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# From Chaos to Compliance

How the NYPD Can Grasp New York City's Traffic Safety Problem



# **Acknowledgements**

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# **Executive Summary**

In From Chaos to Compliance: How the NYPD Can Grasp New York City's Traffic Safety Problem, researchers observed and recorded the Wild West nature of New York City traffic. Transportation Alternatives studied traffic law compliance on city streets while surveying pedestrian opinions on the safety of traffic in their neighborhoods. Among other conclusions, the study found that instances of drivers failing to comply with traffic laws occur an average of three times every minute, and this constant lawlessness leaves 57% of pedestrians feeling endangered as they navigate street crossings.

Traffic law violations are a constant and dangerous condition of New York City streets. **From Chaos to Compliance** demonstrates a staggeringly low level of compliance with traffic laws, alongside a remarkably high level of aggravation and disappointment among the New Yorkers forced to live and commute on lawless streets. Over 38 hours of surveying, 5,952 incidents of common and easily identifiable traffic law violations were observed. On average, at the surveyed intersections:

- Traffic law violations occurred approximately three times every minute per intersection -- 157 times an hour.
- **Drivers failed to yield the right of way 24 times an hour.** According to the NYS DMV, "Failure to Yield" was the second most frequent human factor in causing motor vehicle crashes in 2007, contributing to over 5,100 crashes citywide.
- Drivers disregarded traffic controls, including traffic signals, signs and roadway markings, approximately two times every minute -over 100 times an hour. According to the NYS DMV, "Traffic Control Disregard" was the fifth most frequent human factor in causing motor vehicle crashes in 2007, contributing to 2,489 crashes citywide.
- Over 38 hours of surveying, no summonses were issued for moving violations in the survey areas.
- 57% of pedestrians believed they were endangered by traffic while navigating the survey areas.
- 43% of pedestrians actually avoid an area or intersection in their neighborhood because they feel endangered by lawless driving.

What causes the Wild West nature of New York City streets? The same factor that allows New York City drivers to travel dangerously until they crash: A lack of deterrence. The ubiquity of traffic law violations and the lack of deterrence from this dangerous behavior can be attributed to non-strategic enforcement: a direct result of the unscientific deployment of the NYPD. The NYPD does

<sup>1</sup> Observed violations include the following: Failure to yield to a vehicle; Failure to yield to a pedestrian; Disregard of a traffic control signal; Disregard of a traffic control sign; Disregard of a roadway marking; Illegal turn; Improper passing or lane usage; Driving in a bicycle lane; Unsafe passing of a bicyclist; Unsafe passing of a school bus; Unsafe backing; Double parking; Parking in a bicycle lane.

not study traffic law compliance, so the NYPD has no barometer as to the effectiveness of their enforcement efforts. Police officers are not deployed on a basis of moving violation occurrence, because the NYPD does not know where violations most often occur.

On July 14, 2009, in response to a prior Transportation Alternatives report on widespread traffic law violations, NYPD Commissioner Ray Kelly responded at a press conference, "I don't know what they're talking about. In 2007 and 2008 we issued 1.2 million moving violation summonses."

**From Chaos to Compliance** demonstrates how the NYPD should quantify the pervasiveness of dangerous driving on New York City streets. In a city of 1.4 million car-owning households<sup>2</sup>, where 1.5 million automobiles trips are made in and out of Manhattan's Commercial Business District daily<sup>3</sup>, and each day 1.23 million red lights are run<sup>4</sup>, the NYPD's claim of issuing 1.2 million summonses a year is not an accomplishment, nor is it a meaningful measurement of behavior on the streets. Without any knowledge of the frequency with which traffic violations occur, any change in summonsing activity is only indicative of a change in summonsing activity, not a change in compliance.

Only through observation and monitoring can the breadth of traffic law violations be counted, and their pervasiveness understood. To deter this constant stream of traffic law violations, save lives and improve the quality of life in New York City, **From Chaos to Compliance** makes the following recommendations:



2 According to the 2000 US Census

3 Accoing the New York Metropolitan Transportation Council

4 According to "Red Means Go", a 2001 Report by then New York City Comptroller Alan Hevesi

### **Recommendations**

#### NYPD, STUDY TRAFFIC LAW COMPLIANCE and DEPLOY ACCORDINGLY:

Currently the NYPD only records the number of summonses issued to offending drivers. This number is often touted as a definition of increased traffic law compliance. However, like the number of prescriptions one takes being a poor measure of their health, the number of summons issued is a poor indicator of the number of times the law is broken. Through sampling studies like those employed in this report, the NYPD could efficiently deduce the level of traffic law compliance, and redeploy resources accordingly. This data should be publicly reported, alongside relevant crash data, to allow for a community understanding of the level of dangerous traffic in every neighborhood.

**From Chaos to Compliance** outlines the processes and demonstrates the procedures for efficient moving violation data collection. The following steps are recommended as a procedure for how the NYPD can document the Wild West nature of city streets:

- 1. At minimal cost and resources the NYPD could identify the 50 most crash prone intersections in each borough and monitor them for the most dangerous violations, as dictated by the Department of Motor Vehicles' cataloging of human contributing factors to crashes. These violations include, in order of frequency with which they cause crashes:
  - 1. Failure to Yield the Right of Way
  - 2. Following Too Closely, or Tailgating
  - 3.Speeding
  - 4. Disregard of Traffic Controls
  - 5. Turning Improperly
- 2. In addition to manual sampling studies, the NYPD should employ automated monitoring cameras to measure the rate of traffic law compliance with traffic signals and speed limits.
- 3. Begin 311-enabled traffic violation reporting, so New Yorkers can easily report traffic violations as they occur, creating a real-time map of the pervasiveness of dangerous driver behavior on New York City streets.
- 4. Based on the precedent for public accountability in pedestrian safety efforts set by Local Law 23-2008 and Local Law 11-2008, which require the NYC Department of Transportation to collect and monitor data with the goal of reducing automobile traffic and improving street safety, the New York City Council should introduce and pass a bill requiring the NYPD to monitor traffic law compliance and provide annual reportage of their efforts.

## **Purpose**

Traffic law violations are a contributing factor to the majority of crashes that occur in New York City. According to the New York State Department of Motor Vehicles, of the 30,458 motor vehicle crashes in New York City that occurred due to human (non-environmental or vehicular malfunction) factors in 2007:

- 79 percent of crashes (24,122 crashes) were the result of traffic law violations
- 88 percent of traffic fatalities (168 fatalities) were the result of traffic law violations

For every fatal traffic crash there are thousands of crashes that cause only injury, and for every non-fatal crash there are hundreds of thousands of New Yorkers whose quality of life plummets due to unsafe traffic. A 2007 survey of pedestrians conducted in the Manhattan neighborhood of Hells Kitchen, by the Clinton Hell's Kitchen Pedestrian Safety Coalition, found:

- Only 6 percent of respondents feared for their safety because of crime
- 75 percent of respondents feared for their safety because of traffic

In **From Chaos to Compliance**, T.A. researchers mimicked this effort by seeking out the opinions of New York pedestrians who travel through the survey locations, as to their quality of life relative to their neighborhood traffic.

Traffic law violations are an ever-present condition of New York City traffic, yet there is no agency in New York City that documents the frequency of violations, or observes the effect ubiquitous traffic lawlessness has on New Yorkers' daily lives. The following information is not documented by any department of the government of New York City:

- Which traffic law violations occur most frequently
- How often traffic law violations occur on city streets
- What rate of compliance there is with traffic law (summonsing activity compared to violation frequency)

The following information, though documented by the NYPD or NYS Department of Motor Vehicles, is not made readily available to the public:

- Where traffic crashes most frequently occur
- Where fatal traffic crashes most frequently occur
- How many summons are issued for specific traffic law violations

Considering the drastic reduction in the resources allocated to the NYPD in recent years, creating an accurate documentation of the lawlessness of New York City traffic would provide the NYPD with a solid case for the need for increased manpower and further resources. Additionally, better

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information on the rates of violation and compliance would:

- Allow for enforcement deployment that is responsive to the most common violations
- · Map the highest need areas for increased enforcement
- Create an understanding of what infrastructure changes could reduce traffic violations
- Allow for community understanding of dangerous conditions on neighborhood streets

**From Chaos to Compliance** documents the rate of traffic law compliance on New York City streets. The purpose of this study is to respond to a lack of available data by:

- Observing and documenting traffic law compliance
- Demonstrating a replicable method of judging traffic law compliance

The sampling methods undertaken in this study provide quantitative snapshots of intersections, and a qualitative understanding of the ubiquity of traffic law violations there. The addition of pedestrian surveys also allows for an understanding of how lawless roadways affect the people forced to experience them.

## Methodology

Using the parameters as set forth within the New York State Vehicle and Traffic Law -- the same legal guidelines followed by law enforcement professionals and DMV Traffic Violations Bureau Adjudicated Law Judges statewide -- T.A. researchers observed traffic law compliance for more than 38 daytime hours, between April 7th and May 11th, 2009.

Transportation Alternatives researchers conducted surveys at four locations in Manhattan, Queens and Brooklyn. Locations for the documentation of traffic law compliance, and the effects of violations on pedestrians' quality of life, were chosen according to the following factors:

- Areas of community concern for researchers local to the site
- The existence of all major transportation modes at the site, including subway and/or bus access, car and pedestrian traffic
- High vehicle and pedestrian traffic at the site
- A signalized intersection at the site
- Feedback from Transportation Alternatives borough volunteer committees about sites to target for local advocacy work

The following locations were selected for observation:

- 96th Street and Broadway, Manhattan
- 73rd Street and Roosevelt Avenue, Queens
- Smith Street and 9th Street, Brooklyn
- Prospect Place and Carlton Avenue, Brooklyn

### **Traffic Law Violations**

Researchers were trained to recognize traffic law violations as delineated within the NYS Vehicle and Traffic Law. The following traffic law violations were chosen relative to their ease of visual recognition and identification, as well as their danger relative to the frequency with which they contribute to crashes in New York City. Researchers were trained to identify and record the following NYS Vehicle and Traffic Law violations (which include some of the most common contributing factors to motor vehicle crashes):

- Failure to yield to a vehicle
- Failure to yield to a pedestrian
- Disregard of a traffic control signal
- Disregard of a traffic control sign
- Disregard of a roadway marking
- Illegal turn
- Improper passing or lane usage
- Driving in a bicycle lane

- Unsafe passing of a bicyclist
- Unsafe passing of a school bus
- Unsafe backing
- Double parking
- Parking in a bicycle lane

Traffic law violations were recorded as they occurred over a series of two-hour sessions, from 7:30am to 9:30am and from 4:30pm to 6:30pm. Each session included two researchers in charge of identifying and documenting traffic law violations. These two observers stood in fixed and pre-determined positions. One was responsible for logging violations taking place within an intersection by cars originating from a single street and direction; the second was responsible for logging violations taking place on a pre-determined section of street adjacent to the intersection.

The study also surveyed 309 pedestrians who live or commute within the observation areas. A third volunteer was responsible for conducting pedestrian surveys, which were gathered within a one-block radius of the intersection being studied. These surveys, which were filled out by the respondent except in cases in which the respondent requested that their answers be recorded by the researcher, contained the following questions:

#### What is your primary mode of transportation when traveling to:

- Work / School?
- Social visits?
- Shopping?
- Recreation?

#### How safe is this area for:

- Pedestrians?
- Cyclists?
- Drivers?

Have you ever observed drivers breaking the law in this area?

Have you ever felt endangered by traffic when walking in this area?

Do you avoid certain areas / intersections in your neighborhood because you feel endangered by lawless driving?

## **Sampling Study Precedents**

The methodology for this study is the technique of sampling, in this case a sampling of intersections in which a variety of behaviors were observed. Sampling studies rely on the idea that by observing behavior in a sample group of problem areas, over a consecutive and consistent period of time, a snapshot impression of general behavior in the areas can be developed. It can be assumed to some extent that the snapshot of this area is indicative of behavior in all similar areas. Through sampling studies, a small area can be observed to gain an impression of behavior in a larger area. The sampling technique employed for this study is based in the precedent set by two prior studies:



- In 2001, then NYC Comptroller Alan Hevesi published a study of traffic signal compliance titled RED MEANS "GO": A Survey of Red Light Violations in New York City and Red Light Camera Usage, in which 106 of NYC's most dangerous intersections were observed over 12 hour periods and used as a sample to determine traffic signal compliance citywide
- In 2008, Transportation Alternatives published a study of speed limit compliance titled **Terminal Velocity: NYC's Speeding Epidemic** in which vehicle speeds were radar monitored at 15 locations and used as a sample to determine speed limit compliance citywide

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## **Observed Violation Totals**

Transportation Alternatives researchers found traffic law violations to be a pervasive condition of New York City streets. These tallied instances of traffic law violations are indicative of an ever-present behavioral condition that tells drivers: In New York City, no one else obeys traffic laws, why should you? This behavioral condition is encouraged by the lack of deterrents in place against dangerous driving; a common understanding that dangerous driving may never be reprimanded against. Over 38 hours of surveying, researchers never observed police enforcement of any of the many violations of traffic law.

The lack of enforcement of traffic law violations, despite the pervasiveness of those violations on city streets, is particularly staggering relative to the life saving potential of deterring this behavior. Traffic law violations cause crashes, and traffic crashes maim, kill, destroy property and erode the quality of life of New Yorkers. According to the NYS DMV, in 2007, the traffic law violations observed in this study, were the cause of:

- 39% crashes caused by human factors in 2007 (11,987 out of 30,458 crashes)
- 38% fatal crashes caused by human factors in 2007 (72 out of 191 fatal crashes)

These violations are not only deadly, but prolific. Observing the traffic law violations researchers were trained to identify, in only four locations and for the brief period of 38 hours, researchers recorded a total of 5,952 violations of traffic laws; on average:

- 157 violations every hour
- 3 violations every minute
- Drivers failed to yield the right of way 24 times an hour a total of 904 incidents
- Drivers disregarded traffic controls (including traffic signals, signs and roadway markings) over 100 times an hour a total of 3,798 incidents
- Drivers made illegal turns 11 times an hour a total of 409 incidents
- Drivers crossed a double yellow line, unsafely passed a cyclist, parked or drove in a bicycle lane 19 times an hour- a total of 729 incidents
- Drivers illegally backed up unsafely once an hour a total of 41 incidents
- Drivers were illegally double parked two times an hour a total of 71 incidents

Over 38 hours of surveying, no summonses were issued for traffic law violations.

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## **Violation Totals by Intersection**

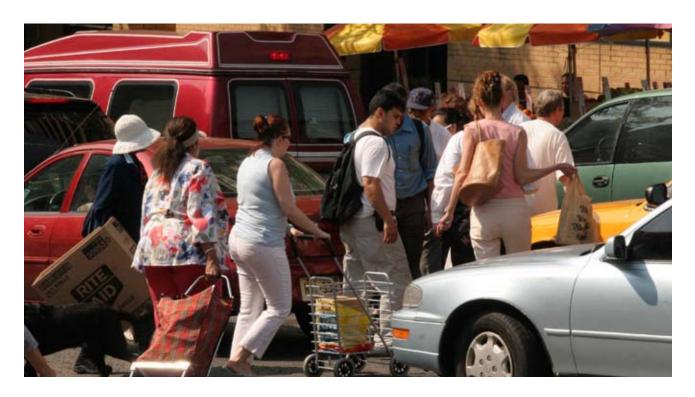
INTERSECTION	TOTAL VIOLATIONS	AVERAGE VIOLATIONS PER HOUR	MOST PERVASIVE VIOLATION
96th Street and Broadway, Manhattan	932	117	Disregard of Traffic Signals (350 violations)
73rd Street and Roosevelt Avenue, Queens	1,830	153	Disregard of Roadway Markings (928 violations)
Smith and Ninth Streets, Brooklyn	2,170	181	Disregard of Roadway Markings (753 violations)
Prospect Place and Carlton Avenue, Brooklyn	1,020	170	Disregard of Traffic Signs (453 violations)
TOTALS	5,952 total violations	157 violations per hour, on average	Disregard of Roadway Markings - Most pervasive traffic law violation

While these intersections vary in classification, from arterials to residential roadways, there is little debate that traffic laws are broken universally, and with abandon—at a minimum of 1 violation every 30 seconds. The high rate of violation at these varying types of intersections demonstrates how habitual traffic law violations are on city streets. These intersections are routine, selected on little more criteria than community concern. They were not selected because they are particularly dangerous or crash prone. Though there are more than 11,800 signalized intersections in New York City, this study documents activity at only four. And even at only four routine intersections in New York City, a study of traffic violations there produces collectively dismal results.

# **Pedestrian Survey Totals**

In a survey of pedestrians in the study areas, it was found that the effects of rampant violations of traffic law have a somehow more widespread side effect: fear. Surveying found that lawless traffic has a serious effect on the quality of life of the pedestrians who navigate it. The survey questioned the travel habits and experiences of 309 pedestrians within one block of three of the survey areas, and found:

- 78% of pedestrians surveyed reported that they had observed drivers breaking the law in the area
- 61% of pedestrians saw drivers break the law somewhat regularly
- 57% of pedestrians felt endangered by traffic while walking in this area, with 25% saying that they felt that way often or very often
- 43% of the pedestrians surveyed said they avoid certain areas or intersections in their neighborhood because they feel endangered by lawless driving



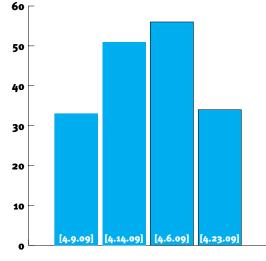
# INTERSECTION PROFILE: 96th Street and Broadway, Manhattan

## **Violation Data**

Researchers observed this intersection from a position on the Broadway median, facing north on the south side of Broadway's intersection with 96th Street. The researchers observed vehicle traffic exclusively originating from north and southbound travel on Broadway, which includes vehicles originating on Broadway and turning onto 96th Street, but not vehicles originating on 96th Street and turning onto Broadway.

Over 8 hours of observations at this location, researchers observed:

- A total of 932 violations
- An average of 117 violations an hour
- Drivers disregarding traffic signals 44 times an hour a total of 350 incidents
- Drivers disregarding traffic signs 23 times an hour a total of 180 incidents
- Drivers disregarding roadway markings 16 times an hour a total of 127 incidents
- Drivers failing to yield to pedestrians 14 times an hour a total of 113 incidents



Traffic Signs Disregarded (Parking)

Total disregard of traffic signals at location: 350

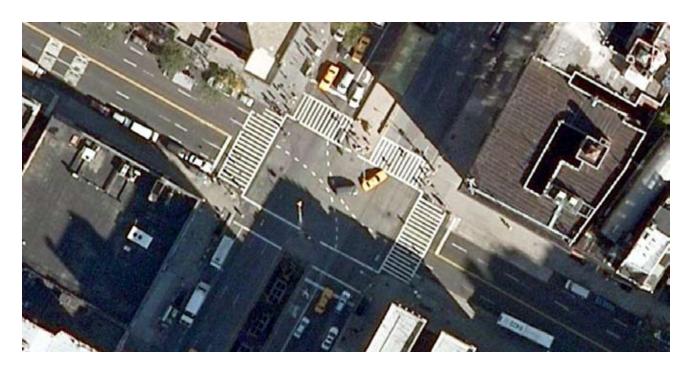
Average disregard of traffic signals: 44 per hour

Average disregard of traffic signals: 1 every 82 seconds

The disregard of traffic signs related to parking and the disregard of traffic signals were notably pervasive violations in the area of 96th Street and Broadway. This is an example of how sampling surveys can dictate enforcement priorities. Were the NYPD studying the frequency of violations at 96th Street and Broadway, the need to focus their enforcement efforts on parking regulations and red light violations there would be clear.

Of the 52 pedestrians surveyed at this location, researchers found:

- 81% of pedestrians had observed drivers breaking the law
- 52% of pedestrians felt endangered by traffic while walking in the area
- 39% of pedestrians avoided certain intersections in their neighborhood because they felt endangered by lawless driving



Crash Data 1995-2005 -- Incidents of a motor vehicle striking a cyclist or a pedestrian:

96th Street and Broadway, Manhattan

- 59 crashes at intersection
- 35 pedestrian injuries
- 24 cyclist injuries
- o fatalities

#### Tila Duhaime, 96th Street Researcher:



Broadway at W 96th Street is a very busy transit hub flanked by tall residential buildings with ground floor commercial establishments. 96th Street is a major cross-town artery between the West Side Highway (with an entrance two blocks west of Broadway) and the 96th Street Central Park transverse (starting three blocks to the east). Many of the road markings on Broadway are heavily worn, faded or missing, and are unlikely to be repaired until after construction to expand the 96th Street Subway Station is complete in late 2010.

The bulk of violations observed at this location were not directly related to the construction project. The dedicated left turn lanes and signals controlling traffic turning from Broadway onto 96th are unusual on the Upper West Side, and many drivers appeared confused about how to negotiate turns at this intersection despite the signals and supplemental signage. Surveyors noted high numbers of motorists running the red light, often in groups of two or three. During one morning study period, a police officer directed traffic, and the red-light running was significantly reduced for that period. Further, extensive midblock parking violations occurred in the bus stops and "loading only" zones on Broadway, with the loading zones in particular being regularly abused by commercial vehicles parked for over an hour without any obvious loading or unloading activity.

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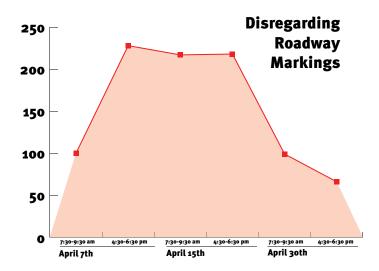
# INTERSECTION PROFILE: 73rd Street and Roosevelt Avenue, Queens

Researchers observed this intersection from a position at the Southwest and Northeast corners of the 73rd Street and Roosevelt Avenue intersection.

### **Violation Data**

Over 12 hours of observation at this location, researchers observed:

- A total of 1,830 violations
- An average of 153 violations an hour
- Drivers disregarding roadway markings 77 times an hour a total of 928 incidents
- Drivers failing to yield to pedestrians 25 times an hour a total of 303 incidents
- Drivers crossing a double yellow line, unsafely passing a cyclist, parking or driving in a bicycle lane 18 times an hour - a total of 219 incidents
- Drivers making illegal turns 13 times an hour a total of 150 incidents
- Drivers disregarding traffic signals 10 times an hour a total of 114 incidents



# Average number of times a driver failed to yield to a pedestrian, per hour: 25.25

The disregard of roadway markings indicating stop lines and crosswalks and the failure to yield to pedestrians were notably pervasive violations in the area of 73rd Street and Roosevelt Avenue. This is an example of how sampling surveys can dictate enforcement priorities. Were the NYPD studying the frequency of violations at 73rd Street and Roosevelt Avenue, the need to focus their enforcement efforts on the disregard of roadways markings and the failure to yield there would be clear.

# Crash Data 1995-2005 -- Incidents of a motor vehicle striking a cyclist or a pedestrian:

- 39 crashes at intersection
- 32 pedestrian injuries
- 6 cyclist injuries
- 1 pedestrian fatality

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Julia Cohen, 73rd Street Researcher:

73rd Street and Roosevelt Avenue, Queens

Roosevelt is a two-way street, while 73rd Street is one-way. Roosevelt Avenue is marked as a two-lane road but is used by the drivers we observed as a four-lane road, leading to frequent conflicts on its busier stretches. The intersection we surveyed is located between two very busy entrances to the subway (on Roosevelt between 75th and 76th Street and on 37th Road between Broadway and 74th Street), producing a lot of pedestrian traffic. The Roosevelt Avenue subway station is also a major bus terminal, producing a great deal of bus traffic on Roosevelt Avenue where we surveyed.

By far, the most frequent violation observed at our intersection was vehicles stopping past or rolling through the stop line that precedes the crosswalk. This was true on all four corners of our intersection. It seems that few vehicles treated that line as a road marking dictating a stop, but found it perfectly acceptable to roll up to and even into the cross-walk.

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# INTERSECTION PROFILE: Smith Street and 9th Street, Brooklyn

Researchers observed this intersection from positions at the southeast corner of Smith and Ninth Streets, observing westbound traffic passing through the intersection, as well as from a position mid-block on the east side of Smith Street nearest to Garnet Street, observing northbound traffic.

### **Violation Data**

Over 12 hours of observation at this location, researchers observed:

- A total of 2,170 violations
- An average of 181 violations an hour
- Drivers disregarding roadway markings 63 times an hour a total of 753 incidents
- Drivers disregarding traffic signs 38 times an hour a total of 455 incidents
- Drivers failing to yield to pedestrians 26 times an hour a total of 307 incidents
- Drivers making illegal turns 16 times an hour a total of 195 incidents
- Drivers crossing a double yellow line, unsafely passing a cyclist, parking or driving in a bicycle lane 16 times an hour a total of 197 incidents
- Drivers disregarding traffic signals 13 times an hour a total of 158 incidents

Number of times that a driver disregarded a traffic sign in 12 hours of surveying: 455

Average number of times that a driver disregarded a traffic sign every 5 minutes during surveying: 3.15

Number of cars that ignored a roadway marking: 753

Average number of times this happened per minute during 12 hours of surveying: 1.05

The disregard of stop signs and roadway markings were notably pervasive violations in the area of Smith and Ninth Streets. This is an example of how sampling surveys can dictate enforcement priorities. Were the NYPD studying the frequency of violations at Smith and Ninth Streets, the need to focus their enforcement efforts on the disregard of roadways markings and stop signs there would be clear.

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Of the 163 pedestrians surveyed at this location, researchers found:

- 67% of pedestrians had observed drivers breaking the law
- 58% of pedestrians felt endangered by traffic while walking in the area
- 50% of pedestrians avoided certain intersections in their neighborhood because they felt endangered by lawless driving



# Crash Data 1995-2005 -- Incidents of a motor vehicle striking a cyclist or a pedestrian:

Smith and 9th Streets, Brooklyn

- 2 crashes at intersection
- 1 pedestrian injury
- 1 cyclist injury
- o fatalities

#### Dave 'Paco' Abraham, Smith Street Researcher:



The Smith and Ninth Street intersection encapsulates traffic chaos in New York City. Though far smaller in size than the gridlocked intersections of Manhattan, it highlights a messy entanglement of people and vehicular dangers. More amazing than the wealth of interactions at each corner is the fact that street users consider it 'just the way it is' in Brooklyn and adapt their own behavior for safety rather than demand change.

Smith and Ninth is the heart of three populous neighborhoods - Red Hook to the south, Gowanus to the East, and Carroll Gardens to the north and west. Pedestrians from a wide radius come here every weekday for the prime mass transit option, the F & G elevated subway station, and to a lesser extent the B75 & B77 bus lines. It also sees hundreds of daily cyclists along the bicycle routes on both Smith and 9th streets. However, it also sees heavy vehicle traffic beyond buses. Both cars and large trucks traverse the intersection regularly, often having just come from the Brooklyn Queens Expressway. Smith runs northbound one way, with a very sizable moving lane and no standing on either side, but allows parking and narrows slightly past 9th, which bisects it running east-west. Ninth is a three-lane roadway, which becomes a one-way lane to the West, allowing two lanes of parking, and two-way to the east. Here it allows traffic to make one of the City's rare, but legal, right on reds heading over the Gowanus Canal Bridge. There are four painted crosswalks, and a special 'Stop Here on Red' striping at the NE corner to allow oversize vehicles turning right off Smith a safer turning area.

Surveyors noted every type of violation on the checklist, though disregarded signs and stripes stood out more than any others. On the Northeast corner of Ninth Street drivers regularly disregarded the 'Stop here on red' sign and corresponding striping. Many tire marks are pressed into the sidewalk and pedestrians (surveyors included) were often just inches away from being clipped by a few turning tons of momentum. Another oddity is the larger than 50-foot one way road that gives drivers a feeling that they can back up safely. Several vehicles were noted backing up hundreds of feet, with enough room to move away from oncoming traffic. Perhaps a neckdown, chicane, or greenstreet would help restrict this area.



# INTERSECTION PROFILE: Prospect Place and Carlton Avenue, Brooklyn

Researchers observed this intersection from positions at the northeast corner of Prospect Place and Carlton Avenue, observing westbound traffic on Prospect Avenue, as well as from a position mid-block on the east side of Carlton Avenue, observing northbound traffic on Carlton Avenue.

### **Violation Data**

Over 6 hours of observation at this location, researchers observed:

- A total of 1,020 violations
- An average of 170 violations an hour
- Drivers disregarding traffic signs 76 times an hour a total of 453 incidents
- Drivers crossing a double yellow line, unsafely passing a cyclist, parking or driving in a bicycle lane 42 times an hour - a total of 254 incidents
- Drivers disregarding roadway markings 40 times an hour a total of 241 incidents

Average number of cars per 2-hour session that crossed a double yellow line, unsafely passed a cyclist, parked or drove in a bicycle lane: 84.66

Number of cars that disregarded a traffic sign at this non-signalized intersection in 6 hours of surveying: 453, or an average of more than 1 car per minute

The disregard of traffic signs and roadway markings were notably pervasive violations in the area of Prospect Place and Carlton Avenue. This is an example of how sampling surveys can dictate enforcement priorities. Were the NYPD studying the frequency of violations at Prospect Place and Carlton Avenue, the need to focus their enforcement efforts on the disregard of roadways markings and traffic signs there would be clear.

### **Pedestrian Data**

Of the 47 pedestrians surveyed at this location, researchers found:

- 89% of pedestrians had observed drivers breaking the law
- 70% of pedestrians felt endangered by traffic while walking in the area
- 38% of pedestrians avoided certain intersections in their neighborhood because they felt endangered by lawless driving

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# Crash Data 1995-2005 -- Incidents of a motor vehicle striking a cyclist or a pedestrian:

Prospect Place and Carlton Avenue, Brooklyn

- 4 crashes at intersection
- 3 pedestrian injury
- 1 cyclist injury
- o fatalities

#### **Kyle Gebhart, Prospect Place Researcher:**



Prospect Place and Carlton Avenue are both tree-lined streets comprised of three and four story brownstones and row houses in the residential neighborhood of Prospect Heights. Each street has one lane of one-way traffic, with Carlton Avenue running northbound and Prospect Place running westbound intersecting at a four-way stop. Both streets have a row of parked cars against each curb. Just one block to the south and west is the heavily traveled Flatbush Avenue running at a diagonal. This results in high volumes of traffic utilizing the residential streets of both Prospect Place and Carlton Avenue. Running north on Carlton Avenue is a Class II striped bicycle lane on the east side of the street, just to the left of parked cars. The intersection receives heavy pedestrian volumes on all four marked crosswalks, as an entrance to the 7th Avenue B/Q subway sits on the southeast corner.

With three modes heavily making use of the small space, traffic violations prove to be dangerous, yet are observed to be not at all rare. The vast majority of vehicles entering the four-way stop were observed to frequently not come to a complete stop, and instead "rolling" through the intersection, often at excessive speeds. Pedestrians were often forced to yield to violating automobiles even though crosswalks are clearly marked. Furthermore, parking violations on the mid-block of Carlton Avenue, just south of the intersection, proved problematic for efficient and safe usage of the intersection. This was typically the result of cars double-parking either completely blocking the bicycle lane (if double-parked on the east side) or forcing cars into the bicycle lane (if double-parked on the west side).

## **Recommendations**

#### NYPD, STUDY TRAFFIC LAW COMPLIANCE and DEPLOY ACCORDINGLY:

Currently the NYPD only records the number of summonses issued to offending drivers. This number is often touted as a definition of increased traffic law compliance. However, like the number of prescriptions one takes being a poor measure of their health, the number of summons issued is a poor indicator of the safety of traffic. The number of summonses issued to law breaking drivers does not relate to the number of times the law is broken. Through sampling studies like those employed in this report, the NYPD could efficiently deduce the level of traffic law compliance, and redeploy resources accordingly. This data should be publicly reported, alongside relevant crash data, to allow a community understanding of the level of dangerous traffic in every neighborhood.

From Chaos to Compliance: How the NYPD Can Grasp New York City's Traffic Safety Problem outlines the processes and demonstrates the procedures for efficient traffic violation data collection. The following steps are recommended as a procedure for how the NYPD can document the Wild West nature of city streets:

- 1. To begin, at minimal cost and resources allocate, the NYPD could identify a select number of the most crash prone intersections in each borough and monitor them for a select number of the most dangerous violations, as dictated by the Department of Motor Vehicles' cataloging of human contributing factors to crashes. These violations include, in order of frequency with which they cause crashes:
  - 1. Failure to Yield the Right of Way
  - 2. Following Too Closely, or Tailgating
  - 3. Speeding
  - 4. Disregard of Traffic Controls
  - 5. Turning Improperly
- 2. In addition to manual sampling studies, the NYPD should employ automated monitoring cameras to measure the rate of traffic law compliance with traffic signals and speed limits.
- 3. Begin 311-enabled traffic violation reporting, so New Yorkers can easily report traffic violations as they occur, creating a real-time map of the pervasiveness of dangerous driver behavior on New York City streets.
- 4. Based on the precedent for public accountability in pedestrian safety efforts set by Local Law 23-2008 and Local Law 11-2008, which requires the NYC Department of Transportation to collect and monitor data with the goal of reducing automobile traffic and improving street safety, the New York City Council should introduce and pass a bill requiring the NYPD to monitor traffic law compliance and provide annual reportage of their efforts.

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The chaos of city streets is observable from any New York street corner. The NYPD must respond to the Wild West conditions of New York's roadways. The knowledge gained from the drastic reduction in crime in New York City over the past 20 years points to information collection and analysis as the source of New York's newfound safety. Without similar data collection and timely, publically accessible information for the state of traffic law violations as there is for crime, resources cannot be effectively deployed and progress cannot be made to solve the problem.

**From Chaos to Compliance** was conducted to prove that the breadth of lawlessness on New York City streets can be documented, and to demonstrate the simple method for accurate, quantitative problem measurement. Only by observing compliance with traffic law and comparing that data directly to NYPD summonsing efforts can the effectiveness of current enforcement efforts be determined.



# **Appendix A: Traffic Violations Surveyor Instructions**

**Surveyor 1 –** Observe the traffic flow on one street moving through the intersection at your survey location (i.e. if surveying E 65th St. and Lexington Ave., observe the traffic on either E 65th St. or Lexington Ave., not both).

**Surveyor 2** – Observe the traffic on a block which touches the intersection being surveyed, but not the intersection itself (i.e. if surveying E 65th St. and Lexington Ave., count violations on Lexington Ave. between 65th and 66th St. or 64th and 65th St.; you could also observe E 65th St. between Lexington Ave. and Park Ave. or between Lexington Ave. and 3rd Ave.).

#### **Types of Violations:**

**Failure to Yield – Car:** Any violation in which an automotive vehicle (car, truck, bus, etc.) fails to yield to another road user (car, bike, etc.). Includes: disregarding a yield sign, merging improperly, cutting another car off.

**Failure to Yield – Ped:** A violation in which a road user (car, truck, bike, etc.) fails to yield to a Pedestrian. Most common: entering the crosswalk while pedestrian has the light without pausing or coming to a stop before doing so.

**Disregarded – Light, Stripe, Sign:** Failing to obey the traffic indicators which tell road users how to behave. "Light" includes all traffic signals (stoplight, blinking yellow yield); "stripe" includes all painted markings (double yellow line, lane indicator line); "sign" includes all traffic signs (stop sign, no parking/no standing sign).

**Turning Improperly:** U-turns where not indicated, right on red, left turn where prohibited.

**Passing/Lane Usage:** Unsafe distance when passing cyclist/school bus, driving/parking in bus/bike/emergency lane.

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## **Appendix B: Traffic Violations Pedestrian Survey**

■ No

Are you a resident of the neighborhood?

☐ Yes

What is your age?							
What is your primary mo	de of tr	anspor	tatio	n when tr	aveling	to:	
	Walk	Bike	Sub	way/Bus	Taxi	Car	
Work/School	1	2	3		4	5	
Social Visits	1	2	3		4	5	
Shopping	1	2	3		4	5	
Recreation	1	2	3		4	5	
How safe is this area for:	Very S	afo S	afo	Average	Uncaf	. E	Extremely Unsafe
Pedestrians	1		2	3	4	e L	5
Cyclists	1	2	2	3	4		5
Drivers	1	2	2	3	4		5
Have you ever observed o ☐ Yes	drivers I		ng th	e law in tl	nis area	?	
If yes, how often have yo □ Very Often □ Often □		_				ently	y 🗖 Very Infrequently
Have you ever felt endan ☐ Yes	gered b	-	ic wh	ile walkin	g in thi	s are	ea?
If yes, how often have yo ☐ Very Often ☐ Often ☐		•		ılarly 🗖	Infrequ	ently	y 🗖 Very Infrequently
Do you avoid certain area lawless driving?	is/inter		ns in	your neig	hborha	od b	ecause you feel endangered by

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### **Appendix C: Traffic Law Violations to Survey**

### **Double Parking**

§ 1200. Basic rules.

- (a) When stopping is prohibited by this article, or by local law, ordinance, order, rule or regulation, no person shall stop, stand or park a vehicle, whether occupied or not, except when necessary to avoid conflict with other traffic or in compliance with the directions of a police officer or traffic-control sign or signal.
- (b) When standing is prohibited by this article, or by local law, ordinance, order, rule or regulation, no person shall stand or park a vehicle, whether occupied or not, but may stop temporarily for the purpose of and while actually engaged in receiving or discharging passengers.
- (c) When parking is prohibited by this article, or by local law, ordinance, order, rule or regulation, no person shall park a vehicle, whether occupied or not, but may stop or stand temporarily for the purpose of and while actually engaged in loading or unloading merchandise or passengers.
- (d) When official signs have been posted prohibiting, restricting or limiting the stopping, standing or parking of vehicles on any highway, no person shall stop, stand or park any vehicle in violation of the restrictions stated on such signs.

### Parking in, Driving in, Obstructing Bike Lanes

RCNY §4-12 (2) — "Driving on or across bicycle lanes prohibited. No person shall drive a vehicle on or across a designated bicycle lane, except when it is reasonable and necessary: (i) to enter or leave a driveway; or (ii) to enter or leave a legal curbside parking space; or (iii) to cross an intersection; or (iv) to make a turn within an intersection; or (v) to comply with the direction of any law enforcement officer or other person authorized to enforce this rule; or (vi) to avoid an obstacle which leaves fewer than ten feet available for the free movement of vehicular traffic. Notwithstanding any other rule, no person shall drive a vehicle on or across a designated bicycle lane in such manner as to interfere with the safety and passage of persons operating bicycles thereon."

RCNY §4-12 (s) – "Crossing buffer zones. (1) For the purposes of this subdivision, a buffer zone is defined as an area in the roadway, created by white lines, that is used to separate a parking lane from a travel lane or a bicycle lane from a travel lane, as indicated on the diagram below.

(2) No person shall drive a motor vehicle on or across a designated buffer zone, except when it is reasonable and necessary to enter or leave a legal curbside parking space or a driveway."

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### **Unsafe Backing**

§ 1211. Limitations on backing.

- (a) The driver of a vehicle shall not back the same unless such movement can be made with safety and without interfering with other traffic.
- (b) The driver of a vehicle shall not back the same upon any shoulder or roadway of any controlled-access highway.
- (c) The driver of a motor vehicle engaged in retail sales of frozen desserts as that term is defined in subdivision thirty-seven of section three hundred seventy-five of this chapter directly to pedestrians shall not back the same to make or attempt to make a sale.

### **Disregard of Roadway Marking**

§ 1128. Driving on roadways laned for traffic. Whenever any roadway has been divided into two or more clearly marked lanes for traffic the following rules in addition to all others consistent herewith shall apply:

- (a) A vehicle shall be driven as nearly as practicable entirely within a single lane and shall not be moved from such lane until the driver has first ascertained that such movement can be made with safety.
- (b) Upon a roadway which is divided into three lanes and provides for two-way movement of traffic a vehicle shall not be driven in the center lane except when overtaking and passing another vehicle traveling in the same direction when such center lane is clear of traffic within a safe distance, or in preparation for making a left turn or where such center lane is at the time allocated exclusively to traffic moving in the same direction that the vehicle is proceeding and such allocation is designated by official trafficcontrol devices.
- (c) When official traffic-control devices direct slow-moving traffic, trucks, buses or specified types of vehicles to use a designated lane or designate those lanes to be used by traffic moving in a particular direction regardless of the center of the roadway, drivers of vehicles shall obey the directions of every such sign, signal or marking.
- (d) When official markings are in place indicating those portions of any roadway where crossing such markings would be especially hazardous, no driver of a vehicle proceeding along such highway shall at any time drive across such markings.

### Failure to Yield the Right of Way (to a Vehicle or a Pedestrian)

§ 1142. Vehicle entering stop or yield intersection.

- (a) Except when directed to proceed by a police officer, every driver of a vehicle approaching a stop sign shall stop as required by section eleven hundred seventy-two and after having stopped shall yield the right of way to any vehicle which has entered the intersection from another highway or which is approaching so closely on said highway as to constitute an immediate hazard during the time when such driver is moving across or within the intersection.
- (b) The driver of a vehicle approaching a yield sign shall in obedience to such sign slow down to a speed reasonable for existing conditions, or shall stop if necessary as provided in section eleven hundred seventy-two, and

shall yield the right of way to any pedestrian legally crossing the roadway on which he is driving, and to any vehicle in the intersection or approaching on another highway so closely as to constitute an immediate hazard during the time such driver is moving across or within the intersection. Provided, however, that if such driver is involved in a collision with a pedestrian in a crosswalk or a vehicle in the intersection after driving past a yield sign without stopping, such collision shall be deemed prima facie evidence of his failure to yield the right of way.

### **Illegal Turn**

§1163. Turning movements and required signals.

- (a) No person shall turn a vehicle at an intersection unless the vehicle is in proper position upon the roadway as required in section eleven hundred sixty, or turn a vehicle to enter a private road or driveway, or otherwise turn a vehicle from a direct course or move right or left upon a roadway unless and until such movement can be made with reasonable safety. No person shall so turn any vehicle without giving an appropriate signal in the manner hereinafter provided.
- (b) A signal of intention to turn right or left when required shall be given continuously during not less than the last one hundred feet traveled by the vehicle before turning.
- (c) No person shall stop or suddenly decrease the speed of a vehicle without first giving an appropriate signal in the manner provided herein to the driver of any vehicle immediately to the rear when there is opportunity to give such signal.
- (d) The signals provided for in section eleven hundred sixty-four shall be used to indicate an intention to turn, change lanes, or start from a parked position and not be flashed on one side only on a parked or disabled vehicle, or flashed as a courtesy or "do pass" signal to operators of other vehicles approaching from the rear.
- (e) The driver of a vehicle equipped with simultaneously flashing signals as provided for in subdivision eighteen-a of section three hundred seventy-five shall use such signals when the vehicle is stopped or disabled on a public highway, except when such vehicle is stopped in compliance with a traffic-control device or when legally parked. The driver of a vehicle so equipped may use such signals whenever necessary to warn the operators of following vehicles of the presence of a traffic hazard ahead of the signaling vehicle, or to warn the operators of other vehicles that the signaling vehicle may itself constitute a traffic hazard, taking into account traffic and highway conditions. No person shall use such signals for any other purpose.

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### **Illegal Passing or Lane Usage**

§ 1120. Drive on right side of roadway; exceptions.

- (a) Upon all roadways of sufficient width a vehicle shall be driven upon the right half of the roadway, except as follows:
- 1. When overtaking and passing another vehicle proceeding in the same direction under the rules governing such movement;
- 2. When overtaking or passing pedestrians, animals or obstructions on the right half of the roadway;
- 3. When an obstruction exists making it necessary to drive to the left of the center of the highway; provided, any person so doing shall yield the right of way to all vehicles traveling in the proper direction upon the unobstructed portion of the highway within such distance as to constitute an immediate hazard;
- 4. Where travel on the shoulder or slope is permitted by section eleven hundred thirty-one of this article;
- 5. Upon a roadway divided into three marked lanes for traffic under the rules applicable thereon; or
- 6. Upon a roadway restricted to one-way traffic.
- (b) In addition, upon all roadways, any vehicle proceeding at less than the normal speed of traffic at the time and place and under the conditions then existing shall be driven in the right-hand lane then available for traffic, or as close as practicable to the right-hand curb or edge of the roadway, except when overtaking and passing another vehicle proceeding in the same direction or when preparing for a left turn at an intersection or into a private road or driveway.
- (c) Upon any roadway having four or more lanes for moving traffic and providing for two way movement of traffic, no vehicle shall be driven to the left of the center line of the roadway, except when authorized by signs or markings designating certain lanes to the left side of the center of the roadway for use by traffic not otherwise permitted to use such lanes, or except as permitted under subsection (a) (2) hereof.

### Disregard of Traffic Controls (Signal and Signs)

§1110. Obedience to and required traffic-control devices.

- (a) Every person shall obey the instructions of any official traffic-control device applicable to him placed in accordance with the provisions of this chapter, unless otherwise directed by a traffic or police officer, subject to the exceptions granted the driver of an authorized emergency vehicle in this title.
- (b) No provision of this title for which signs are required shall be enforced against an alleged violator if at the time and place of the alleged violation an official sign is not in proper position and sufficiently legible to be seen by an ordinarily observant person. Whenever a particular section does not state that signs are required, such section shall be effective even though no signs are erected or in place.
- (c) Whenever official traffic-control devices are placed in position approximately conforming to the requirements of this chapter, such devices shall be presumed to have been so placed by the official act or direction

- of lawful authority, unless the contrary shall be established by competent evidence.
- (d) Any official traffic-control device placed pursuant to the provisions of this chapter and purporting to conform to the lawful requirements pertaining to such devices shall be presumed to comply with the requirements of this chapter, unless the contrary shall be established by competent evidence.
- (e) For purposes of this article, "intersection" shall include the area embracing the juncture of a highway with a private road or driveway and "intersecting roadway" shall include an intersecting private road or driveway.

### Safe Passing of a School Bus

§ 1174. Overtaking and passing school bus.

- (a) The driver of a vehicle upon a public highway, street or private road upon meeting or overtaking from either direction any school bus marked and equipped as provided in subdivision twenty of section three hundred seventy-five of this chapter which has stopped on the public highway, street or private road for the purpose of receiving or discharging any passengers, or which has stopped because a school bus in front of it has stopped to receive or discharge any passengers, shall stop the vehicle before reaching such school bus when there is in operation on said school bus a red visual signal as specified in subdivision twenty of section three hundred seventy-five of this chapter and said driver shall not proceed until such school bus resumes motion, or until signaled by the driver or a police officer to proceed. For the purposes of this section, and in addition to the provisions of section one hundred thirty-four of this chapter, the term "public highway" shall mean any area used for the parking of motor vehicles or used as a driveway located on the grounds of a school or of a board of cooperative educational services facility or any area used as a means of access to and egress from such school or facility.
- (b) The driver of such school bus, when receiving or discharging passengers who must cross a public highway, street or private road, shall instruct such passengers to cross in front of the bus and the driver thereof shall keep such school bus halted with red signal lights flashing until such passengers have reached the opposite side of such highway, street or private road. Whether such passengers are crossing such highway street or private road or discharging to the same side of such highway, street or private road, the driver of such bus shall keep such school bus halted with red signal lights flashing until such passengers are at least fifteen feet from the bus and either off the highway, street or private road or on a sidewalk.
- (c) Every person convicted of a violation of subdivision (a) of this section shall: for a first conviction thereof, be punished by a fine of not less than two hundred fifty dollars nor more than four hundred dollars or by imprisonment for not more than thirty days or by both such fine and imprisonment; for a conviction of a second violation, both of which were committed within a period of three years, such person shall be punished by a fine of not less than six hundred dollars nor more than seven hundred

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fifty dollars or by imprisonment for not more than one hundred eighty days or by both such fine and imprisonment; upon a conviction of a third or subsequent violation, all of which were committed within a period of three years, such person shall be punished by a fine of not less than seven hundred fifty dollars nor more than one thousand dollars or by imprisonment for not more than one hundred eighty days or by both such fine and imprisonment.

(d) For the purposes of this section, the term "passengers" shall mean those persons designated in paragraph (d) of subdivision twenty of section three hundred seventy-five of this chapter.

### Safe Passing of a Cyclist

§ 1146. Drivers to exercise due care. Notwithstanding the provisions of any other law to the contrary, every driver of a vehicle shall exercise due care to avoid colliding with any bicyclist, pedestrian or domestic animal upon any roadway and shall give warning by sounding the horn when necessary. For the purposes of this section, the term "domestic animal" shall mean domesticated sheep, cattle and goats which are under the supervision and control of a pedestrian.

### **Appendix D: Traffic Violations Tally Sheet - AM**



127 West 26th Street, Suite 1002 New York, NY 10001 (212) 629-8080 fax (212) 629-8334

### Traffic Violations Survey

Surveyor:	
Location:	

Date: Start Time: End Time:

	8:30 - 8:45	8:45 - 9:00	9:00 - 9:15	9:15 - 9:30
Failure to Yield - Car				
Failure to Yield - Ped				
Disregarded - Light				
Disregarded - Stripe				
Disregarded - Sign				
Turning Improperly				
Passing/Lane Usage				
Backing Unsafely				
Double Parking				

Please count each violation in fifteeen minute increments. Use one line per violation (|) and group five together.

### **Appendix E: Traffic Violations Tally Sheet - PM**

# Please return to: Transportation Alternatives Your advocate for bicycling. walking and public transit

127 West 26th Street, Suite 1002 New York, NY 10001 (212) 629-8080 fax (212) 629-8334

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End Time:

### **Traffic Violations Survey**

Surveyor:	
Location:	
Date:	Start Time:

	5:30 - 5:45	5:45 - 6:00	6:00 - 6:15	6:15 - 6:30
Failure to Yield - Car				
Failure to Yield - Ped				
Disregarded - Light				
Disregarded - Stripe				
Disregarded - Sign				
Turning Improperly				
Passing/Lane Usage				
Backing Unsafely				
Double Parking				

Please count each violation in fifteeen minute increments. Use one line per violation (|) and group five together.

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OUR MISSION IS TO RECLAIM NEW YORK CITY'S STREETS FROM THE AUTOMOBILE, AND TO ADVOCATE FOR BICYCLING, WALKING AND PUBLIC TRANSIT AS THE BEST TRANSPORTATION ALTERNATIVES.