My name is Charles Komanoff. My qualifications in transportation and traffic policy analysis are set forth in my Oct. 27 declaration in this proceeding. In that declaration, I asserted that traffic delays to motor vehicles resulting from the monthly Critical Mass bicycle rides in New York City are, in the aggregate, de minimis compared to ordinary delays that motor vehicles in New York City impose upon each other through their routine operation.

On Nov. 12, the City of New York filed a declaration by Michael Primeggia, the Deputy Commissioner of the City Department of Transportation. Mr. Primeggia's declaration made three primary assertions: (i) my Oct. 27 declaration understated the traffic delays to motor vehicles from Critical Mass rides; (ii) these traffic delays are problematic because of the time costs experienced by motor vehicle users and because frustrated drivers may engage in aggressive and dangerous behavior; (iii) participants in the Critical Mass rides regularly violate New York State and City traffic laws.

I have carefully reviewed Mr. Primeggia's declaration, and have composed this declaration in response. My main points are as follows:

1. Mr. Primeggia's arguments fail to refute my finding that the Critical Mass rides do not impose unduly burdensome traffic delays on motor vehicle users, either in particular cases or on in the aggregate.

2. Gridlocked traffic conditions in general, whether or not a Critical Mass ride is taking place on a particular day, create significant time costs and can lead to driver frustration and aggressive behavior. City officials have many well-understood traffic-management tools at their disposal to deal with these problems. Yet after decades of clogged and chaotic traffic in New York, they have failed to make use of these tools, suggesting that their annoyance with Critical Mass derives more from an ideological aversion to the ride itself than from concern over traffic efficiency and safety.

3. Some Critical Mass participants do violate certain traffic laws. Seen in context, however, these "violations" tend to promote rather than diminish safety, and they are committed without malicious intent. Moreover, violations committed by Critical Mass riders during an hour or two each month, which endanger no one, are inconsequential compared with the harms that New York bicycle-riders and pedestrians suffer through extremely dangerous violations of traffic laws routinely committed by motor vehicle drivers — with near-complete impunity — on a daily basis. Mr. Primeggia's declaration ignores this matter. It ignores as well repeated rejections over the years by City officials of entreaties by bicycling advocates to enforce traffic laws intended to protect bicycle-riders and pedestrians from illegal and dangerous behavior by drivers. If City officials were truly concerned about dangerous violations of traffic law in general, our streets would be very different places.

4. The Critical Mass rides are an outgrowth of, and a constructive response to, dangerous traffic conditions resulting from City officials' chronic and systematic failure to control the volume and behavior of motor vehicle traffic.

My declaration takes up these points in the order outlined above, in considerable detail. Notwithstanding the length of this statement, the evidence presented here is a mere précis of the City's comprehensive and institutionalized indifference to creating a safe and humane street environment for its citizens. On countless occasions over the years, cyclists and pedestrians have petitioned the City to reduce traffic volumes and restrain the "thugarchy" that operates to the detriment of bicyclists and pedestrians (and many motor vehicle users as well). City officials have consistently turned a deaf ear to their pleas, and the Critical Mass rides are the result. Now the City comes to this Court waving the banner of traffic safety and efficiency to suppress these rides — rides which the City's own culpable neglect has made necessary. "Chutzpah" is not a legal term, but it is the only one that conveys the breathtaking effrontery of this gambit.

1. Mr. Primeggia's arguments fail to refute my finding that the Critical Mass rides do not impose unduly burdensome traffic delays on motor vehicle users.

In my Oct. 27 declaration, I asserted that a typical motor vehicle traveling across the path of a Critical Mass ride with 2,000 participants experiences an average delay of 3½ minutes.[1] Mr. Primeggia contends that the actual delay to motor vehicles caused by a ride of that size is "a minimum of ten minutes." (Primeggia Decl., ¶ 6) Part of the difference between these figures arises from Mr. Primeggia's specification that an individual bicyclist riding in Critical Mass occupies 20 linear feet of roadway space, vs. my assumption of 15 feet. My figure is based on direct personal observation; Mr. Primeggia does not cite any basis for his figure.

Another, smaller factor in the difference appears to arise from a rounding error on Mr. Primeggia's part. However, most of the difference is caused by Mr. Primeggia's flawed account of how traffic builds up on the cross-streets while the ride is passing. He evidently assumes that every motor vehicle waiting on the cross-street arrived there simultaneously just as the front of the Critical Mass ride arrived at the same point on the avenue; this assumption leads him to assume that every motor vehicle on the cross-street endures the maximum waiting time. In reality, motor vehicles arrive in the cross-street continuously and randomly; accordingly, for each motor vehicle that arrived at the cross-street "queue" simultaneously with the <u>front</u> of the bicycle ride, and thus suffered the maximum wait, there is another motor vehicle that joined the queue just as the <u>back</u> of the ride cleared the avenue, and thus experienced no waiting time whatsoever. Thus, while the <u>maximum</u> waiting time is 7.1 minutes[2] (assuming my 15 feet of cyclist "headway"; or 9.5 minutes assuming 20 feet, per Mr. Primeggia), the <u>average</u> waiting

[1] Due to a document conversion error, the same figure of 3½ minutes in my Oct. 27 declaration apparently became garbled, leading Mr. Primeggia to refer to it in his declaration as "3 [sic] minutes." For the record, the figure <u>3.55 minutes</u> appears in my Oct. 27 appendix, alongside the entry "average delay time per vehicle in the queue, minutes."

[2] The figure of 7.1 minutes appears in my Oct. 27 appendix, alongside the entry "maximum delay time experienced by one vehicle (the first in the queue), minutes." This and other figures in the text pertain to a 2,000-person Critical Mass. All figures may be prorated to different ride sizes.

time is only about half as much, or 3.5 minutes (4.7 minutes assuming 20 feet of headway).

To summarize this point: the average delay imposed on a typical cross-street motor vehicle seeking to cross the path of a 2,000-person Critical Mass ride is 3.5 to 4.7 minutes, depending on whether the average linear distance between the bicycle riders is 20 or 15 feet. Mr. Primeggia's assertion that "each motor vehicle intersecting at a cross street will be prevented from moving for a minimum of ten minutes" (Primeggia Decl., ¶ 6) overstates the true average delay by a factor of two to three.

Traffic delays can also be expressed as the number of complete traffic-signal "cycles" that elapse before a motor vehicle reaches and proceeds through the next intersection. In the spreadsheet appendix to my Oct. 27 declaration I estimated that the maximum number of additional signal cycles that a cross-street motor vehicle is expected to experience in a 2000-person Critical Mass ride is 4.8.[3] The average number is then half this figure, or 2.4 cycles, on account of the fact just noted that each vehicle experiencing the maximum delay has a counterpart vehicle that experiences no delay, with the result that the maximum delay is twice the average. Mr. Primeggia is thus mistaken in asserting that "motorists [intersecting at a cross street] are prevented from moving for six to seven complete signals" (Primeggia Decl., ¶ 6), for the same reason that his delay time estimates are systematically and grossly overstated.

Mr. Primeggia also raises the issue of delays to motor vehicles using the same avenues as the Critical Mass riders. (Primeggia Decl., ¶ 5) In my Oct. 27 declaration I limited my calculations of vehicular delays to the effects on cross traffic only, so as to address the effect of cyclists riding "in a mass" and preventing motor vehicles with green signals from crossing the ride. Thus, I excluded impacts on motor vehicles trailing the riders (i.e., on avenues), since these vehicles would be impeded by the bicycles regardless of whether the bicyclists obey red lights.

There is no question that motor vehicles traveling on an avenue will take longer to reach their destinations if they are directly preceded by 2,000 additional vehicles, whether cars or bicycles, traveling on that avenue at the same time. Each vehicle, motor- or human-powered, imposes delays on every other vehicle behind it — that is the ineluctable nature of "traffic." Each driver wants to his or her vehicle to be the only one on the road, for precisely that reason. But while this wish is only human, it cannot form the basis for public policy. Having to wait behind bicycles may be onerous, but far less so, as I argue below, than having to wait behind the same number of motor vehicles.

I therefore urge the Court to reject Mr. Primeggia's effort to count such waiting times as part of the aggregate delays experienced by motor vehicles as a result of Critical Mass rides. Whatever delays may be caused to drivers behind the ride are caused by the cyclists' doing precisely what the drivers are doing, namely enjoying their right to use the

[3] The figure 4.84 appears alongside my Oct. 27 spreadsheet entry "maximum delay imposed on cross street traffic, # cycles."

public roadways. Parenthetically, it should be noted that the delays to road-users behind the Mass would be considerably greater if the Mass riders punctiliously observed traffic lights, as the City elsewhere insists they should.

Nevertheless, if delays to trailing motor vehicles on avenues are considered to be part of the traffic costs from Critical Mass, these delays should be estimated without double-counting the number of such vehicles — quadruple-counting, actually — as Mr. Primeggia appears to have done. The aggregate such delay is estimated by calculating the product of the number of trailing vehicles affected by the ride, times the average delay experienced by each. Assuming that 2,000 cyclists are participating in the ride, the average delay experienced by each trailing vehicle is simply the time required for the ride to pass; as shown in my Oct. 27 spreadsheet and noted above, this figure is 7.1 minutes. The number of trailing vehicles is approximately half of the number of vehicles on a Manhattan avenue during the duration of a Critical Mass ride. I am willing to accept Mr. Primeggia's estimate that 3,000 vehicles use each avenue in the Manhattan Central Business District on a Friday evening (Primeggia Decl., ¶ 5). The aggregate delay imposed on avenue motor vehicles is then one-half of 3,000 (since on average half of the vehicles on an avenue used by Critical Mass will be in front of the ride and thus unaffected by it), or 1,500, times 7.1 minutes, which equates to roughly 180 hours.[4]

In estimating cross-traffic delays in my Oct. 27 declaration, I incorporated an additional factor of 50% to reflect possible "indirect" traffic impacts. Applying that factor as well to 180 hours of direct avenue-traffic delays increases their aggregate delay to 270 hours, or a little more than half of the delays of 480 hours that I calculated for cross traffic.

Mr. Primeggia's assertion that "there are approximately 58,650 vehicles traveling in the affected areas at the time of the ride" (Primeggia Decl., ¶ 5), whether true or false, is irrelevant. The appropriate metric for gauging the impact of Critical Mass rides on motor vehicles is the aggregate hours (vehicle-hours) of delay. As I have shown, this is approximately 480 hours for cross-street traffic. If impacts on avenue traffic are included as well, those would add approximately 270 more hours, resulting in a total of 750 vehicle-hours of delay. (All of these figures pertain to a 2,000-bicycle Critical Mass ride.)

In my Oct. 27 declaration I contrasted the 480 vehicle-hours of delay per ride to the 730,000 vehicle-hours of delay that motor vehicle drivers experience in New York City on an average day. Mr. Primeggia did not contest the 730,000 figure. Rather he argued that it was not a meaningful base for comparison. (Primeggia Decl., ¶ 5). Tellingly,

[4] Mr. Primeggia contends that 6,000 vehicles experience delays on avenues. (Primeggia Decl., ¶ 5) He arrives at this figure by counting all 3,000 vehicles that use a northbound avenue during the full 90 minutes of the Critical Mass ride and all 3,000 vehicles that similarly use a southbound avenue. But this is clearly double-counting, since the northbound and southbound legs of the ride cannot both last for the entire 90-minute period over which Mr. Primeggia's agency counted 3,000 vehicles per avenue. Assuming that Mr. Primeggia's figure of 3,000 motor vehicles per avenue during a 90-minute interval is correct, then that is the number of vehicles potentially affected, to one degree or another, by following the Critical Mass ride — 1,500 for the northbound 45 minutes, plus another 1,500 for the southbound 45. As I note in the text, that 3,000 figure is itself too high by a factor of two because it requires that all of the motor vehicles be behind the ride.

however, Mr. Primeggia did not indicate what, in his judgment, would be a meaningful baseline against which to evaluate the delays created by Critical Mass rides. Nor did he proffer a delay threshold (expressed either in total hours or in percentage increment to ongoing traffic delays) that, in his view, would constitute an excessive or intolerable infringement upon motor vehicle drivers.

Thus, the City has left the Court with no standard by which to determine if any group bicycle ride is ever acceptable from a traffic-impact standpoint. Then again, for the City to propound such a standard would require, for consistency, that it also apply the standard to motor vehicle traffic. This of course would put the City in the untenable position of finding that much of the motor vehicle traffic it permits to operate in midtown Manhattan and other parts of the City violates its own standard.

Alternatively, the City could have argued forthrightly for what has been, in effect, its actual operating principle: namely, that any congestion and delay due to additional cars is acceptable, but no additional congestion and delay caused by bicycles is acceptable. Such an argument would at least have been refreshingly candid.

2. City officials have ample opportunities to implement traffic-control measures that could easily offset any motor vehicle delays attributable to Critical Mass rides; their failure to do so reveals the hollowness of their contention that the rides are objectionable on traffic-delay grounds.

I have shown above that the delays to motor vehicles caused by a 2,000-person Critical Mass ride sum to as few as 480 vehicle-hours and no more than 750 vehicle-hours. In my Oct. 27 declaration I demonstrated that these delays are statistically invisible against the backdrop of ordinary traffic delays in Manhattan and New York City. For example, the 480 vehicle-hour figure is a mere 1/1500 (one part in 1,500) as much as overall New York City motor vehicle delay-hours on a typical weekday; it is also just 1/46,000 (one part in 46,000) of the delay-hours sustained by motor vehicle drivers in the course of a month.[5] (The latter figure is germane because Critical Mass rides take place once a month.) Here I demonstrate that City officials have at their disposal numerous means to regulate traffic volume and flow in order to ameliorate traffic delays, if, as the City appears to claim, the amelioration of these delays is in fact a serious goal of public policy.

To begin this discussion, it is helpful to establish a rough equivalency between the traffic-slowing effects of motor vehicles and bicycles. Under Critical Mass conditions, I derive a traffic-impact ratio of 4 to 1, i.e., vehicles operating nearby are subjected to roughly equal incremental delays by (i) a single motor vehicle and (ii) four bicycles riding in Critical Mass. I arrived at this ratio by assuming that during Critical Mass rides it is customary for two bicycles side-by-side to share a traffic lane that is otherwise occupied by one motor vehicle, and that the average headway (linear feet of roadway space) used by a

[5] If avenue delays are also to be counted, then the delays to motor vehicles attributable to Critical Mass rides with 2,000 participants are 1/1,000 as much as ordinary City-wide delays sustained by motor vehicles on the same day, and 1/30,000 as much as the ordinary delays over the course of the month.

bicycle in a Critical Mass ride is one-half that taken up by a motor vehicle operating in congested Manhattan traffic.

I believe that this 4-to-1 equivalency is highly conservative, meaning that any errors in my assumptions favor motor vehicles. For one thing, bicycles in Critical Mass rides are often observed being ridden three or more to a lane, rather than two to a lane as I am assuming. Moreover, I am ignoring speed differences, which if anything favor bicycles under the congested conditions in which traffic delays are of greatest concern.[6]

With this highly conservative 4-to-1 equivalency, it follows that removing 500 motor vehicle trips from Manhattan traffic would have an offsetting effect on traffic delays equal to the added impact of a Critical Mass ride comprising 2,000 bicycles.[7] There are many well-known ways to achieve such reductions. Indeed, pruning a mere 500 motor vehicles from the normal volume of motor vehicles in mid-Manhattan is so trivial a task that City officials' alarm over the "traffic impacts" of Critical Mass is manifestly preposterous.

Six Ways to Offset the Traffic Impact of Critical Mass

Offset #1 — Enforce City Traffic Law Prohibiting "Mobile Billboards"

Mobile billboards are long trucks expressly designed to carry and display large advertisements. They are hired by businesses for special-event marketing, product introduction, or ordinary advertising, and are driven around in districts where their messages will be seen by the greatest number of people — a criterion that naturally puts them in the most traffic-congested parts of the most traffic-congested cities. One provider of mobile billboards describes them as "designed specifically for displaying communication. They don't haul freight and they don't carry passengers."[8] This makes their use illegal in New York City.[9]

Nevertheless, mobile billboards are a common sight in Manhattan's Central Business District. Although counts of their usage aren't available, I venture that on any given day two to four such vehicles are operating there. If that is so, then enforcing the prohibition against their use would completely offset the traffic burden imposed by Critical Mass rides, as I now demonstrate.

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[6] My four-to-one ratio certainly understates the space efficiency of bicycles vis-à-vis motor vehicles under ordinary (non-Critical Mass) New York City traffic conditions, since cyclists, by necessity, often ride in the interstitial spaces between motor vehicles rather than in full or half lanes, and also because motor vehicle headways are probably greater in non-Critical Mass traffic conditions.

[7] This calculation assumes, not unreasonably, that the average motor vehicle removed from the traffic stream would otherwise be covering the same average distance as bicycles in the Critical Mass ride, which I estimated in the appendix to my Oct. 27 declaration to be 9 miles.

[8] From a Web page maintained by AAO Mobile, accessed at http://www.aaomobile.com/id3.htm.

[9] Section 4-12 of the New York City Traffic Rules and Regulations (Title 34) reads, in part, "No person shall operate, stand, or park a vehicle on any street or roadway for the purpose of commercial advertising."

The objective is to offset 2,000 "Critical Mass-type" bicycle trips, which, as I showed just above, equates to eliminating 500 ordinary passenger-vehicle trips averaging some 9 miles each. However, mobile billboards require roughly twice as much vehicle headway (longitudinal spacing behind the preceding vehicle) as ordinary passenger vehicles.[10] Accordingly, the traffic impact of 2,000 Critical Mass bicycles would equate to that of 250 mobile billboards, if the bicycles and billboards logged the same hours of operation. However, the billboards are typically hired for a full day — let us assume six hours — whereas the Critical Mass ride lasts only around an hour-and-a-half (as I previously attested, in my Oct. 27 declaration). Allowing for this four-fold difference in duration, the 2,000 Critical Mass bicycles, ridden 90 minutes each, equate, in traffic impact, to 250 divided by 4, or 60 to 65 mobile billboards, driven six hours each.

One more adjustment is needed, to reflect the fact that Critical Mass occurs once a month whereas mobile billboards are driven every day. (I include weekends because the Manhattan CBD is crowded with shoppers, tourists and other daytrippers on Saturdays and Sundays.) Thus, eliminating just two mobile billboards that are presently driven daily would offset the traffic impacts of the one Critical Mass bike ride per month (this is because dividing 60 to 65 by 30 yields roughly 2). Observation strongly suggests that more than two mobile billboards are operating on an average day in Manhattan. Therefore, enforcing the statute prohibiting their use would more than offset, in the aggregate, any deleterious traffic impacts of Critical Mass.

Offset #2 — Toll New York City's East River bridges

I move now from the obviously ridiculous mobile billboards to the truly sublime, the four City-owned bridges spanning the East River and connecting Manhattan to Brooklyn and Queens.

The Brooklyn, Manhattan, Williamsburg and Queensboro Bridges were all originally operated as toll bridges but were converted to free use by motor vehicle drivers in the early 20th Century. "Re-tolling" them has been debated periodically over the past several decades, and the recent advent of electronic "boothless" tolling via E-ZPass, obviating the need for toll plazas, has given the idea new currency. Mayor Bloomberg expressed keen interest in tolling during his first year as mayor, and the Regional Plan Association and the Independent Budget Office, among other bodies, have endorsed bridge tolls.

From a travel-efficiency standpoint, the primary rationale for East River bridge tolls is that motor vehicle trips of relatively marginal value will disappear once drivers have to factor in the cost of tolls. Because traffic is customarily congested on the bridge approaches and surrounding streets as well as on the spans themselves, a relatively small shrinkage in the number of motor vehicle trips using the bridges should translate into a

[10] The "display area" of typical mobile billboards is 22 feet long (see http://www.aaomobile.com/id19.htm). Allowing an additional 8 feet for the cab and both bumpers, the entire vehicle is roughly 30 feet long. In comparison, passenger vehicles average 17 feet in length, making for an almost 2-to-1 ratio of lengths and, presumably, of vehicle headways as well.

substantial easing of gridlock in the surrounding street and highway network. According to a detailed traffic-impact study I conducted last year, bridge tolls set at the same rate as on the parallel MTA spans (the Triborough Bridge and the Queens-Midtown and Brooklyn-Battery Tunnels) would eliminate 6-7% of current motor vehicle trips using the bridges. While this shrinkage would amount to just a 1% drop in all motor vehicle traffic-miles traveled in the entire city, it would be expected to eliminate approximately 16.3 million "vehicle-hours" of delay-time each year, or 9% of the City's total motor vehicle travel-time delays (as measured by hours stuck in traffic in the five boroughs year-round).[11]

In my traffic-impact study, I calculated that the lion's share of the 16.3 million vehicle-hours of time savings that bridge tolls would deliver each year would occur in Brooklyn and Queens traffic and on the spans themselves. However, an estimated 3.4 million vehicle-hours of the annual savings would be realized on Manhattan streets. These Manhattan savings equate to 280,000 vehicle-hours per month or over 9,000 vehicle-hours per day.

I have previous demonstrated that the delays to motor vehicles caused by a 2,000-person Critical Mass ride are just 500 to 1,000 vehicle-hours. Thus, even if Critical Mass rides were held every day of the year and attracted 2,000 bicycles each time, their traffic impact would be 10 to 20 times less than the traffic alleviation in Manhattan alone that bridge tolls would effectuate.[12] In reality, since Critical Mass is a once-a-month affair, the burden it creates for Manhattan motor vehicle drivers would be offset 30 times as much as the above range, i.e., by a factor ranging between 280 times and 560 times, by the traffic relief that tolling the East River bridges would bring to Manhattan streets.

It is true that the State legislature must approve any plan to re-toll the bridges, and from a practical standpoint the City Council holds considerable sway over tolling as well. Thus, unlike enforcing the prohibition on mobile billboards, or the other measures discussed below, the City administration cannot impose East River tolls by fiat. Nevertheless, the mayor has apparently completely abandoned any attempt to seek such tolls. This no doubt reflects sound political calculation, but it also undercuts the City's sudden concern with avoidable traffic congestion in the context of Critical Mass.

Offset #3 — Offer City Employees a Cash Alternative to Free Parking

Thousands of city employees are permitted to park the private cars in which they commute to work, at no charge, on public streets or in privileged parking areas. Those

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[11] That study, *The Hours: Time Savings from East River Bridge Tolls* (Bridge Tolls Advocacy Project, New York, 2003), is available at www.bridgetolls.org/research/. Note that because the average vehicle crossing the East River bridges contains an estimated 2.3 people (reflecting the presence of buses and transit vans in the traffic mix) the 16.3 million vehicle-hours projected to be eliminated equate to 37.5 million person-hours. This in turn is 9% of the 400 million person-hours of delay per year estimated for the entire city, as noted in the spreadsheet appendix to my Oct. 27 declaration.

[12] This calculation does not reflect the further time saving to drivers associated with the fact that some of the pool of hypothetical daily Critical Mass riders would come from among current motor vehicle drivers.

enjoying this "perk" range from high-ranking city officials to many rank-and-file firefighters, police, correctional employees and court workers. No official count of these governmental free-parkers is available (in itself an indication of the city's undisciplined and unconcerned stance in this matter), but one recent article placed it at 110,000.[13] Allowing for a possible overestimate as well as that some of these free parkers are in the "outer boroughs," I assume here that the number of government employees with free parking in the Manhattan CBD is one-third of that figure, or roughly 36,000.

In a city where paid parking carries a price tag of anywhere from $10 to $50 a day, free parking is a tremendous inducement to drive to work, far offsetting the cost of gas and of tolls (if any) and even most drivers' "time costs" from sitting in traffic. Eliminating this subsidy would doubtless lead many of these estimated 36,000 city workers who now drive to their jobs in the Manhattan CBD to switch to transit, carpooling or other types of commuting.

One way to wean these workers from their free-parking perk is to offer them the value of their parking space in cash. More precisely, the free parking spot would be eliminated, and in its place the employee would be granted a cash stipend in the form of a salary increase, to be spent as he or she chooses — on paid parking or transit or any combination thereof.

At workplaces in California where this policy of "parking cash-out" has been implemented, the same number of workers now get to work with 11% fewer cars.[14] This is in California, where alternatives to driving are far less numerous than in New York. But I will be conservative and assume that only the same attrition rate could be achieved on the 36,000 city workers assumed to be commuting to free parking spaces in Manhattan. In that case, approximately 4,000 private cars would be eliminated from the Manhattan traffic stream on an average weekday, or about 84,000 in an average month. This is far in excess of the 500 cars that would need to be removed from the Manhattan traffic stream once a month to offset the impact of the Critical Mass rides. On an annual basis the cashout policy would save motor vehicle drivers roughly 100 times as much time in the aggregate as suppressing the Critical Mass rides.[15]

Offset #4 — Include Critical Mass in DOT Traffic Advisories

It has become customary in recent years for City officials to designate nine or ten days between Thanksgiving and Christmas weeks as "gridlock alert days." These are days on

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[13] *Transportation Alternatives*, Fall 2003, "Provocateur: Selfish, Unfair Parking Scam Hurts New York City." http://www.transalt.org/press/magazine/034Fall/02provocateur.html

[14] For citation see p. 36 of my 2002 report, *Ending The Oil Age*, available at www.rightofway.org.

[15] Multiplying the 8-fold ratio implied in the text (4,000 cars eliminated through parking cashout, vs. 500 cars necessary to offset one Critical Mass ride), by the 21-fold ratio between weekdays per month and Critical Mass rides per month, yields a factor of roughly 170. However, this should be adjusted for the fact that most free-parking commuters drive less than nine miles per day (the estimated Critical Mass ride length) in the Manhattan CBD.

which traffic in the city, particularly in the Manhattan CBD, is expected to be unusually heavy, and on which would-be motor vehicle drivers are therefore urged to carpool or use transit, both to save travel time for themselves and to reduce the impact of their travel on others.

In turn, these Gridlock Alert Days are just one of roughly a dozen categories of "Special Traffic Advisories" that City DOT announces through the media and on its Web site.[16] Here is the list posted on Wednesday, Nov.24, 2004:

- Gridlock Alert Days
- Holiday Construction Embargo
- Macy's Thanksgiving Day Parade
- Whitestone Expressway Reconstruction
- Closures of the Macombs Dam Bridge Over the Harlem River
- Reconstruction of Belt Parkway over Ocean Parkway
- Brooklyn Queens Expressway Construction
- DOT Outlines More Queens Boulevard Improvements
- Reconstruction Work in Columbus Circle Area
- Many Trucks Allowed on Part of Grand Central Parkway
- Parking Alternatives in Co-op City
- Long Island Expressway HOV Lane Into Queens-Midtown Tunnel Open to All Vehicles With Three or More Passengers
- Brooklyn Battery Tunnel HOV-3 Lane on Gowanus Expressway
- FDR Drive Reconstruction

Aside from a few items describing special exemptions or vehicle allowances, the list is intended to alert drivers to "areas where major street construction or street events will impede the normal flow of traffic," in DOT's words. Yet notwithstanding the dire concerns about Critical Mass traffic impacts that DOT Deputy Commissioner Primeggia expressed in his Nov. 12 declaration, the dates of the next (at the time of this writing) Critical Mass rides, Friday, Nov. 26 and Friday, Dec. 24, don't appear on the list of DOT's Gridlock Alert Days.

The effectiveness of these advisories isn't known. We can assume that they have *some* effect, however, or DOT wouldn't keep issuing them, and media outlets including radio traffic reports and the *Daily News*' renowned Gridlock Sam column, wouldn't keep broadcasting them. Let us assume for argument's sake that just 1% of drivers intending to drive into the Manhattan CBD are dissuaded from doing so by the DOT advisories pertaining to that area. On that assumption, and taking note of Mr. Primeggia's estimate that 58,650 motor vehicles are traveling on City streets in the vicinity of a typical Critical Mass ride (Primeggia Decl., ¶ 5), it is easily calculated that a DOT advisory alerting motor-vehicle drivers to potential traffic tie-ups due to Critical Mass would be expected to eliminate nearly 600 motor vehicle trips from the affected area. Bearing in mind my

[16] http://www.nyc.gov/html/dot/html/motorist/advisories/trafalrt.html#gridloc

earlier finding that 500 trips must be eliminated to offset the traffic impact of a Critical Mass ride with 2,000 bicycles, the implication (if my 1%-effectiveness assumption is correct) is that DOT can achieve "no net traffic impact" from a 2,000-bicycle Critical Mass simply by adding Critical Mass to its already-existing regular traffic-advisory list.

Offset #5 — Conduct Regular Friday Evening Ticket "Blitzes" in the Manhattan CBD

Another way to dissuade a "critical" number of motor vehicle users from driving into and around the Manhattan CBD is for the NYPD to announce that it will mount stringent ticketing offensives against driver violations of motor vehicle traffic laws — what is known colloquially as a "ticket blitz."

One need only stand for a few minutes on a busy city street corner to observe dozens of motor vehicle violations — tailgating, speeding, aggressive passing, failure to signal before turning, failure to yield right of way, use of handheld cell phone,[17] "blocking the box," stopping in the crosswalk, etc. Summonses for these violations typically include not just fines but license points and thus incur significant financial penalties. For analytical purposes, let us examine the potential effect of such a "ticket blitz" announced for an arbitrary Friday evening each month in the Manhattan CBD. It seems plausible that such a "blitz" would discourage 1% of would-be drivers from driving there.[18]

On any such Friday night, this would achieve a roughly 500-vehicle drop in car traffic — exactly offsetting the traffic impact from Critical Mass's 2,000 bicycles. Such a ticket blitz would also help deter the "aggressive driving and other erratic and unwelcome behavior" that Mr. Primeggia speculates could result from the "unexpected lengthy delays" and "environment of unexplained frustration" that he alleges are a byproduct of Critical Mass rides.[19] (Primeggia Decl., ¶ 8)

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[17] Earlier this year, while killing time in Chelsea, my 9-year-old son and I observed that 6 out of the first 100 drivers of cars, trucks and vans passing on West 19th Street between 7th and 8th Avenues were using a handheld phone while driving. Peer-reviewed research has demonstrated that drivers' use of cell phones elevates their crash propensity fourfold, to the level of a driver with a blood alcohol level of 0.10%, or one-fourth greater than New York State's DWI limit of 0.08% ("Association between cellular-telephone calls and motor vehicle collisions," D.A. Redelmeier, MD, and R.J. Tibshirani, PhD, *New England Journal Of Medicine* **336**:7, Feb. 13, 1997, p. 453). If the City is truly as concerned about traffic safety as Mr. Primeggia claims, the NYPD has particular cause to ticket for this offense. But it seldom does, another mark of the institutional hypocrisy that Mr. Primeggia's Declaration expresses.

[18] Indeed, I calculate that would-be drivers into the CBD need only figure their chance of getting a ticket to be 1 in 100 to dissuade 1% of them from driving in. My reasoning follows: I have estimated elsewhere that the price-elasticity of driving trips into Manhattan across the East River is approximately 0.3 (see my report, *The Hours*, op. cit.). A 20-25 mile round-trip into the CBD via a tolled facility now costs roughly $36 on average: $2 for gas, $2 for incremental maintenance and insurance, $7 for presumed tolls, and $25 for parking. With the price elasticity just noted, it can be calculated that a 3.5% increase in the total round-trip price, to $37.25, would result in a 1% decline in the number of trips. (Mathematically, that is because the ratio [37.25/36.00] raised to the negative 0.3 power equals 0.99.) Assuming roughly that the cost of a traffic-violation ticket is $125.00, then drivers need only factor in a 1% probability of being ticketed to perceive a $1.25 increase in their trip price, bringing it to $37.25.

[19] I say "speculates" because if Mr. Primeggia is correct that the Critical Mass rides are resulting in dangerously high levels of driver frustration, there should be statistical evidence in the form of higher rates

Offset #6 — Foster Motor Vehicle Drivers' Adaptation to the Presence of Critical Mass

The last measure enumerated here isn't a traffic policy but rather the ordinary evolution by which human beings adjust to changed circumstances. As it becomes more widely known that Critical Mass rides create additional "challenges" for Manhattan traffic on the last Friday of each month, it is logical to expect that some motor vehicle drivers will react by changing their travel times and/or modes to avoid potential tie-ups.

Many motorists traveling between Westchester and Manhattan, or northern New Jersey and Manhattan, make a point of detouring around the Bronx during New York Yankees home games, to take just one example. Indeed, the long-time head of the bicycle-advocacy organization in San Francisco, where Critical Mass rides originated, has reported a similar traffic adaptation to Critical Mass there,[20] and it would be logical to expect the same here as Critical Mass becomes more widely known. Thus, when motor vehicle drivers do find themselves trapped in tie-ups in the Manhattan CBD on the last Friday evening of the month, their ever-increasing knowledge of one of the possible causes ("Dear, it's that Critical Mass bike ride; let's remember to take the train next time.") should at least mitigate the "environment of unexplained frustration" dreaded by Mr. Primeggia. (Primeggia Decl., ¶ 8)

3. Traffic-law violations committed by Critical Mass riders pale in import next to the harms they and other New York City bicycle-riders and pedestrians suffer from violations of traffic laws habitually committed by motor vehicle drivers, with the tacit approval of City officials.

Mr. Primeggia contends that "Bicyclists involved in the Critical Mass Ride regularly violate" New York State and City traffic laws (which he helpfully abbreviates as "VTL" and "DOT Traffic Rules," respectively). (Primeggia Decl., ¶ 4) Some of the traffic requirements Mr. Primeggia cites, such as those directing vehicle operators (a category that includes bicyclists) to obey traffic signals and yield to pedestrians, and one requiring bicyclists to ride near the curb, are indeed disregarded by ride participants. This admission is not news. The riders commit these infractions not to inconvenience others but to maintain the integrity of the ride. The essence of Critical Mass is to ride <u>in a mass</u>, which requires going through red lights (to avoid sectionalizing the ride so that motor

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of fender-benders or other traffic crashes in the affected area as compared to other times. NYPD records could be combed to see if the last Friday evening of the month differs from other Friday evenings in this respect. Mr. Primeggia has presented no such evidence.

[20] As reported by Dave Snyder, executive director of the San Francisco Bicycle Coalition, 1991-2002: "From the years 1995-1997 [onward], when the summer rides consistently topped 2,000 riders, traffic reports on KCBS and KGO and other mainstream radio stations — in their routine warnings about events that would make for difficult driving conditions — always mentioned Critical Mass on the last Friday of the month. They suggested that drivers take transit or stay away from downtown in the early evening on the last Friday. A few times during that period, when I was at a social event during the last week of the month, I would hear people at parties saying that they wouldn't drive on the last Friday of the month. It was not exactly common knowledge, but perhaps accepted wisdom, that it was a bad idea to drive downtown on the last Friday of the month, because you might get stuck." (personal communications, Nov. 22-24, 2004)

vehicles do not occupy spaces between and among the riders), not yielding to crossing pedestrians or vehicles except in emergencies, and taking the full width of the avenue or street (again, to keep motor vehicles at a safe distance). A similar protocol is often followed by, for example, funeral processions.

What is missing from Mr. Primeggia's description, and indeed from the City's draconian assault on Critical Mass, is even a token recognition that motor vehicle drivers also routinely violate traffic laws; and moreover that those violations are, on average, far more dangerous than those committed by Critical Mass participants, owing to motor vehicles' far greater mass and velocity and commensurate capacity for causing injury and harm, as compared to bicycles.

Consider just one provision of the VTL, Section 1122, entitled **Overtaking a vehicle on the left.** The section reads in part:

> The driver of a vehicle overtaking another vehicle proceeding in the same direction shall pass to the left thereof at a safe distance and shall not again drive to the right side of the roadway until safely clear of the overtaken vehicle.

Cyclists conversant with the State Vehicle & Traffic Law refer to this provision as the "brush by" law because motor vehicle drivers routinely flout it when passing cyclists, brushing by them with little room to spare. And all too often, with less room than that. Motor vehicle driver violations of VTL §1122 are the most common cause of bicyclist fatalities in New York City.

This assertion is too important for a footnote. In early 2000, the advocacy group Right Of Way, with which I am associated, undertook something that no City agency has done, before or since: to determine the causes of fatal bicycle collisions with motor vehicles in New York City. In part this was a natural outgrowth of our landmark 1999 study, *Killed By Automobile*,[21] in which we analyzed nearly 1,000 pedestrian fatalities in New York City in a recent four-year period. In 2000, we were spurred to focus on cyclists by a near-doubling in bicycling fatalities in New York City in the year just ended, 1999. (There were 35 cyclists killed that year, as compared to the "normal" 15-20.)

Right Of Way wasn't able to obtain police accident reports for the 35 cyclist fatalities in 1999, but we were already in possession of police reports for 71 fatal bicycle collisions with motor vehicles from the prior four years (1995–1998). Within the limits of the information included in the reports, we painstakingly reconstructed each incident and assigned 53 of them to different "cause codes" depending on the behavior of the cyclist and the motor vehicle driver as recorded in the report. (There was insufficient data to classify the other 18 fatalities.)

[21] *Killed By Automobile — Death in the Streets in New York City, 1994-1997*, by Charles Komanoff and the members of Right Of Way, 1999, available at www.rightofway.org.

From this assessment, we determined that the single largest cause of cyclist fatalities in New York City was dangerous passing by motor vehicle drivers. These incidents in which motor vehicles struck lawfully-moving bicyclists from behind accounted for 12 of the 53 fatalities that could be classified, or 23%. We also noted that an additional 3 fatalities caused by "dooring" (in which a cyclist was struck by a motor vehicle door that a driver or passenger opened into his or her path) could reasonably be ascribed to fear of dangerous passing that leads some cyclists to ride too close to parked vehicles.

There have been roughly 200 fatal bicycle collisions with motor vehicles in New York City over the past decade. Assuming, not implausibly, that the percentage of "dangerous passing" fatalities has been more or less constant, we can conclude that about 45 cyclist deaths during the past 10 years can be attributed to motor vehicle drivers' propensity to "brush by" cyclists in the act of passing. Recognizing the extraordinary danger associated with this driver behavior, cyclist representatives have repeatedly petitioned police and other City officials to develop a program to combat dangerous passing and deter other driving practices that endanger bicycle-riders.[22] Yet City officials have refused to even meet with cyclists to discuss whether and how the behaviors of motor vehicle drivers could be modified to create safer cycling conditions and reduce the rate of bicycle fatalities.[23]

NYPD does not even maintain data on citations given to motor vehicle drivers for violations that specifically endanger bicycle-riders. Bicycling advocates have periodically asked police officials for counts of such citations, and have never received an informative reply.[24]

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[22] In addition to VTL §1122 (**dangerous passing**), prohibitions on motor-vehicle driving practices that particularly endanger bicycle-riders are spelled out in: VTL §1146, **Drivers to exercise due care** ("… every driver of a vehicle shall exercise due care to avoid colliding with any bicyclist [or] pedestrian …"); VTL §1129, **Following too closely** ("The driver of a motor vehicle shall not follow another vehicle more closely than is reasonable and prudent, having due regard for the speed of such vehicles and the traffic upon and the condition of the highway.") VTL §1211, **Limitations on backing** ("The driver of a vehicle shall not back the same unless such movement can be made with safety and without interfering with other traffic."); and of course VTL §1214, **Opening and closing vehicle doors** ("No person shall open the door of a motor vehicle on the side available to moving traffic unless and until it is reasonably safe to do so, and can be done without interfering with the movement of other traffic …").

[23] For example, I and three other individuals (respectively, a past-president of Transportation Alternatives and respected bicycle-shop owner; the CEO of the city's largest bicycle messenger service and a leader in instilling safe cycling practices among his employees; and a fellow co-founder of Right Of Way) wrote to Mayor Rudolph Giuliani on Jan. 19, 2000, "to discuss how to make our streets safe for biking and walking." We wrote with a sense of urgency, in the wake of the revelation that cyclist fatalities had nearly doubled in the year just ended (as noted in the text) and that police officials were blaming cyclists for the increase. A reply came two months later from the NYPD's First Deputy Commissioner Patrick E. Kelleher. It reiterated the department's stance that "76% of bicyclist fatalities in 1999 were the result of unsafe bicycle operation" and ignored our request to meet with City officials.

[24] For example, on June 10, 2003 I wrote to the Police Commissioner seeking, inter alia, estimates of the number of citations issued to motor vehicle drivers for violating VTL §1122 (dangerous passing) or §1129 (tailgating) in instances when the vehicle tailgated or passed was a bicycle. The Department's reply reported total citations to motor vehicle drivers for these violations but without breaking out the instances in which a bicyclist (rather than another motor vehicle driver) was being put at risk. The Crime Analysis Unit officer who prepared the data told me in a telecom in July 2003 that violations of §1122 and §1129

The disparity between the NYPD's indifferent treatment of dangers to bicyclists and its vaunted statistical rigor could not be more striking. In recent years the NYPD has received considerable media attention for its use of quantitative techniques to identify and rank dangers to the populace. The department credits this "CompStat" (Computerized Statistics) program for helping it to "discern emerging and established crime trends as well as deviations and anomalies" so that it can target its resources toward the most serious and widespread crimes.[25] But when those being imperiled and killed are bicycle-riders, the NYPD's statistical zeal dries up, and the Department fails to track the driver violations that are most responsible for endangering and, all too frequently, killing cyclists.

When driver misconduct is made invisible, the alternative, of course, is to blame the victim. And so when the story broke that cyclist deaths virtually doubled in 1999, police officials unequivocally and loudly blamed the cyclists. The First Deputy Commissioner, the commander of the city's traffic management center, and the supervisor of the Accident Investigation Squad each announced that three-fourths of the fatal accidents were the result of "unsafe bicycle operation" or "cyclist error."[26]

That assertion is demonstrably false. From the crash typology developed and applied by Right Of Way, it is indisputable that the driver was culpable in a clear majority of the 1995-98 bicycle fatalities. Even when infractions involving DWI and unlicensed operation were ignored, drivers were found to be somewhat culpable in 77% of the cases where the actions of the parties could be reasonably established, and highly culpable in 57%.[27]

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affecting cyclists "go into a general pile." He added, "If you're looking for cases of [citations to motor vehicle drivers for] a cyclist being put in danger, I can't give you anything. I don't have [the data]."

[25] The quoted language is from a NYPD Web page, http://www.nyc.gov/html/nypd/html/chfdept/compstat-process.html.

[26] For example, the *New York Times* reported the following on Jan. 8, 2000 ("Cyclist Fatalities Increased 75% in 1999, Puzzling Police"): "Inspector Vincent Kennedy, the supervisor of the Police Department's accident investigation unit, said most of the cyclists killed had played a major role in their deaths. Accident reports listed 'cyclist error' — running a light, going the wrong way down a one-way street, turning in front of a car — as the 'primary contributing factor' in 74 percent of the fatal accidents, about the same proportion as in 1998, he said." The next day's *Daily News* ("Streets get deadlier," January 9, 2000) wrote similarly: "Deputy Inspector Robert Sharpe, commander of the city's traffic management center … added that in 74% of last year's bike accidents, cyclists were found to be at least partly responsible. 'Bicyclists are required to obey the laws, just like motor vehicles are,' Sharpe said, adding that the department was considering an educational campaign directed at cyclists as one way of combating the problem." In the March 14, 2000 letter to *Right Of Way* cited earlier, First Deputy Commissioner Patrick E. Kelleher wrote similarly: "[I]nvestigation indicated that seventy-six per cent (76%) of bicyclist fatalities in 1999 were the result of unsafe bicycle operation." None of the police statements, either in Commissioner Kelleher's letter or in the newspaper articles, made any mention of motor vehicle drivers' responsibility for crashes with bicycles.

[27] Right Of Way published this analysis in its 2000 report, *The Only Good Cyclist*, available at www.rightofway.org.

In stark contrast, neither the police department nor any other city agency has ever made any effort to substantiate the NYPD's claim that "cyclist error" was the "primary contributing factor" in three-fourths of the fatal accidents in 1999.[28] Right Of Way repeatedly asked the police department to document or otherwise support this charge. We invested tremendous effort in this process over an 18-month period from early 2000 to mid-2001, initially with direct requests conveyed in letters, and, when those proved unavailing, via FOIA applications. Our efforts were met with stonewalling, footdragging, silence and ultimately contempt. (A record of this correspondence is provided in the appendix.)

The final point of concern to this Court about the near-doubling of bicyclist fatalities in 1999 concerns City officials' indifference the body count mounted. Not once over the course of the year did police or other officials reach out to bicyclists to notify them that bicyclists were being killed in New York City at an unprecedented rate. Indeed, that fact became known only when police officials gave out, in an aside, the year-to-date bicycle fatalities in a December 1999 article about a tangentially-related topic.[29]

The NYPD's record in protecting cyclists and safeguarding their rights can be summarized as follows: ignore motor vehicular endangerment of bicycle-riders; refuse to collect and analyze pertinent data; resist efforts by cycling advocates to obtain data with which to conduct their own analyses; deflect blame for casualties from motor vehicle drivers onto the cyclists; disavow responsibility for enforcing traffic-laws protecting cyclists; refuse cyclist representatives' entreaties to discuss the problem and develop solutions.

These are not the actions of an agency, or a city government, truly concerned about traffic safety, in spite of the Oct. 25, 2004 declaration of NYPD Lieutenant Daniel Albano that the Critical Mass rides cause "innumerable … serious public safety concerns." (Albano Decl., ¶ 5) In fact, as I documented in my Oct. 27 declaration, the rides present no additional safety concerns to pedestrians or motor vehicle drivers. Moreover, the genuine public safety concern present in New York City traffic — the constant peril in which illegal behavior by motor vehicles drivers puts bicycle-riders and pedestrians — is systematically disregarded by the police, as I have shown above.

[28] Although Right Of Way's analysis of bicyclist fatalities perforce addressed 1995-1998 incidents (because police records for 1999 were unavailable), whereas the police critique of cyclists focused on 1999, the dispute over culpability was not attributable to different data sets. For one thing, the top police accident investigator who told *The Times* that cyclist error was to blame for most fatalities in 1999 made the same comment in regard to 1998 (see earlier footnote). For another, it is unlikely in the extreme that motorist culpability for cyclist fatalities should suddenly shrink from three-quarters of cases in 1995-1998 (as Right of Way documented) to one-quarter in 1999 (as claimed by the NYPD).

[29] The first published mention of the jump in fatalities, in the Dec. 24, 1999 *New York Times*, suggested that most of the 35 cyclists killed were bicycle messengers. But in fact only 6 of the fatalities were in Manhattan, indicating that for-hire cyclists were at most a minor factor in the increase.

4. The Critical Mass rides are an outgrowth of, and a constructive response to, dangerous traffic conditions resulting from City officials' chronic and systematic failure to control the volume and behavior of motor vehicle traffic.

In my Oct. 27 declaration, I asserted that the Critical Mass rides contribute to an increased "population" of bicycle users in New York City by providing an environment in which novice riders can "get their feet wet" with city cycling and then graduate to regular riding. I also made reference to statistical studies that have documented a phenomenon known as safety-in-numbers: cyclists are safer where there are more of them. Since these phenomena are an important part of the popularity and social value of Critical Mass, I wish to elaborate on them for the Court.

First, it is incontrovertible that Critical Mass functions as an incubator of city cyclists. While there are no survey data to estimate the effect, I have personally met numerous newcomers to New York City cycling who have attested to being encouraged and emboldened to ride here by participating in Critical Mass rides. During the last half-dozen years, before the sudden and inexplicable "crackdown" in recent months, the relaxed and safe environment afforded by the rides stood in marked contrast to the intimidating gauntlet presented by the usual car-choked city street.[30] Surrounded by other cyclists, people unaccustomed to the rigors of ordinary, solitary on-street cycling can become comfortable with city riding by participating in Critical Mass. As well, more experienced cyclists who may be wearying of maintaining a hyper-vigilant, adrenaline-charged state to ward off the ever-present traffic dangers can "recharge" in the convivial, secure space carved out by Critical Mass.

In turn, the more cyclists there are on the street, the safer each of them becomes.[31] Anecdotal evidence has long suggested that the per-cyclist rate of bicycle collisions with motor vehicles declines as the amount of cycling on a road or in a region increases. This "safety in numbers" effect is thought to occur because as cyclists grow more numerous and come to be an expected part of the road environment, motorists become more mindful of their presence and more respectful of their rights. The implication is that adding more cyclists to the road makes it less likely that a motorist will strike an individual cyclist and cause serious injury. (Conversely, removing cyclists from the traffic stream raises the risk to those who continue to cycle.)

Safety-in-numbers offers a plausible explanation for the fact that per-mile cycling fatality rates in Germany and the Netherlands are four times less than in the U.S. while cycling volumes (as a percentage of the population) are more than 10-20 times higher.[32] (It is also noteworthy that there are no Critical Mass rides in those and other countries where

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[30] Weekends once functioned as a cyclist incubator, but no longer, as heavy traffic has become a 7-day-a-week affair. While parks and greenways remain good venues for learning or sharpening cycling skills, Critical Mass is uniquely suited for conveying the feel of on-street cycling.

[31] I adapted the text in this and the next several paragraphs from my article, "Bicycling," in *Encyclopedia of Energy* (C.J. Cleveland, ed.), Elsevier Science, San Diego, 2004.

[32] Pucher, J. and Dijkstra L. (2000) Making Walking and Cycling Safer: Lessons from Europe. *Transportation Quarterly* **54**(3), 25-50.

people's right to cycle safely and comfortably is enshrined in law and culture.) Now, "time-series" estimates of this effect, though preliminary and site-specific, are pointing intriguingly toward a "power law" relationship of approximately 0.6 between cyclist numbers and cyclist safety.

According to this relationship, the probability that some motorist will strike an individual cyclist on a particular street or road declines with the 0.6 power of the number of cyclists on that road.[33] Say the number of cyclists triples. Then, since three raised to the 0.6 power is roughly two, each cyclist would be able to ride twice as much without increasing his or her probability of being struck. (The same phenomenon can be expressed as a one-half reduction in per-cyclist crash risk per tripling in cycling volume, since the reciprocal of two is one-half.)

The syllogism couldn't be more clear: Critical Mass adds to the number of cyclists … the more cyclists there are, the safer each becomes ... ergo, Critical Mass makes cycling safer. Or, as I noted in my Oct. 27 declaration, my cycling journeys around the city, and similar trips by other cyclists, are safer due to the increased numbers of cyclists engendered by Critical Mass rides.

By almost every account, bicycling in New York City has become more widespread in recent years. Estimates of the increase are fuzzy, and no one can say for sure how much of the increase is due to the Critical Mass rides. In San Francisco, where Critical Mass originated in the early 1990s and has flourished since, cycling levels are widely reported to have increased by 200% (i.e., tripled) over the same period. This is significant because, as can be demonstrated through a simple calculation, a 20% increase in cycling levels should engender roughly the same degree of improvement in each individual cyclist's safety as is provided by wearing a helmet.[34] Thus, if it could be documented that just one-tenth of the growth in cycling levels in San Francisco was due to Critical Mass, one could reasonably claim that Critical Mass had added to cycling safety in San Francisco just as much as if every cyclist in that city had changed from bareheaded to helmeted cycling.

The City DOT Commissioner, Iris Weinshall, recently told *The New York Times,* "We hope that one day New York will be one of the world's great bicycling cities."[35] If

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[33] For documentation of this statistical relationship, see Jacobsen, P. (2003). Safety in numbers: more walkers and bicyclists, safer walking and bicycling. *Injury Prevention* **9,** 205-209.

[34] Although a 1989 epidemiological study in Seattle associating helmet use with an 85% reduction in brain and head injury has been much quoted in the press, the authors subsequently employed better statistical methods and scaled back their results considerably, to credit helmet-wearing with a mere 10% reduction in severe injuries. (See Rivara F.P., Thompson D.C., and Thompson R.S. (1997). Epidemiology of bicycle injuries and risk factors for serious injury. *Injury Prevention* **3**(2), 110-4.) According to the safety-in-numbers relationship noted in the text, an equal 10% reduction in the probability that an individual cyclist will suffer a collision with a motor vehicle (the source of the vast majority of bicycling fatalities and serious injuries) can be achieved by increasing the number of cyclists on the roads by 20%. (This follows mathematically from the fact that 1.2 raised to the negative 0.6 power is approximately 0.9, indicating a 10% drop in the crash-injury probability.)

[35] *The New York Times*, Oct. 3, 2004, "Spin City," by Lydia Polgreen (lead article in The City Section).

Commissioner Weinshall really wants that to happen, cycling must be made reasonably safe and comfortable. But in fact City officials have never shown much interest even in making cycling safe, much less promoting it, when doing so might create short-term inconvenience for motor vehicle drivers. And this brings me to the other aspect of Critical Mass.

It would be disingenuous to deny that for many, though not necessarily all, its participants, Critical Mass has a political dimension. Critical Mass makes a statement: "We belong." The law says that cyclists have a right to the road, just as the driver in his SUV has. But unless that right is honored in practice, by the people whose job it is to enforce the law and ensure the public welfare, it might as well be blotted from the statute books. And in practice, the City's indifferent, if not actively hostile, attitude toward cyclists has had just that effect.

The actions and inactions of the Department of Transportation and the Police Department have effectively denied the cyclist's right to the road on equal terms with the SUV. It is this denial of cyclists' rights, more than anything else, that has made Critical Mass necessary.

The Court will no doubt recollect other instances in recent American history where men and women found it necessary to assemble in the streets, with or without a parade permit, to claim the rights that were theirs in theory but not in practice. If City officials are bothered by Critical Mass, their best response would be to address the problems that Critical Mass seeks to rectify, and do the duty they have too long neglected.

Appendix

Documentation of the NYPD's refusal to provide data or material supporting its public claim that "cyclist error" caused three-fourths of cyclist fatalities in 1998 and 1999

In late 1999, Right Of Way, a group of cyclist and pedestrian activists, learned that 35 bicyclists had been killed in traffic crashes with motor vehicles in New York City during that calendar year, compared to an average of 18 a year during the previous decade.

As noted in the text of this declaration, this bombshell spurred us to attempt to analyze the 1999 bicycle fatalities as to cause. We hoped that lessons learned through our analysis could be disseminated within the cycling community and improve cyclists' ability to withstand the dangers of motor vehicle traffic. We also hoped that through this analysis we could assess the validity of assertions by officials from the NYPD, who attempted to "spin" this spike in cycling fatalities as the fault of the cyclists themselves.

Right Of Way first attempted to obtain police accident reports for the 1999 fatalities — both the standard MV-104 form and additional reports prepared by the Accident Investigation Squad — directly from the police. When these requests were rejected, we decided to employ the standard procedures for obtaining agency documents under New York State's Freedom of Information Law (FOIL). Even if we could not obtain the police accident reports, we hoped we could obtain the data and analyses by which the NYPD had concluded that three-fourths of the cyclist fatalities in 1999 (and in 1998 as well) were the result of "cyclist error."

Our FOIL requests were met with foot-dragging and stonewalling. For 17 months, from January 2000 to May 2001, Right of Way member Stuart Desser patiently filed requests, refiled them when the department lost the paperwork, and then appealed the department's denials.

At the end of this endeavor (which is recounted in detail in the chronology below), the department still had not provided any documentation showing that it had conducted an investigation or analysis of the 1999 fatalities before publicly assigning blame to cyclists. The department also refused to provide witness accounts of accidents — a critical element for assigning responsibility in the crashes — even after the New York Department of State's Committee on Open Government ruled that the NYPD was required to release them.

FOIL Chronology based on log maintained by Right Of Way member Stuart Desser

1/19/2000

Desser sends FOIL letter to William Tessler, Special Counsel to NYPD Deputy Commissioner, requesting all records that pertain to traffic incidents in 1998 and 1999 between motor vehicles and bicycles in New York City which resulted in fatalities, including forms, worksheets, analyses, reports, and similar documents and notes prepared or maintained by the NYPD Accident Investigation Squad, including those which assess

primary fault and contributing factors.

2/4/2000
Desser receives acknowledgment of his request, which is assigned Case number 00PL100167.

2/7/2000
Desser telephones Charles Ellis, the paralegal who is supposed to be handling Case 00PL100167. Ellis is on vacation.

4/3/2000
Charles Ellis tells Desser that the 00PL100167 FOIL request generated 179 pages.

4/25/2000
Desser receives accident reports from NYPD, but no documentation or other material supporting or otherwise pertaining to the Department's public statements that three-fourths of cyclist fatalities in 1999 (and in 1998 as well) were the result of cyclist error.
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5/19/2000
Desser mails a second FOIL request (later identified by the department as Case number 00PL101575) to Tessler, asking for two accident reports not included in the department's response of 4/25/2000. In addition, Desser reiterates that he requires more complete information. Specifically, Desser requests:

- Complete copies of all witness statements given to the police for all bicyclist fatalities during the two years, except that if the release of these witness statements is conditioned upon the anonymity of the witnesses, then my request allows that the names, addresses, and phone numbers of the witnesses may be blacked out.
- Copies of all NYPD analyses, reports, and similar documents, including notes prepared and maintained by the AIS, from which and in which the NYPD determined whether, and the extent to which, cyclist error or driver error was the primary contributing factor in fatal cycling accidents in 1998 and 1999.
- A copy of the accident CompStats for 1998 and 1999, and Year-End Post-Analysis reports.

6/15/2000
Desser phones the department's FOIL office. Investigator Amon Ra tells Desser that his 5/19/2000 FOIL request did not make it to the FOIL office; Investigator Ra says he will not take the time to contact the mailroom to find it, that Desser must do so.

6/19/2000
Desser is told by Police Officer Russo that his 5/19/2000 FOIL request can't be found. Desser mails a new copy directly to Russo.

6/26/2000
In a telephone conversation with Desser, Russo acknowledges receiving the FOIL request that Desser re-sent on 6/19.

9/11/2000
Russo tells Desser that he remembers his 6/19/2000 FOIL request, is still looking for it, but sees no reference to it in his book. He asks Desser to fax another copy to him, which Desser does.

9/14/2000
Desser receives a letter acknowledging receipt of his 6/19/2000 FOIL request and giving it Case number 00PL101575.

9/27/2000
Desser phones Russo, who tells him that the department does not release witness statements, which are considered confidential.

12/18/2000
Desser phones Russo, who says he is waiting for the two accident reports, that the request for witness statements will be denied, and that some of Desser's other requests were already satisfied by the department's first release.

2/1/2001
Desser receives a letter notifying him that some documents are copied and redacted and ready for release. All that he receives, however, is one of the two accident reports he requested. He is told that the second could not be located and that his request for witness statements and documentation supporting Inspector Kennedy's statement [that 74% of cyclist fatalities in 1999 (and around the same percentage in 1998) were the result of "cyclist error."] was denied. His request for CompStats data is not mentioned.

2/21/2001
Desser mails a letter to Tesler pointing out that one request had been ignored and appealing the denial of two requests. With respect to witness statements, Desser writes,

> "Notwithstanding my up-front allowance that any direct or indirect identification of the witnesses may be removed, NYPD refused to supply such statements on the grounds that these documents, if released, 'would endanger the life and safety of any person.' There can be no justification for asserting that providing witness statements, wherein any and all information identifying the witness is excluded, can in any foreseeable way pose a threat to anyone's life or safety. Denial of this request for the reason given by NYPD would be a bald contravention of both the letter and intention of the law by an agency whose very purpose is enforcement of the law.

Desser also points out that, contrary to the department's claim, the NYPD's first release did not respond to his request for documentation substantiating the department's public statements about cyclist responsibility for accidents. That same day, Desser requests an opinion from the New York Department of State's Committee on Open Government on whether the police department is justified in withholding witness statements.

3/29/2001
The Committee on Open Government issues an Advisory Opinion stating, “If the only basis for withholding the statements involves a finding that disclosure would constitute ‘an unwarranted invasion of personal privacy’ ... personally identifying details could be deleted, and the remainder of those records would be accessible... Therefore, unless disclosure would interfere with a criminal investigation, an accident report would be available to any person, including one who had no involvement in an accident...” Desser mails the opinion to Tesler.

5/2/2001
Desser leaves a telephone message with Tesler. He receives a return call from Joanne Weiss saying that he should receive a ruling on his appeal within two weeks.

05/23/01
Desser receives a letter denying his appeal.