A COMMUNITY-CENTERED STUDY OF BEHAVIORAL FACTORS WHICH MAY INCREASE RISK OF TRAFFIC ACCIDENTS:

FINAL REPORT OF

DOCTORAL PROGRAM FIELD EXPERIENCE

Mark W. Hoglund

October 15, 2013

School of Public Health
SUNY Downstate Medical Center

A COMMUNITY-CENTERED STUDY OF BEHAVIORAL FACTORS WHICH MAY INCREASE RISK OF TRAFFIC ACCIDENTS: FINAL REPORT OF FIELD EXPERIENCE

ABSTRACT / EXECUTIVE SUMMARY

Mark W. Hoglund
October 15, 2013

This study, which was conducted under the auspices of Brooklyn Community Board 14 and carried out within its boundaries, had two purposes: (1) conducting a short opinion survey to ascertain community perceptions regarding behaviors of bicycle riders, pedestrians, and motorists believed to be important risk factors for accidents, and (2) conducting structured observations to investigate the frequency of these behaviors in various locations within Community District 14. The study contributes to understanding behavioral factors that lead to traffic accidents in the streets of Brooklyn so that accidents can be prevented.

141 respondents, including 75 residents of Community District 14, were recruited and interviewed at seven separate locations. From their responses, 16 behavioral risk factors were identified as community concerns, of which 12 were selected for structured observation:

Bicycle Riders

- Riding against the direction of traffic.
- Ignoring traffic signals or trying to beat them.
- Riding on the sidewalk.
- Riding without wearing a helmet.
- Weaving in and out of traffic or riding in the center of the street.

Pedestrians

- Ignoring traffic signals
- Using cell phones (talking or texting)
- Crossing mid-block or coming out between cars

Drivers

- Speeding
- Not yielding the right-of-way
- Using cell phones
- Going through red lights or trying to make it through yellow lights

Separate timed observations of specific behaviors were conducted in several locations throughout Community District 14. In addition, in several locations timed observations were conducted to watch for any behavior or combination of behaviors which appeared to create a genuinely risky situation.

Results. While the focus was on separate behaviors, few truly risky incidents were observed, although examples of the community-identified risk behaviors were plentiful. No bicycle rider was observed to be at immediate risk of accident, although 71% were not wearing helmets, 18% rode against traffic, and 18% crossed intersections against the light. Pedestrians generally crossed against the light only when no oncoming vehicles were close. Cell phone users observed in crosswalks generally crossed with the lights or when no oncoming traffic was nearby. The greatest risk to pedestrians appeared to be entailed in crossing the street mid-block on busy thoroughfares. Speeding by motorists did not appear to be problematic, there were few observed

instances of driver failure to yield to pedestrians, and no risky situations were observed concerning motor vehicles running red or yellow lights. Some drivers were spotted using cell phones on many different avenues within Community District 14, and the actual prevalence is probably greater than what was observed; nevertheless, no incidents were observed in connection with the cell phone use.

However, when the focus shifted to watching for *any* behaviors which entailed palpable risk in the context of the moment, several risky situations were observed during almost every observation, and many examples were recorded. (Examples: pedestrians standing off curb as cars turned the corner close to them; pedestrians using cell phones and crossing against the lights with traffic approaching; vehicles vying for position while making turns and/or interfering with pedestrians in the crosswalks.

Conclusions. Surveying members of the community was a worthwhile approach to identify behaviors that increase traffic accident risks. Engaging in a risk behavior, however, does not automatically place an individual at risk. For an accident or near miss to occur, there must be other contributory factors, events, or circumstances present at that moment. Nevertheless, wherever there is significant pedestrian and vehicle traffic in Community District 14, one doesn't have to wait long to see individuals place themselves or others at risk.

Three possible explanations are suggested here. First, safety in the streets is compromised because many people seem willing to dispense with their margin of safety. Second, safety is compromised because people want, and expect, to get from place to place as quickly as possible. Impatience and being in a hurry seems to be an inherent part of human nature in Brooklyn and New York City. Third, getting from place to place safely requires cooperation, which entails acting in a predictable fashion. People place themselves at greater risk when they do things that cannot be anticipated.

Recommendations. Wherever pedestrian and vehicle traffic is plentiful, public safety would be enhanced by measures which (1) reduce travel speeds and (2) create or enlarge buffer zones between pedestrians, motor vehicles, and bicycle riders. Changes to the physical environment (e.g., bicycle lanes, speed bumps, and traffic signals at shorter intervals) are potentially very effective; however, few currently exist in Community District 14, and the process of making changes can be politically challenging, expensive, and time-consuming. An alternative approach would be to change people's attitudes and behaviors, either by imposing regulations such as reducing the speed limit, or by implementing programs or campaigns to educate the public about the benefits of slowing down, being more patient and cooperative, and staying safely out of harm's way. Community Board 14 may consider sponsoring District-wide initiatives to address these concerns, or the Board can encourage local neighborhood associations to sponsor local initiatives.

A COMMUNITY-CENTERED STUDY OF BEHAVIORAL FACTORS WHICH MAY INCREASE RISK OF TRAFFIC ACCIDENTS: FINAL REPORT OF FIELD EXPERIENCE

Mark W. Hoglund
October 15, 2013

This study was conducted under the auspices of Brooklyn Community Board 14 and with the guidance and support of the Board Chairman, Alvin Berk, and the Transportation Committee Co-chairmen, Morris Sacks and Joseph Basso. Within the boundaries of Community District 14, the Community Board functions as a local extension of City government, helping to inform community members of proposed governmental or non-governmental projects or developments in the district and ensuring that community interests are taken into account by City agencies and private organizations before proposed projects move forward. Members of the Community Board volunteer their time and their services; a small paid staff, led by District Manager Shawn Campbell, provide day-to-day services for the community and support the functions of the Community Board and its various committees.

The purpose of this study was two-fold: (1) to ascertain community perceptions regarding behaviors of bicycle riders, pedestrians, and motorists believed to be important risk factors for accidents, and (2) to investigate the frequency of these behaviors in various locations within Community District 14. The study, which was carried out within Community District 14 boundaries, consisted of two principal phases: a community survey and structured observations. The intent of the survey phase was to enlist the community to identify behaviors of bicycle riders, pedestrians, and motorists which they perceived to be important risk factors for accidents. Tapping the community's own knowledge of these behavioral safety issues was essential to pinpoint relevant issues on which to focus. The intent of the observation phase was to attempt to estimate the incidence of these behaviors in various locations throughout Community District 14.

This study contributes to understanding behavioral factors that lead to traffic accidents in the streets of Brooklyn so that accidents can be prevented. Social changes within the Community District, Brooklyn, and all of New York City are altering safety conditions in the streets. The population of Community District 14 increased by 17% from 1980 to 2000.[1] The number of bicyclists in the streets of Brooklyn appears to be growing rapidly as well, yet relative few streets have any bicycle lanes or other features to help ensure their safety. Cell phone use, especially by pedestrians and drivers, is also seen commonly in the streets of Brooklyn. The latest development (not anticipated by this study) seems to be adolescents' growing use of skateboards as a mode of transportation in the streets. Clearly, these changes bring challenges for all of us to maintain safe practices among all who travel from place to place within the Community District and other parts of Brooklyn and New York City.

PHASE ONE: OPINION SURVEY

A short opinion survey was developed in order to elicit community members' ideas regarding potentially risky behaviors of bicyclists, motorists, and pedestrians. Other than a few questions concerning demographic factors, the survey consisted of open-ended questions which asked whether the respondent had seen bicyclists, motorists, or pedestrians do things that would increase the chances of a serious accident, and open-ended questions asking what advice the respondent would give bicyclists, motorists, or pedestrians to be safer in the streets. In order to avoid influencing responses, the questionnaire avoided mentioning or describing any

[1] Brooklyn Community Board. Wikipedia. http://en.wikipedia.org/wiki/Brooklyn_Community_Board_14. (Accessed October 5, 2013.]

particular behaviors; all respondent responses were therefore unprompted. A copy of the survey questionnaire is provided in the Exhibit.

Between June 29 and July 27, respondents were recruited and interviewed at seven separate locations (five commercial thoroughfares within Community District 14, plus two bicycle stores located near to, but outside of, the District). A total of 139 individuals[2] were interviewed; two additional respondents mailed completed questionnaires to me. This gave a total of 141 respondents, of whom 75 resided within the boundaries of Community District 14 and 66 did not. Table One provides a breakout of survey dates, locations, and numbers of respondents.

Table One. Survey locations.

Date	Location	Respondents	
		CD14 Residents	Non-CD14 Residents
June 29, 2013	Church Avenue between East 17th Street and St. Paul's Place	13	8
July 6, 2013	Outside Roy's Sheepshead Cycles, Coney Island Avenue near Avenue X	2	15
July 7, 2013	Avenue J between East 14th Street and East 15th Street	14	8
July 13, 2013	Outside Larry's Cycle Shop, Flatbush Avenue near Avenue K	2	13
July 20, 2013	Cortelyou Road between Rugby Road and Marlborough Road	17	7
July 21, 2013	Avenue M between East 16th Street and East 17th Street	12	9
July 27, 2013	Newkirk Plaza (pedestrian shopping area surrounding Brighton line subway station between Newkirk Road and Foster Avenue)	15	6

Demographic profile of CD14 resident respondents. Table Two displays the distribution of Community District 14 resident respondents by various demographic categories. Random sampling was not feasible within the scope of this project, and our convenience sample should not be construed as representative of the community at large. One clear divergence is seen in the racial/ethnic category: our sample included 55% white respondents, whereas the 2010 census estimated the non-Hispanic white population of Community District 14 to be about 36%.[3] Our sample may also have been older on average than the general population and may have also disproportionately represented males. The inability to obtain a representative sample did not, however, constitute a serious impediment to this study: our purpose was not to assess the distribution of views regarding traffic safety issues, but rather to identify important factors to address.

Geographic distribution of respondents was considered to be important, though, as traffic safety issues may vary by neighborhood within Community District 14. Therefore, as shown is Table One, surveying was carried out at five different community locations.

An important objective of the survey process was to obtain perspectives from all three constituencies whose safety-related behaviors were under scrutiny: bicycle riders, pedestrians, and motorists. The pedestrian perspective was easily captured because most of our surveying took place on sidewalks outside local businesses; a sufficient proportion of these individuals also identified themselves as frequent drivers or

[2] In one instance involving a married couple, both individuals contributed to answering the survey questions.

[3] Brooklyn Community Board. Wikipedia. http://en.wikipedia.org/wiki/Brooklyn_Community_Board_14. (Accessed October 5, 2013.]

frequent passengers in motor vehicles. In order to help assure sufficient representation of bicycle riders, two days were devoted to surveying outside bicycle shops. Among our sample, almost everyone self-identified as frequent pedestrians; to distill a more unique pedestrian perspective, I identified those who drive or ride bicycles less than once per month. Similarly, to distill a more distinct passenger perspective, I identified those who drive less than once per week. Thus, Table Two displays the distribution of four different (but somewhat overlapping) constituencies: bicycle riders, drivers, pedestrians who drive or ride bicycles less than once per month, and motor vehicle passengers who drive less than once per week.

Table Two. Demographic profile of Community District 14 resident respondents.

Factor		CD 14 resident respondents (n = 75)
Age	40 or over	**45 (60%)**
	18-39	**30 (40%)**
Gender	Female	**35 (46.7%)**
	Male	**39 (52.0%)**
	Couple (M+F)	**1 (1.3%)**
Race / ethnicity (3 non-responses)	White	**41 (55.4%)**
	Non-white or other	**33 (44.6%)**
Ride a bicycle about once per week or more often	Yes	**16 (21.3%)**
	No	**59 (78.7%)**
Go places on foot about once per week or more often, but drive and bike less than once per month *	Yes	**29 (38.7%)**
	No	**46 (61.3%)**
Drive a car or other motor vehicle about once per week or more often	Yes	**29 (38.7%)**
	No	**46 (61.3%)**
Ride as a passenger about once per week or more often, but drive less than once per week. (2 non-responses)	Yes	**20 (26.7%)**
	No	**55 (73.3%)**

* Almost everyone interviewed goes places on foot several times each week. This is to identify a subset that generally don't drive or ride bicycles.

Findings from the opinion survey. Table Three displays the most commonly identified risk behaviors of bicycle riders, pedestrians, and drivers, as identified by bicycle riders, pedestrians, and drivers. It should be remembered that the opinion survey presented open-ended questions asking respondents to identify risky behaviors. Therefore, the fact that (for example) only three drivers out of 29 identified cell phone use by drivers as a risky behavior does not necessarily mean that that other 26 drivers disagree; it may simply indicate that the behavior didn't come to mind when they were responding to the survey. Furthermore, some behaviors are more easily observed and identified than others; for example, it is easier to see a pedestrian using a cell phone while crossing the street than to see a driver using a cell phone while driving along a busy street. The percentage of respondents who identified a particular behavior as risky may also not correlate with the degree of risk involved in a particular behavior.

Nevertheless, if a sizeable proportion of respondents identified a factor without prompting, it is a direct indication of the degree of *concern* that community members have about that factor. On that basis, it is

important to address those factors, not only to reduce the incidence of traffic accidents, but to allay people's fears and make them feel safer when they are out and about. Therefore, the degree of community awareness and concern, expressed in percentage terms, was an important consideration in selecting factors to investigate during the observation phase of this study.

Table Three. Factors identified by CD 14 resident bicycle riders, pedestrians, and drivers as risk factors and/or behaviors which they would advise bicycle riders, pedestrians, or drivers to avoid.

Factor	CB 14 resident bicycle riders [1] who cited this factor (n = 16)	CB 14 resident pedestrians [2] who cited this factor (n = 29)	CB 14 resident drivers [3] who cited this factor (n = 29)
Bicycle Riders: Riding against the direction of traffic.	11 (68.8%)	9 (31.0%)	12 (41.4%)
Bicycle Riders: Ignoring traffic signals or trying to beat them.	10 (62.5%)	11 (37.9%)	13 (44.8%)
Bicycle Riders: Riding on the sidewalk.	6 (37.5%)	9 (31.0%)	14 (48.3%)
Bicycle Riders: Riding without wearing a helmet.	10 (62.5%)	12 (41.4%)	10 (34.5%)
Bicycle Riders: Weaving in and out of traffic or riding in the center of the street.	1 (6.3%)	7 (24.1%)	10 (34.5%)
Pedestrians: Ignoring traffic signals.	11 (68.8%)	16 (55.2%)	21 (72.4%)
Pedestrians: Using cell phones (talking or texting)	2 (12.5%)	9 (31.0%)	9 (31.0%)
Pedestrians: Crossing mid-block or coming out between cars.	8 (50.0%)	5 (17.2%)	16 (55.2%)
Pedestrians: Crossing the street without looking.	8 (50.0%)	18 (62.1%)	17 (58.6%)
Drivers: Speeding (including on residential streets)	10 (62.5%)	8 (27.6%)	20 (69.0%)
Drivers: Not yielding the right-of-way (mainly to pedestrians, but also to bicycle riders)	3 (18.8%)	9 (31.0%)	6 (20.7%)
Drivers: Using cell phones.	2 (12.5%)	8 (27.6%)	3 (10.3%)
Drivers: Going through red lights or trying to make it through yellow lights.	5 (31.3%)	9 (31.0%)	10 (34.5%)
Drivers: Going through stop signs, rolling stops, or stopping past stop line.	2 (12.5%)	8 (27.6%)	6 (20.7%)
Drivers: Driving in bike lanes or otherwise limiting space available to bicycle riders.	5 (31.3%)	0 (0.0%)	3 (10.3%)
Drivers: Double-parking.	1 (6.3%)	2 (6.9%)	4 (13.8%)

1. Bicycle riders include only individuals who ride approximately once per week or more often.
2. Pedestrians include only individuals who walk approximately once per week or more often, but drive and go bicycle riding less than once per month.
3. Drivers include only individuals who drive approxoimately once per week or more often.

PHASE TWO: STRUCTURED OBSERVATIONS

Although it was my intent to conduct observations of all factors listed in Table Three, practical considerations resulted in the elimination of some factors. In practice, it is very difficult to observe whether or not a pedestrian looks before crossing the street. Traffic tended to be very light in residential locations where stop signs are typically found; therefore, it would have required a large amount of observation time to obtain sufficient data regarding driver behavior at stop signs. In order to observe whether or not drivers limit the space available to bicycle riders, I would have had to find a way to follow bicycle riders and observe drivers' behavior around them. Due to time constraints and relatively low level of community concern, double-parking was also dropped from consideration.

Therefore, structured observations were planned and carried out for these behaviors identified by residents of Community District 14:

Bicycle Riders

- Riding against the direction of traffic.
- Ignoring traffic signals or trying to beat them.
- Riding on the sidewalk.
- Riding without wearing a helmet.
- Weaving in and out of traffic or riding in the center of the street.

Pedestrians

- Ignoring traffic signals
- Using cell phones (talking or texting)
- Crossing mid-block or coming out between cars

Drivers

- Speeding
- Not yielding the right-of-way
- Using cell phones
- Going through red lights or trying to make it through yellow lights

Methodology for observations

The observation phase began with the assumption that observing and tallying instances of specific behaviors in various locations would be an effective method for estimating level of risk resulting from the specific behaviors. Therefore, the general strategy for the observation phase of this study was to conduct timed observations of specific behaviors at selected locations throughout Community District 14. The focus of any single timed observation would be limited to one or a small number of specific behaviors. Attention was focused on the behaviors and excluded consideration of other factors present or absent at the moment that the behaviors occurred.

As the observation phase progressed, it evidentially became clear that simply counting behaviors did not equate with estimating risk of accidents, even in locations with a lot of vehicular and/or pedestrian traffic. For example, at the intersection of Cortelyou Road and East 17th Street, I observed many pedestrians crossing

against the light, but few were ever at risk, because most of the time no vehicles were close enough to constitute a real threat. Consequently, in addition to the tallies of individual behaviors, in several locations I conducted timed observations in which I watched for any behavior or combination of behaviors which appeared to create a genuinely risky situation.

All observations were conducted by me and were recorded on custom-designed tally sheets. No video recordings were made for later playback and viewing; all tallies were recorded in "real time". Through field-testing and trial-and-error, the following methods were developed for observing and tallying behaviors in various community locations:

Methodology for observing bicycle riders. Due to relatively low numbers of bicycle riders, it proved feasible to observe multiple behavioral factors for each bicycle rider has he or she rode by, but it was also necessary to prolong each observation period to a total of 30 minutes each. Thirteen timed observations were conducted at various locations throughout the community district.

Methodology for observing pedestrians. Numerous pedestrians can be observed on streets where shops are found. One the one hand, this enabled sufficient data within short observation periods, typically ten minutes each. As a solitary observer, however, I discovered that I was unable to keep track of multiple behaviors simultaneously. For example, it was difficult to tally individuals crossing against the signal at the same time that I was trying to count pedestrians using cell phones while crossing. Therefore, to observe pedestrian behaviors, it generally proved necessary to watch for one factor at a time. I had also intended to obtain baseline counts of all pedestrians in order to estimate the proportion of individuals who exhibited the risky behaviors, but this also proved to be an unrealistic expectation. In the end, I conducted timed observations in order to estimate the frequency rate of the behaviors under observation.

Methodology for observing drivers. Timed observations (generally ten-minute segments) for driver behaviors were conducted for each specific behavior separately. In observations of cell phone use and yielding to pedestrians, it was possible to obtain a baseline count in order to estimate the proportion of drivers displaying the behavior under observation. Observing for speeding was highly subjective, as I did not possess instruments capable of measuring velocity; I relied instead on making intuitive judgments about whether the velocity I observed was suitable under the local conditions at the sites of observation.

Results of Observations

While the focus was on specific individual behaviors, few truly risky incidents were observed, despite plentiful examples of risk behaviors identified by the community respondents to the survey. However, when the focus shifted to watching for *any* behaviors which entailed palpable risk in the context of the moment, several risky situations were observed during almost every observation, and many examples were recorded. The discussion below first reports the results of observations of the twelve specific individual behaviors. Later in this section, I will describe in detail the results of observing for instances of truly risky incidents resulting from risky behaviors in the context of the particular moment.

Observations of Specific Individual Behaviors:

Observations of bicycle riders. 85% of bicycle riders observed were male. 71% of bicycle riders were not wearing helmets at the time of observation. 18% of bicycle riders were observed riding against traffic rather than with traffic. 18% of bicycle riders were also observed crossing intersections against the light. Few riders were observed weaving or riding in the center of the road. Bicycle riding on sidewalks was more prevalent on some avenues than on others; it was especially prevalent on Avenue J (almost 2 of every 3 riders), a fact which

may be attributed to the narrowness of the avenue and the high volume of motor vehicle traffic when stores and shops are open for business.

Bicycle Rider Observations **Location and Date**	**N =**	**% no helmet**	**% wrong way**	**% red light**	**% weave or center of road**	**% rode on sidewalk**
Flatbush Ave at Clarkson/Woodhull. 9-18-2013	22	64%	18%	5%	5%	5%
Church at E. 18th Street. 8-17-2013	11	100%	18%	36%	18%	0%
Church at Argyle. 9-7-2013	27	67%	15%	19%	0%	0%
Beverley at E. 17th Street. 9-19-2013	13	85%	15%	8%	8%	8%
Ditmas at Ocean Avenue. 9-7-2013	16	81%	25%	38%	0%	6%
Flatbush at Cortelyou. 8-31-2013	25	88%	24%	28%	4%	12%
Cortelyou at E. 17th St. 8-17-2013	21	62%	33%	29%	10%	19%
Coney Island Ave at Foster. 8-31-2013	11	64%	27%	0%	0%	18%
Coney Island Ave at Foster. 9-15-2013	15	73%	7%	7%	7%	7%
Bedford at Glenwood. 9-18-2013	28	39%	11%	21%	0%	4%
Flatbush at Nostrand. 9-7-2013	8	88%	25%	0%	13%	0%
Avenue J at E. 14th. 9-1-2013	16	75%	6%	13%	0%	63%
Avenue M between E. 17th and E. 18th. 9-1-2013	11	73%	18%	9%	9%	27%
Total	*224*	*70.5%*	*18.3%*	*17.9%*	*4.5%*	*12.1%*

Pedestrians Crossing Against the Light. Pedestrians will generally not hesitate to cross against the light if no oncoming vehicles are close by. This is reflected in high rates of crossing against the light on Saturday afternoons at the intersection of Church Avenue and E. 17th Street (51 in a ten-minute period) or the intersection of Cortelyou and E. 17th Street (48 in a fifteen-minute period). In fact, at these two locations, more pedestrians were counted crossing against the light than were counted waiting for the green light/walk sign. On the other hand, most pedestrians will wait for a green light or walk signal at a heavy traffic location such as Flatbush Avenue at Church Avenue (2 crossed against the light in a fifteen-minute period).

Pedestrians Crossing Against the Light **Location and Date**	**Observ-ation period**	**# crossing against light**	**Rate per minute**
Church at E. 18th Street. 8-17-2013	**10**	51	5.10
Church at Flatbush. 9-29-2013	**15**	2	0.13
Flatbush at Cortelyou. 8-31-2013	**16**	22	1.38
Cortelyou at E. 17th St. 8-17-2013	**15**	48	3.20
Coney Island Ave at Foster. 8-31-2013	**10**	6	0.60
Flatbush at Nostrand. 9-7-2013 (SW Nostrand crosswalk only)	**10**	55	5.50
Avenue J at E. 14th. 9-1-2013	**10**	23	2.30
Avenue M at E. 18th. 9-1-2013	**10**	29	2.90

Pedestrians Crossing Mid-Block. Pedestrians who wished to get to a particular business establishment located across the street showed little hesitation to cross the street in the middle of the block, even on major thoroughfares such as Flatbush Avenue and Church Avenue. At Church Avenue near E. 16th Street, Bobby's

Department Store has two retail stores across the street from each other; on a Saturday afternoon, 82 persons were observed during a 15-minute observation period crossing mid-block between the two store outlets, despite a rather high volume of traffic moving in both directions on the avenue. Large numbers of individuals were also observed on Saturday afternoons crossing mid-block at three different locations along Flatbush Avenue. It is worth noting that some blocks along Flatbush Avenue are rather long, so that pedestrians would be required to walk a fair distance in order to cross at an intersection. This pedestrian behavior appears to entail the greatest risk of accident.

Pedestrians Crossing Mid-Block **Location and Date**	**Observ-ation period**	**# Mid-block crossings**	**Rate per minute**
Church between E. 16th and E. 17th Sts. 8-17-2013	15	82	5.47
Church near E. 16th St. 9-18-2013	10	35	3.50
Flatbush Ave between Albemarle and Tilden. 8-31-2013	15	47	3.13
Flatbush Ave between Cortelyou and Dorchester. 8-31-2013	15	52	3.47
Flatbush near Nostrand. 9-7-2013	10	51	5.10
Avenue J at E. 14th. 9-1-2013	10	14	1.40
Avenue M between E. 17th and E. 18th. 9-1-2013	10	6	0.60

Pedestrians Using Cell Phones While in the Crosswalk. Ten-minute observations of pedestrian cell phone use were conducted in various locations throughout Community District 14. Cell phone users observed in crosswalks ranged from a low of 2 (Coney Island Avenue at Foster Avenue) to a high of 17 (Avenue J at E. 14th Street). Such individuals were generally crossing at the same time as other individuals and may have relied on a sort of "herd protection" to ensure their safety. In most instances, individuals crossed with the lights or when no oncoming traffic was nearby.

Pedestrians Using Cell Phones While in the Crosswalk **Location and Date**	**Observ-ation period**	**# using cell phones while crossing**	**Rate per minute**
Church at E. 18th Street. 8-17-2013	10	4	0.40
Church at Flatbush. 9-18-2013	10	11	1.10
Flatbush at Cortelyou. 9-29-2013	10	7	0.70
Cortelyou at Marlborough Road. 9-29-2013	10	8	0.80
Coney Island Ave at Foster. 8-31-2013	10	2	0.20
Flatbush at Nostrand. 9-7-2013 (SW Nostrand crosswalk)	10	7	0.70
Avenue J at E. 14th. 9-1-2013	10	17	1.70
Avenue M at E. 18th. 9-1-2013	10	5	0.50

Drivers Speeding. Drivers were observed for possible speeding during ten- or fifteen-minute timed intervals on ten different avenues throughout Community District 14. Lacking instruments to gauge a vehicle's speed, I applied subjective judgment to decide whether vehicles were operating at a safe speed for the particular location. While measuring a vehicle's speed in relation to the speed limit would provide a more objective measure of speeding, it would not necessarily provide a measure of the safeness of the measured speed.

While entirely unscientific, these observations attempt to account for the fact that different thoroughfares do not all have the same "safe speed".

Drivers Speeding **Location and Date**	**Observ-ation Period (min.)**	**Commentary**
Church Avenue at Marlborough. 9-20-2013.	15	No observed speeding.
Caton Avenue between Marlborough and E. 16th. 9-20-2013.	15	No observed speeding.
Cortelyou Road at Rugby Road. 9-20-2013.	15	No observed speeding.
Ditmas Avenue between Rugby and Argyle. 9-20-2013.		This two-way avenue has narrow lanes, has parked cars on both sides of the street, and lots of shade trees creating patches of shadows and sunlight. These conditions are not conducive to safe travel at the 30 mph City speed limit. Several cars appeared to be too fast to avoid accidents if something unexpected occurred.
Foster Avenue at Rugby. 9-20-2013.	15	No observed speeding.
Flatbush Avenue between Glenwood and Farragut. 9-20-2013.	15	One 'dollar van" and two other cars seemed too fast in the right lane. Cars appear to take the soft right turn onto Rogers Avenue too fast for this somewhat blind corner. Otherwise, traffic speed seemed reasonable.
Avenue N and E. 23rd St. 9-29-2013.	10	No observed speeding. Lanes are somewhat narrow.
Avenue O and E. 22nd St. 9-29-2013.	10	2-3 cars passed by going a little fast for the narrow lanes. Otherwise, no observed speeding.
Avenue M between E. 23rd St. and E. 24th St. 9-29-2013.	15	One taxi sped by; four other cars seemed somewhat fast for the narrow lanes.
Avenue L between E. 22nd St. and E. 23rd St. 9-29-2013.	10	Several cars appeared to go faster than the speed limit. Lanes are wider here than on Avenues M, N, and O.
Avenue K and E. 23rd St. 9-29-2013.	10	50% or more of the cars appeared to exceed the speed limit. Lanes are wider here than on Avenues M, N, and O.
Avenue J and E. 23rd St. 9-29-2013.	10	Several cars seemed somewhat fast, but most cars maintained a reasonable speed.

Drivers Not Yielding to Pedestrians in Crosswalks. During ten-minute or fifteen-minute observation periods in six different locations, I counted turning vehicles which failed to yield to pedestrians in crosswalks, in comparison with vehicles which waited for pedestrians to be safely out of the way (other vehicles waiting behind a lead vehicle were not counted, since they had no choice whether or not to wait). Drivers were deemed to have failed to yield if they waited for some pedestrians but did not wait for others.

Overall observed numbers were low, because relatively few vehicles turn at intersections, and in general only the first vehicle in a line of turning vehicles have a real choice whether or not to yield. Nonetheless, I observed that drivers generally wait for pedestrians to cross before proceeding. In three of the six locations, no vehicles were observed failing to yield; only one vehicle in each of two other locations. At only one intersection (Church Avenue and E. 18th Street) did I observe multiple instances of vehicles not yielding to pedestrians.

Drivers Not Yielding to Pedestrians in Crosswalks **Location and Date**	**Observ-ation period**	**N =**	**# Turning cars NOT yielding**	**% Turning cars NOT yielding**	**Rate per minute**
Church at E. 18th Street. 8-17-2013	15	14	5	35.7%	0.33
Ditmas at Ocean Avenue. 9-7-2013	10	4	0	0.0%	0.00
Coney Island Ave at Foster. 8-31-2013	15	5	0	0.0%	0.00
Flatbush at Nostrand. 9-7-2013	10	4	0	0.0%	0.00
Avenue J at E. 14th. 9-1-2013	10	17	1	5.9%	0.10
Avenue M at E. 18th. 9-1-2013	10	9	1	11.1%	0.10

Drivers Running Red or Yellow Lights. At four different intersections, ten-minute observations were conducted to assess frequency of drivers running red or yellow lights. Although by definition, this could mean proceeding through the intersection during any part of the yellow and red light cycle, I only observed drivers trying to get through the intersection on the tail end of the signal change from green to red. In no instance did these behaviors appear to put others at immediate risk.

Drivers Running Red or Yellow Lights **Location and Date**	**Observ-ation period**	**# Drivers running red or yellow lights**	**Rate per minute**
Ditmas at Ocean Avenue. 9-7-2013	10	1	0.10
Flatbush at Nostrand. 9-7-2013	10	14	1.40
Avenue J at E. 14th. 9-1-2013	10	10	1.00
Avenue M at E. 18th. 9-1-2013	10	6	0.60

Driver Cell Phone Use While the Vehicle Was in Motion. I attempted to estimate driver cell phone use by standing at various locations and observing drivers of vehicles traveling in one direction. Tallying driver cell phone use in this fashion entailed challenges. Since the vehicle doors partially obstructed my view of the driver's actions, I had to make a judgment based on posture (was the driver looking ahead or looking down?), visibility of hands (was the driver holding something is his or her hand and, if so, what was it?), etc. In a large majority of instances, I was able to clearly identify cell phone use or to rule it out. However, questions arose due to tinted glass windows (which made it hard to see inside the vehicle) and faster speed (which made it hard to focus clearly on what the driver is doing). In addition, an extended look was sometimes required to determine whether I actually saw cell phone use, and this extended look causes me to miss observations of the next 1-3 vehicles passing by.

As the table below shows, I observed at least a few drivers utilizing cell phones on many of the streets where I conducted observations. It is highly likely that actual cell phone use by drivers is greater than what I was able to observe and record. First, as already mentioned, I could not always verify whether or not the driver was using a cell phone. Furthermore, my observations were limited to the specific locations where I stood counting; it is quite possible that some drivers used their phones before or after the time that they passed me.

Driver Cell Phone Use While the Vehicle Was in Motion **Location and Date**	**Observ-ation period**	**N =**	**# using cell phone**	**# unknown**	**% using cell phone**	**Rate per minute**
Caton Ave at Ocean Ave. 9-19-2013	10	67	1*	1	1.5%	0.1
Caton Ave at Parade Place. 9-20-2013	10	54	1	3	1.9%	0.10
Church at E. 18th Street. 8-17-2013	10	55	0	3	0.0%	0.00
Beverley at Q subway station. 9-19-2013	10	61	5	1	8.2%	0.50
Cortelyou at E. 17th St. 8-17-2013	10	35	0	6	0.0%	0.00
Cortelyou at Q subway station. 9-19-2013	10	45	2	4	4.4%	0.20
Ditmas at Ocean Avenue. 9-7-2013	10	32	0	4	0.0%	0.00
Ditmas between Argyle and Rugby. 9-18-2013	12	81	8	7	9.9%	0.67
Dorchester at E. 18th St. 9-18-2013	10	61	3	1	4.9%	0.30
Newkirk at Rugby. 9-18-2013	10	37	2	4	5.4%	0.20
Ocean Ave at Farragut. 9-18-2013	10	113	5	15	4.4%	0.50
Coney Island Ave at Foster. 8-31-2013	10	70	3	7	4.3%	0.30
Bedford near Glenwood. 9-18-2013	10	37	0	0	0.0%	0.00
Flatbush at Nostrand. 9-7-2013	10	61	0	7	0.0%	0.00
Avenue J at E. 14th. 9-1-2013	10	60	3*	7	5.0%	0.30
Avenue M at E. 18th. 9-1-2013	10	71	1*	2	1.4%	0.10
Total	*162*	*940*	*34*	*72*	*3.6%*	*0.21*

* At three locations, one sighting was strongly suspected (based on driver's posture, head position, and appearance of an object in the hand) but not definite.

Observations of the "Total Picture":

A distinct shortcoming of observing "risky behaviors" in isolation is that the degree of risk depends on what else may be happening at the same time. Therefore, to attempt to capture a better sense of true risk, I also conducted timed observations in several locations which aimed to identify and record any behaviors of pedestrians, bicyclists, and motorists which entailed palpable risk in the context of the moment in which they occurred. Details of these observations are reported below.

Avenue J and East 14th Street, September 15, 2013, 12:20-1:00 p.m. [Busy shopping area; considerable vehicle and pedestrian traffic.]

- Observed a woman pedestrian attempting to cross Avenue J while vehicles obstructed the crosswalk. She was halfway across when the light changed and had to stand in the middle of the street waiting for a break in traffic to cross to the other side.
- Observed 2 individuals using cell phones as they crossed against the light despite approaching traffic (6 other people were observed using their cell phones while crossing, and 4 others used their phones while standing off-curb waiting for a green light.
- Observed 2 young mothers with strollers/carriages cross together against the light despite approaching vehicles. (4 other individuals were observed crossing against the light.)
- Observed numerous individuals waiting off-curb for the light to change (including a father with a very young child); 4 individuals were well out toward the traffic lane, at risk for turning vehicles.
- Observed one adult and several youths riding their bicycles on the sidewalk. In one instance, the rider (a youth) appeared to be riding too fast, weaving around pedestrians who were present.
- Observed one adult (apparently a delivery person) riding a motorized mini-scooter who narrowly missed me *on the sidewalk* as I stood observing; he proceeded across the crosswalk and up onto the sidewalk on the other side, narrowly missing a pedestrian on the other side.

- Observed one vehicle fail to yield to pedestrians in the crosswalk.

Church Avenue and E. 18th Street, September 19, 2013, 3:20-3:30 p.m. [Busy shopping area; considerable vehicle and pedestrian traffic.]

- Observed a man cross mid-block between moving cars
- Observed a man cross against the light in front of an oncoming car
- Observed a livery driver double-park at the corner on Church Avenue to discharge a woman passenger, who got out and then tried to open the rear passenger door as the car began to drive off.
- Observed a female youth standing off-curb looking at her cell phone as a car passed close to her.
- Observed two male youths (one on a bicycle) standing and talking well out from the curb at the corner by the bus stop and were there when the next bus rolled in; several other people also stepped out into this same space off the curb while the bus was there.

Cortelyou Road and Rugby Road, September 20, 2013, 2:16-2:33 p.m. [Due to afternoon dismissal at P.S. 139, the immediate vicinity became noticeably busy.]

- At different times, observed several individuals stood off-curb as cars made right turns past them onto Rugby Road. Included were: a young woman with a small child holding her hand; 2 other young women; 5 other individuals at the same time, including two parents with a stroller.
- Observed two older women started to cross Rugby against the light without looking and were brought up short by the honking of an oncoming car.
- Observed a car turn onto Rugby without yielding to pedestrians attempting to cross.
- Observed two westbound cars straddle the double-yellow line to pass to the left of a car temporarily stopped, even though an eastbound car was passing through at the same time.
- Observed three vehicles vying for the right-of -way to turn onto Rugby, one eastbound car turning right and two westbound cars turning left (the second one moved up to the left side of the first one). Pedestrians were present, though I believe they stayed safely on the sidelines.

Cortelyou Road and Marlborough Road, September 29, 2013, 1:51-2:01 p.m.

- Observed a woman cross as the light changed against her; she was using her cell phone and never looked.
- Observed a woman with a child in hand crossed against the light as cars approached; she ignored the oncoming cars.
- Observed two other individuals crossed against the light as cars approached.

Cortelyou Road and Flatbush Avenue, September 29, 2013, 2:08-2:18 p.m.

- Observed three young women, walking together, cross Cortelyou against the light, holding up cars which had the right of way to proceed; the women never acknowledged that they were encroaching.
- Observed four cars, anxious to turn from Flatbush onto Cortelyou, strand a pedestrian in the crosswalk as they pushed to make the turn (3 were southbound turning right, one was northbound turning left).

Flatbush Avenue and Church Avenue, September 29, 2013, 2:30-2:45 p.m.

- Observed a van make a left turn from Church to Flatbush as pedestrians were trying to cross.
- As a left-turning car waited for other pedestrians in the crosswalk, observed two male youths hurrying to cross at the same time; however, the driver didn't see them coming and started moving just as they were stepping in front of the car. An accident was narrowly averted.
- Observed a bus turning right from Flatbush onto Church fail to yield to pedestrians stepping into the crosswalk.
- Observed a male youth cross Flatbush with the light but never looked up, even though a car was there waiting to make a turn.

While observing for evidence of speeding by drivers at various times and locations, I noted numerous other "dicey behaviors":

- (September 20, 2013, 1:00-1:15 p.m.) Saw two male youths (not together) riding their skateboards eastbound on Church Avenue. The first one reached E. 16th on a red light but proceeded diagonally across the intersection, interspersing himself between two moving vehicles (the second youth traveled more slowly and carefully, crossing E. 16th on a green light and remaining on the same side of the street). Also observed delivery person on motorized two-wheeler westbound on Church cut from right to left in front of another vehicle to make a left turn onto Marlborough.
- (September 20, 2013, 1:21-1:36 p.m.) Observed another male youth skateboarder traveling against traffic westbound on Caton Avenue. Proceeded through red light at Marlborough (no vehicles approaching, though).
- (September 20, 2013, 1:38-1:47 p.m.) Observed a car traveling west on Caton suddenly do a u-turn in the intersection at Parade Place. The car's motion was continuous and the driver appeared to accelerate out of the u-turn without making any attempt to see whether anyone else was nearby. A pedestrian appeared to take a step off the curb to cross against the light and had to pull back quickly.
- (September 20, 2013, 3:20-3:35 p.m.) Observed a westbound car on Foster Avenue make a sudden left turn onto Rugby in front of an oncoming eastbound vehicle.
- (September 29, 2013, 11:40 – 11:50 a.m.) Observed a male youth on a bicycle turn right onto Avenue M from E. 23rd Street without stopping or slowing down, even though eastbound traffic was approaching a short distance away. The youth had been riding the wrong way on E. 23rd Street. His sudden emergence onto Avenue M would have been difficult to anticipate for all these reasons.
- (September 29, 2013, 12:15-12:25 p.m.) Observed an eastbound car make a right turn from Avenue K onto East 23rd Street; the driver maintained a higher rate of speed during the turn and compensated by making the turn more shallow, risking a collision with a van parked at the corner on the left side of E. 23rd Street.
- (September 29, 2013, 12:28-12:38 p.m.) Observed a male youth skateboarding eastbound on Avenue J against the flow of traffic; he maneuvered around a parked car just as a westbound car passed him.

LIMITATIONS OF THIS STUDY

Numerous limitations of this study must be acknowledged:

Lack of information from respondents regarding times and locations where risky behaviors occur. Late in the observation phase, I conducted an observation of vehicular speeding on Avenue N late on a Sunday morning, a time when traffic seemed fairly calm and not too plentiful. Yet this was also the site of a collision that had taken place at 8:00 the previous morning. This helps to illustrate that both location and time of day are important considerations when defining traffic risk factors, and it sheds light on an important shortcoming of the opinion survey. In the interests of brevity, I had asked respondents only to identify behaviors that increased accident risks, but it had not occurred to me to ask where or what time of day these behaviors would most likely occur. The selection of times and places for observation would have benefited from this additional information.

Although the survey questionnaire was tested prior to conducting the survey, issues still arose in the course of conducting the survey. For example, in several instances, respondents indicated a shortage of time, and the administration of the survey was accelerated to accommodate them, possibly resulting in incomplete or ambiguous responses. A related concern was inadequate follow-up of overly-general or ambiguous responses, leaving it unclear what the respondent really meant. Better handling of these issues might have affected the proportion of individuals who identified specific behavioral risk factors or even resulted in identifying additional factors.

Specific ethnic groups were unrepresented or under-represented in the survey. Although I approached individuals regardless of race or ethnic background, most Hispanic, Middle Eastern, and Far East Asian individuals declined to participate. Their perspectives might have led to different conclusions or emphases.

One observer without technological support cannot detect everything of relevance. As a solitary observer whose only tools were paper and pen, I found it difficult or impossible to note all relevant events at times when many things were happening at once, such as a large number of pedestrians crossing the street at the same time, utilizing more than one crosswalk. A related problem was that sometimes an individual's behavior was obscured from view, such as a pedestrian whose back was toward me as they crossed the street (was he or she using a cell phone?) or a driver of a passing vehicle with tinted glass windows (was he or she using a cell phone?). Based on intuitive judgment only, identification of speeding vehicles was highly subjective.

Observations of pedestrian behaviors would have been improved by employing more than one observer so that different perspectives would be possible, and also by utilizing video-recording to afford the opportunity of playback to check and double-check observations. Multiple observers might also improve the detection of cell phone use by drivers. Objective detection of vehicular speeding would have required use of a device to measure a vehicle's velocity.

Lack of total traffic tallies places limits on the analyses. Total traffic counts were obtained for some factors (all bicyclist factors and, to some degree, driver cell phone use and driver failure to yield to pedestrians in crosswalks), but not for pedestrian factors or other driver factors. As a result, I was only able to obtain frequency measurements, but not volume or proportion measurements, for some motorist factors and all pedestrian factors. Better measurement techniques might have made such measurements possible.

Times and places of observations may not have been optimal for capturing relevant issues, frequencies, and trends. Due to the necessity to work around my normal weekly work schedule, observations generally took place on Saturdays or Sundays, from late morning until the latter part of the afternoon. Additional observations during weekday rush hour periods or at night might have provided better or more complete information about the risky behaviors and their consequences.

CONCLUSIONS

Surveying members of the community proved to be a worthwhile approach to identify behaviors that heighten the risk of accidents in the streets. Our community respondents clearly identified a number of relevant behaviors to be concerned about. Furthermore, by seeking community input and following up on it, we increase the chances of community buy-in later for a public health program or campaign to reduce or eliminate behaviors that entail risk.

Our observations made it clear that engaging in one of the "risky behaviors" identified by our community sample does not automatically place an individual at risk. Many pedestrians were observed crossing against the light or using cell phones while crossing the street at times when there was no oncoming traffic; cars were observed proceeding through intersections as the light turned red but before the light turned green for the crossing traffic. There is little risk of accidents in such scenarios. For an accident or near miss to occur, there must be other contributory factors, events, or circumstances present at that moment. For instance, exceeding the speed limit is not automatically dangerous. Whether danger is present depends on other factors: Will road conditions or the driver's inexperience cause him or her to lose control? Will the vehicle's speed prevent the driver from reacting in time to someone else's mistake or misjudgment?

Nevertheless, this series of structured observations strongly suggests that, wherever there is significant pedestrian and vehicle traffic in Community District 14, one doesn't have to wait long to see individuals place themselves or others at risk. Those who are concerned about public health and safety are thus challenged to understand why this happens and to find ways to promote safer behaviors.

Three possible explanations spring from the results of this study. First, safety in the streets is compromised because many people seem willing to dispense with their margin of safety. Pedestrians choose to stand off the curb waiting for the light to change rather than to wait on the sidewalk, placing themselves close to the path of moving vehicles, especially vehicles making turns. Pedestrians choose to cross in the middle of the block despite approaching vehicles, giving up the protection of marked crosswalks and traffic signals. Many bicycle riders ride without helmets, giving up the protection against severe head injury if an accident occurs. Some drivers use cell phones while the vehicle is in motion, reducing their attentiveness to their own safety and the safety of others.

Second, safety is compromised because people want, and expect, to get from place to place as quickly as possible. Impatience and being in a hurry seems to be an inherent part of human nature, at least in Brooklyn and New York City. People don't want to be held back waiting for others. Consequently, some drivers speed or refuse to yield to pedestrians in crosswalks; some pedestrians cross against the light and cross mid-block. Similarly, bicycle riders proceed through red lights, or they ride against the flow of traffic. Even at the busiest times and places, there are people who are willing to take risks rather than abide by safe behaviors.

Third, getting from place to place safely in this busy urban setting requires people to take turns and cooperate with each other. An important element of cooperative behavior is to conform with rules and expectations and act in a predictable fashion. People place themselves at greater risk when they do things that cannot be anticipated. Stepping into the street mid-block from a space between parked cars is a prime example of such a risky behavior. This behavior will challenge the driver of an approaching vehicle in two ways: (1) the driver won't be expecting a person to step into the street at that location, and (2) the driver won't see the person until he/she suddenly steps out away from between the parked cars. A bicycle rider traveling the wrong way on a one-way street poses a similar challenge to others: people are not inclined to check for traffic in the direction opposite to the flow of traffic.

RECOMMENDATIONS

Wherever pedestrian and vehicle traffic is plentiful, public safety would be enhanced by measures which (1) reduce travel speeds and (2) create or enlarge buffer zones between pedestrians, motor vehicles, and bicycle riders. Making changes to the physical environment can be very effective; bicycle lanes, speed bumps, and traffic signals at shorter intervals have all been used effectively to slow traffic or create separate spaces for travel. Unfortunately, few thoroughfares in Community District 14 currently have such features, and the process of making changes can be politically challenging, expensive, and time-consuming.

An alternative approach would be to change people's attitudes and behaviors when they are traveling in the streets of Brooklyn. In some circumstances, attitudes and behaviors can be changed by imposing rules and regulations. Reducing the speed limit on some thoroughfares to 20 or 25 m.p.h. could have a calming effect on motor vehicle traffic (though in the short term it may have the opposite effect on motor vehicle drivers!), potentially reducing both incidence and severity of accidents. However, to be effective, traffic regulations must be enforced, and enforcement tends to be spotty at best. Programs or campaigns to educate the public about the benefits of slowing down, being more patient, and cooperating with their fellow travelers, as well as the sensibility of staying safely out of harm's way, may also be needed to address these concerns. These concepts could be incorporated into safe driving classes currently offered by automobile insurance companies.

These public safety messages could also be delivered to parents and children through local parent-teacher associations (PTAs).

Community Board 14 may consider sponsoring District-wide initiatives to address these concerns, or the Board can encourage local neighborhood associations to sponsor local initiatives.

Although not a focus of this study, skateboarding as a mode of transportation, especially by children and teenagers, should be viewed with great concern. It is difficult to conceive how it can be made safe; a ban should be enacted before it is too late.

OPINION POLL ABOUT SAFE AND UNSAFE PRACTICES OF BICYCLE RIDERS, PEDESTRIANS, AND DRIVERS

Greetings!!

You are invited to take part in a short opinion poll about safe and unsafe practices of bicycle riders, pedestrians, and drivers. This poll is sponsored by Brooklyn Community Board 14. Your answers may help all of us to gain a better understanding of why accidents happen and how they might be prevented.

This opinion poll is COMPLETELY ANONYMOUS. Please DO NOT write your name, address, phone number, or any other personal information on this questionnaire. We do not wish your answers to be identifiable in any possible way.

Would you please take just a few minutes to complete this short opinion poll now? When you are finished, fold it and seal it inside the envelope provided to you, then return the sealed envelope to the individual conducting the opinion poll.

We would like to what neighborhood you live in. Would you please fill in the blanks below?

I live on _____ between _____ and _____.
(street/avenue) (street/avenue) (street/avenue)

What is your age group?

☐ 18-29 ☐ 30-39 ☐ Over 40

Are you ☐ male? ☐ female?

Would you please tell us your race or ethnic background? _____

How do you usually commute to your job or school?

☐ Walk ☐ Train ☐ Bicycle
☐ Drive ☐ Bus ☐ No commute

How often do you go bicycle riding?

☐ Several times each week
☐ About once per week
☐ 1-3 times per month
☐ Less than once per month
☐ Never

How often do you drive a car or other motor vehicle?

☐ Several times each week
☐ About once per week
☐ 1-3 times per month
☐ Less than once per month
☐ Never

How often do you go places on foot? (By this, we mean walking or running, and covering distances of several blocks or more -- for example, going shopping, getting some exercise, visiting or going out with friends, getting around in the City, etc.)

☐ Several times each week
☐ About once per week
☐ 1-3 times per month
☐ Less than once per month
☐ Never

How often are you a passenger in someone else's car or other motor vehicle?

☐ Several times each week
☐ About once per week
☐ 1-3 times per month
☐ Less than once per month
☐ Never

Have you ever seen bicycle riders in the local area do things that you think are unwise because they increase the chances of a serious accident? If so, please list or describe unsafe things you have seen bicycle riders do.

Have you ever seen pedestrians in the local area do things that you think are unwise because they increase the chances of a serious accident? If so, please list or describe unsafe things you have seen pedestrians do.

Have you ever seen drivers (of cars, vans, buses, trucks) in the local area do things that you think are unwise because they increase the chances of a serious accident? If so, please list or describe unsafe things you have seen drivers do.

What advice would you give to bicycle riders in this area so that they could ride more safely?

What advice would you give to pedestrians in this area so that they could be safer whenever they are out walking?

What advice would you give to drivers in this area so that they could drive more safely?

THANK YOU FOR PARTICIPATING IN THIS OPINION POLL ABOUT SAFE AND UNSAFE PRACTICES OF BICYCLE RIDERS, PEDESTRIANS, AND DRIVERS.