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# **Safe Routes for Seniors**

## Final Report

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## Section I: Executive Summary

The purpose of the Safe Routes for Seniors program was to improve the pedestrian environment in New York City as a means of encouraging senior citizens to walk more and enhancing cardio-vascular health. Walking is one of the easiest, least expensive ways for people to get exercise and reduce their risk of obesity, heart disease and all-cause mortality. In New York City,



seniors constitute only 13% of the population but represent 33% of pedestrian injuries and fatalities citywide. Further, New York City's population is getting older. By 2030, the City will experience a 44.2% increase in the population of senior adult residents 65 and over, above current numbers (938,000). This demographic shift makes the pedestrian needs of senior citizens even more critical.

Over the past six years, T.A. worked with senior citizens in Washington Heights, Inwood, Harlem, the Upper West Side, the Upper East Side, Chelsea, Chinatown and the Lower East Side. In each of these communities, we co-organized meetings with local partners and seniors to better understand obstacles to walking. Senior residents helped to document dangerous walking conditions using maps,

measuring wheels, stop watches and disposable cameras. In four of these neighborhoods we hosted design workshops where we gave senior citizens an opportunity to generate design solutions. T.A. summarized the input and recommendations from the seniors, wrote reports with the design recommendations and advocated for physical improvements on the street as well as policy changes by working with elected officials and City agencies.

### **Major outcomes of T.A.'s work include:**

- Sixty-five pedestrian safety improvements in at least two underserved neighborhoods, increasing walkability for over 26,000 seniors.
- Three walking maps that are regularly used by 13 walking clubs at senior centers in Washington Heights/Inwood.
- Adoption of a Safe Streets for Seniors program by NYC DOT in January 2008 that is based on T.A.'s Safe Routes for Seniors program.
- Adoption of a Safe Streets for Seniors program by the New York State Department of Transportation in December 2008, based on the NYC DOT program.
- Implementation of senior pedestrian safety improvements in Flushing, the Lower East Side and Brighton Beach as a result of the NYC DOT program.

- Implementation of senior pedestrian safety improvements in Nassau County, Long Island as a result of the NYS DOT program.
- Augmentation of NYC DOT Safe Streets for Seniors pedestrian safety improvement area boundaries for the Lower East Side and Upper West Side areas.
- Development of a pedestrian safety design portfolio with low-cost, easy-to-implement improvements to enhance walkability for seniors.
- Over 2,000 seniors engaged in workshops and walking assessments.

Adoption by City and State agencies was the best way to sustain a program like Safe Seniors because these agencies are mandated to make physical changes on the street. We are work to connect concerned citizens from the senior communities to the DOT and to continue fostering collaborations between the DOT and the Department of Health and Mental Hygiene. We are also working with the local elected officials, Naturally Occurring Retirement Community (NORC) and other senior coalitions to bolster community support and expand the improvement areas. Making Safe Routes for Seniors a federal policy is our ultimate goal.

## Section II: Project Objectives and Accomplishments

The three major objectives related to improving senior cardiovascular health within the Safe Routes for Seniors program were:

- Work directly with seniors in underserved communities to identify obstacles to walking
- Develop a set of design solutions that would improve walkability for seniors and be incorporated into NYC's policies
- Advocate for and win physical changes on the street

### Working Directly with Seniors

The program started in Washington Heights and Inwood. According to the New York City Department of Health and Mental Hygiene, in Inwood and Washington Heights, more than one fifth of adults (21%) are obese, which is one-third higher than in Manhattan (15%). In addition, 11% of adults have diabetes, compared to 7% in the rest of Manhattan. About half of Inwood and Washington Heights residents (48%) report not exercising at all, compared to 32% of Manhattan residents. Only one third of residents in Inwood and Washington Heights (36%) report exercising at least 3 days a week.<sup>1</sup> Ten percent of the population is over 65 years old.



*Washington Heights:  
New pedestrian crossing signs*

<sup>1</sup> Community Health Profiles: Inwood and Washington Heights [nyc.gov/html/doh/downloads/pdf/data/2006chp-301.pdf](http://nyc.gov/html/doh/downloads/pdf/data/2006chp-301.pdf)

Washington Heights and Inwood are very residential neighborhoods with many small businesses and commercial corridors. The neighborhood is sandwiched by the Hudson River on the west side and the Harlem River on the east side. Despite its proximity to beautiful areas of Manhattan, the walking conditions there are very dangerous. There is one major subway line and limited access to public transit. Many of the commercial streets are very wide, and there are very few pedestrian amenities.

We reached out to senior center and program directors in Washington Heights to schedule presentations and workshops. It was apparent that traffic issues are very visceral – nearly every senior could articulate specific concerns for their

safety when walking. One strategy was to give the presentation during lunch hours – when there is essentially a captive audience in the room – and to follow-up with a workshop where there was interest. This proved to be very effective in sustaining interest. At the two workshops held during the first year in the Washington Heights neighborhood, 200 seniors attended. Further, many directors of senior programs were appreciative of an outlet where seniors could express their transportation concerns – one of the most common concerns the directors heard at the centers.

One significant challenge of winning the interest of seniors was that traffic concerns were only one of many other quality-of-life issues that seniors grapple with each day. For example, food and housing are primary needs. Crime and neighborhood security are a constant worry. Trash on the sidewalk spoke more about the lack of care – not necessarily a physical barrier. For some seniors, walking was also inhibited by the lack of proper shoes: we worked with one senior center to accompany seniors to the shoe store to buy better shoes.

Another challenge was the steep learning curve that identifying traffic problems entails: cars not yielding to pedestrians is not only about drivers, but potential engineering solutions, such as a leading pedestrian interval (LPI). To help facilitate learning through experience, T.A. created three walking maps that outlined a walking route through the neighborhood

that went through intersections with narrower crossing distances, fewer trip hazards and provided amenities such as trees for shade, benches and drinking fountains. This was a very good way to build observational skills in seniors because they walk the route every day and can compare how this safer route differs from another route. Originally used in only one senior center and one walking club, the three maps have seen continuous use: they are still used by 13 walking clubs at senior centers in Washington Heights on a weekly basis.



Upper West Side:  
New ADA compliant curb-cuts

In our most recent Safe Routes for Seniors neighborhood-wide initiative we reached out to five senior centers in Manhattan's Lower East Side. There is a large concentration of public housing in this neighborhood and a 2007

Community District Report from the Mayor's office found that 48% of the population receives income support. In 2008 T.A. met with over 200 seniors and listened to what interfered with their ability to walk – for either leisure or necessity –in their neighborhood. Similar to Washington Heights and Inwood, we developed a report based on seniors' needs for the DOT.

### **Develop a Set of Design Solutions to Improve Senior Pedestrian Safety**

One of the major goals of the program was to gain a better understanding of senior pedestrian issues. We surveyed at least 750 seniors over the last five years. Here are some of the results of the data collection.

Common destinations that seniors regularly walk to include:

Grocery Store/Super Market	96.2%
Senior Centers	94.2%
Other Shopping	81.7%
Train Stops/Stations	80.6%
Church/Religious Activity	76.2%
Park	73.9%
School	32.0%

Source: T.A. research at 10 Manhattan senior centers, 2003-2005

We also found common problems that seniors faced when walking in New York City from our surveys. Basic reasons among the majority of seniors for not walking as often or as far as possible include:

- Tripping on uneven pavement or other obstacles.
- Unable to cross the street with the walk cycle.
- Vehicles not yielding to seniors walking in the crosswalk.

T.A.'s report *Discriminatory by Design: A senior citizen focused study of streets and intersections on New York City's Upper East Side* synthesizes research from studies completed at 18 locations on the Upper East Side (at intersections and mid-block on wide streets). A major finding is that most seniors walk at a slower pace than the rate of four feet-per-second, the standard used by the NYC DOT's engineers for timing NYC pedestrian traffic signals. Only 25% of seniors in the study sample walked at four feet-per-second or greater. Seventy-five percent of the sample observed walked at less than four feet-per-second, indicating that most seniors did not have enough time to cross the street. The study also showed that seniors using a mobility device crossed the street at less than three feet-per-second. Fifty-six percent of seniors stood in the street rather than on the curb before crossing, most likely to get a head start when crossing the street, despite the increased risk. A median of 30% of older adults engaged in unsafe behavior such as standing in the street before beginning to cross or crossing at a red light at the specific intersections studied.

Based on these findings, we were able to develop a suite of design and policy recommendations for street improvements that would make streets safer for senior pedestrians and encourage them to walk more. These include:

- Make the street as flat as possible and have a smooth transition to curb.
- Install wide median refuge areas with benches, planters and shelters on wide streets.
- Have shelters and benches at the bus stops near senior centers.
- Implement LPIs at long, wide intersections (eventually the City should have these at all intersections).
- Place stop bars 15 feet before crosswalk and when possible raise crosswalks to line up with the curb.

- Extend crosswalks and daylight corners.
- Reclaim vehicular lanes for pedestrian space.

Supported by interest in neighborhood-wide improvements for senior pedestrians from elected officials, T.A. developed a concept called “Elder Districts.” Similar to the model of Safe Routes to School, which codified a portfolio of recommendations for making streets safer for a specific population, these “Elder Districts” define the boundaries within a neighborhood as well as an array of street improvements for senior pedestrians. These improvements include but are not limited to:

- Pedestrian signals that reflect a walking speed of 2.5 feet-per-second.
- Extra, exclusive crossing time of five to nine seconds on all corners (i.e. LPI).
- Street and sidewalk that are free of potholes, cracks and other trip hazards.
- Adequate pedestrian ramps at all curbs.
- Audible, accessible pedestrian signals at all crossings.
- Bollards on the double yellow line on streets where widths exceed 60 feet.
- Pedestrian refuges, or medians and median tips on streets where widths exceed 90 feet.
- Speeds of 20 miles per hour maximum on residential streets achieved through the use of vertical deflectors and/or other traffic calming measures.

### **Advocate For and Win Changes on the Street**

For the first few years of Safe Routes for Seniors, we advocated with elected officials, winning endorsements for the design recommendations from Council Member Robert Jackson, Council Member Miguel Martinez and New York State Senator Eric Schneiderman. Endorsements are a major step in winning physical improvements (the total number of which is outlined in the following section).

We also worked with Council Member Michael Nelson to amend a bill that he introduced to the NYC Council that would make intersections bordering senior centers and high-density senior areas safer. Amy Pfeiffer, Program Director for Safe Routes for Seniors at Transportation Alternatives in 2006 testified to the Transportation and Aging Committees of the New York City Council’s Joint Hearing on Intr. 125 and Intr. 217 in April 2006. T.A.’s work gained momentum after a couple of years. In 2006 we were asked by State Senator Liz Krueger to focus our work in her district, which encompassed the Upper East Side. Although the Upper East Side is a primarily residential neighborhood with several landmark healthcare, educational and cultural institutions, many of the streets and avenues carry heavy volumes of vehicular traffic that are very wide and difficult to cross. In the Upper East Side study area, pedestrians must often cross avenues with five travel lanes and two parking lanes – streets that are at least 70 feet wide. The intersections where avenues intersect major cross-town streets are difficult to navigate.

On May 12 2006, T.A.’s Executive Director Paul Steely White and Deputy

Director of Planning Karla Quintero presented at the Asian American and Asian Research Institute (AAARI) 2006 Conference on the Well-Being of Asian American Senior Citizens. They presented on senior pedestrian safety issues citywide and also on possible solutions, specifically for Chinatown, that would protect the community's very active senior population. T.A. sat on speaker panels with representatives from the NYC Department of Transportation, New York Metropolitan Transportation Council, Asian-Americans for Equality, the NYC Department of City Planning and the local police precinct.

T.A. organized a briefing for all Manhattan elected officials on senior pedestrian safety issues with the office of State Senator Liz Krueger at the Municipal Art Society in May 2006. Twenty elected officials were represented and attendees included Council Member Dan Garodnick, Council Member and Transportation Committee Chair John Lui and State Senator Liz Krueger. The attendees were briefed on street designs that incorporate senior pedestrian safety and typical threats to safety that exist on New York City streets. Following the presentation, they were asked to send a letter to Mayor Bloomberg urging him to take the following steps:

- Re-time pedestrian signals to reflect a walking speed of 2.5 feet-per-second.
- Give extra, exclusive pedestrian crossing time of five to nine seconds on all corners.
- Repair street and sidewalk imperfections to prevent falls.
- Install ADA-accessible pedestrian ramps at all curbs at all intersections along 15 major Manhattan cross-town streets.

Letters of support were sent from various community groups and elected officials to Mayor Michael R. Bloomberg of the City of New York; Commissioners Edwin-Mendez Santiago, formerly of the Department for the Aging; Dr. Thomas Frieden, Department of Health and Mental Hygiene; and to Linda Gibbs, Deputy Commissioner for Health and Human Services for the City of New York. We also reached out to Council Members Inez Dickens and Melissa Mark-Viverito, two new council members whose districts are in our study area.

The capstone of our work in advocacy was the significant physical improvements at the intersection of 1st Avenue and 20th Street that were implemented within a span of six months. This effort was completed in collaboration with Council Member Dan Garodnick and bolstered by the high level of interest from multiple elected officials. The redesign of 20th Street at 1st Avenue included the installation of a 19-second leading pedestrian interval and converted a service road into a small park and pedestrian space. The closure of the service road re-aligned the crosswalk, affording pedestrians a higher level of predictability for vehicles going through the intersection.

In March 2005 T.A. outlined an objective to work in four neighborhoods

north of 110th Street. While we did lead over 15 workshops in Washington Heights, Inwood, and Harlem collectively, we decided to expand upon our work in northern Manhattan and address pedestrian safety issues in the entire Borough. This has been very positive as we have been able to engage a wider range of elected officials and strengthen the advocacy voice for senior pedestrians.

### **Earned Media**

T.A.'s Safe Routes for Seniors program has earned significant media, including:

- *"This Needs More Attention: Making Streets Safe for Seniors,"* Treehugger, Michael Graham Richard, April 23 2009
- *"Streetfilms: Making Streets Safer for Seniors,"* Streetfilms, Elizabeth Press, April 22, 2009
- *"Streets Safe for Walking: How cities are making their byways user-friendly,"* AARP Bulletin, Graham T. Beck, March 23 2009
- *"Efforts For Pedestrians,"* West Side Spirit, November 7 2008
- *"In the Crosswalk, Age Can Be a Matter of Life and Death,"* New York Times, Clyde Haberman, December 11 2008
- *"New Report Finds Older Downstate Pedestrians at Risk,"* Architect's Newspaper, Kate Slevin, TSTC; Stacey L Kratz, AARP, December 10 2008
- *"All About Couples and Offspring: Adults and Elders Ought to Be Seen and Heard From, Too,"* Our Town, Bette Dewing, November 13 2008
- *"Helping Old New Yorkers Get Around Town,"* Gotham Gazette, Graham T. Beck, February 6 2008
- *"Seniors walking targets: Crossing times on streets too short,"* New York Daily News, Oren Yaniv, September 29 2004

## Section III: Community Impact

The ultimate goal of Safe Routes for Seniors was to remove physical barriers to walking for senior citizens. The best way of removing those barriers is to make physical changes, as recommended by local seniors, to the



street and to have these changes incorporated into local legislation that mandates walkable-street planning. In March and April, 2009, T.A. visited each of the sites in which we conducted focus groups with seniors, made design recommendations and advocated for physical changes on the street. We found 65 physical changes that are a direct result of T.A.'s senior outreach and advocacy. While all improvements relate to T.A.'s overall goals, changes in Washington Heights and Inwood directly correspond to an objective set in 2005 to complete pedestrian safety improvements in four areas of Manhattan north of 155th Street. We exceeded this goal and successfully advocated for 29 street improvements at multiple intersections throughout the two neighborhoods.

*Inwood:  
New ADA compliant curb cuts*

Another objective laid out in 2007 was to make six intersections easier for seniors to cross. We also exceeded this goal: a total of 65 changes impacting thousands of seniors are now in place.

### T.A. Direct Wins for Safe Routes for Seniors

Type of Pedestrian Improvement	Number Installed
ADA-compliant Curb Cut	21
Bus stop (new)	09
Stop Bar	03
Daylighting	02
School Crossing Signs	04
Pedestrian Crossing Signs	05
Leading Pedestrian Interval	08
Barnes Dance	01
Bus Bulb	01
New Pedestrian Signal	04
Pedestrian Space/Greenstreet	01
Sidewalk Lighting	05
Speed Bump	01
<b>TOTAL PHYSICAL IMPROVEMENTS</b>	<b>65</b>

Even better, more physical improvements are on the way, as the city has incorporated four of our study areas into their Safe Streets for Seniors program. We estimate that these changes directly impact seniors living immediately adjacent to the improved intersections because they must cross the street to visit local daily destinations such as the grocery store or the bus stop. Examining 2000 Census tract data, we believe that an estimated total of 26,913 seniors have benefited or will benefit from these safety enhancements. Below is a chart of estimated numbers of seniors living directly adjacent to the intersections where T.A. worked on making improvements, by neighborhood.

<b>Neighborhood</b>	<b>Senior Population</b>
Washington Heights/Inwood	4,563
Upper East Side	7,927
Peter Cooper Houses (1st and E 20th St)	6,113
Upper West Side and Amsterdam Houses (Lincoln Square NORC)	6,148
Penn South (Chelsea)	1,745
Lower East Side	417
<b>TOTAL</b>	<b>26,913</b>

*Source: 2000 Census*

In some of these neighborhoods, such as Penn South (Chelsea), seniors make up over 25% of the population. Furthermore, these changes make the streets safer for the additional tens of thousands of pedestrians who walk through these intersections every day.

We worked to engage senior citizens directly. Our presentations and focus groups also included a mini-training session on how traffic calming works and why it is important. We believe that this continual training process helped the program gain momentum as the program continued. Over six years, we held presentations, focus groups and design workshops with an estimated attendance of nearly 2,000 senior citizens (some workshops having 100-200 attendees each).

Over the course of the program's life, we averaged one report every 18 months. Below is a list of reports that we published and sent to elected officials. They continue to be well-referenced by New York City advocates for transportation reform and for senior citizens as well as elected officials who call on the DOT to make improvements for their constituents.

- *Safe Routes for Seniors*, Washington Heights, November, 2004
- *Street Design Recommendations: Nagle Avenue*, Inwood, February, 2005
- *Upper West Side Senior Pedestrian Safety Plan*, November, 2007
- *Discriminatory by Design*, December, 2007
- *Walk the Walk: Connecting Senior Pedestrian Safety to Seniors*, January, 2009

T.A. developed relationships with many organizations to do the initial research and outreach. Some of the main participants in the Safe Routes for Seniors program include: Washington Heights-Inwood Coalition on Aging (WHICOA), YM/YWCA of Washington Heights, Northern Manhattan Improvement Corporation, Columbia Presbyterian, Lincoln Square Neighborhood Center and the NCJW Council Senior Center. Senior centers that were instrumental in working with us include ARC-Fort Washington Senior Center, Fort Washington Houses, Kennedy Memorial Community Center Senior Program, Council Senior Center and the Lincoln Square Neighborhood Center (NORC). Advocacy groups that we now collaborate with include Gray Panthers, Community Pride: a program of the Harlem Children's Zone, the Joint Public Affairs Committee for Older Adults, and the UJA-Federation of New York. We are still in regular communication with Community Boards 10 and 11 in Central and East Harlem about pedestrian safety improvements needed in their districts.



*Inwood:  
Pedestrian Crossing Signs*

A few of the collaborations have resulted in long-term relationships. One is the ongoing weekly walking club at senior centers in Washington Heights. There are now 13 walking clubs using the maps that T.A. originally created. The maps came as a result of T.A.'s workshops and a collaboration with Columbia Presbyterian to launch a diabetes walking program in northern Manhattan. Another is the Safer Streets and Sidewalks Campaign that is currently underway at Community Pride. Safer Streets and Sidewalks is funded by Community Pride and has recently won a unanimous Community Board 10 Safer Streets and Sidewalks resolution calling on the DOT to implement neighborhood-wide safety measures. Seniors were prominent advocates in Community Pride's effort to convince the community that traffic issues should be addressed. Finally, the Harlem River Park Task Force out of the Harlem Community Development Corporation, who we have been working with since early 2007, is asking the DOT to make safety improvements to pedestrian access ways to a new NYC Economic Development Corporation (EDC) park on Harlem River. Over two thousand

seniors living in the housing developments adjacent to the new park would benefit from improved safety, especially when the access ways are also major intersections that all residents must cross to walk through the neighborhood.

The adoption of a senior pedestrian safety program by the New York City DOT is the best indication of long-term sustainability and major policy change. The DOT has committed to making senior safety improvements in 25 neighborhoods by 2010. They have also indicated interest to expand the program and adopt better analysis to identify areas of high senior density and preferred destinations, instead of relying only on crash statistics, to identify the next class of senior pedestrian safety improvement areas in New York City.

Safe Routes for Seniors received considerable recognition. The program has been published as a case study with the National Association of Chronic Disease Directors. As a sign of the program's efficacy, T.A. received discretionary funding from Council Member Rosie Mendez, State Senator Liz Kruger and Assembly Member Linda Rosenthal to support this program. The total discretionary funding received from elected officials was \$15,000 over three years.

## Section IV: Next Steps

Given the depth of knowledge and the broad interest in expanding this program, T.A. will continue to seek codification of the Safe Routes for Seniors program at the local and national level so that there is longterm sustainability for senior pedestrian safety improvements. We will advocate locally and nationally to make this a reality.

Locally, we will continue to watch-dog the NYC DOT to keep its commitment to senior citizens. We believe that the DOT can expand its program and make pedestrian safety improvements the standard, and not the exception, for New York City streets. One tangible way this can happen is to request that the NYC DOT expand its methodology to map where seniors live, as well as common destinations where they frequent (such as grocery stores and bus stops), rather than only relying on intersections where there are significant senior pedestrian fatalities and severe injuries. Though adoption of a Safe Streets for Seniors program by the NYC DOT is a great first step, our senior partners did question why few areas were identified for improvements when senior independence and mobility depended on being able to walk everywhere in the city.



*Upper West Side:  
Lead Pedestrian Intervals*

There are simple, cost-effective and easy-to-install street design enhancements that can be implemented throughout the city, such as a leading pedestrian intervals (LPI). We believe that the City should establish a standard for implementing these life-saving measures beyond the meager levels that they currently exist. As of publication the DOT has pledged to double the existing number of LPIs from 135 (2007 levels) by 2014. That is only 2.25% of the 12,000 signalized intersections in New York City. To keep this commitment, the DOT will need to install 26 LPIs per year until 2014. As of this writing, the agency is behind in its commitment with only eight installed in 2007 and 2008. We see an opportunity to take the Safe Routes for Seniors program national. Following on the heels of the NYC DOT, New York State DOT announced

adoption of the program with a pilot project in Long Island, Nassau County. Eventually, we would like to see national Safe Routes for Seniors program modeled after Safe Routes to School, a program that has federal funding to implement physical changes on the street and a national coalition to support local DOTs and communities to advocate for the changes, as well as for federal policy support. To this end, we will meet with the American Association of Retired Persons (AARP), the American Heart Association, the American Cancer Society, APHA, the New York State Senior Action and other transportation and public health organizations to make this a reality.

T.A. is a member of the Transportation Equity Network and Transportation for America, transportation reform organizations where we can push this agenda.

Finally, our lessons from Safe Routes to School tell us that vigilant watchdogging will be required to ensure implementation of these essential safety measures for the new DOT Safe Streets for Seniors program. Although Safe Routes to School is a national movement funded by the federal government, in New York City the school safety improvements remain difficult to win. One block in Harlem, with a school, had been requesting safety measures from the DOT for 14 years, and the changes were only implemented in the spring of 2009. Similarly, there is no conduit for the senior community to voice their opinions to the DOT. A key part of watchdogging will be channeling community demands to the DOT so that physical changes on the street are designed in a meaningful and timely manner for seniors.

Find more information on Transportation Alternatives' website:  
<http://transalt.org/campaigns/pedestrian/safeseniors>.