KILLED BY AUTOMOBILE

Death
in the
Streets
in **New**
York City
1994-1997

by
Charles Komanoff
and
Members of
Right Of Way

Dedicated to the memory of
Dante Curry and to his family

March 1999

Right Of Way

Right Of Way is a grassroots organization in New York City asserting the right of pedestrians and cyclists to travel without endangerment by motor vehicles.

We invite activists from New York and elsewhere to participate in this work. To learn about our actions and programs, please visit our Web site at www.rightofway.org. You may contact us through the Web site or by mail c/o ***Right Of Way***, 305 Broadway, Room 402, New York, NY 10007.

Our work depends on financial support from generous individuals. Contributions of any amount sustain our commitment and enable our work. Checks or money orders made out to ***Right Of Way*** should be sent to the Broadway address above. Contributions of $100 or more are tax-deductible provided they are written to the A.J. Muste Foundation, with ***Right Of Way*** written in the memo line. These too should be sent to 305 Broadway, Room 402, New York, NY 10007.

Report Author Charles Komanoff, a founding member of ***Right Of Way***, is an activist and economist. As "re-founder" and president of Transportation Alternatives during 1986-1992, he led many New York-area campaigns for pedestrian and cyclist rights, and directed the landmark *Bicycle Blueprint* report. Earlier, Komanoff documented nuclear power cost escalation as a consultant and expert witness for the State of New York and other state and federal agencies.

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Introduction

Why *Right Of Way* Produced This Report. KILLED BY automobile addresses the ongoing slaughter of pedestrians and cyclists on New York City's streets: In it we ask, Who is dying? Who, and what, is causing the killing?

These questions should have been asked, and answered, long ago by the government bodies charged with transport policy, driver licensing and public safety. Instead, how the streets are used, and who dies using them, is never discussed. Policy, if it can be called that, has become merely a question of how best to squeeze the most cars into New York, and move them at the highest speed.

Even here in New York, the nation's only city where drivers are a minority, this "windshield perspective" governs, deflected neither by moral consideration of its costs, nor by factual analysis of local conditions and needs.

KILLED BY AUTOMOBILE seeks to fill the gaps in the data. Our starting point is an analysis of one thousand deaths of pedestrians and cyclists in New York City in the most recent four years for which data are available. From this analysis emerges a portrait of the ways in which pedestrians and cyclists are endangered — and killed — on the city's streets. What emerges as well is an indictment of the police, transport, driver-licensing and criminal-justice authorities for failing in their duty to make the streets safely available to all.

The Current Situation. As this report goes to press, city agencies are claiming that pedestrian deaths fell sharply in 1998, and the Mayor has proclaimed a Draconian "crackdown" on drunken driving which, it is generally assumed, will reduce the number of fatalities even further. Unfortunately, a myopic focus on drunken driving leaves unaddressed the larger problem of aggressive, violent or otherwise irresponsible driving in general, which accounts for the vast majority of pedestrian and cyclist deaths in New York City. Dangerous drivers can still kill with impunity, so long as they are sober; witness the refusal of the Queens District Attorney to seek

criminal charges against an unlicensed driver who killed a 9-year-old boy last December on a residential street while fleeing two prior crashes.

Nor is there any indication that government will take steps to reduce the speed, size, engine power, and sheer numbers of vehicles on our streets, and to uphold the rights of citizens to walk and bike safely. Accordingly, we do not expect the putative decline in fatalities in 1998, welcome as it would be, to be sustained, let alone extended.

Key Findings. This report establishes that:

• Most pedestrian deaths are caused by dangerous driving.

• Older New Yorkers stand a far higher chance of dying beneath the wheels of an automobile than of being murdered.

• Federal and city agencies are lavishing resources on coercing motorists to protect themselves with seat belts, and on glamorous but marginal projects like improving helicopter safety, while ignoring the killing of defenseless pedestrians.

• Public officials and the media divert attention from dangerous driving by attacking trivial nuisances like bikes on sidewalks.

• Motor vehicles threaten people in every neighborhood, regardless of race and class.

KILLED BY AUTOMOBILE presents dozens of other vital findings.

Public Safety is the Public's Right. Behind these numbers and findings lies the incalculable human tragedy of a thousand pedestrian and cyclist deaths. It is the keenly-felt sense of this human cost that has inspired the many people who contributed to this report.

We hope KILLED BY AUTOMOBILE will provoke soul-searching among officials and politicians, and, more importantly, evoke demands for change from the citizens of New York. We will eliminate automobile endangerment when we recognize that it constitutes not merely a diminution of safety, but a deprivation of rights: the right of people to travel safely and freely however and wherever they choose to let their own power take them.

— ***The Members of Right Of Way***

Victims: Summary

People in automobiles killed one thousand and twenty (1,020) people who were not in automobiles (pedestrians, cyclists and others) in New York City during 1994-1997, Rudolph Giuliani's first term as mayor. (We use the term automobile generically to refer to any motor vehicle.) These comprised 56 percent of all traffic fatalities in the city in that period.

This report documents 947 of these deaths, based on police accident reports that we obtained and analyzed.

We found that:

• The vast majority, 880, of the 947 victims were pedestrians (including perhaps some in-line skaters or skateboarders who are grouped with pedestrians). The remaining 67, or 7 percent of the total, were riding bicycles.

• A sizable majority of victims, 592, or 63 percent, were male; 351, or 37 percent, were female. (Gender was not reported for 4 cases.) Fatalities among New Yorkers age 65 and above were divided equally between men and women.

• Older New Yorkers — age 65 and above — were more than twice as likely to be killed by automobiles as to be murdered during 1994-97. These older New Yorkers accounted for 35 percent of victims, and were 3.6 times more likely to be killed by automobile than were those under 65. New Yorkers 65 and older were also more than 7 times more likely to be *victim* than *driver* in a pedestrian or cyclist fatality.

• Seventy-eight New Yorkers age 85 and older were killed by automobiles during 1994-97. People in this oldest group were 6 times more likely to be killed by automobiles than were NYC dwellers under 65, and were more than four times more likely to be killed by automobiles than murdered.

• Death by car respects no ethnic or class boundaries. Rich and poor neighborhoods, and black, white, Latino and Asian neighborhoods, experienced pedestrian fatalities in proportion to their populations.

• Combined pedestrian and cyclist fatalities averaged 255 per year and were remarkably constant over the four years, with a standard deviation of only 12. The average exceeds by 25 percent the annual average of approximately 200 motor vehicle users who died in crashes in New York City during the same period.

• Brooklyn had the most fatalities, 320, and Staten Island the fewest, 26. Relative to population, Manhattan had the highest borough fatality rate, although this partially reflects victims from other boroughs and from outside the city. Staten Island's fatality rate relative to population was the lowest, and those for Brooklyn, Queens and the Bronx were roughly similar.

• Ten police precincts (out of the 102 covering the city) reported 20 or more pedestrian or bicyclist fatalities during the four years, topped by the 109th Precinct in Flushing. Since resident and visitor populations vary widely among precincts, these comparisons are incomplete. Nevertheless, it is noteworthy that in three precincts with the most fatalities — Manhattan's Upper East Side and Midtown, and Brooklyn's Borough Park — public officials and residents have persistently targeted *bicycles*, rather than automobiles, as a source of danger to pedestrians (see sidebar, p. 55).

• Only five New York City Council districts (out of 51) registered fewer than 10 fatalities during 1994-97. Districts with the most fatalities by borough were: *Manhattan*, 3rd (West Village and Midtown, Christine Quinn); *Brooklyn*, 44th (Borough Park, Noach Dear) and 47th (Coney Island, Howard Lasher); *Queens*, 31st (Rockaway and southeast Queens, Juanita Watkins); *Bronx*, 13th (southeast Bronx, Madeline Provenzano); *Staten Island*, 50th (central Staten Island, James Oddo).

Drivers and Vehicles: Summary

• Younger drivers — ages 19-34 — caused 485, or almost half (48 percent) of the 1,020 pedestrian and cyclist deaths in NYC during 1994-97, although they accounted for only one-quarter (25 percent) of the city's population. Adjusted for population, people age 19-34 were 4 times more likely to kill with an automobile than were NYC dwellers 60 or over; they were 2.4 times more likely to be the driver than the pedestrian or cyclist victim.

• The youngest drivers — ages 19-26 — were the most damaging, killing 255 pedestrians and cyclists during 1994-97. People age 19-26 are only 11% of the population, but they caused 25% of pedestrian and bicyclist deaths. New Yorkers in this age group were 2.7 times more likely to kill a pedestrian or cyclist with an automobile than were all other city residents, and were over 3 times more likely to be driver than victim in a pedestrian or cyclist fatality.

• More than two-thirds (68 percent) of vehicles identified in killing pedestrians and cyclists during 1994-97 were cars, 26 percent were trucks, 5 percent were buses; and 1 percent were motorcycles. Later we compare these percentages with percentages of vehicle types on New York streets, in order to assess the relative danger that they pose. (Unfortunately, government crash statistics do not distinguish between fatalities by sedans and sport-utility vehicles; both are classified merely as "cars.")

• Small or mid-size trucks accounted for a majority, 167, of the 266 fatalities caused by trucks. Tractor-trailers killed 56 persons, and garbage trucks killed 26. The latter figure, averaging 6-7 per year by garbage trucks, corresponds to 24 fatalities per hundred million miles driven on city streets, an astonishingly high rate.

• Buses killed 53 pedestrians and cyclists in New York City during 1994-97, an average of 13 per year, and an average of 9 pedestrians and cyclists killed per hundred million miles driven on city streets. This was more than 5 times the average motor vehicle rate, and triple the rate for heavy trucks.

Ten Key Findings

1 Motor vehicles killed 1,020 pedestrians and bicyclists in New York City during the four-year period 1994-97; this toll was 25 percent greater than the 800 motor vehicle *users* who died in crashes in the same period.

2 New Yorkers age 65 and older were more than twice as likely to be killed by an automobile as to be murdered during 1994-97.

3 Drivers were largely or strictly culpable in 74 percent of pedestrian fatalities and partly culpable in another 16 percent, meaning that drivers were at least partly culpable in 90 percent of fatalities.

4 The most frequent causes of fatalities were vehicles turning into pedestrians in crosswalks, followed by speeding, and driving through a red light or stop sign.

5 Buses killed 53 persons during 1994-97 — one for every 11.4 million miles, or over 5 times the rate for all vehicles driven in New York City, and triple the rate for heavy trucks.

6 Automobiles were equal-opportunity threats, killing New Yorkers of every income level and ethnic group roughly in proportion to the group's share of population.

7 Motorists killed 50 pedestrians on sidewalks during 1994-97 (*one* pedestrian was killed by a bicycle on a sidewalk during the same period, out of a total of five pedestrians killed in collisions with bicycles in New York City during the four years).

8 Neighborhoods where officials clamored for crackdowns on bicyclists to safeguard pedestrians had unusually high rates of pedestrians and cyclists killed by automobile.

9 Drunk driving was known to be present in only 4 percent of pedestrian and bicyclist fatalities (less than 3 percent in 1997 alone), suggesting that DWI is now a relatively small subset of a larger class of dangerous and aggressive driving, which is routinely ignored in law enforcement and media campaigns.

10 Drivers were summonsed for moving violations in only 16 percent of pedestrian and bicyclist fatalities during 1994-97; police cited only 7 drivers, or less than 1 percent of those who killed pedestrians, for violating laws specific to pedestrian safety.

• Police issued moving violations in only 154 pedestrian or cyclist fatalities during 1994-97, or just 16 percent of the 947 cases studied. Almost all of these summonses were for driving without a valid license (absent, suspended, or revoked), leaving the scene, speeding, or driving while intoxicated. Only 7 drivers who killed were ticketed for violations that specifically endanger pedestrians and cyclists, such as violating right-of-way in crosswalk, unsafe backing, unsafe opening of a car door, and driving on the sidewalk. This pattern strongly suggests a marked lack of interest, on the part of police officers, in the rights of pedestrians and cyclists.

• ***Right of Way*** systematically analyzed a full year's fatalities (1997) for cause and culpability (neither city nor state authorities do so). Our criteria for culpability are largely based on New York State traffic law, and are detailed below, beginning on p. 17. Driver culpability could not be ascertained in 22 percent of cases; drivers were clearly not culpable in only 7 percent, they were strictly or largely culpable in 58 percent, and partly culpable in an additional 13 percent; combining the two latter categories, drivers were at least partly culpable in at least 71 percent of all New York City pedestrian and bicyclist fatalities.

• If we exclude the 22 percent of cases in which culpability could not be determined (because police accident reports were missing, incomplete, illegible, or contradictory), the proportions are: ***driver strictly or largely culpable, 74 percent; driver partly culpable, 16 percent; driver not culpable, 10 percent.***

• Five percent of pedestrian and cyclist deaths occurred on sidewalks or other off-road areas where it is illegal to drive an automobile. Extrapolated to the 1,020 people killed by automobiles in New York City over the four-year period, an estimated 50 pedestrians, or 12-13 per year, were killed by automobiles during 1994-97 in places where automobiles are not supposed to be.

• For the 820 fatalities in which the identity of the driver was established, 747, or 91 percent, of the drivers were men; 73 (9 percent) were women. In contrast, women account for an estimated 25 percent of vehicle-miles driven on New York City streets, excluding

highways, indicating that women are *under*-represented as killer-drivers by a factor of 2 to 3, while men are correspondingly over-represented.[1]

• Driver age was established in 812 fatalities. Average age of these drivers was 37, vs. an average age of 44 of New Yorkers of "driving age" (17-79 inclusive), and an average age of persons killed by automobile of 51. Based on these figures and the gender differences noted above, we observe that death by automobile, in New York City, is largely a matter of one group of people — young men — killing two other groups: older men, and women of all ages.

[1] Konheim & Ketcham (Brooklyn, NY) estimates that women account for 25 percent of non-highway vehicle miles traveled in New York City, as follows: average annual miles driven by residents with access to autos is 16,536 for males and 9,528 for females (*1990 Nationwide Personal Transportation Survey*). Absent more precise data, gender split for access to autos is assumed proportional to employed adults; 30 percent of City residents over 16 years are employed males, 27 percent are employed females. This implies a 66/34 male/female mileage split for autos. Assuming for simplicity that all taxis, trucks and buses are driven by males leaves 74.5 percent of non-highway miles by males, 25.5 percent by females.

Fatality Data

Totals. An estimated 1,020 pedestrians and cyclists were killed by automobile in New York City during 1994-97. As the table shows, ***Right Of Way*** received accident reports for 947, or 93 percent of the total. Fatalities were roughly constant from year to year, although even "official" figures are not definitive (see notes to table and sidebar on p. 20).

Fatalities	1994	1995	1996	1997	Total
Pedestrians in Database	217	237	203	223	**880**
Pedestrians, "Official"	240	234	226	249	**949**
Pedestrians not provided	23	-3	23	26	**72**
Bicyclists in Database	14	18	16	19	**67**
Bicyclists, "Official"	15	18	16	22	**71**
Bicyclists not provided	1	0	0	3	**4**
Total in Database	231	255	219	242	**947**
Total, "Official"	255	252	242	271	**1020**
Total not provided	24	-3	23	29	**73**
Percent not provided	9%	-1%	10%	11%	**7.2%**

Sources ("official" data): 1994 from NYC DOT, ***Traffic Fatalities in New York City, 1994***; 1995 and 1996 from Oct. 8, 1997 letter from Michael J. Farrell, NYPD Deputy Commissioner for Policy and Planning, to Harris Silver; 1997 from statement of Mayor Giuliani in ***Daily News***, Feb. 9, 1998 (pedestrians), and NYPD figures in ***Times***, Feb. 27, 1998.

In comparison, an estimated 800 motor vehicle users (drivers and passengers of motorized vehicles including motorcycles) were killed in crashes in New York City during the same four years. The pedestrian-cyclist toll exceeds this figure by 25 percent.[2]

[2] State DMV records show 771 motor vehicle fatalities along with 965 pedestrian and cyclist fatalities in 1994-97. The latter figure appears to be an undercount, in light of the 1,020 estimated in text. Adjusting the motor vehicle figure upward by the undercount ratio yields 817. In

Boroughs. Brooklyn had the most fatalities during the four years, 320, and Staten Island the fewest, 26. Relative to population, Manhattan had the highest borough fatality rate, although this partially reflects the large number of people from other boroughs and from outside the city who come to Manhattan for business or pleasure. Aside from Manhattan, most victims resided in the borough in which they were killed. Brooklyn, Queens and the Bronx had roughly equal fatality rates relative to population. Staten Island's low rate probably reflects less walking rather than a safer pedestrian environment.

Pedestrian and Cyclist Fatalities by Borough, 1994-97

	Ped No.	Ped Adj.	Bike No.	Bike Adj.	Total Adj.	Per Million	Risk Ratio
Bronx	129	139	7	8	146	30.8	0.89
Bklyn	274	295	23	25	320	35.5	1.02
Manh	230	248	24	26	274	44.8	1.29
Qns	224	241	12	13	254	32.3	0.93
S. I.	23	25	1	1	26	16.2	0.47
NYC	880	948	67	72	1020	34.8	1.00

Ped and Bike "No." denotes cases in ***Right of Way*** database. Adjusted figures add 7.7% to reflect 73 records not in database. NYC pedestrian adjusted total is one less, and bicyclist adjusted total is one more, than totals in previous table, due to use of single adjustment factor. Last two columns use adjusted fatalities and 1996 populations from U.S. census, and are annualized. Queens figures include 3 pedestrian fatalities at JFK Airport. Bronx figures do not sum to total due to rounding.

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either case, ped-bike fatalities are 25 percent greater than vehicle fatalities.

Driver Culpability

The Responsibility of Drivers. When a car hits a pedestrian or cyclist, conventional wisdom blames the victim. Jaywalking is ingrained in New York culture — it has been called the city's secular religion — and most cyclists treat red lights as stop signs at best. This rule-breaking is generally attributed to carelessness, if not insanity, and is regarded as the reason for most pedestrian and cyclist deaths.

Yet the police accident reports obtained for this study tell of pedestrians struck down by speeders and red-light runners, or even on sidewalks. At any intersection, motorists can be seen forcing their way through crosswalks or otherwise infringing on walkers' lawful right-of-way. This behavior impels pedestrians to bend the rules for the sake of self-protection. The chaotic character of traffic at intersections leads many pedestrians to conclude that crossing mid-block is safer, since one only has to look for cars coming in a single direction. Similarly, cyclists "slip through" red lights in order to gain one or two blocks' respite from threatening motorized traffic; cyclists who wait for the green often find themselves bullied from their lawful place on the road by impatient drivers.

If drivers, cyclists and pedestrians all flout the law, should they be held equally culpable in fatalities? No. Pedestrians and cyclists are not equivalent with drivers. Motor vehicle operators are licensed, their vehicles are registered, and insurance is required of them, precisely because of their potential for harm. By virtue of their weight and speed, motor vehicles are immensely dangerous machines, and the human body — even on a bicycle — is not. Walkers don't endanger drivers, except in rare instances where a driver must brake or swerve to avoid a pedestrian who has suddenly placed himself in harm's way — and even in this case, the walker is at far graver risk than the driver.

In marked contrast, vehicles and drivers routinely endanger pedestrians, not only by violating their lawful right-of-way, but just by

Michael Regina / August 9, 1996

February 20, 1998

Dear Speaker Vallone:

I am writing to you because my family needs your help. Our father was killed in an auto accident 18 months ago, and the NYPD is stonewalling us and ignoring our pleas for justice.

Dad was crossing Lafayette Street in front of his auto repair shop in SoHo on Aug. 9, 1996. He was looking in the legal direction of traffic, so he didn't see a 1985 Chevy Suburban racing toward him *in reverse*. The impact broke several ribs and threw Dad's stout 200-lb. body 15-20 feet in the air. He landed on his head. Surgery didn't help. Dad suffered unimaginably for nine days and died on Sunday, Aug. 18. He was 57.

You would think that someone who drove in reverse that fast would be judged to have been operating at "a gross deviation from the standard of care that a reasonable person would observe in the situation," and thus meet the criteria to be charged with Criminally Negligent Homicide.

You would think that if the same individual had received two speeding tickets in a 3-month period *prior* to killing my father (not to mention another three tickets in the *ensuing* 16 months), that prosecutors would find a pattern of continuing recklessness.

But you would be wrong in each instance.

The driver has not even been issued a summons. The police Accident Investigation Squad has yet to call witnesses.

Mr. Speaker, we need you to put pressure on the NYPD and the Manhattan DA to seek an indictment and *let a jury decide* if the driver who killed my father violated the norms of civilized society and should be held accountable for his actions.

We also need the justice system to send the message that pedestrians are not equipped with airbags and heavy metal frames, and cannot defend themselves against lawbreakers like the one who killed Dad.

Excerpted from a letter to New York City Council Speaker Peter F. Vallone, by Mr. Regina's daughter, Marianna. Speaker Vallone contacted the Manhattan District Attorney, who declined to prosecute.

being there. Few things are more unsettling than having to push a baby stroller past a phalanx of cars at a red light, or maneuvering through a minefield of vehicles that have spilled into an intersection.

Moreover, walkers and cyclists have no protective safety devices, except perhaps for a helmet. Indeed, to the extent that car seat belts and airbags heighten motorists' sense of their own invulnerability and encourage reckless driving, "auto safety" improvements arguably cause *increased* danger for non-motorists.[3]

It is the presence of the car in the street picture that brings the danger; had the driver chosen to walk, cycle, or take the subway, he would have posed little or no danger to anyone. But the driver has chosen to drive, and must accept the responsibility that comes with this choice. Accordingly, ***Right Of Way*** *frames crash culpability primarily in terms of driver action rather than that of the pedestrian or cyclist*, though the pedestrian's actions may be relevant to the collision and should be considered in any case. In this regard, we are adhering to the time-honored principle that the powerful are obligated to avoid harming the weak.

To understand the difference between our approach and the conventional one, consider two deaths, both from 1997.

Dante Curry, age 6, was struck and killed on Wales Avenue, a predominantly residential street in the South Bronx, on the afternoon of October 2. According to the driver's statement, included in the police report, Dante "ran out from [between] double-parked autos, causing operator of vehicle to strike him." According to his family, Dante had been frightened by a dog and was running to his father, who was working across the street.

In the official narrative of Dante's death, he appears as the only subject of a finite verb: he "ran out" and "caused" the vehicle to strike him. Yet the unusually candid driver acknowledged traveling at 65 mph. This is more than twice the 30 mph speed limit, and far faster than any pedestrian — child or adult — should need to anticipate on such a street. It was also too fast for the driver to react and stop. Indeed, had Dante journeyed to the end of the block and

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[3] The notion of "risk compensation," though rejected by the "auto safety" establishment, has been well developed by economists and psychologists and confirmed empirically in numerous settings. See, for example, Gerald J.S. Wilde, *Target Risk*, PDE Publications, 1994.

Don't Look to Mayor for Fatality Counts

Four years have elapsed since the city administration last released comprehensive counts of people killed in traffic crashes.

The last NYC DOT *Traffic Fatalities in New York City* report appeared in 1995. Since then, officials have provided only sporadic and sometimes contradictory fatality figures. Consider this sequence of statements on 1997 fatalities, from press accounts in early 1998:

- Jan. 14: NYPD spokesman tells *Newsday* that 302 pedestrians and cyclists were killed in New York City in 1997 ("Road Deaths Up").
- Jan. 23: The *New York Times* quotes a Deputy Police Commissioner who is "concerned" that autos killed 302 in 1997 ("Sharp Rise Is Seen in Deaths of Those on Foot and Bikes").
- Feb. 8: A front-page Sunday *Daily News* feature also reports 302 New Yorkers killed by automobile in 1997 ("Walking Nightmare").
- Feb 9: Mayor Giuliani brushes off the 302 figure and says that DOT data show 249 pedestrians killed in 1997 (*Daily News*, "Walk Deaths Higher, But Stats Off: Rudy"). The mayor fails to account adequately for the discrepancy between the police and transportation figures.
- Feb. 27: Transportation Alternatives releases a DOT count of 22 bicyclist deaths in 1997 (Times, "Fatal Bicycle Accidents Reach 10-Year High"). With DOT's 249 pedestrian deaths, the 1997 pedestrian-cyclist toll would be 271, or 31 fewer than the NYPD's 302.

No city official has reconciled the two figures or otherwise given a full account of 1997 pedestrian and cyclist fatalities.

crossed at the (unsignalized) corner, as the law requires, the outcome would have been no different. By any sane standard, the responsibility for Dante's death lies with the speeding driver, not the "jaywalking" six-year-old.

Six months earlier, on April 2, 30-year-old **Jill Solomon** was cycling down Second Avenue in Manhattan en route to work. As she was passing the 59th Street approach to the Queensboro Bridge, she came alongside an 80,000-pound tractor trailer. The police report states:

Witness states vehicle #1 [the truck] was southbound on 2nd Ave. and turning left onto bridge entrance ramp when bicyclist also south

bound on 2nd Ave. struck left rear side of vehicle #1. Witness states bicyclist fell under truck …

In this narrative, Jill Solomon gets the only verbs that denote acts rather than states of being. She "struck" the truck and "fell" under its wheels. Behind this surreally twisted language is a clear picture: The truck turned left in front of Ms. Solomon and ran over her with its rear wheels (a "recurring" crash scenario; see sidebar, p. 57).Yet the computer "abstract" of this case compiled by the State Dept. of Motor Vehicles cited "Bike's Error-Confusion" as the primary "apparent factor" in causing the crash, in effect blaming the lawfully proceeding cyclist. (The same document coded the driver's "pre-accident action" as "going straight ahead," contradicting the witness's account.)

Officially, Dante Curry was jaywalking. Jill Solomon violated no law, but was nevertheless written off as "confused." In effect, both were pronounced guilty of their own deaths.

We take a different view: In both these cases, the driver egregiously failed in his duty to exercise caution commensurate with his power to harm. We regard the *drivers* as fully culpable in the deaths of Dante Curry and Jill Solomon.

Under this changed paradigm of responsibility, analysis of our data reveals that in 90% of cases where culpability could be ascertained, the driver was entirely or partially culpable, in the sense of having committed (or omitted) some action without the due care required of a driver, that contributed significantly or partially to the fatal crash.

Culpability Coding. To assess proximate cause and driver culpability, we reviewed all 242 NYC pedestrian and cyclist fatalities in 1997 for which we had NYPD accident reports and DMV computer abstracts. (Time constraints precluded reviewing 1994-96 fatalities similarly.) We defined 22 precipitating actions in fatal pedestrian or cyclist collisions. These fall into three levels of *driver culpability*:

- driver largely or strictly culpable
- driver partly culpable
- driver not culpable

Categories of Strict Culpability. Drivers in pedestrian or cyclist fatalities were considered largely or strictly culpable, regardless of the pedestrian's (or cyclist's) pre-accident action, for fatalities in the following categories, shown with the numerical "cause codes" we used for this study (the numbers of fatalities in each category for 1997 are shown on p. 26):

101 — Pedestrian struck on sidewalk
102 — Motorist drove through red light or stop sign
103 — Speed excessive for character of roadway or neighborhood
104 — Motorist turned into pedestrian walking with right-of-way
105 — Motorist struck pedestrian in unsignalized crosswalk
106 — Motorist traveling wrong way
107 — Motorist backing up
108 — Hit-and-run
109 — Motorist unlicensed
110 — Driving while intoxicated (DWI)
111 — Oversized vehicle, with size a factor in crash
112 — Aggressive motorist action to harm pedestrian
113 — Motorist rammed stopped vehicle, which in turn injured pedestrian

We consider the driver fully culpable not only in the five categories where the pedestrian or cyclist has the lawful right-of-way (101, 102, 104, 105, 106), but in the other eight categories above. As the Dante Curry case illustrates, a speeding driver (103) is fully culpable independent of the pedestrian's action. Similarly, the deaths of Mike Regina (sidebar, p. 18) and Jill Solomon demonstrate why the burden of care must fall on a motorist going in reverse (107) or driving an oversized vehicle (111), respectively. Driving while unlicensed or intoxicated are unlawful (109 and 110, respectively). A driver who strikes a person and leaves the scene (108), as occurred in 49 cases, has failed both his legal obligation to immediately report the collision and his moral duty to assist the victim in the critical moments after a crash.

Rachel Fruchter / July 12, 1997

Rachel Fruchter is dead because, while she rode her bicycle in Prospect Park on a Saturday morning, a van struck her from behind and dragged her 50 feet before flinging her against a curb.

Rachel Fruchter, wife of Norman, mother of Lev and Chenda, daughter of Gertrude Gillet, sister of Simon, Matthew, and Peter, is dead because the City of New York permits motorists to drive in Prospect Park, not only on weekdays, but on "car-free" weekends and holidays, to access a parking lot.

Rachel Fruchter, 57, biochemist and health researcher, is dead because, like hundreds of other motorists, the driver of the van was illegally using the Prospect Park drive as a shortcut.

Rachel Fruchter, associate professor of obstetrics and gynecology at the State University of New York, is dead because the van had a cracked windshield, possibly impeding the driver's view in front.

Rachel Fruchter, a contributor to the landmark *Our Bodies, Our Selves: A Book by and for Women*, is dead because, as inferred from skid marks left by the vehicle, the van was traveling at 41 miles per hour, 11 mph over the legal limit and far in excess of any reasonable speed in a crowded park.

Rachel Fruchter, whose research established that immigrant women without access to adequate health care suffer higher rates of cervical cancer, is dead because no places in our city – not the streets, not the sidewalks, not even the parks – are safe from marauding automobiles.

Rachel Fruchter, who worked to improve health care for Caribbean women in central Brooklyn, is dead because the police refer only a handful of pedestrian and bicyclist fatalities to the district attorneys for prosecution.

Rachel Fruchter, who was investigating how the human papilloma virus relates to AIDS, is dead because when it comes to pedestrians and bicycle-riders, drivers know they can get away with murder.

Excerpted from remarks by Right Of Way member Charles Komanoff at a July 17, 1997 Prospect Park memorial vigil.

Categories of No Culpability. At the opposite end of the spectrum are situations in which the driver should not be considered

culpable, because the fatality did not result from failure on his part to exercise due care.[4] We recorded 18 such cases among the 242 fatalities in 1997 for which we received accident reports. In 15 cases, the driver was proceeding with the right-of-way (and not speeding) on a highway or signalized road that is not heavily frequented by pedestrians, when a pedestrian emerged with little or no forewarning, affording the driver little or no opportunity to avoid a collision (cause category 301). The three other categories with no driver culpability each applied to only a single fatality (see table below).

Categories of Partial Culpability. We also defined five intermediate categories in which the driver had the legal right-of-way but failed to exercise due care, in violation of the state vehicle and traffic law; these are our categories of "partial culpability":

201 — Motorist struck pedestrian away from intersection on non-signalized local street (one intended for shared use rather than as auto thoroughfare).

202 — Motorist struck pedestrian in area of high pedestrian traffic (driver should have been aware of the presence of non-motorized traffic).

203 — Motorist used horn or swerved rather than slowing down (evading his responsibility for avoiding collision).

204 — Motorist failed to exercise caution appropriate to weather and/or road conditions, ignoring slick pavement, steep topography, limited sightlines, poor visibility, or other road feature or environmental condition.

205 — Motorist inattention contributed to crash

Cases of Unknown Culpability. In 53 of the 242 cases from 1997, or 22%, culpability could not be determined; such cases are classified in this analysis as "Unknown." Among the reasons for this

[4] In recognition of the power of automobiles to inflict harm, NYS Vehicle & Traffic Law, §1146, enjoins "drivers to … exercise due care to avoid colliding with any bicyclist, pedestrian or domestic animal upon any roadway."

classification are the poor level of police work evidenced in many of the reports, which were often illegible, incomplete, or inconsistent (e.g., the location was coded as an unsignalized intersection, implying pedestrian right-of-way, but the police diagram or location entry placed the pedestrian at mid-block). We also declined to exculpate drivers based solely on their own account; absent witness corroboration or a clear-cut context such as a highway, we chose culpability unknown.

Culpability Findings (1997 only). Of 242 pedestrian and cyclist fatalities in 1997 for which we had accident reports, driver action conformed to cause codes 101 to 113 in 140 cases, indicating that the driver was largely or strictly culpable in 58 percent of all fatalities. This percentage becomes 74 percent when unknown cases are excluded.

Drivers were partly culpable in 31 cases (13 percent of all cases, 16 percent of known cases). Combining this group with the high-culpability group, ***drivers were at least somewhat culpable in 71 percent of all pedestrian and cyclist fatalities — 90 percent excluding the unknown cases.***

Driver culpability was ruled out in only 7 percent of all pedestrian and cyclist fatalities (10 percent when unknown cases are excluded).

Driver Culpability in 242 Pedestrian and Cyclist Fatalities (1997)

Driver Culpability	No. of Cases	% / All Cases	% / Known Cases*
Largely or Strictly	140	58%	74%
Partly	31	13%	16%
Yes (above rows combined)	171	71%	90%
No	18	7%	10%
Unknown	53	22%	NA

*Denominator of 189 excludes cases with unknown culpability.

The following table documents Type 1 fatalities (driver largely or strictly culpable).

Cause Details, Driver Largely or Strictly Culpable (1997)

Cause Code	Proximate Cause	No.	Per-cent*
108	Hit-and-run	49	26%
104	Driver turned into ped in x-walk	33	17%
103	Speeding	21	11%
102	Drove through red light or stop sign	19	10%
105	Driver struck ped in crosswalk	14	7%
109	Unlicensed driver	12	6%
101	Pedestrian struck on sidewalk	11	6%
107	Driver backing up	6	3%
110	DWI	5	3%
106	Driver wrong way	4	2%

*Denominator of 189 excludes cases with unknown culpability. 25 cases had two causes and 6 had three, which are included in numbers and percents shown. Not listed: one each for Oversized vehicle (cause code 111), Aggressive action (112), and Rammed stopped vehicle (113).

The next table breaks out Type 2 and 3 fatalities (driver partly and not culpable, respectively) as to cause.

Cause Details, Driver Partly (200's) and Not Culpable (300's)

Cause Code	Proximate Cause	No.	Per-cent*
202	Insuff. driver caution in ped area	19	10%
301	No ped forewarning / driver r-o-w	15	8%
204	Driver ignored weather / road	9	5%
203	Driver honked or swerved	6	3%
201	Driver on local street, didn't slow	2	1%

*Denominator of 189 excludes cases with unknown culpability. Five Type 2 cases had two causes. Not shown: one each for Driver inattention (cause code 205), Emergency vehicle with right-of-way (302), Wrong-way cyclist (303), and Abrupt cyclist lane change (304).

Excluding 53 fatalities for which cause could not be determined, and setting aside hit-and-run incidents, more than half of the 1997 pedestrian and cyclist fatalities are attributable to six causes:

Top Causes of Pedestrian and Cyclist Fatalities, 1997 (189 Cases)

Cause Code	Proximate Cause	No.	Per-cent*
104	Driver turned into ped in x-walk	33	17%
103	Speeding	21	11%
102	Drove through red light or stop sign	19	10%
202	Insuff. driver caution in ped area	19	10%
301	No pedestrian forewarn / driver r-o-w	15	8%
105	Driver struck pedestrian in crosswalk	14	7%

Percents are relative to 189 cases with known cause. Case numbers and percents reflect double-counting of cases with multiple cause (31 cases have two causes, 6 have three). Causes are explained in text.

For policy purposes, it would seem obvious that the commonest sources of fatalities should be addressed before the more marginal ones. Existing policy turns this principle on its head. Drunken driving, for example, does not even appear on the list of the commonest causes,[5] yet it receives an emphasis, in policy, which is not only disproportionate but positively pre-emptive of all other concerns. The only one of the common causes listed above that is ever mentioned in public discourse is speeding; and even for this well-known and well-understood variety of driver violence, actual enforcement (as opposed to hollow rhetoric) is extremely rare, at least in the non-highway settings where pedestrian and cyclist fatalities occur.

[5] Five pedestrian and cyclist fatalities in 1997 involved drunken driving, although DWI involvement couldn't be determined for most of the 49 hit-and-run cases. But even if DWI was involved in as many as a third of those, the total number of DWI cases would still be only 21, or fewer than a tenth of the 242 cases.

Forty-nine of the 242 fatalities examined from 1997 were hit-and-run; 18 of these were coded for other causes, such as driving on sidewalk or speeding, leaving 31 with no known cause. Although for reasons explained earlier we classified these fatalities as Driver Culpable, these cases — 13 percent of all records from that year — constitute a large gap in our understanding of vehicle endangerment.

Pedestrian and Cyclist Fatalities Separated. Drivers' culpability "profile" differs between the 223 pedestrian and the 19 cyclist fatalities for our 1997 sample. Incomplete or inconclusive accident descriptions made it necessary to rate culpability as unknown in almost half of the cyclist fatalities, vs. one-fifth of pedestrian fatalities. The rate of unknowns for bicyclist fatalities is excessive, even allowing for the potential ambiguity in interpreting collisions on shared roadways. Many accident reports for cyclists were extremely perfunctory, lacking witness accounts or other efforts to reconstruct the events and determine cause. It is difficult to avoid the conclusion that investigating officers feel that a cyclist is "asking for it."

The following two tables recreate the overall driver culpability table on p. 25 for pedestrian and cyclist fatalities separately.

Driver Culpability in 223 Pedestrian Fatalities (1997)

Driver Culpability	No. of Cases	% / All Cases	% / Known Cases*
Largely or Strictly	134	60%	75%
Partly	30	13%	17%
Yes (above rows combined)	164	74%	92%
No	15	7%	8%
Unknown	44	20%	NA

*Denominator excludes cases with unknown culpability. Percents are relative to 179 cases with known cause.

Driver Culpability in 19 Cyclist Fatalities (1997)

Driver Culpability	No. of Cases	% / All Cases	% / Known Cases*
Largely or Strictly	6	32%	60%
Partly	1	5%	10%
Yes (above rows combined)	7	37%	70%
No	3	16%	30%
Unknown	9	47%	NA

*Denominator excludes cases with unknown culpability. Percents are relative to 10 cases with known cause.

Driver Violations

The NYC Police Department issued drivers moving violations in only 154 pedestrian or cyclist fatalities during 1994-97, or 16 percent of the 947 cases in our database. In 88 other cases drivers received summonses for non-moving violations only, such as no insurance, defective equipment, or unregistered vehicle. (The total of 242 cases with summonses omits two dozen cases in which no violation code was entered on the DMV computer form despite an arrest [i.e., a summons] noted in the police report.) The driver left the scene (hit-and-run) in an estimated 150 cases, or 16 percent of the 947 records.[6]

Drivers Cited in Pedestrian and Cyclist Fatalities, 1994-97

Category	No. Cases	%
Moving Violation	154	16%
Other Violation	88	9%
No Violation	705	74%

Almost all moving violations in pedestrian and cyclist fatalities were for driving without a valid license (absent, suspended, or revoked), leaving the scene, speeding, or driving while intoxicated. Only seven drivers were summonsed for violating traffic laws that specifically protect pedestrians, such as disregarding right-of-way (see note to next table), even though our analysis of the reports indicates that many fatalities arise directly from such violations.

This pattern suggests that many police officers either don't know or don't take seriously traffic laws intended to protect pedestrians from automobiles. While the figures here may understate summons-

[6] Driver name was unavailable for 166 records. Of these, 18-20 records were illegible or had missing pages, so drivers left the scene in approximately 150 cases. This figure appears roughly consistent with (if slightly higher than) the 126 cases with no identified vehicle type.

ing frequency — some police accident reports indicate that tickets were issued which were not entered in the DMV computer abstract — the ability of drivers to kill without even receiving a ticket is an especially stark aspect of car violence in New York City.

Moving Violations, 1994-97 (154 cases total)

Violation	No.	% of cases	% of citations
Unlicensed Operation	36	4%	23%
License Susp'd or Revoked	31	3%	20%
Left the Scene	18	2%	12%
Speeding	22	2%	14%
DWI	36	4%	23%
Other*	11	1%	7%

First percent is calculated on 947 cases. Second percent is calculated on 154 drivers cited. *Other = Red light (3 cases), Follow too closely (1), Violate pedestrian right-of-way in crosswalk (3), Unsafe backing (3), Unsafe opening of vehicle door (1).

Most non-moving violations issued in pedestrian and cyclist fatalities were for invalid or missing vehicle inspections, insurance or registration, or defective equipment such as broken lights, wipers, etc.

Non-moving Violations, 1994-97 (88 cases total)

Violation	No.	% of cases	% of citations
Inspection Violations	9	1%	10%
Insurance Violations	24	3%	27%
Equipment Violations	35	4%	40%
Registration Violations	9	1%	10%
Other*	11	1%	13%

First percent is calculated on 947 cases. Second percent is calculated on 88 drivers cited. *Other = Special vehicle class (1), Failure to report conviction (1), Loose cargo (1), Overweight (1), Parking violation (1), Tax violations (6).

Killer Vehicles

Summary. Over two-thirds (68 percent) of vehicles that killed pedestrians and cyclists in 1994-97 were "cars," a category encompassing sedans, station wagons, sport-utility vehicles, taxis and police cruisers; 26 percent were trucks, ranging from vans and pickups to tractor-trailers; 5 percent were buses; 1 percent were motorcycles.

Despite causing the most fatalities, cars were the least lethal vehicle per mile traveled. As the next table shows, cars killed the fewest pedestrians and cyclists per mile driven on city streets, followed by trucks and then buses. Perhaps surprisingly, light trucks killed 24 percent *more* persons per mile than heavy trucks; it isn't known whether this reflects differences in driving or in routes. Trucks combined killed over twice as frequently (per mile driven) as cars.

Vehicle Class in Pedestrian and Cyclist Fatalities (1994-97)

Vehicle Class	No. Cases	Adj. #1	Percent	Adj. #2	Per 10^8 Miles	Risk Ratio
Car (incl SUV)	572	640	68%	689	1.36	.80
Truck	221	247	26%	266	3.21	1.90
Light Truck	139	155	16%	167	3.49	2.07
Heavy Truck	82	92	10%	99	2.83	1.67
Bus	49	49	5%	53	8.80	5.21
Motorcycle	11	11	1%	12	?	?
Unknown	94	NA	NA	NA	NA	NA
Total	947	947	NA	1020	1.69	1.00

The 22 truck fatalities of unknown type were prorated here between light and heavy. The 94 fatalities by unknown vehicle were apportioned to cars and trucks (but not buses or motorcycles) in Adjustment #1. Percents are calculated on these fatalities. All class fatalities were then increased by 7.7 percent to capture 73 fatalities not in database (Adjustment #2). Per-mile figures exclude highway driving. Risk ratio is relative to total except motorcycles. Bicycles, not included here, killed five pedestrians during 1994-97.[7]

[7] The five included an in-line skater who died of head injuries from a fall after her companion spun her into the path of a cyclist in Central

Buses killed $3^1/_2$ times as often per mile as heavy trucks, and over 5 times as often as all vehicles combined. While an elevated fatality rate for buses is not completely unexpected — their routes and curbside maneuvering put them in proximity to pedestrians and cyclists — the rate found here suggest a more entrenched problem of driver training and monitoring, and perhaps issues of vehicle design as well.

Cars. Because state DMV codes all passenger vehicles, regardless of size and weight, as cars (separating these into useless sub-categories of two- and four-door sedans), fatalities by cars could not be broken down between sedans and sport-utility vehicles. Medallion taxicabs appear to have killed 17 pedestrians and one cyclist during 1994-97,[8] while police cruisers killed three pedestrians over the four years. Per mile driven, and relative to all cars as a group, fatality rates appear to be below average for taxis and above average for police cruisers.[9]

Trucks. Truck fatalities are coded more precisely by DMV, enabling the subdivision of data in the next table. Small or mid-size trucks killed 167 persons, and tractor-trailers killed 56 persons, including eight bicyclists. Dump trucks, a category that includes garbage haulers, cement-mixers, asphalt trucks and similar heavy vehicles, killed 33 people, or eight per year, all pedestrians. Included in that figure are an estimated 26 pedestrians killed by garbage trucks — one-third by NYC Sanitation trucks, the remaining two-thirds by private carters.

Park, in 1996; a Brooklyn woman killed in a crash with a 13-year-old who was trick-cycling on a sidewalk in Bay Ridge, in 1994; and a New Jersey man killed on an Upper West Side sidewalk in 1997 (see p. 33). The other two fatalities occurred on Manhattan streets.

[8] Of the 18 fatalities coded as taxicabs by state DMV, 15 were in Manhattan and the other 3 in or near the airports, suggesting that all 18 were medallion cabs rather than livery vehicles. We infer that DMV coded the latter as ordinary sedans.

[9] Medallion taxis log around 750 million miles a year, almost all on streets, implying a pedestrian-cyclist fatality rate of 0.6 per 100 million miles, vs. the overall car rate of 0.8. Police cruisers log around 35 million miles annually on streets, for a fatality rate of around 2 per 100 million miles.

Fatalities by Truck, 1994-97

Truck Category	Raw No.	Adj. No.	% Truck Cases	% All Cases
Small-Medium Trucks	**125**	**167**	**63%**	**16%**
Van / Delivery / Utility	104	139	52%	14%
Pickup	15	20	8%	2%
Tow	4	5	2%	<1%
Misc.	2	3	1%	<1%
Large Trucks	**74**	**99**	**37%**	**10%**
Tractor-Trailer	42	56	21%	6%
Dump	25	33	13%	3%
Tank-Wagon	4	5	2%	<1%
Misc.	3	4	2%	<1%
Total	**199**	**266**	**100%**	**26%**

Small-medium miscellaneous are ambulance (1) and "misc." (1). Large miscellaneous are fire (1), power shovel (1) and stake truck (1). Raw figures are from records with identified vehicle type. Adjusted figures increment raw figures by 3 ratios: 221/199 (to distribute 22 trucks of unknown type); 887/793 (to reflect 94 unknown vehicles, prorated between cars and trucks); 1020/947 (to capture 93 records not provided).

People Killed by Garbage Trucks, 1994-97

Operator	No. Cases	Adj. Cases	Per 10^8 Miles
NYC Dept of Sanitation	6	9	17.5
Private Carters	12	17	29.1
Total	**18**	**26**	**23.8**

Adjusted figures increment raw figures by 4 ratios: 25/23 (to assign 2 dump trucks of unknown operator); 221/199 (to reflect 22 trucks of unknown type); 887/793 (to reflect 94 unknown vehicles, prorated between cars and trucks); 1020/947 (to capture 93 records not provided). Annual street miles driven were estimated as 12.5 million for DOS and 15 million for private carters.

Alberta Kenney / May 7, 1997

Volunteer Killed on a Street She Protected

Like thousands of auxiliary police officers around New York City, Alberta Genevieve Kenney gave her own time to patrol the streets. A retired emergency room nurse, she was at once fearless and caring when she patrolled the Upper East Side neighborhood that she called home, colleagues said.

But yesterday Mrs. Kenney, an 81-year-old lieutenant with the auxiliary police, was struck and killed by a bus as she tried to cross the street at the corner of York Avenue and East 79th Street.

Mrs. Kenney was scheduled to report to the 19th Precinct, on East 67th Street, at 7 P.M., but she never made it, and the news of her death brought tears to the eyes of police officers.

For it was at the 19th Precinct that Mrs. Kenney volunteered countless hours over two decades — even reporting to work after surgery on her hips forced her to walk with a cane.

At 9:30 A.M. yesterday, Mrs. Kenney was walking in her neighborhood when she was struck by a private bus owned by the TFD Bus Company, as the driver, Roger Bess, 53, was making a left turn onto East 79th Street. Mrs. Kenney fell under the rear wheels after she was struck, the police said. She died later at New York Hospital. Bess was not charged, and the police had not determined whether anyone was at fault.

Mrs. Kenney, a widow with one daughter and several grandchildren, began her volunteer work at the 19th Precinct in 1974. At the time, she was a head nurse at the Metropolitan Hospital Center. During World War II, she worked as a nurse in a veterans hospital. She went to work at the city hospital in 1953 and retired in 1980.

After her retirement, Mrs. Kenney stepped up her volunteer efforts at the 19th Precinct. “She was always out on the street trying to help people and help us,” said Police Officer Maria Ayala. “She could never stay still.”

Excerpted from The New York Times, May 8, 1997.

The overall pedestrian fatality for garbage trucks, 24 per 100 million miles, was more than 8 times as great as that for all heavy trucks (see previous table). Tow trucks killed five pedestrians during 1994-97; absent data on miles traveled, we cannot determine whether this figure confirms or belies their reputation as road terrors.

Buses. As noted, buses caused 53 non-passenger fatalities — 47 pedestrians and 6 cyclists — in New York City during 1994-97, an average of 13 per year. The divergence in fatality rates among bus operators is striking. Transit Authority drivers were almost three times as safe as private bus drivers per mile driven, although their fatality rate was still 50 percent greater than that of the average New York City truck driver. Two large private operators, Academy Bus Tours and Green Bus Lines, killed approximately 27 people per 100 million miles driven on city streets — a horrific rate, rivaling that of private garbage haulers. Together the two firms killed 10 pedestrians and cyclists during 1994-97.[10]

Persons Killed by Bus, 1994-97

Operator	No. Cases	Adj. Cases	Per 10^8 Miles
NYCTA	14	16	4.8
All except NYCTA	35	37	13.7
Subsidized Systems	7	8	9.2
Green	4	5	26.8
Queens	3	3	14.8
Other Subsidized	0	0	0
Academy	5	6	28.5
Other	20	23	14.4
Unknown	3	NA	NA
Total	**49**	**53**	**8.8**

NYCTA = NYC Transit Authority. Other subsidized systems are Command, Jamaica, Triboro, Liberty, and NY Bus. Adjusted cases add 14.7 percent to apportion 3 unknown bus operators as well as 93 records not provided. Miles driven are from various sources and reflect street miles only.

[10] Official figures for miles driven were reduced by 5 percent (NYCTA) and 20 percent (subsidized systems) to eliminate highway driving. Academy Bus Tours would not provide miles driven, so these were estimated as average of two largest subsidized operators (Green and Queens).

Many bus-pedestrian fatalities involved the side or rear of the bus striking the pedestrian while the bus was turning, as occurred in at least five out of 14 fatalities in 1997. This suggests that bus designs may make it difficult if not impossible for drivers to see pedestrians in certain positions.[11]

Sidewalk Killings

Five percent of pedestrian and cyclist deaths occurred on sidewalks or other off-road area where it is illegal to drive an automobile (percent calculated from 45 off-road fatalities among the 947 records, excluding 35 cases for which on- or off-road location could not be determined). Extrapolated to all 1,020 people killed by automobiles in New York City over the four-year period, an estimated 50 pedestrians, or 12-13 per year, were killed by automobiles on sidewalks and other non-street locations during 1994-97.

Sidewalk victims of automobiles were more likely to be very young or very old than was the overall population of people killed by cars and trucks. Among the 43 sidewalk victims whose ages we obtained were four children under age 10; two would have been expected based on the overall age distribution of victims. One of these was an infant girl crushed by a car that vaulted the curb on Broadway near 96th Street on Manhattan's Upper West Side, in January 1996, apparently as the driver rushed toward a parking space. Nine people age 80 or over were killed by automobiles on sidewalks, versus six expected based on the age distribution of car victims, and just 1-2 based on population shares.

Save for one pedestrian killed when a vehicle mounted the sidewalk after the driver suffered cardiac arrest, every sidewalk fatality in our

[11] Of the other nine fatalities by buses in 1997, two involved failure to exercise caution in a high-pedestrian area (driver partly culpable), one occurred when a pedestrian ran into the vehicle's path (not culpable), one was caused when the driver suffered a seizure and lost control, and five could not be analyzed as to cause due to incomplete information.

database was caused by some misfeasance on the part of the driver — typically speeding, inattention, or an on-road crash that propelled a vehicle onto the sidewalk. Somewhat surprisingly, none occurred as a vehicle exited a parking lot or garage. Only three involved drivers age 70 or older; the driver was over 80 in each case. In one instance in the Bronx in 1996, an 83-year-old man took the wheel of a car whose engine was running, and careened into a neighbor's driveway, killing him; this eerily recapitulated the 1992 Washington Square Park "massacre" in which a 73-year-old woman took the wheel from her daughter and accelerated into the park, killing five people and injuring two dozen others.

Sidewalk fatalities are particularly unsettling, as they violate pedestrian space most starkly. Yet the 50 sidewalk fatalities during 1994-97 together drew less media attention than the death of one 68-year-old New Jersey man after he was hit by a *bicycle* ridden on a sidewalk on the Upper West Side, in November 1997. Following that incident, the *New York Times* churned out four articles, a column, and an editorial, "Assault by Bicycle," while a *New York Post* columnist thundered against "an assassin on two wheels" and climaxed the media frenzy by insisting, "The bicycle menace must be stopped … by any means necessary."[12]

Though the *Post* moralized that "Had [the cyclist] veered a car onto the pavement, they'd pick him up," in fact just six of the 50 drivers who killed pedestrians on sidewalks were issued moving violations — none for driving on the sidewalk.

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[12] Two weeks after the New Jersey man was killed by bicycle on the West Side, another 68-year-old was killed on a sidewalk in East Meadow in Nassau County. In that instance, however, the victim was a *bicyclist* who was killed when a *car* careened over the curb — an event that elicited only a 5-sentence story in one area paper, *Newsday*. The diametrically opposite handling of the two incidents was captured for ***Right Of Way*** in a commentary by Michael Smith, "Some Deaths Are More Equal Than Others," which may be viewed at http://www.rightofway.org/ littera-scripta/PEYSER.TXT>.

Bicyclists Killed by Automobile

An estimated 72 bicycle-riders were killed by automobile in New York City during 1994-97. The ***Right of Way*** database includes reports for 67 cases. Their profile diverges from that for pedestrians in several respects.

Over a third — 36 percent — of cyclist fatalities were in Manhattan (vs. 26 percent of pedestrian fatalities), unsurprisingly in light of the borough's estimated 60 percent share of NYC cyclist trips. Brooklyn followed closely with 34 percent of cyclist fatalities (vs. 31 percent of pedestrians), a fatality share twice the borough's 15-20 percent share of city bike trips.[13] (See table, p. 16, for borough breakdown of cyclist fatalities.)

Cyclists killed by automobile were disproportionately young and male. Only four of the 67 in the database were girls or women,[14] the remainder were boys or men. A dozen cyclist victims, or 18 percent, were under 20 (eleven were age 10-19), whereas only 10 percent of pedestrian victims were under 20. While a substantial number of cyclists killed by automobile, eight, were in their fifties, only two, or 3 percent, were age 60 or over, vs. the 43 percent of pedestrian victims who were 60 or older. The paucity of older and female cycling fatalities undoubtedly reflects cycling demographics; these in turn reflect inhospitable cycling conditions that require cyclists to be nimble, daring and aggressive.

Compared to pedestrians, cyclists were more often victimized by trucks, as the next table shows. Vans killed 12 cyclists during the

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[13] Borough shares of cyclist *miles* are unknown. Weekday cyclist *trips* were estimated in Transportation Alternatives, *Bicycle Blueprint*, 1993, table, "Daily Bicycle Trips in New York City," p. 158, row (7), to be Manhattan 63 percent, Brooklyn 15 percent. Weekend trip shares presumably are lower in Manhattan, higher in Brooklyn. Only 21 percent of cyclist fatalities in database were on weekends, vs. an expected share of 29 percent if fatalities were distributed equally by day of week.

[14] ***Right Of Way*** did not obtain a police report for female cyclist Rachel Fruchter in Prospect Park (see sidebar, p. 23).

Police Accident Reports

Right Of Way received the accident reports on which this study is based in paper form, and we spent hundreds of hours inputting the information to a computer database. This was an illuminating experience in itself.

Each report, seen individually, is a little narrative, and a rather post-modern one at that, often featuring two levels of plainly "unreliable narrators": the police officer making the report, and the driver who is, all too often, the sole source of the information in it.

The first-order unreliable narrator, the driver, is pretty much what might be expected, remarkable only for his flawed sense of probability: we are told, over and over, that a 70- or 80-year-old New Yorker has darted from concealment and hurled himself beneath a car.

More surprising, and disturbing, is how frequently the second-order narrator, the police officer, is an accomplice to these fabrications. A pedestrian is flung 60 feet after impact, but there is no reason to suspect excessive speed. A driver is making a left turn when a pedestrian walks into her vehicle. A cyclist runs a red light and then *he strikes a car* (man bites dog?), killing himself.

More routine, but no less depressing, are the reports where there is no such whopper, but every grudging, minimal entry bespeaks an indifferent functionary wearily going through the motions, utterly unconcerned to find out what really happened. Indeed, far too often, the paperwork isn't even done conscientiously: a witness is mentioned, but no witness statement is present; citations are mentioned, but no violation codes are given.

Coding the reports was hard work; but above and beyond the strain on hand and eye, this effort took a certain toll on the spirit. Reading what happens to people is bad enough; realizing how little anyone cares compounds the pain.

— Michael Smith

four years, while medallion taxis killed just one, belying their reputation as cyclists' nemesis. For the 63 cyclist fatalities in which *driver* gender was reported, only two, or 3 percent, were women. This is a startling figure. Recall that the male share of street driving in New York City is estimated to be 75 percent. Even though the male driving share in Manhattan, where cycling is concentrated, may be

higher, the fact that 97 percent of cyclist-killers were men strongly suggests that driver aggression (and not just cyclist impulsiveness) plays a significant role in killing bicycle-riders in New York City.

Vehicle Class in 67 Cyclist Fatalities (1994-97)

Vehicle Class	No.	%	Ped %
Car (includes SUV's)	36	55%	68%
Truck	24	37%	25%
Light Truck*	16	24%	16%
Heavy Truck*	8	12%	9%
Bus	5	8%	6%
Unknown	2	NA	NA
Total	67	100%	100%

Car figure includes one medallion taxi. Four "unknown trucks" were prorated as three light, one heavy. Heavy trucks include six tractor-trailers. Number of cases should be increased by 7.7 percent to reflect missing cases.

Nevertheless, as noted earlier, drivers appear *prima facie* to have been somewhat less culpable in cyclist fatalities than in pedestrian deaths, though this finding draws from a limited sample (19 cyclists killed in 1997) and is clouded by the many cases of unknown culpability.

Ten motorists, or 15 percent, received moving violations in cyclist fatalities, not significantly different from the 16 percent rate in pedestrian fatalities. Summonses were issued for suspended or revoked license (3 cases), unlicensed (1), speeding (2), DWI (1), leaving the scene (1), violating right-of-way in crosswalk (i.e., turning, 1) and unsafe opening of a car door (1). This last was for the "dooring" of a cyclist on the Upper East Side in October 1996, a fatality noted in the narrative history of ***Right Of Way***, further below.

Youth and Elderly

New York City pedestrian and cyclist fatalities vary starkly with age. With only slight exceptions, the likelihood of being *killed by* an automobile rises with age, while the likelihood of *killing with* an automobile declines.

Both tendencies are shown in the next table. The only age "cohort" interrupting either pattern was 40-49; this group was slightly less likely to be killed than the next younger group, 30-39, and less likely to kill than the next older group, 50-59.

Pedestrian + Cyclist Fatals, Annual Rate per 100,000 (1994-97)

Age Group	Victims	Victim Rate	Drivers	Driver Rate
0-9	44	10.3	0	0.0
10-19	66	18.1	48	13.1
20-29	99	23.1	310	72.6
30-39	154	30.0	288	56.3
40-49	122	29.4	167	40.2
50-59	113	39.3	127	44.0
60-69	135	58.9	52	22.6
70-79	136	77.9	20	11.5
80+	152	153.8	9	8.9
Total	**1020**	**34.8**	**1020**	**34.8**

Age groupings of victim and driver deaths per year from the ***Right Of Way*** database were normalized from cases with known age (910 victims, 812 drivers) to 4-year fatality total (1020). Sums may not add to total due to rounding. Rates per 100,000 NYC residents in 1996 are from U.S. Census.

Only the two middle-age groups, 40-49 and 50-59, were represented more or less equally as victims and drivers. (In contrast, when 19-year-olds are removed, teenage victims in the remaining 10-18 group outnumbered drivers almost fourfold.)

Drunk Pedestrians? Hardly

In 1991, when there were 5,771 fatal pedestrian crashes [nationwide], 32.7 percent of pedestrian victims were intoxicated, according to the National Highway Traffic Safety Administration.

So proclaimed the *New York Times,* in a 1993 page-one story ("Traffic Deaths Say a Lot About the City," May 9). Thus was minted the stereotype of drunken pedestrians stumbling into harm's way, an image which remains an important component of the blame-the-victim attitude toward pedestrian deaths. In fact, the *Times*' statement is false.

The NHTSA datum is *not* an index of intoxication, since it pertains to pedestrians coded as "alcohol detected" for a blood alcohol content of just 0.01%. This is *one-tenth* the standard 0.10% level for legal intoxication. The same confusion was apparent in a *Wall Street Journal* report a year later that "nearly a third of people who died in bicycle crashes had alcohol in their blood." ("Alcohol Plays a Part in Many Bike Accidents," April 15, 1994)

NYC DOT *Traffic Fatalities* reports from that period also showed drugs or alcohol in 30-35 percent of pedestrian fatalities, leading a DOT safety official to tell the *Times*, "We have a significant drunk walking problem." Drink half a glass of wine before being run down by a car, and you die "alcohol detected" in the data but "drunk" in the eyes of the public. Indeed, a former DOT Commissioner sometimes laced his talks on traffic safety with oafish jokes about drunken pedestrians.

The glaring misreading of statistics evident in these reports and comments is compounded by human biology. Alcohol concentrations in blood samples after death often overstate crash-time concentrations, due to microbial alcohol production following death and postmortem diffusion of alcohol from organs or airways contaminated with gastric material. (See *British Medical Journal* 316, 10 January 1998, "Dead sober or dead drunk?," by Derrick Pounder, Professor of Forensic Medicine, University of Dundee.)

Of course, the pedestrian's state of mind should have no bearing in determining culpability when the driver speeds, mounts the sidewalk or otherwise violates the pedestrian's right-of-way, as occurs in most pedestrian fatalities in New York City.

An estimated 362 New Yorkers age 65 and above were killed by automobile during 1994-97. This number is more than double[15] the 168 people age 65 and above killed in homicides in New York City during the same four years.

The same age group of 65 and over accounted for 35 percent of people killed by automobile during the four years studied. People in this age group were 3.6 times more likely to be killed by automobile than were NYC dwellers under 65, and were over 7 times more likely to be victim than driver in a pedestrian or cyclist fatality.

Seventy-eight New Yorkers age 85 and older were killed by automobile during 1994-97. During the same period, 17 people 85 and older were murdered here. For these oldest New Yorkers, automobile victims outnumbered homicides by 4.6 to 1.

Younger drivers — ages 19-34 — accounted for 48 percent of pedestrian and cyclist deaths in NYC during 1994-97. They were 4 times more likely to kill a person by automobile than were NYC dwellers 60 or over, and were 2.4 times more likely to be driver than victim in a fatal pedestrian or cyclist event.

Drivers age 19-26 were the most dangerous. They killed 255 pedestrians and cyclists during 1994-97, and were 2.7 times more likely to kill with an automobile than were all other city residents. Those age 19-26 were also more than 3 times more likely to be driver than victim in a crash fatal to a pedestrian or cyclist.[16]

Children Killed by Automobile

No death is more wrenching than a child's. While children (ages 0-9) were the least likely of any age group to be killed by automobile, each of the 39 such fatalities in our four years of records is a searing tragedy. Through our work, ***Right of Way*** members have become

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[15] 2.15 times as great, to be precise.

[16] A breakdown of *homicides* by age of perpetrators was not available, precluding a comparison of young killer-drivers with young murderers, like that of older auto and murder victims presented above.

Aaron Brown / December 27, 1998

January 22, 1999

Dear District Attorney Brown:

It is nearly a month since nine-year-old Aaron Brown was killed on a Sunday afternoon by a reckless driver at 110th Avenue and 164th Place. Yet your office refuses to charge Aaron's killer with anything more than traffic-related offenses: leaving the scene of an accident, driving without a license, and driving without insurance.

Suppose a man took a gun onto a Queens street and fired it at random until he struck and killed someone. Would you be content to charge the shooter with unlicensed possession of a firearm, discharging a firearm within the city limits, and perhaps a noise violation? Of course not.

The driver who killed Aaron was not licensed to operate a motor vehicle. When he struck Aaron, at an intersection where pedestrians have the legal right-of-way, he was leaving the scene of two *previous* collisions. Aaron's brother, who was seriously injured by the same driver, reportedly states that the driver was speeding when he struck Aaron — as is standard for drivers fleeing the scene.

Is this not the very picture of "depraved indifference"? At the very least, did not the driver exhibit "a gross deviation from the standard of care that a reasonable person would observe in the situation" — the language defining criminally negligent homicide (Penal Law §15.05)?

The reign of terror which drivers, and compliant officials, have imposed on our streets will not end until people who use a car to kill are treated the same as killers with any other weapon. That depends on you, Mr. Brown. It isn't too much to say that law-enforcement officials who wink at vehicular crime are, morally, accessories before and after the fact.

The man who took Aaron Brown's young life should be charged with vehicular manslaughter. It is long past time to stop coddling drivers who kill.

*Adapted from a letter from **Right Of Way** to Queens D.A. Richard Brown. There was no reply.*

acquainted with the families of several young victims, and we have seen first-hand the shattering effects of their loss. The vision of streets and sidewalks made safe for children gives even greater urgency to our work.

Nineteen of the 39 fatalities, or nearly half, occurred in Brooklyn (see next table). A higher share of children than adults were killed by cars (28 fatalities) than trucks (6), with the latter comprising 3 vans, 2 dump trucks and 1 unknown truck during the 1994-97 period studied.[17] Excluding three cases for which vehicle class was unknown, the car percentage of vehicles that killed children (including SUV's) was 78 percent, vs. 68 percent for the entire population. One child was killed by a bus and another by a motorcycle.

Child Fatalities (Under Age 10), 1994-97

Borough	Number	Percent	% Pop.
Manhattan	3	8%	16%
Bronx	8	21%	20%
Brooklyn	19	49%	34%
Queens	8	21%	24%
S.I.	1	2%	6%

Number of cases should be increased by 12.1 percent to reflect records without ages or missing altogether. Population percentages are census data for 1996, Ages 0-9.

Ethnicity and Income

Ethnic and class suspicions abound in attitudes about driving, with different groups variously depicted as reckless, incompetent, and so forth. Traffic fatalities give rise to especially virulent stereotypes, in part because impressions are often formed from a handful of widely reported cases — which are, in turn, often widely reported because they confirm stereotypes.

[17] Large trucks also killed at least two children in 1998: Crystal Vargas, 6, on July 26, in the Longwood section of the Bronx, and Quinntaun Burns, 7, on Nov. 3, in Fort Greene, Brooklyn. Both were riding bicycles on residential streets when they were struck and killed.

We could not obtain ethnic and income characteristics for either drivers and victims. These factors are not included in police or DMV data; moreover, driver and victim addresses with zip codes were provided in only about half of the records, making demographic analysis subject to bias.

We therefore chose to examine fatality *locations* for indications of ethnic and class stratification in pedestrian and cyclist fatalities. Locations were known for all 947 fatalities in our records, and we were able to geo-code 90 percent of these into the corresponding one of 2,216 New York City census tracts. By looking up each tract's ethnic composition and household income distribution in census data, we were able to determine whether census tracts with fatalities differed from tracts without.

Pedestrian Fatalities by Poverty Level, NYC 1994-97

Borough	Population below Poverty Level	Fatalities below Poverty Level
Manhattan	21%	21%
Manh w/o CBD	22%	23%
Bronx	29%	29%
Brooklyn	23%	22%
Queens	11%	12%
S.I.	8%	11%
NYC	19%	20%

Population figures are from 1990 Census and denote share of persons living in households below federally defined poverty level. Fatality figures are poverty level averaged across census tracts where pedestrians and bicyclists were killed, excluding 11 percent of records whose locations were unavailable or could not readily be geo-coded. Manhattan w/o CBD excludes fatality sites from 14th to 59th Streets, where many victims were not residents.

The clear finding from this analysis was that ***pedestrian and bicyclist fatalities in NYC during 1994-97 were distributed equally***

across the city's major ethnic groups and income strata. That is, there was little if any discernible difference between the ethnic and income characteristics of census tracts that experienced pedestrian fatalities, and borough-wide and city-wide ethnic and income distributions, as the table above shows.

We found an equally close correspondence between the ethnic composition of census tracts with fatalities, and ethnic distributions for each borough and the city. While this is shown in the next table only for whites, it is equally true for blacks, Latinos and Asians.[18]

Pedestrian Fatalities by Ethnicity (Whites Shown Here), NYC 1994-97

Borough	Population, White Share	Fatalities, White Share
Manhattan	49%	50%
Manh w/o CBD	45%	43%
Bronx	23%	34%
Brooklyn	41%	43%
Queens	49%	49%
S.I.	80%	76%
NYC	44%	46%

White population shares are from 1990 Census. Fatality figures are white share averaged across census tracts where pedestrians and bicyclists were killed, excluding 11 percent of records noted above. Other citywide population/fatality shares are: black, 26%/24%; Latino, 24%/22%; Asian, 7%/8% (shares are even closer before rounding).

As a further test of ethnic differences in fatality-prone neighborhoods, we examined the 39 cases in which the victim was a child

[18] The tendency of white and Asian neighborhoods to have slightly elevated fatality rates may be partly a statistical artifact of those populations' greater share of elderly, since older people suffer a disproportionate share of pedestrian fatalities.

under age 10. The mean percent of whites living in those census tracts was 40 percent, or close to the citywide average of 44 percent.

We conclude from this first-cut analysis that income and ethnic characteristics do not, by themselves, render a neighborhood either prone or immune to death by automobile. In contrast, age and gender determinants are quite clear for both drivers and victims, as discussed earlier.

City Council Districts

Some 1,020 pedestrians and cyclists were killed by automobile in New York City during 1994-97. Had these deaths been distributed equally across the city's 51 Council districts, each would have had 20

City Council Districts, High and Low Fatalities, 1994-97

Borough	Dist.	Neighborhoods (partial list)	Fatals
Manh.	1-10	Average:	**25**
Best	10	Wash Hghts, Inwood, Marble Hill	13
Worst	03	Village, Chelsea, Clinton, Midtown	55
Bronx	11-18	Average:	**16**
Best	12	Co-op City, Wakefield, Wmsbridge	5
Worst	11	Kingsbridge, Riverdale, Woodlawn	25
Worst	13	Pelham Bay, Throgs Nk, Morris Prk	26
Queens	19-32	Average:	**16**
Best	23	E Queens: Bayside, Flor Pk, Hollis	4
Best	19	NE Qns: College Pt --> Douglaston	5
Worst	31	Far Rock + areas E & NE of JFK	30
B'klyn	33-48	Average:	**18**
Best	43	Bay Ridge + some areas to east	13
Worst	44	Borough Pk, Midwood, Kensington	23
Worst	47	Coney Is, Gravesend, Brighton Bch	23
S. I.	49-51	Average:	**11**
Worst	50	Central S.I.	17

Two districts in same borough are shown if they had roughly equal fatalities. Figures represent 927 fatalities (out of 947 database records and 1,020 total). Add 10 percent to figures in table to approximate true four-year levels.

fatalities. (Since 10 percent of the records either were not provided or could not be definitively placed, the average per district here is 18.) In fact, fatalities varied widely, as shown in the table.

Three districts — two in eastern Queens and one in northeast Bronx — had only 4-5 pedestrian and cyclist fatalities over the four years, the lowest by far. In the same two boroughs, five districts had over two dozen fatalities apiece, including No. 11 (northwest Bronx) with 25, No. 13 (southeast Bronx) with 26, and No. 31 (Queens southeast tier, including the Rockaway Peninsula), with 30.

The range of pedestrian and cyclist fatalities was smaller for Brooklyn's sixteen Council districts, with a low of 13 in No. 43 (Bay Ridge) and a high of 23 each in districts centered on Borough Park (No. 44) and Coney Island (No. 47). Borough Park's Council representative since 1982, Noach Dear, as chair of the transportation committee has defended taxi and other motoring interests and derided cyclists while ignoring pedestrian concerns. Another transportation committee veteran, June Eisland, represents a high-fatality district in the Bronx, No. 11.

The city's deadliest district by far is No. 3, covering Greenwich Village, Chelsea, and most of Midtown Manhattan. During 1994-97, motor vehicles killed 47 pedestrians and 8 cyclists there (and perhaps as many as 10% more, if fatalities that could not be assigned to districts are distributed proportionally), triple the citywide per-district average. The exceptionally high density of human and vehicle traffic in this district could lead one to expect a higher than average fatality rate, but this shockingly outsize figure reveals the bankruptcy of present transportation practice: the heart of historic, scenic, and commercial New York is a killing field.[19]

Only five of the City's 51 Council districts had fewer than 10 pedestrian fatalities; these are the three in the Bronx and Queens shown in the table, and Staten Island's 49th and 51st districts.

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[19] Of eleven 1997 fatalities in Council District 3, drivers were about as culpable as the citywide average, with seven drivers largely or strictly culpable, two partly culpable, one not culpable and one unknown.

Pedestrian and Bicyclist Fatalities by City Council District, 1994-97

No.	Ped	Bike	Tot		No.	Ped	Bike	Tot
1	35	3	38		**28**	10	0	10
2	27	4	31		**29**	20	0	20
3	47	8	55		**30**	12	0	12
4	22	1	23		**31**	27	3	30
5	14	3	17		**32**	15	1	16
6	14	1	15		**QNS**	**15.6**	**0.9**	**16.4**
7	16	1	17		**33**	19	1	20
8	20	1	21		**34**	12	2	14
9	19	1	20		**35**	15	1	16
10	12	1	13		**36**	15	0	15
MAN	**22.6**	**2.4**	**25.0**		**37**	15	2	17
11	25	0	25		**38**	19	3	22
12	5	0	5		**39**	20	1	21
13	26	0	26		**40**	12	2	14
14	9	1	10		**41**	15	4	19
15	12	2	14		**42**	18	0	18
16	10	0	10		**43**	12	1	13
17	21	1	22		**44**	22	1	23
18	14	3	17		**45**	15	0	15
BNX	**15.3**	**0.9**	**16.1**		**46**	17	0	17
19	5	0	5		**47**	21	2	23
20	25	0	25		**48**	16	3	19
21	15	3	18		**BKN**	**16.4**	**1.4**	**17.9**
22	11	1	12		**49**	6	1	7
23	4	0	4		**50**	17	0	17
24	18	0	18		**51**	8	0	8
25	26	0	26		**S.I.**	**10.3**	**0.3**	**10.7**
26	20	3	23		**AVG**	**16.9**	**1.3**	**18.2**
27	10	1	11		**SUM**	**860**	**67**	**927**

Figures exclude 20 known pedestrian fatalities for which Council district could not be geo-coded, and 73 fatalities of cyclists and pedestrians for which records were not provided to ***Right of Way***. Borough figures are averages of prior rows, e.g., Manhattan figures average districts 1 through 10. AVG and SUM entries at bottom are NYC totals. Table on p. 16 gives more accurate rendering of pedestrian and total fatalities by borough.

Fewer Fatalities in 1998?

Pedestrian fatalities in New York City "plummeted" in 1998, according to summary statistics released late last year by city officials. No definitive or detailed full-year counts have been provided, nor has it been possible to cross-check these totals against other sources; but the data, if accurate, point toward as few as 190 pedestrian and cyclist deaths last year. This would represent a 30 percent drop from the unofficial 1997 count of 271 (see sidebar, p. 20).

How much of any actual decline might have resulted from Mayor Giuliani's vaunted crackdown on traffic offenders isn't clear. Pedestrian *injuries* from motor vehicles shrank only slightly, suggesting that the drop in fatalities, if real, may partly be a statistical aberration, or a result of life-saving advances in ambulances and emergency rooms, or both. Pedestrian fatalities had been falling for decades, for demographic reasons among others, before leveling off during 1994-97; to some extent the decrease in 1998 may have been a resumption of this long-term trend.

The mayor's crackdowns, which targeted taxi drivers, cyclists, pedestrians, and drunk drivers, largely ignored ordinary (sober) car and truck drivers who cause the vast majority of pedestrian fatalities. Save for a one-day ticketing blitz of speeders last March, most motorists enjoyed a free pass, as befits a mayoral ideology favoring automobiles and the privatization of public space.

The decline, if real, is welcome, but confirmation of the fact and comprehension of its underlying causes must await the availability and analysis of case data.

Right Of Way

Goal Statement. This report was conceived, researched and written by ***Right Of Way*** — a group of New Yorkers who are organizing for safe streets and for the rights of walkers and bike-riders.

We seek to end *vehicular entitlement* and stop *vehicular violence* in New York City and, through our example, in other cities in the United States and around the world.

By *vehicular entitlement* we mean the culture of privilege for motor vehicles that is embedded in law, policing practice, education, media and advertising, infrastructure engineering and transportation investment. This mentality involves the treatment of non-motorists as lesser persons or non-persons, and is variously expressed as disparagement, belittlement and even active hostility toward non-motorists.

Vehicular violence is the immediately visible face of vehicular entitlement: the intimidation, harassment, injuring and killing of pedestrians and bicyclists. During the period covered by this report, an average of 255 pedestrians and cyclists were killed annually in New York City, and over 6,000 nationwide. This carnage is vehicular entitlement in action.

Our work seeks to transform the governance and culture of street usage and reconfigure the rights and responsibilities of pedestrians, bicyclists, and drivers, so as to safeguard, valorize, and empower walkers and bicycle-riders. Through this process, traffic casualties will be reduced dramatically. As significantly, New York and other cities will be made convivial for walking and bike-riding, contributing to genuine urban and human renewal.

Our Genesis. ***Right Of Way*** was launched at a meeting of ten activists in late 1996. All had been active in campaigns to improve facilities and conditions for cycling and walking in New York City. Among them were the editor and designer of the 1993 bike-plan book, *Bicycle Blueprint*. This how-to guide for making New York

safe and hospitable for cycling — and by extension, for walking — had been widely praised as a model for helping public officials make sweeping changes through a series of simple, measured steps. Yet $3^1/_2$ years later, two city administrations had implemented only a handful of the *Blueprint*'s 151 specific recommendations.

The participants at the meeting were frustrated by officials' chronic refusal to acknowledge the dangerous and debilitating environment for walking and cycling on New York City streets. All understood that the few initiatives underway to improve human-powered travel were being overwhelmed by the relentless growth in motor traffic — now including grotesquely over-large and over-powered sport utility vehicles, and ever less-attentive drivers, preoccupied by cell phone conversations.

The indifference of city officials to cyclists' concerns was made brutally clear during a meeting hosted by then DOT Commissioner Christopher Lynn, in October 1996. Audience members showed off a large banner affixed to sides of buses in San Francisco, contrasting the "WRONG WAY" for motorists to pass cyclists in traffic (forcing them close to parked cars) with the "RIGHT WAY" (swinging around to pass), and asked that similar messages be run here. "That's not our department," Lynn replied contemptuously, "take it up with the MTA." Within weeks, two long-time bicycle commuters died in Manhattan when the doors of parked cars were opened into their path, throwing them off their bikes and into moving traffic — precisely as illustrated in the "WRONG WAY" graphic. ***Right Of Way*** convened shortly thereafter.

To be sure, these deaths were simply the freshest instances of people killed by automobile in New York City. Equally poignant, and outrageous, were the earlier deaths of 3-year-old Erica Morena, who was clutching her mother's hand when a driver racing to beat a red light jumped a curb on 40th Street near the Public Library and ran over her; the physician Jie Zhang, who was nine months pregnant when a van plowed into her on a street corner outside New York Hospital, after which hospital co-workers delivered her baby boy while she lay in a coma, dying; and, of course, Gavin Cato, the 7-

Where Cars Kill, Bikes Take The Heat

In three police precincts most afflicted by deadly drivers, outrage over traffic danger has long been directed against *cyclists* rather than drivers:

• Midtown Manhattan's midtown north (18th) Precinct, where 18 pedestrian and 4 cyclists were killed by automobile during 1994-97, was the site of virulent anti-messenger sentiment in the 1980s, including an attempted ban on weekday bicycling. More recently, the Giuliani administration launched an anti-*pedestrian* campaign with barricaded crosswalks and ticketing of jaywalkers.

• The 19th, covering Manhattan's upper East Side (20 pedestrian and 3 cyclist fatalities) has had constant agitation against delivery cyclists, sidewalk cyclists, and cyclists in general. City Council members have fanned anti-bike sentiment while ignoring vehicular endangerment.

• In the 66th, covering the Borough Park area of Brooklyn (24 pedestrian fatalities), Hasidic Jews stopped a proposed bike lane in 1997 over fears that "scantily clad" cyclists would offend the devout and terrorize children. The *New York Times* reported devastating testimony to the community board by a Hatzoloh ambulance corps volunteer who "frequently treats children hurt by bicyclists" — but omitted that the board could neither identify the volunteer nor corroborate his improbable account. In contrast, no hue and cry was raised in 1994 when a bus chartered to a local yeshivah backed over and killed a 14-year-old girl at the corner of 16th Ave. and 52nd Street; or in 1998 when a Hatzoloh vehicle struck and killed a 70-year-old man on a nearby street.

Perhaps anti-bike sentiment acts as a "safety valve" when beleaguered residents cannot imagine that traffic could be lighter and less aggressive. Since cycling isn't a mainstream activity, it's easy to demonize and scapegoat cyclists. Politicians can take a popular stance without offending anyone of consequence, and without having to tackle the difficult issues of reducing and calming traffic.

The development in Midtown, where anti-bike initiatives gave way to anti-pedestrian ones, suggests that an anti-bike preoccupation operates to the disadvantage of pedestrians. An important task for real pedestrian advocacy is to overcome the distracting effects of misplaced anti-bike indignation and address the genuine threat of auto traffic.

— Michael Smith

year-old crushed on the sidewalk in front of his Eastern Parkway home by a car in a weekly religious motorcade that habitually sped through red lights.

None of the drivers in these incidents was charged. Moreover, none of these or the hundreds of other annual pedestrian and cyclist deaths lingered in the public memory, save for rare exceptions such as Gavin Cato, whose death, however, was seen in the context of intercommunal hostility between Jews and African-Americans, rather than that of the one-sided struggle between drivers and pedestrians.[20] No matter how tragic or heinous, deaths by automobile at most flickered briefly across the city's consciousness and then fluttered away, leaving in their wake only grieving families and friends, and the knowledge that the grim equation on the streets remained. In contrast, airline crashes, with far fewer victims in toto, inspired memorials, investigations, support groups and other worthy efforts to commemorate each tragedy and avert recurrences.

Street Memorials. At the initial meeting, ***Right Of Way*** resolved to memorialize people killed by automobile, by stenciling life-size "police-chalk" outlines into the pavement where a pedestrian or cyclist was struck and killed. The painted images would include the person's name, the date he or she was killed, and the words KILLED BY AUTOMOBILE. The first stencils, painted on Dec. 13, 1996, memorialized Erica Morena and Jie Zhang, mentioned above, and Rosemary Brodie, one of the cyclists killed by "dooring" two months earlier.

Right Of Way's first memorials, in Manhattan, were joined by memorials in Brooklyn beginning in June 1997, in the Bronx in late 1998, and in Queens in early 1999. Through February 1999, some 145 street memorials had commemorated 135 pedestrians and 10 cyclists (these counts include several dozen repeat stencils). Many are

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[20] In "A Fitting Memorial," in *City Limits* magazine, April 1997, Charles Komanoff framed the killing of Gavin Cato in terms of car violence (available at http://www.rightofway.org/litterascripta /gavincato.html).

NTSB to NYC Peds and Cyclists: Drop Dead

When a tour bus bound for Atlantic City crashed and killed 8 passengers on Christmas Eve last year, the National Transportation Safety Board dispatched a team of investigators to study the crash. No such team has yet examined the deaths of some 50 people run over by buses in New York City during 1994-97.

Similarly, within hours of a fatal helicopter crash in the East River in 1997, an NTSB unit was combing the scene for clues. No experts had showed up the previous week, after a turning tractor-trailer crushed a cyclist on the approach to the nearby Queensboro Bridge.

For most crashes, the causes would not be difficult to discern, and many could be prevented by design changes. For example, a third or more of the pedestrians killed by buses were hit while the bus was making a turn, suggesting that visibility from the driver's seat urgently needs improving. Similarly, in Europe sideguards on large trucks reduce the likelihood of sweeping cyclists beneath the wheels; after studying cycling fatalities in Toronto, the coroner there has proposed that such equipment be made mandatory. Enforcing a local law *already on the books*, limiting truck length to 55 feet, would have prevented other deaths.

Changes in the design of vehicle doors might also reduce "dooring," which killed two cyclists in Manhattan in one month in 1996; this common type of collision occurs when riders are forced to choose between the "traffic lane," with its obvious perils, and the "door lane," with its unexpected ones.

NTSB's charter mandates it to investigate "recurring accident modes." ***Right Of Way*** has asked the NTSB to study the "recurring modes" described above, and others, which contribute to killing 250 New York City pedestrians and cyclists a year. The reply: the resources are not available.

In other words: if you fly a helicopter, drive a car or even take the bus, we'll watch over you; if you walk or bike, you're on your own.

painted on sidewalks for longevity and safety. The images remain visible for several months or more before fading away.

Fatalities Database. In 1997, ***Right Of Way*** approached the New York State Department of Motor Vehicles seeking listings of New York City pedestrian and bicyclist fatalities. Our initial interest was in replenishing our inventory of sites for street memorials (pedestrian fatalities are reported only sporadically in the press and not at all by any city agencies). It soon became apparent that data on pedestrian fatalities could provide a means to better understand vehicular endangerment in the city.

To meet DMV criteria, we made our requests under the auspices of New York City Council Members Kathryn Freed (Manhattan, 1st District) and Anthony D. Weiner (Brooklyn, 48th District; in 1998 Weiner was elected to the House of Representatives from the 9th Congressional District). During late 1997 and early 1998, DMV sent us 947 NYPD accident reports with the corresponding DMV computer abstracts; these comprise 93 percent of all pedestrian and bicyclist fatalities in motor vehicle crashes in New York City for the four-year period 1994-97.

Over the course of 1998, members of ***Right Of Way*** entered the contents of the reports into a database, recording information about the place, time, and circumstances of each fatality, the identity of the victim and the driver, and other pertinent information. The database contains 60 fields, each corresponding to a particular datum (e.g., crash date, driver first and last name, crash location), for the 947 fatality records.

Data Problems. The 947 police accident reports are of varying quality. While some were easily legible, others were difficult or impossible to decipher. Some reports were filled out thoroughly and carefully, but others lacked crash diagrams or other important information. We judged 200 reports, or more than one-fifth of the total provided, to be incomplete, contradictory or illegible in important respects (apart from 73 fatalities out of the period total of 1,020 for which we received no reports).

Even more troubling were instances in which the police and/or DMV recorded inconsistent or implausible information. In two fatalities in which motorists drove onto sidewalks, DMV entered "Drugs (illegal)" as the "apparent factor" for the pedestrians who died, as if use of drugs makes one fair game for being run over on a sidewalk.[21] Three children, age 6, 7 and 8, were coded similarly. In some other cases, police reports had pedestrian crossing with (or against) signal, yet DMV coded the intersections as "unsignalized." Two teenage boys characterized in the police report as attempting to cross a highway were coded by DMV as "playing in roadway." And so on.

Only a fraction of police reports included witness accounts, and these were often cursory. In some cases, however, witness statements may have been provided on supplemental report sheets that, inexplicably, were not included with the accident reports. Since these are the most serious cases, involving deaths, we are concerned that police reports and DMV abstracts for "mere" injuries may be even more sloppy, contradictory, and perfunctory. The potential for injustice in subsequent civil litigation is enormous, and troubling.

Needed: More Data … and Analysis. This report is full of numbers; but in order to realize their full value, other numbers are needed — and these numbers, very frequently, are not to be had.

Consider the age distribution of killer drivers (p. 42). We can compare this with the age distribution of the *population*, but not to the age (and gender) distribution of *drivers* adjusted for how much they drive. That is, we don't know how many more or less miles per

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[21] From the police report for Case 5-212427 (edited for readability): "Operator of vehicle #1 apparently went into cardiac arrest losing control of the vehicle. Vehicle #1 mounted sidewalk at intersection of West 96th St. and continued southbound on Columbus Ave on sidewalk out of control, striking pedestrian." The deceased "drug user" was 82 years old. For Case 5–228320: "Witness states vehicle #1 was traveling westbound on West 187th St. and started spinning and hit pedestrian who was standing on southwest corner of West 187th St. and Audubon Ave., throwing him on Audubon Ave." Age of deceased was 62.

year young men 19-26 drive than their fathers. So we don't know whether the young men are killing more people because they drive more aggressively, or just because they drive more.

Toward a Pedestrian Agenda: Ten Mayoral Steps

This report analyzes pedestrian and cyclist fatalities. The next step is to spell out a transportation philosophy that is hospitable to walking and cycling. Here's a sketch, in the form of a memo to the mayor, which will be elaborated in a forthcoming report.

1 Stand symbolically with victims of car violence, rather than with drivers. During your tenure as mayor, over 1200 pedestrians and cyclists have been killed by automobile. Console a bereaved family. Pledge "No more car violence."

2 Stop embracing the motoring minority. Declare New York a transit and walking city. "One person one car" doesn't work here. This isn't "anti-car ideology" but common sense.

3 See to it that the police enforce <u>all</u> vehicular traffic laws that protect walkers and bike-riders — not as an occasional publicity gambit, but every day.

4 Jawbone the district attorneys to prosecute <u>all</u> dangerous driving, not just DWI.

5 Institute traffic-calming projects in the neighborhoods, not just near schools. Fight for legislative approval of "neighborhood zones," in which any driver who hits a child is presumed culpable.

6 Require inquests into all pedestrian and cyclist fatalities, and make the findings public.

7 Stop treating bicyclists as if they were a major source of street danger. Work to change state vehicle and traffic law to establish, as the Toronto coroner recommended last year, "the principle of motorized vehicles yielding to non-motorized vehicles."

8 Institute comprehensive road-pricing, beginning with barrier-free tolls on East River bridges and per-minute pricing for cars on midtown streets.

9 Build out sidewalks and enlarge crosswalks, starting in thronged midtown and extending throughout the city.

10 End free parking for public employees, including yourself.

Similarly, we have only the roughest ideas of vehicle, pedestrian, and cyclist volume as variables of time and space. We have a rough idea how many drivers who crash have alcohol in their blood, but we don't know how many drivers who *don't* crash have alcohol in their blood.

We don't know these things because, important as they are for any intelligent policy process, nobody has bothered to ascertain them. Partly this is because policymakers believe they already know the answers (as in the case of drunk driving), and partly because nobody really wants to examine the options: for example, which is likely to save more lives — lowering the legal blood-alcohol limit to 0.05%, or raising the legal driving age to 21, or vigorously enforcing laws protecting pedestrians' right of way?

It seems unlikely that public "safety" authorities will bestir themselves to fill the yawning gaps in our knowledge. This is, and will probably long remain, a challenge for independent researchers.

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