

# Traffic's Human Toll

A Study of the Impacts of Vehicular Traffic  
on New York City Residents



**Transportation**  
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# Chapter 1

## Executive Summary

Every day, thousands of motor vehicles traverse the average New York City residential street. Though the economic and public health costs of heavy traffic have been the subject of increasing study, there has been virtually no research of how traffic impacts peoples' daily lives. Beginning in June of 2005, twenty-one Transportation Alternatives researchers set out to ascertain the impact of vehicular traffic on New Yorkers' quality of life.

Over a period of fourteen months, the researchers interviewed over 600 residents in four neighborhoods: Astoria, Queens; Brooklyn Heights, Brooklyn; Chinatown, Manhattan and High Bridge, the Bronx. In each neighborhood, the researchers interviewed residents on three kinds of streets: "heavy" traffic streets with over 5,000 vehicles per day; "medium" traffic streets with 2,000-3,000 vehicles per day; and "light" traffic streets with 1,000 or fewer vehicles per day.

*Traffic's Human Toll* reveals that high volume vehicular traffic has profoundly negative impacts on the lives and perceptions of residents who live near it. The results show that compared to their neighborhood counterparts living on streets with low traffic volumes, residents living on higher volume streets:

- harbor more negative perceptions of their block;
- possess fewer relationships with their neighbors;
- are more frequently interrupted during sleep, meals, and conversations;
- spend less time walking, shopping and playing with their children.

The study found that residents living on streets with lighter traffic have more positive environmental perceptions than residents that live on medium-traffic and heavy-traffic streets. On light-traffic streets, the ratio of overall positive to negative perceptions was 98:62. On the study's medium-traffic street, it was 74:63 and on the heavy traffic street it was 34:122 (See figure 1.1 on the following page).

In two of the study areas, residents of the heavy-traffic streets were found to possess fewer friends and acquaintances on their block than residents of the lighter-traffic streets. In all study areas, residents of the light-traffic streets had the most local friends and acquaintances (See figure 1.2 on the next page).

Forty-nine percent of all residents surveyed for *Traffic's Human Toll* stated that reducing the amount of cars that pass through their street would "totally improve" their quality of life. On heavier traffic streets, this percentage was even greater (62%) (See table 5.1 on page 28).

Seventy-three percent of heavy-traffic street residents mentioned too much traffic or some negative attribute of traffic (i.e. speeding) when describing the environment on their street (See table 1.2 on page 4).

Accordingly, this study calls upon the Mayor and the Commissioner of the Department of Transportation to make traffic reduction a top priority and set targets for switching 15% of current driving trips to transit, bicycling and walking; adopt proven traffic reduction strategies such as London-style congestion pricing and parking pricing and implement widespread traffic-calming measures that heretofore have only been applied

on a small percentage of city streets. These recommendations are consistent with those ratified by over 120 citywide community groups. For more information on these recommendations, visit [trafficrelief.org](http://trafficrelief.org).

Figure 1.1: Resident Images: Ratio of Positive vs. Negative Environmental Perceptions (EP) of Residents by Street Type

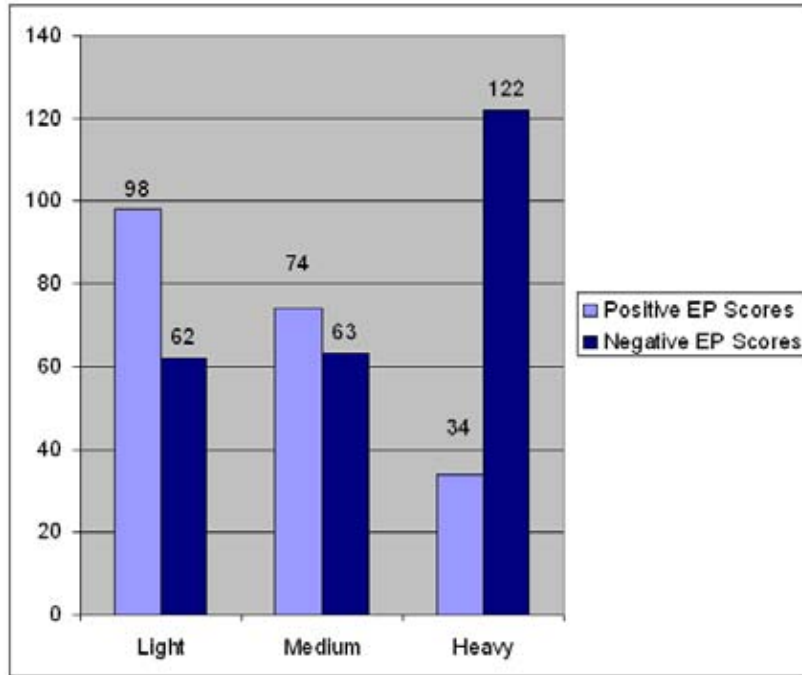


Figure 1.2: Average Number of Friends per Person by Neighborhood and Street Type  
Averages include values  $\leq$ UIF value (non-outliers) (Inter Quartile Range (IQR)=75th percentile - 25th percentile/Upper Inner Fence (UIF)=75th percentile + (IQR\*1.5))

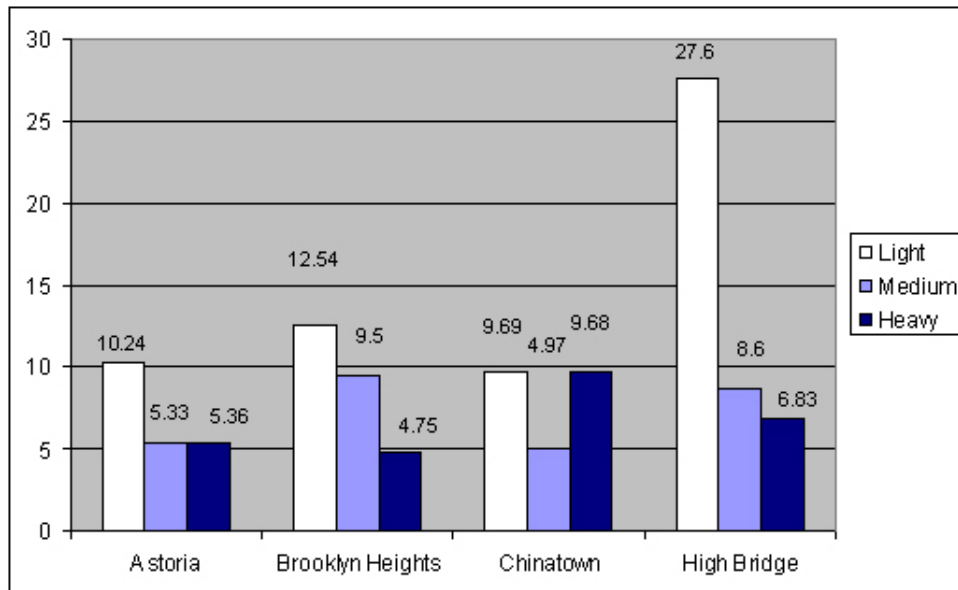


Table 1.1: Resident Recommendations: All Streets Combined  
 Light N=200, Medium N=192, Heavy N=200, All Streets Combined N=592  
 TI=Totally Improve, WMW=Would Make Worse

Totals	Light	Light	Medium	Medium	Heavy	Heavy	Total	Total
Proposed Change	TI	WMW	TI	WMW	TI	WMW	TI	WMW
Repair Sidewalks	60.0%	0.5%	58.9%	5.2%	70.0%	0.0%	63.0%	4%
Plant Trees	56.5%	1.5%	59.9%	3.6%	61.0%	1.5%	59.1%	28%
More Enforcement (police)	50.5%	1.0%	50.5%	11.5%	58.5%	2.5%	53.2%	5%
Additional Street Cleaners	48.0%	1.0%	52.1%	5.2%	58.5%	3.0%	52.9%	6%
Lower Speed Limit	41.5%	1.0%	48.4%	13.5%	64.5%	3.5%	51.5%	5%
Improve Surface (of the street)	54.5%	1.0%	46.9%	7.8%	53.0%	0.5%	51.5%	5%
Street Lighting	47.0%	2.0%	49.5%	13.5%	53.0%	3.0%	49.8%	24%
Cut Down Cars	40.0%	2.0%	44.8%	7.8%	62.0%	3.5%	49.0%	3%
Prohibit Trucks	43.0%	2.5%	47.9%	13.5%	44.0%	3.0%	44.9%	10%
Add Bicycle Lane (of any kind)	30.5%	7.5%	53.6%	12.0%	42.5%	9.5%	42.1%	6%
Add/Improve Traffic Signals	33.0%	4.0%	39.1%	10.9%	48.0%	1.5%	40.0%	14%
Add Speed Humps	49.0%	6.0%	34.4%	23.4%	34.5%	23.0%	39.4%	22%
Add Stop Signs	30.0%	2.0%	26.0%	9.9%	38.0%	3.0%	31.4%	4%
Add Mid-block Crossing	19.5%	6.5%	30.7%	20.8%	34.5%	16.0%	28.2%	30%
Add/Refurbish Crosswalk	23.0%	0.5%	32.8%	10.4%	28.5%	1.5%	28.0%	30%
Limit Parking (ex. Less spots, resident parking permits)	26.0%	28.5%	25.5%	31.3%	27.0%	30.0%	26.2%	17%
Prohibit Buses	21.0%	2.5%	18.2%	17.2%	30.0%	23.0%	23.1%	6%
Narrow Entrance to the Street (ex. curb extensions)	15.5%	11.5%	16.7%	25.0%	36.0%	19.0%	22.8%	2%
Add Diagonal Parking	16.0%	25.5%	27.1%	28.6%	21.0%	37.0%	21.3%	2%
Widen Sidewalks/Narrow Street	14.5%	18.5%	19.3%	29.2%	25.5%	18.5%	19.8%	3%
Widen Street/Narrow Sidewalk	28.0%	9.5%	13.5%	28.1%	16.5%	36.0%	19.4%	14%
Street Closure (partial or complete)	12.5%	17.0%	19.3%	31.3%	21.5%	35.5%	17.7%	18%
Make One-Way	2.0%	1.5%	3.1%	7.3%	5.5%	20.0%	3.5%	8%

Table 1.2: Environmental Perceptions: All Streets Combined

	Total Responses	Light	Medium	Heavy
Excessive Traffic	94	3	19	72
Dirty, Litter, Garbage	91	25	29	37
Quiet	90	32	35	23
General Street Characteristics(physical)	67	22	21	24
Nice/Pleasant Neighborhood	63	15	23	25
General Noise	56	9	16	31
General Street Characteristics(demographic)	54	20	9	25
Speeding Traffic	53	7	7	39
Busy/Crowded	52	7	10	35
People Friendly/Neighborly/Community	52	31	10	11
Traffic Danger	50	17	8	25
Parking Problems	50	16	14	20
Safe/No Violence/No Crime/No Vandalism	39	14	17	8
Location/Convenience/Proximity to Other Locations	38	10	16	12
No Response	28	2	19	7
Other (Neg.)	27	7	9	11
General Comments on Land Uses	26	7	9	10
Dangerous/Crime/Vandalism	26	13	10	3
Other (Neu.)	25	4	10	11
Clean, No Litter, Good Maintenance	25	9	9	7
Nice Trees/Greenery	22	1	11	10
Other (Pos.)	19	4	5	10
Activities Witnessed on Street	19	10	4	5
Traffic Noise	18	2	7	9
Architecture	12	0	8	4
Regular	12	3	6	3
Nostalgic	11	5	0	6
Housing Problems	11	1	8	2
Not Much Traffic	11	3	7	1
Dislike Neighbors/Neighbors not Nice	10	5	2	3
Historic	9	0	5	4
Cracks and Trip Hazards on Sidewalks/Poor Sidewalk Conditions	8	1	2	5
Aesthetically Pleasing/Good Appearance	8	3	4	1
Good Transit Access	8	0	8	0
Eventful/Fun	7	2	4	1
Traffic Composition	6	2	2	2
Not Nice/Horrible/Unpleasant	6	6	0	0
Poor Appearance/Maintenance	5	0	0	5
Air Pollution	5	0	1	4
General Street Characteristics (socio-economic)	5	0	3	2
Not Busy	5	2	1	2
Traffic Safety	5	3	1	1
Transit Problems	5	0	5	0
Cracks and Potholes on Street	5	4	1	0
High Pedestrian Traffic	3	0	1	2
Needs More Green	3	1	0	2
Excessive Truck Traffic	3	0	2	1

# Acknowledgements

Transportation Alternatives would like to thank the twenty-one researchers that contributed countless hours to collecting the data that made this study possible and the community leaders that assisted in the street selection process. Special thanks to Florian Hönig, Serban Iorga, Wiley Norvell Amy Pfeiffer, Karla Quintero and Will Sherman for their help with the analysis of the data and design of the study.

## About Donald Appleyard

*Traffic's Human Toll* was inspired by the work of Donald Appleyard, a former professor of Urban Design at the University of California at Berkeley. A trained architect and surveyor, Appleyard dedicated his academic career to studying the environmental perceptions of urban residents and in particular, the social impacts of traffic on people in his seminal work *Livable Streets*. He was a path-breaking researcher and urban planner, with a deep concern for the needs and expectations of urban communities. Appleyard passed away in 1982 a victim of a speeding motorist in Athens, Greece.