rate. It was also one-fifth the total number of motorist fatalities, a startling figure in itself, given the far higher volume of motor vehicles compared to bicycles, indicating that the relative risk of cycling to driving had increased from around three to somewhere around eight.⁷

One might have expected that such a shocking new development would provoke some investigation and analysis. Not so. Instead, city officials pinned the blame on cyclists. The police department simply declared that three-fourths of the bicyclists killed in the past two years died because of their own "unsafe operation," and left it at that. This "finding" was not accompanied by any supporting documentation, and it begged the question of why the fatality rate should suddenly almost double; had bicyclists somehow all agreed to start riding more recklessly?⁸

Here is a sampling of statements by the NYPD:

From *The New York Times* ("Cyclist Fatalities Increased 75% in 1999, Puzzling

⁶ Ironically, these practices contribute to the perception among non-cyclists that cyclists precipitate their own demise by unsafe riding.

⁷ NYPD sources reported 182 motorist fatalities in 1999, of which perhaps 5-10 were motorcyclists. (Motorist fatalities have fallen in recent years, in part from anti-DWI initiatives, "safer crashing" due to seat belts and air bags, and improved trauma management.)

⁸ The first mention of the jump in fatalities, in the Dec. 24, 1999 *New York Times*, hinted that most of the 35 cyclists killed were bicycle messengers. But investigation by *Right Of Way* documented that only 6 of the fatalities were in Manhattan, indicating that for-hire cyclists were not a major factor in the increase.

Police,” January 8, 2000) Inspector Vincent Kennedy, the supervisor of the Police Department’s accident investigation unit, said most of the cyclists killed had played a major role in their deaths. Accident reports listed “cyclist error” — running a light, going the wrong way down a one-way street, turning in front of a car — as the “primary contributing factor” in 74 percent of the fatal accidents, about the same proportion as in 1998, he said.

From a letter from First Deputy Commissioner Patrick E. Kelleher to *Right Of Way*, March 14, 2000 “[I]nvestigation indicated that seventy-six per cent (76%) of bicyclist fatalities in 1999 were the result of unsafe bicycle operation.”

From the *Daily News* (“Streets get deadlier,” January 9, 2000) Deputy Inspector Robert Sharpe, commander of the city’s traffic management center ... added that in 74% of last year’s bike accidents, cyclists were found to be at least partly responsible. “Bicyclists are required to obey the laws, just like motor vehicles are,” Sharpe said, adding that the department was considering an educational campaign directed at cyclists as one way of combating the problem.

To test the validity of the police claims, and to ascertain precisely how cyclists are struck and killed in New York City, *Right Of Way* analyzed the circumstances of recent cyclist fatalities. Following the procedure we developed to analyze pedestrian fatalities in our 1999 report *KILLED BY AUTOMOBILE*, we reviewed police accident reports compiled by the New York City Police Department, along with computer abstracts prepared by the NY State Dept. of Motor Vehicles, in 71 cyclist fatalities from motor vehicle crashes during the four-year period 1995-1998.

***Right Of Way’s* Analysis: Crash Categories**

Right Of Way devised 16 categories of driver and cyclist behavior that contributed to the bicycle-vehicle crashes in our data set. These are listed below in three groupings corresponding to different degrees of driver culpability: *Driver Highly Culpable*, *Driver Partly Culpable*, and *Driver Not Culpable*. (Two other

groups, *Driver Culpability Unknown* and *Special Categories*, are discussed below.)

| <i>Right of Way’s</i> Cause Categories for Bicycle-Motor Vehicle Crashes |
|--|
| <p>Driver Highly Culpable Driver went through red light or stop sign Driver speeding Driver turned into cyclist path in intersection Driver traveling wrong-way Driver or passenger "doored" cyclist Driver aggressively passed cyclist</p> |
| <p>Driver Partly Culpable Driver failed to use appropriate caution Driver unsafely passed cyclist</p> |
| <p>Driver Not Culpable Cyclist went through red light or stop sign Cyclist emerged without warning Cyclist traveling wrong way Cyclist abruptly changed lane</p> |
| <p>Driver Culpability Unknown No witness / driver account inconsistent No witness / driver account incomplete No witness / driver account plausible Insufficient information</p> |
| <p>Special Categories Driver unlicensed Driving While Intoxicated Driver left scene (hit-and-run)</p> |

These categories obviously assume a “moral equivalence” between driver and cyclist; that is, driver and cyclist are implicitly held equally accountable for violations of the law and imprudent or reckless actions. This stance clearly flies in the face of moral common sense; the driver obviously creates a far greater danger to others by bringing his vehicle into the street than the cyclist does, and thus ought to be held to a far higher standard. But we have adopted the “moral equivalence” approach here by way of methodological conservatism; as the results below will amply demonstrate, there is no need to “cook the books” in order to make our case.

The categories under *Driver Highly Culpable* and *Driver Not Culpable* are self-explanatory, but the two shown under *Driver Partly Culpable* deserve mention:

“Driver failed to use appropriate caution” pertains to crashes where the driver nominally had the right of way but was driving in such a way as to be unable to avoid a cyclist who entered the roadway. In a crowded urban setting, such operation clearly violates the standard of “due care” mandated by the New York State vehicle code.⁹

“Driver unsafely passed cyclist” differs from the preceding “Driver aggressively passed cyclist” (shown under *Driver Highly Culpable*) in degree; the latter was chosen when the accident report suggested that the driver was intentionally trying to bully the cyclist out of his space — a common occurrence, as any New York cyclist can attest.¹⁰

The three “special” categories shown in the sidebar denote cases in which the driver either left the scene, was unlicensed, or was charged with DWI (several cases involved two of these categories). These are serious infractions, yet by themselves they do not indicate the particulars of the crash and thus do not point directly to the culpable party. In particular, a designation of hit-and-run pertains only to the driver’s behavior *after* the crash. To be sure, leaving the scene is generally, and correctly, considered to suggest a guilty conscience; but it does not constitute direct evidence of culpability, and for the sake of conservatism we do not take it into account here.

We resolved these issues as follows:

- (i) we eliminated leaving the scene (9 cases) from the analysis altogether, and re-coded all hit-and-runs according to the driver’s and cyclist’s actions as indicated in the witness testimony or the police narrative;¹¹
- (ii) for cases involving DWI (3 cases) and unlicensed operation (7), we did two analyses. In

⁹ New York State Vehicle & Traffic Law §1146 enjoins “drivers to . . . exercise due care to avoid colliding with any bicyclist, pedestrian or domestic animal upon any roadway.”

¹⁰ Unsafe passing is a moving violation in New York State under §1122 of the Vehicle & Traffic Law: “Overtaking a vehicle on the left: (a) The driver of a vehicle overtaking another vehicle proceeding in the same direction shall pass to the left thereof at a safe distance and shall not again drive to the right side of the roadway until safely clear of the overtaken vehicle.”

¹¹ We assigned 8 of the 9 hit-and-run incidents to other classes of driver violation (running a red light, speeding, aggressive passing); the ninth, with no information available on the crash circumstances, had to be coded as unknown.

the first analysis, we treated these drivers as culpable, based on the fact that if the drivers had obeyed the law they would not have been driving and could not have contributed to the crash. In the second analysis, DWI and unlicensed driving are not treated as *ipso facto* culpable, and these cases are also re-coded according to the other available information.

Through painstaking reconstruction of the circumstances of each crash, we assigned each of the 71 fatalities to one or more of the 16 categories (or 18, when DWI and unlicensed operation are included). Still, there were 18 cases for which the only suitable classification of proximate cause and driver culpability was “unknown.”¹²

In three of these the police report was sketchy at best or was marred by important inconsistencies in the driver’s or officer’s account. In the other 15, the driver blamed the crash on the cyclist, but no witness statement or other evidence corroborated that claim. It would be naïve to accept these uncorroborated accounts at face value; the driver simply has too much invested, emotionally and perhaps financially, in his own innocence.

Nevertheless, after presenting our main analysis, in which we omit these 15 cases (by labeling them unknown) we offer for the sake of completeness an alternative set of findings in which we include and code all 15 based on the drivers’ accounts.

Our criteria, or “screens” as we call them, are then as follows:

- *Screen #1 disregards hit-and-run as a factor of culpability but regards DWI and unlicensed driving as culpable. It also treats the 15 uncorroborated accounts as “unknown cause.”*

- *Screen #2 further disregards DWI and unlicensed driving as factors of culpability and reclassifies those cases based on other reported crash circumstances; it maintains the treatment of the 15 uncorroborated cases as unknown. We assigned the three DWI cases to other codes — one each for red light running (*driver**

¹² The police reports, limited to the first page of the standard MV-104 police report form, were obtained by **Right Of Way** from the NY State Department of Motor Vehicles. (See appendix.) For 1998 crashes, **Right Of Way** also obtained site diagrams and other material compiled by the NYPD Accident Investigation Squad, but these documents contributed disappointingly little additional insight, with a few exceptions.

highly culpable), turning into cyclist's path (ditto), and red light running by cyclist (driver not culpable). The seven cases of unlicensed driving (four by never-licensed drivers, three by drivers whose licenses had been suspended or revoked) were similarly assigned to other codes covering a range of driver and cyclist errors.

- *Screen #3 uses the reclassified out DWI and unlicensed-driver designations from Screen #2, and further accepts the driver's uncorroborated testimony in the 15 formerly unknown cases.* This screen transfers the 15 cases otherwise classified as unknown, into a mix, based on the driver's uncorroborated testimony, of cyclist ran red light, cyclist went wrong way, cyclist abruptly changed lane, or cyclist emerged without warning. Because this screen also ignores DWI and unlicensed operation charges, it obviously puts the best possible face on the behavior of the drivers.

Results: Driver Culpability in the 71 Fatal Crashes

Table 1 summarizes our coding of the fatal crashes under the three screens.

As the figures for Screen #1 show, when only the 53 cases of known culpability are considered, and DWI and unlicensed operation are considered intrinsically culpable, 85% of the cases (45 of 53) involved some driver culpability, and almost two-thirds (66%) have high driver culpability. Even when charges of DWI and unlicensed driving are taken off the table, in Screen #2, drivers are somewhat culpable in 77% of cases (41 of 53) and highly culpable in 57%.

Correspondingly, drivers were absolved of culpability in only 15% (Screen #1) to 23% (Screen #2) of the fatalities. In these two screens, cases with high driver culpability outnumbered those with none by either 4.4 to 1 (in Screen #1) or 2.5 to 1 (Screen #2).

Only in Screen #3, which accepts at face value the driver's account in 15 cases without independent witnesses, does the number of cases in which the driver was not culpable (27) rival the number in which the driver was highly culpable (30). But even in this screen, when the two "driver partly culpable" categories — unsafe passing and failure to exercise appropriate caution — are added, the total instances involving driver error outnumber those caused by cyclist error by 3-to-2 (41 to 27). And recall that more than half of the 27 cases (15) ascribed to cyclist error in this screen were so classified on the uncorroborated account of the driver, which will certainly be menda-

Table 1: Driver Culpability in Bicycle Fatalities

| Degree of Driver Culpability | Screen #1 Reclassify Hit-Run, but DWI & unlicensed driving are culpable | | Screen #2 Reclassify Hit-Run, DWI & Unlicensed driving | | Screen #3 Reclassify Hit-Run, DWI & Unlicensed; Accept Uncorroborated Driver Accounts | |
|------------------------------|--|------------|---|------------|--|------------|
| | Known Cases | 53 | | 53 | | 68 |
| Some Culpability | 45 | 85% | 41 | 77% | 41 | 60% |
| Highly Culpable | 35 | 66% | 30 | 57% | 30 | 44% |
| Partly Culpable | 10 | 19% | 11 | 21% | 11 | 16% |
| Not Culpable | 8 | 15% | 12 | 23% | 27 | 40% |
| Unknown Cases | 18 | NA | 18 | NA | 3 | NA |
| TOTAL | 71 | | 71 | | 71 | |

For each screen, percents are percentages of known-culpability cases. Screen #2 reclassifies 3 DWI and 7 unlicensed-driver cases according to cyclist-driver interaction. Screen #3 does same and also accepts driver claim of cyclist error in 15 cases previously classified as unknown. Note that bold percentages add to 100% vertically, e.g., in Screen #1, 85%+15%+NA=100%.

cious in some and perhaps many of these cases. Thus this 40% figure represents not even an upper limit, but rather a *terminus ante quem*; that is, we know that the proportion of cases in which the cyclist is solely responsible must be less than 40%.

The conclusion is clear: *driver actions significantly outrank cyclist actions as a cause of cyclist fatalities in New York City.*

Crash Categories: How Cyclists are Hit and Killed

How, exactly, are cyclists being hit and killed by motor vehicles in New York City? Here we break down the aggregate figures in Table 1 and identify the proximate causes or "crash types" of the 71 crashes fatal to bicyclists in the four-year period 1995-1998.

Driver-culpable crashes

Four crash types accounted for 80% of the 41 fatalities in which the driver was culpable (based on Screen #2, in which DWI, unlicensed operation and hit-and-run are not regarded as crash causes in themselves).

1. Unsafe or aggressive passing by drivers was by far the leading cause of fatal cyclist crashes ("unsafe" and "aggressive" passing are combined into one category here). Dangerous passing by drivers was the sole factor in 11 fatalities, and it was paired as a factor

with speeding in two cases. The total tally for dangerous passing is then **12** (11 plus 2 times ½).

The bicycle was struck from behind in all 13 cases. In 5 cases, the vehicle swung directly into the cyclist’s path, and we deemed these “aggressive” passing and put them under *driver highly culpable*. In another case deemed aggressive passing, the driver entered an area off-limits to motor vehicles (the Prospect Park roadway on a weekend), and was speeding as well.

All that could be inferred from the police reports in the remaining 7 cases was that the vehicle and bicycle were traveling in the same direction; still, state vehicle and traffic law clearly enjoins drivers from unsafe passing (§1122) or tailgating (§1129), and requires that drivers exercise due care to avoid striking a cyclist or other person on the roadway (§1146). Accordingly, we classified these 7 cases as “unsafe” passing and placed them under *driver partly culpable*.

Table 2: Leading Causes of Fatal Bicycle Crashes

| Crash Categories and Rank in 71 Fatalities, 1995-1998 | Screen #2 Reclassify Hit-Run, DWI, Unli- censed | Screen #3 Accept Un- corroborated Driver Ac- counts |
|--|--|--|
| All Driver-Culpable Categories | 41 | (same as Screen #2) |
| 1. Unsafe or aggressive passing | 12 | |
| 2. Driver turned into cyclist’s path | 8 | |
| 3. Driver speeding | 7½ | |
| 4. Driver ran red light | 5½ | |
| <i>4 categories’ share of driver-culpable</i> | 33 (80%) | |
| All Driver-Not-Culpable Categories | 12 | 27 |
| 1. Cyclist ran red light or stop sign | 4 | 13 |
| 2. Cyclist traveling wrong way | 5 | 6 |
| <i>2 categories’ share of driver-not-culp.</i> | 9 (75%) | 19 (70%) |

Screen #1 is not used here. See Table 1 for description of screens.

2. Driver turning into the path of the cyclist killed **8** persons during 1995-1998. The turns were split equally (2 each) among (i) left turn into cyclist riding in opposite direction, (ii) left turn into cyclist riding in same direction, (iii) right turn into cyclist riding in same direction, and (iv) left turn into cyclist whose movement cannot be determined from the material provided. The four crashes in the middle two types have much in common with the dangerous passing category just discussed. Six of the 8 vehicles were

trucks, including 3 tractor-trailers and a fourth large (Mack) truck.

3. Driver speeding was the sole cause of 6 fatalities and a “shared” cause of 3 (one speeder also ran a red light, two others also passed aggressively), giving speeding a score of **7½** (6 plus 3 times ½). Cases are coded as speeding based on either: a speeding citation or statement of “high speed” or “unsafe speed” in the police report or DMV abstract; a police estimate, inferred from skid marks, that the vehicle was traveling well above the speed limit when the brakes were applied; or strong circumstantial evidence, as in one case in which after striking the cyclist, a sedan went on to hit a pedestrian in the roadway, mount the sidewalk, strike a second pedestrian, and uproot a tree (characteristically, the driver was not cited for speeding).

4. Driver running red light was involved in 6 fatalities but was scored as **5½**, since one case was shared with speeding. Witnesses attested to the violation in four cases; in a fifth case the DMV abstract described the cyclist as “crossing with signal.” In the remaining case, a bus driver claimed brake failure as the reason he struck both a car and a cyclist (the latter, fatally) who were crossing the intersection with the green.

Together, the above four categories accounted for 33 fatalities during the four-year period 1995-1998. This is four-fifths (80%), of the 41 cyclist fatalities deemed under Screen #2 to have been caused primarily by driver error. The 33 fatalities also account for a clear majority, 62%, of all 53 fatalities for which some cause could clearly be inferred from the available data. *This indicates that there is nothing mysterious or random about cyclist deaths in New York traffic; most are caused by four clearly defined types of driver behavior: unsafe (and illegal) passing, unsafe (and illegal) turning, speeding, and running red lights.*

To these cases we arguably should add the three fatalities caused by “dooring,” in which cyclists were knocked off their bikes by car doors flung open into their path, and then run over and killed by another (moving) vehicle. While the proximate cause of these fatalities is the door opening into the path of the cyclist (a moving violation under §1214 of the vehicle and traffic law), the root cause is bullying by drivers that forces cyclists to surrender their lawful place in a “traffic” lane and consigns them to the “door zone” instead.

In this sense, the three dooring fatalities could be considered as an indirect consequence of dangerous passing; that category would then cover 15 fatalities, or a robust 28% of the 53 cyclist fatalities of known cause during 1995-1998 — and even more if the turning cases in which the driver overtook the cyclist are included here as well. The four key categories together — unsafe passing, unsafe turning, speeding, and red-light running — would account for 36 fatalities, or two-thirds (68%) of the 53 with known cause.

Drunken Driving? Even if driving while intoxicated is considered culpable, it is involved in only 3 of the 53 cases, with a score of just 2 (since in two of these cases another factor was also present), or a mere 4%. DWI thus represents a relatively minor component of the overall pattern of cyclist deaths. Our earlier study of pedestrian fatalities, *KILLED BY AUTOMOBILE*, also found a surprisingly small role for DWI.

We say “surprisingly” because public-education and enforcement initiatives concentrate on DWI almost to the exclusion of all other forms of driver misbehavior. Our findings suggest that this emphasis is very much misplaced, and that a greater payoff would come from efforts which addressed more directly the driver’s sense of privilege and entitlement, which encourages the behaviors of speeding, “squeezing” traffic signals, aggressive turning, and, above all, dangerous passing that are extensively implicated in cyclist deaths. Many of these kinds of behavior are also important factors in pedestrian deaths, illustrating the “bellwether” character of urban cycling.¹³

Cyclist-culpable crashes

Under Screen #1, in which DWI and unlicensed driving (but not hit-and-run) are taken as prima facie evidence of driver culpability, the cyclist was culpable in just 8 cases. However, to obtain the clearest possible picture of proximate cause, we continue to employ Screen #2, which re-codes the nine cases with DWI or unlicensed driving based on the immediate crash circumstances. In this analysis, the cyclist was culpable in 12 cases, as follows:

1. Cyclist traveling wrong way was the sole cause of 4 fatalities, and was “shared” (with red-light run-

ning by the cyclist) in 2 others, for a total of **5** cases, or 9%, of the 53 for which the cause was clearly determinate. Although one driver in these cases was unlicensed and another was probably speeding (based on the police statement that the cyclist was thrown 40 feet), we nevertheless charged both cases against the cyclist. (Two other fatalities in which the cyclist was traveling against traffic and was struck by a turning vehicle were coded as driver partly culpable, based on the driver’s failure to use appropriate caution.)

2. Cyclist ran red light or stop sign was the sole cause of 3 fatalities and was shared with 2 others (the two wrong-way riding cases noted directly above), for a total of **4** cases, or 8% of the 53 total. Although one of the drivers was unlicensed and another was charged with DWI, both are exculpated in this “screen” based on statements from witnesses that the cyclist ran a red light in each case.

The remaining cyclist-culpable cases involved cyclists moving abruptly into the path of a motor vehicle; in **2** cases the cyclist suddenly changed lane, and in **1** case the cyclist emerged with insufficient warning from a sidewalk.

Not surprisingly, the breakdown of proximate cause changes considerably in Screen #3, which uncritically accepts the 15 uncorroborated driver accounts. The number of cases classed as cyclist running red light or stop sign more than triples, from 4 in Screen #2, to 13, surpassing dangerous passing (12) as the largest cause of cyclist fatalities. Cyclist traveling wrong way adds one case for a total of 6 fatalities. These two categories of cyclist error combined accounted for 70-75% of fatalities in which the cyclist was primarily at fault. (Under Screen #3, the other 8 fatalities are charged equally to sudden lane changes and the cyclist abruptly entering the roadway from a side road or sidewalk.)

To the extent that we can take these unsupported driver accounts seriously, the many fatalities attributable to the cyclist’s running a light or riding the wrong way suggest a focus for cyclist education. At the same time, persuading cyclists to stop completely at red lights and wait for the green signal is likely to be difficult until dangerous passing by drivers is eliminated and cyclists generally gain respect for their lawful right-of-way.

¹³ This metaphor informed a *Daily News* op-ed on January 11, 2000, by co-author Michael J. Smith, available on our Web site at www.rightofway.org/canaries.html.

Police “Analysis,” Deconstructed

As noted throughout this report, the NYPD’s sole response to the record number of cycling fatalities last year has been to insist that three-fourths of the fatalities in 1998 and 1999 were caused primarily by “cyclist error.” However, police officials have not presented a shred of evidence to support this claim.

To understand how the NYPD might have arrived at such a “finding,” we re-examined the 17 crashes from 1998 to see how they might appear through the police windshield, and compared the results with our assessments. For 14 of those crashes, we had the benefit of detailed crash-reconstruction reports by the NYPD’s Accident Investigation Squad (AIS).

Our attempt at a reconciliation failed. As we show below, in 7 of the 17 cases there is no mention *at all* of improper action by the cyclist, while evidence of driver misconduct abounds. Even if the other 10 cases all went against the cyclist, only 60% of the fatalities would be charged to cyclist error (10 of 17 = 59%), rather than the police claim of 75%. Yet as we discuss directly below, driver error outweighs cyclist error as the key crash factor in many, indeed, in a majority, of those other cases as well.

We present the analysis in three tables, starting with Table 3, which briefly summarizes the 7 cases where, to our knowledge, no one has alleged cyclist error.

Table 3: 1998 Cases With No Cyclist Error

| DMV No. | RoW Codes | Discussion |
|----------|--------------------------------------|--|
| 8-118055 | Driver speeding + aggressive passing | Witnesses say driver “at fast speed” struck cyclist from behind, then left scene. |
| 8-268960 | Driver ran red light | DMV gives cyclist green light; driver cited for unlicensed, DWI, hit-and-run. |
| 8-383629 | Driver ran red light | Witness and DMV give cyclist green light; driver cited for hit-and-run. |
| 8-395287 | Driver speeding | AIS says driver was going 45 mph in a 30 mph zone. Driver fled scene. |
| 8-469056 | Driver aggressive passing | SUV struck veteran cyclist after two roads merged and knocked him 150 feet onto embankment (suggesting high speed), then fled scene. |
| 8-550832 | Driver unsafe turning | Tractor-trailer operating off designated truck route turned into cyclist’s path. |
| 8-711305 | Driver “doored” cyclist | Police cited driver for opening car door into cyclist’s path. |

Next, in Table 4, are 6 cases with apparent cyclist error but, in our view, more serious violations by the driver. We coded the first three cases as *driver highly culpable*, since speeding appears to have been a mate-

rial causes in these crashes; and the last three as *driver partly culpable*, since they involve the driver’s unsafe passing or failure to exercise due care.

Table 4: 1998 Cases With Cyclist Error Outweighed by Driver Error

| DMV No. | RoW Codes | Discussion |
|----------|-------------------------|--|
| 8-501123 | Driver speeding | DMV cited driver “unsafe speed” and “unsafe lane change.” Driver violated learner’s permit by operating w/o guardian and at night. Police may blame cyclist, who ran red light (per DMV). |
| 8-527061 | Driver speeding | Cyclist was hit from behind, thrown 170 feet (implying speeding). Police may blame cyclist for using Maj. Deegan service road, and for “illegal drugs” (as coded, without explanation, by DMV). |
| 8-731207 | Driver speeding | Police diagram indicates cyclist would have cleared intersection if not for driver’s 40 mph in a 30 zone (inferred by AIS). Police may blame cyclist for entering intersection from sidewalk. Note: not known who had red light. |
| 8-389143 | Driver unsafe passing | Cyclist “fell” under passing bus, which therefore must have been close enough to fall under. |
| 8-532220 | Driver unsafe passing | Driver says cyclist “cut in front” of him, though extent of damage to cyclist and parked cars implies aggressive driving. |
| 8-555097 | Driver lack of due care | Police probably blame 6-year-old girl riding on park sidewalk, who apparently lost control and rode off curb; (unlicensed) truck driver likely could have observed her riding on sidewalk before she entered street. |

Finally, for completion, Table 5 shows the 4 cases which we classified as the cyclist’s fault (taking the driver’s account at face value in three of them); we presume the police did the same.

Table 5: 1998 Cases Attributable to Cyclist Error

| DMV No. | RoW Codes | Discussion |
|----------|--|---|
| 8-460176 | Cyclist ran red light | Bus driver implicates cyclist (no corroboration). |
| 8-469057 | Cyclist abruptly entered road from curb | Driver implicates cyclist (no corroboration). |
| 8-518851 | Cyclist wrong way | Wrong way based on driver, who ludicrously claims to have been stopped when cyclist hit head on, killing himself. |
| 8-537729 | Cyclist ran red light, emerged w/o warning | We absolve driver, notwithstanding inconsistent police report placing crash at both intersection and mid-block. |

Our scorecard for 1998 thus reads as follows:

- 10 cases (out of 17) with *driver highly culpable*, or 59%;
- 3 more cases with *driver partly culpable*, establishing driver misconduct as the principal cause of 13, or 76%;
- only 4 cases, or 24%, in which the driver was apparently *not culpable*, and even that only if the driver's uncorroborated testimony is accepted in 3 of those 4 instances.

These percentages mirror our overall results for the full four years (see Table 1, p. 7, and “key findings” in the executive summary, pp 1-2), and they turn the police “analysis” on its head.

It is not news that the police are car-minded and apt to mirror the motorist's perspective in cyclist and pedestrian fatalities. Yet even making all possible allowances for this mentality, it has proven impossible to account for the NYPD's repeatedly-cited 75% figure for cyclist culpability. After considerable effort and head-scratching, we are forced to conclude that this figure was simply plucked out of thin air.

Afterword

Cycling, in spite of its clear benefits to society and to the cyclist, remains a non-conformist form of transportation and thus carries with it a certain stigma. This “image problem” is exacerbated in a city like New York by the Hobbesian contention for street space among pedestrians, drivers and cyclists: a war of all against all, in which drivers hold an overwhelming advantage, in terms of social prestige as well as physical power.

Driving is valorized, prioritized, and privileged in culture and in policy; it is difficult for most people even to imagine that cars need not be so overpowering, omnipresent, and hegemonic. But cyclists are an easy target in every sense of the word; even many pedestrians displace a wildly exaggerated share of blame onto cyclists for the lethal chaos of our streets.

In this cultural context, it is unsurprising that the police blame the victim in three-quarters of cyclist deaths, and expect to be believed. One of the goals of this report is to expose this official inversion of reality. But then what?

We can and do hope that the Mayor, the Department of Transportation, and the Police Department, among others, will take note of the facts set forth here, and act to protect cyclists (and pedestrians!) from the

assaultive and not infrequently murderous behavior of drivers.

But as long as there is an unstated social consensus that a dead cyclist probably “brought it on himself,” official inaction is cost-free. Thus, we also seek to address the larger public.

These dead cyclists were not some kind of alien beings; they might have been your neighbors, co-workers, or relatives. They were cycling in the streets of New York for all kinds of ordinary human reasons: to get exercise, to get a carton of milk, to get their living, or get to it. They did not, for the most part, kill themselves by lawless and reckless behavior.

Like the hundreds of pedestrians who also die on our streets every year, they were sacrificed to the insensate car-worship that has gutted our cities, ravaged our countryside, polluted our air, and slaughtered hecatombs of our fellow-citizens for most of the last century. These people do not deserve to be traduced, dismissed, and forgotten.

Perhaps if we stop blaming the victims, and ignoring what their deaths are telling us, we will gain a clearer picture of the real problem. In that hope, this report is dedicated, above all, to remembering — and vindicating — the dead.

* * * * *

Right Of Way intends to expand this study by incorporating the 35 fatalities from 1999, as soon as these can be obtained through the Freedom Of Information process. We intend to elucidate the circumstances of each crash, and convey some sense of the human individuality of the more than 100 cyclists killed in the past five years.

Report authors **Charles Komanoff** and **Michael J. Smith** also wrote and edited **KILLED BY AUTOMOBILE**, *Right Of Way*'s 1999 book on pedestrian fatalities. Many other members of *Right Of Way* contributed computer coding as well as important ideas and insights to this report. **Stuart Desser** obtained AIS (Accident Investigation Squad) reports for most of the 1998 fatalities, but only through dogged and diligent pursuit of the City's Freedom of Information Law process, including well over a dozen precise and detailed requests to the NYPD's “FOIL” unit.

Appendix: Data Sources and Fatality Breakdowns

The primary data source for this report was NYPD accident reports (the 1-page MV-104 form) and the corresponding NY State DMV computer abstracts for 70 bicycle fatalities involving motor vehicles for the years 1995-1998. DMV staff provided them to **Right Of Way** during 1997-1999, pursuant to requests under the auspices of New York City Council Members Kathryn Freed (Manhattan, 1st District) and Anthony D. Weiner (Brooklyn, 48th District; Weiner is now a U.S. Representative from New York's 9th Congressional District). For 14 fatalities from 1998, these materials were supplemented by reports prepared by the NYPD Accident Investigation Squad.

Despite the best efforts of DMV staff, a small number of fatal accident reports — probably a half-a-dozen for the four years covered in this report — “fell through the cracks.” One fatality, that of Rachel Fruchter who was run over by a van in Prospect Park on July 12, 1997, was widely reported, allowing us to code the crash (as both speeding and aggressive passing), for a total of 71 fatalities.

Following are summary breakdowns of these 71 cyclist fatalities.

| Year | |
|-------------|----|
| 1995: | 18 |
| 1996: | 16 |
| 1997: | 20 |
| 1998: | 17 |

Borough of Crash

| | |
|----------------|----|
| Bronx: | 13 |
| Brooklyn: | 23 |
| Manhattan: | 21 |
| Queens: | 13 |
| Staten Island: | 1 |

Victim Age

| | |
|---------|----|
| 6-14: | 9 |
| 15-29: | 17 |
| 30-59: | 36 |
| 60+: | 3 |
| Unknown | 6 |

Victim Gender

| | |
|---------|----|
| Female: | 7 |
| Male: | 64 |

Driver Age

| | |
|---------|----|
| 17-29: | 23 |
| 30-59: | 42 |
| 60+: | 2 |
| Unknown | 4 |

Driver Gender

| | |
|----------|----|
| Female: | 5 |
| Male: | 62 |
| Unknown: | 4 |

Motor Vehicle Type

| | |
|---|----|
| Car or SUV: | 36 |
| (DMV does not record SUV's separately) | |
| Van: | 11 |
| Bus: | 7 |
| Truck: | 13 |
| (7 tractor-trailer, 1 “refrigerated,” 5 unknown or un-coded by DMV) | |
| Unknown: | 4 |
| Taxi: | 0 |

Driver Summonses

DMV abstracts indicate that 18 drivers received summonses, with 11 cited for moving violations as follows: 1 for learner's permit violation (vehicle and traffic law §501), 2 for being unlicensed (§509), 3 for suspended or revoked license (§511), 2 for leaving the scene (§600), 1 for violating right-of-way in a crosswalk (§1151), 1 for speeding (§1180), 1 for DWI (§1192), and 2 for dooring (§1214). Some drivers were cited more than once. Some DMV abstracts omit summonses noted on police accident reports, so above figures are underestimates.

Cyclist helmet use: no data provided.