

# How to Ease Women's Fear of Transportation Environments: Case Studies and Best Practices



MTI Report 09-01



# MINETA TRANSPORTATION INSTITUTE

The Norman Y. Mineta International Institute for Surface Transportation Policy Studies (MTI) was established by Congress as part of the Intermodal Surface Transportation Efficiency Act of 1991. Reauthorized in 1998, MTI was selected by the U.S. Department of Transportation through a competitive process in 2002 as a national “Center of Excellence.” The Institute is funded by Congress through the United States Department of Transportation’s Research and Innovative Technology Administration, the California Legislature through the Department of Transportation (Caltrans), and by private grants and donations.

The Institute receives oversight from an internationally respected Board of Trustees whose members represent all major surface transportation modes. MTI’s focus on policy and management resulted from a Board assessment of the industry’s unmet needs and led directly to the choice of the San José State University College of Business as the Institute’s home. The Board provides policy direction, assists with needs assessment, and connects the Institute and its programs with the international transportation community.

MTI’s transportation policy work is centered on three primary responsibilities:

## Research

MTI works to provide policy-oriented research for all levels of government and the private sector to foster the development of optimum surface transportation systems. Research areas include: transportation security; planning and policy development; interrelationships among transportation, land use, and the environment; transportation finance; and collaborative labor-management relations. Certified Research Associates conduct the research. Certification requires an advanced degree, generally a Ph.D., a record of academic publications, and professional references. Research projects culminate in a peer-reviewed publication, available both in hardcopy and on TransWeb, the MTI website (<http://transweb.sjsu.edu>).

## Education

The educational goal of the Institute is to provide graduate-level education to students seeking a career in the development and operation of surface transportation programs. MTI, through San José State University, offers an AACSB-accredited Master of Science in Transportation Management and a graduate Certificate in Transportation Management that serve to prepare the nation’s transportation managers for the 21st century. The master’s degree is the highest conferred by the California State University system. With the active assistance of the California Department

of Transportation, MTI delivers its classes over a state-of-the-art videoconference network throughout the state of California and via webcasting beyond, allowing working transportation professionals to pursue an advanced degree regardless of their location. To meet the needs of employers seeking a diverse workforce, MTI’s education program promotes enrollment to under-represented groups.

## Information and Technology Transfer

MTI promotes the availability of completed research to professional organizations and journals and works to integrate the research findings into the graduate education program. In addition to publishing the studies, the Institute also sponsors symposia to disseminate research results to transportation professionals and encourages Research Associates to present their findings at conferences. The World in Motion, MTI’s quarterly newsletter, covers innovation in the Institute’s research and education programs. MTI’s extensive collection of transportation-related publications is integrated into San José State University’s world-class Martin Luther King, Jr. Library.

---

## DISCLAIMER

The contents of this report reflect the views of the authors, who are responsible for the facts and accuracy of the information presented herein. This document is disseminated under the sponsorship of the U.S. Department of Transportation, University Transportation Centers Program and the California Department of Transportation, in the interest of information exchange. This report does not necessarily reflect the official views or policies of the U.S. government, State of California, or the Mineta Transportation Institute, who assume no liability for the contents or use thereof. This report does not constitute a standard specification, design standard, or regulation.

**MTI REPORT 09-01**

**HOW TO EASE WOMEN'S FEAR OF  
TRANSPORTATION ENVIRONMENTS:  
CASE STUDIES AND BEST PRACTICES**

**OCTOBER 2009**

**Anastasia Loukaitou-Sideris, Ph.D.  
with  
Amanda Bornstein  
Camille Fink  
Linda Samuels  
Shahin Gerami, Ph.D.**

**a publication of the  
Mineta Transportation Institute  
College of Business  
San José State University  
San José, CA 95192-0219  
Created by Congress in 1991**

# TECHNICAL REPORT DOCUMENTATION PAGE

1. Report No. FHWA-CA-MTI-09-2611	2. Government Accession No.	3. Recipient's Catalog No.	
4. Title and Subtitle How to Ease Women's Fear of Transportation Environments: Case Studies and Best Practices		5. Report Date October 2009	
		6. Performing Organization Code	
7. Authors Anastasia Loukaitou-Sideris		8. Performing Organization Report No. MTI Report 09-01	
9. Performing Organization Name and Address Mineta Transportation Institute—College of Business San José State University San José, CA 95192-0219		10. Work Unit No.	
		11. Contract or Grant No. DTRT07-G-0054	
12. Sponsoring Agency Name and Address  California Department of Transportation Sacramento, CA 95815      U.S. Department of Transportation Research and Innovative Technology Administration 1200 New Jersey Avenue, SE, Rm. E33 Washington, DC 20590-0001		13. Type of Report and Period Covered Final Report	
		14. Sponsoring Agency Code	
15. Supplementary Notes			
16. Abstract  The relationship between women's fear and the built environment has been the subject of research with clear findings that women feel unsafe in many public spaces. These often include transportation environments. Desolate bus stops and train cars, dimly lit park-and-ride lots and parking structures, but also overcrowded transit vehicles represent stressful settings for many women, who often feel compelled to change their transportation modes and travel patterns in order to avoid them. Past research has shown that transit passengers' fears and concerns about safety influence their travel decisions. But while the relationship between women's fear of crime and public space has been the focus of considerable research, transit environments have received less attention. This study seeks to address this gap by, 1) identifying the perspectives and needs of women regarding safety from crime in transit environments through a comprehensive literature review and in depth interviews with representatives of 16 national women's interest groups; 2) assessing if these needs are met by transit agencies, through a survey of 131 U.S transit operators; and 3) discussing model programs and best practices from the U.S. and overseas that address women's concerns about safe travel. We found that women transit passengers have some distinct travel needs, but these needs are not well addressed in the U.S., where only a handful of transit operators have specific programs in place targeting the safety needs of women riders. In contrast, some other countries have adopted specific measures and policies in response to women's transit safety needs. We also found a mismatch between the expressed needs of women passengers and the types and locations of common safety/security strategies adopted by transit agencies. Based on feedback from our interviews and case studies we offer a series of policy recommendations.			
17. Keywords  Transit safety, Women	18. Distribution Statement No restriction. This document is available to the public through the National Technical Information Service, Springfield, VA 22161		
19. Security Classif. (of this report) Unclassified	20. Security Classif. (of this page) Unclassified	21. No. of Pages 82	22. Price \$15.00

**Copyright © 2009**  
**by Mineta Transportation Institute**

All rights reserved

Library of Congress Catalog Card Number: 2009931013

To order this publication, please contact the following:

Mineta Transportation Institute

College of Business

San José State University

San José, CA 95192-0219

Tel (408) 924-7560

Fax (408) 924-7565

E-mail: [mti@mti.sjsu.edu](mailto:mti@mti.sjsu.edu)

<http://transweb.sjsu.edu>

---

## **ACKNOWLEDGMENTS**

This study was funded by grants from the Mineta Transportation Institute and the University of California Transportation Center.

We would like to acknowledge all the individuals listed in Appendices B and C as well as the respondents from the 131 transit agencies (listed in Appendix A) for taking time from their busy schedules to respond to our questions. We would also like to acknowledge the contribution of Norman Wong whose programming and computer skills made the on-line survey possible, and Sandra Setti, who translated interview questions and conducted an interview in Spanish.

We would like to thank the leadership and staff at the Mineta Transportation Institute for their support of all phases of this work, including former-MTI Research Director Trixie Johnson, the current Research Director, Karen Philbrick, Ph.D., Communications Director Donna Maurillo, Research Support Manager Meg Fitts, Student Publication Assistant Sahil Rahimi, Student Webmaster Ruchi Arya, Student Research Support Assistant Chris O'Dell and Student Graphic Artists JP Flores and Vince Alindogan.

Editing and publication services were provided by Catherine Frazier, Irene Rush, and Cris Gutierrez.

---

## CONTENTS

<b>EXECUTIVE SUMMARY</b>	<b>1</b>
<b>INTRODUCTION</b>	<b>3</b>
Scope of the Study	4
Methodology	4
Layout of the Study	4
<b>FEAR OF TRANSIT: WHO IS AFRAID AND WHY? A LITERATURE REVIEW</b>	<b>7</b>
Women’s Fear of Public and Transit Environments	8
<b>INPUT OF WOMEN RIDERS</b>	<b>13</b>
Interviews with Representatives of Women’s Interest Groups	14
Suggested Actions and Policies	18
<b>THE RESPONSE OF TRANSIT OPERATORS</b>	<b>23</b>
Choice and Perceived Effectiveness of Security Strategies	24
(Not) Addressing the Specific Needs of Female Passengers	29
<b>CASE STUDIES OF INNOVATIVE RESPONSES TO WOMEN’S FEAR OF TRANSPORTATION ENVIRONMENTS</b>	<b>35</b>
RightRides	35
HollabackNYC	38
METRAC—Metropolitan Action Committee on Violence against Women and Children	40
Transport for London’s Plans for Women Passengers	43
Women-Only Transportation Schemes	45
<b>CONCLUSIONS AND RECOMMENDATIONS</b>	<b>49</b>
Recommendations	51
<b>APPENDIX A: LIST OF PARTICIPATING AGENCIES (BY NUMBER OF VEHICLES IN OPERATION)</b>	<b>55</b>
<b>APPENDIX B: LIST OF NATIONAL WOMEN’S ORGANIZATIONS INTERVIEWED AND THEIR MISSION STATEMENTS</b>	<b>63</b>
<b>APPENDIX C: LIST OF CASE STUDIES AND THEIR MISSION STATEMENTS</b>	<b>67</b>

---

<b>ENDNOTES</b>	<b>69</b>
<b>BIBLIOGRAPHY</b>	<b>75</b>
<b>ABOUT THE AUTHORS</b>	<b>81</b>



## LIST OF TABLES

1. Transportation Settings where (British) Women and Men Feel Unsafe After Dark 10



## LIST OF FIGURES

1. Sign Installed at New York Stations by MTA	20
2. Use of Policing by System Area	24
3. Use of Surveillance/CCTV Technology by System Area	25
4. Use of Education/Outreach Strategies by System Area	25
5. Use of Environmental Design Strategies by System Area	26
6. Security Strategies on Buses and at Bus Stops	27
7. Security Strategies in Rail Transport	27
8. Three Perceived Most Effective Strategies by System Area	28



---

## EXECUTIVE SUMMARY

Past research has shown that the fears and concerns of transit passengers about safety influence their travel decisions. While the relationship between women's fear of crime and public space has been the focus of considerable research, transit environments – which are especially threatening to female passengers – have received much less attention. This study examines the issue of women's safety on transit through a comprehensive review of the literature on the topic, in-depth interviews with representatives of national interest groups, a survey of U.S. transit operators, and presentation of case studies and best practices from the U.S. and abroad.

The women interviewed for this study argued that women as a group have distinct safety/security needs and are often fearful of transit settings with specific social and physical characteristics. Their fear leads them often to adjust their behavior and travel patterns and/or avoid certain travel modes and settings at certain times. This situation is more acute for particular groups of women, who because of age, income, type of occupation, sexual preference, and place of residence may be or feel more vulnerable to victimization and harassment than others. The women interviewed outlined a series of design, policing, security technology, education and outreach strategies that would make women riders feel safer in public settings.

Nevertheless, the survey of transit operators found that only a handful of agencies in the U.S. currently have programs that target the safety and security needs of women riders. Most survey respondents believed that women have distinct safety and security needs, but only one third of them believed that transit agencies should put specific programs into place to address these needs. Additionally, the survey suggested that there is a significant mismatch between the safety and security needs and desires of female passengers and the types and locations of strategies that transit agencies use.

While transit operators in the U.S. have not initiated any particular programs specifically targeting women's safe travel, transit agencies and municipal governments in some other countries and nonprofit groups in the U.S. and other countries have started initiatives that target women's safe and comfortable travel. Based on lessons learned from such initiatives, as well as the input of respondents in our interviews and survey, this study proposes a series of suggestions to close the gap between research and practice on the topic of women's safety, and address the mismatch between the needs of women and the practices of transit operators in the U.S. These include 1) initiation of researcher-practitioner dialogues; 2) incorporation of women's voices in the planning process; 3) collaboration and partnering between transit agencies and nonprofits; 4) prioritization of safety/security needs in the transportation system; 5) tailoring safety/security initiatives to the particular needs of communities; 6) adopting a multipronged approach to safety that utilizes environmental design, policing, security technology, education and outreach strategies and policy initiatives; and 7) initiating pilot programs and policies with the goal of enhancing the safety of women riders.



## INTRODUCTION

I am parking as close to [my destination] as I can. I'm definitely looking around and being very self-aware, understanding that it is important to be alert....Some of our members are terrified about where they live; they are terrified for their children...walking from bus stops to their home. —*Amy Stear, Wisconsin Director of 9to5*

We are talking about nothing less but public transportation justice. This is one of the biggest concerns our members have. As low-income women and mothers, they depend heavily on public transportation, and unfortunately there are not a lot of safe places, especially in the evening, where they can wait for the bus; or they cut off service so you have to walk through not very safe neighborhoods to get home. If you work non-traditional hours you are screwed! —*Anita Rees, Associate Director, LIFETIME*

Fear of victimization and crime is quite widespread among women. Almost every fear of crime survey reports that women are much more fearful of crime than men.<sup>1</sup> While the fear of rape and serious violence from men may lie in the back of many women's minds, feminist scholars also argue about an existing continuity of violence against women, which includes intimidation, groping, sexual comments and harassment, threats, and other nuisance crimes with sexual undertones.<sup>2</sup> In explaining the gendered nature of fear of crime, criminologists highlight these often "invisible" and under-reported crimes against women.

Regardless of being real or only perceived, fear has some significant consequences for women and leads them to utilize precautionary measures and strategies that affect their travel patterns. These range from the adoption of certain behavioral mechanisms when in public, to choosing specific routes, modal choices, and transit environments over others, to completely avoiding particular transit environments and activities (e.g., walking, bicycling) deemed as more unsafe for women. The situation seems to be particularly aggravating for both low-income and minority women who tend to live in high-crime neighborhoods, often come back home from work at odd hours, and typically have less transportation options than more affluent women.

The relationship between women's fear and the built environment has been the subject of much scholarly research with clear findings that women feel unsafe in a variety of public settings. Some cities and municipalities around the world have begun to address this issue by initiating programs to assess and remedy safety gaps in the built environment. A few of these programs have targeted transportation settings, but overall little academic research or policy action has specifically focused on this aspect of women's safety. Whether traveling by bus, automobile, or other modes, women's fear of transportation facilities – such as parking structures, buses, train cars, and bus stops – in turn affects the way women engage in travel, and may preclude them from a basic right to the city: the ability to move carefree from origin to destination without worrying that a "wrong choice" of mode, transit setting, or time of travel would have consequences for their safety.

## SCOPE OF THE STUDY

This study documents the safety concerns and needs of women riders as identified by secondary data from empirical studies as well as first-hand interviews with representatives of different women's interest groups, and examines the extent to which these needs are addressed by policy makers. More specifically, the goals of the study are to:

1. Identify the perspectives and needs of women regarding safety from crime in transit environments.
2. Assess if these needs are met by transit operators in the U.S.
3. Identify model programs and best design and policy practices in the U.S. and overseas that address women's concerns about safe transit travel.
4. Discuss a series of recommendations for reducing women's fear and achieving greater safety in transit settings.

## METHODOLOGY

This study has gathered research data from numerous sources, including the following:

- Literature review of scholarly studies, professional reports, and newspaper articles focusing on women's fears and concerns about safety in public environments with a particular emphasis on transit settings.
- Web-based survey of 131 transit agencies in cities throughout the United States (see Appendix A).
- Interviews with 16 representatives of women's interest groups in the United States (see Appendix B).
- Case studies of model programs and practices (both domestic and international) addressing aspects of women's fear of transit environments (see Appendix C).

## LAYOUT OF THE STUDY

The study is composed of six sections. Following the introduction, the second section, "Fear of Transit: Who Is Afraid and Why?" presents a comprehensive literature review of women's fear in transit environments. Women's fear is particularly associated with specific environmental conditions and settings. This section summarizes the facts and fallacies about women's fear, and explains the outcomes of this fear as reflected in women's behavior and travel patterns.

The third section, "Input of Women Riders," draws from international surveys with women riders as well as interviews with representatives of women's groups in the U.S. to give a voice to the specific fears, needs, and aspirations of women transit riders. Respondents discuss some of the distinct transit needs that women riders are facing, as well as the additional concerns faced by older, low-income, and lesbian women.

The fourth section, "The Response of Transit Operators," summarizes the results of a web-based survey of U.S. transit operators, which found that only a handful of agencies currently have programs that target the safety and security needs of women. This survey suggests that there is a significant mismatch between the safety and security needs and



desires of female passengers and the types and locations of strategies that transit agencies use.

The fifth section, “Case Studies of Innovative Responses to Women’s Fear of Transportation Environments,” presents programs, initiatives, and plans that seek to enhance the safety of women riders. The programs are quite varied in scope and means. *RightRides*, a New-York-based nonprofit, provides safe transportation alternatives on weekend nights to women and transgender individuals. *Hollaback* is a web-based grassroots effort which provides a forum for women victims of harassment in public and transit settings to document their stories and resist passive victimization. *METRAC* is a Toronto-based organization which has created widely-used Safety Audits of public and transit environments. *Transport for London’s* plans for women are a comprehensive effort by a large transportation operator to respond to the particular needs of its women customers. Finally, this section gives an overview and discusses the pros and cons of “women-only” transportation schemes that are in effect in some cities in Japan, Great Britain, Mexico, India, and Brazil among others.

The last section, “Conclusions and Recommendations,” draws from the previous findings to discuss recommendations for safer transit environments for women.



---

## FEAR OF TRANSIT: WHO IS AFRAID AND WHY? A LITERATURE REVIEW

Fear and anxiety about personal security are important detractors from using public transit.<sup>3</sup> Many people avoid specific transit routes or bus stops, use them only during daytime, or do not use transit at all, if they believe that they may be harassed or victimized when on the bus, train, or at the station or stop. Empirical research in different cities of the Western world has confirmed that fear about crime affects transit ridership. Indeed, a survey by the UK Department for Transport conducted in 2002, showed that “an extra 10.5% of journeys would be generated if the public felt more secure when traveling, particularly when waiting at stations.”<sup>4</sup> Similarly, Wekerle and Whitzman<sup>5</sup> found that the negative perception of passengers about transit security influenced riders’ decisions to use transit in New York City, Toronto, and London, while Loukaitou-Sideris<sup>6</sup> found that the majority of car owners who responded to a Los Angeles inner-city survey would use public buses if they perceived them as clean and safe.

Surveys of the perceptions of transit passengers have revealed a number of issues related to their anxiety about personal security. For one, fear of transit is more pronounced in certain social groups than others. Indeed, gender emerges as the most significant factor related to anxiety and fear about victimization in transit environments<sup>7</sup>. Researchers have also identified more pronounced levels of fear of public settings among the elderly,<sup>8</sup> certain ethnic groups,<sup>9</sup> and low-income people,<sup>10</sup> who typically tend to live in high-crime neighborhoods. Important differentiations seem to exist among members of specific social groups in their fear of public settings and transit environments because of age, race, class, cultural and educational background, sexual orientation, prior victimization experiences, and disability status.<sup>11</sup> But researchers also warn us not to fall into the trap of considering social groups as uniform or stereotypical, urging for a more nuanced analysis of the causes of fear of victimization and crime.<sup>12</sup>

Empirical studies have also shown that the presence of certain environmental factors in a public setting is in general associated with greater fear. These include darkness, desolation, lack of opportunities for informal surveillance by the general public or the residents of surrounding establishments, lack of maintenance, and poor environmental quality.<sup>13</sup> Therefore, the physical characteristics of the immediate neighborhood where a bus stop or station is located can affect people’s perception of risk and fear. Criminologists have long talked about the relationship between physical incivilities (such as run-down vacant buildings, litter, or graffiti) and fear.<sup>14</sup> The specific design characteristics of a transportation setting can induce fear among passengers. People are mostly fearful in places where they do not have a clear line of sight of their surroundings; where there are many nooks, corners, or other objects behind which someone can hide; and where they may feel trapped with no possibilities of escape. Underpasses, tunnels, and dark underground stations are typically more feared than open, ground-level transit facilities.<sup>15</sup>

Desolation and general lack of people and activity in a transportation setting contributes to anxiety and the fear that no one will be there to help if a crime occurs. The absence of visible staff and other passengers on station platforms and train wagons contributes to concerns about safety. Women in particular have been found quite fearful of empty train

cars.<sup>16</sup> At the same time, many women feel that having only one other passenger around while waiting for the bus or train is more threatening than being alone.<sup>17</sup>

While most passengers typically feel safer in the presence of other passengers, drunks, beggars, homeless individuals, and rowdy crowds (often referred to as “social incivilities”) in the vicinity of a transit stop or station or on the vehicle can also have a chilling effect on transit riders. Surveying a national sample of 1,101 randomly selected adults, LaGrange et al.<sup>18</sup> noted a significant relationship between neighborhood incivilities and perceptions of risk. Rohe and Burby<sup>19</sup> found that social incivilities were more predictive of fear than physical incivilities, while LaGrange et al.<sup>20</sup> did not find one type of incivilities more predictive of fear than the other.

Almost every survey of transit passengers has found that they feel more unsafe walking to their stops or waiting for the bus or the train after dark than during daytime.<sup>21</sup> Indeed, very few respondents of a 1997 survey administered by the Department for Transport in the UK felt unsafe waiting at the bus stop alone during the day, but this number increased significantly for nighttime waiting, when 44% of women and 19% of men felt unsafe.<sup>22</sup> Similarly, the British Crime Survey—an annual national survey which gathers information on residents’ concerns about crime, found that the majority of residents feel unsafe walking alone after dark.<sup>23</sup> Additionally, passengers are typically more fearful during their journeys to and from the stop or station and during their wait for the bus or train than when they are on the transit vehicle.<sup>24</sup> This fear seems to be justified by empirical research. Indeed, in a survey of ten transit agencies, Shen et al.<sup>25</sup> found that most crime incidents took place either in the near vicinity (42%) or at the transit station or stop (36%), while only 22% of the incidents happened on the transit vehicle.

The prospect of long waits for the bus is enough to deter transit use, not solely because of inconvenience but also because of the perceived risk that an extended wait can entail. Presumably the presence of a bus driver or train operator and the structured setting of the transit vehicle are more reassuring to passengers than the unpredictability of the more public and open environment of the bus stop or station platform.

## **WOMEN’S FEAR OF PUBLIC AND TRANSIT ENVIRONMENTS**

Crime surveys and empirical studies from different parts of the world show that a majority of women are fearful of the potential violence against them when in public spaces. A number of explanations have been given to this phenomenon, which include the perceived vulnerability of women because of a lesser physical ability to defend themselves;<sup>26</sup> the influence upon them of parental advice and societal admonitions;<sup>27</sup> their greater propensity to transfer past experiences and memories of victimization to present situations;<sup>28</sup> the additional concern for their children, who often accompany them [Women’s Planning Network Inc. (1995)]; and the persistent sexual harassment that women suffer on streets and public transportation vehicles.<sup>29</sup> Women’s fear for their safety and that of their children is often amplified by media accounts and the public representation and sensationalization of crime that contributes to a social production of fear.<sup>30</sup>

Women’s high level of fear of victimization and crime does not seem to be justified by statistics which consistently show very low rates of reported crime against women in public spaces. This paradox has led to the conclusion that women’s fear of crime is

irrational and more of a problem than crime itself.<sup>31</sup> What the official statistics do not show, however, is that significant numbers of intimidating and even violent acts against women go unnoticed and under-reported. Thus, a second fallacy seems to disregard or render invisible acts of sexual harassment (verbal or physical conduct of sexual nature such as groping or fondling) that often take place in public settings (such as overcrowded buses and trains). Such behavior against women is quite pervasive, as studies in different cities of the world (from New Delhi to New York and from London to Jerusalem) seem to indicate.<sup>32</sup> Indeed, fear of harassment “cuts across the experience of women in cities and across identities of marital status, nationality, and sexual orientation.”<sup>33</sup> Women are often embarrassed and reluctant to report sexual offenses against them, in a public culture that often puts blame on the victim of sexual assault. More empirical and qualitative research justifies women’s concerns, by contradicting the official statistical numbers, and showing that levels of violence against women are significantly higher than those reported by the police.<sup>34</sup>

A third fallacy is identified by criminologists as a “spatial mismatch” between the locations in which most violent acts against women usually occur (private spaces) and the locations which are mostly feared by women (public spaces). The majority of violent crimes against women happen by familiar and familial persons at home or other private settings, not by strangers in public spaces. Yet the social production of fear—which includes parental admonitions, highly-publicized media stories, crime prevention classes at schools, and advice and warnings by the police—tends to emphasize the threat that women are facing in the public realm. Feminists argue that this fallacy, which underestimates domestic violence, also leads to women being misinformed about the main location of danger and avoiding public settings.<sup>35</sup>

A fourth fallacy equalizes all women and their perceived agoraphobia under a broad and uniform category, ignoring important differentiations that exist among them because of age, race, class, cultural and educational background, sexual orientation, and disability status. This generalized, “one-size-fits-all” approach has been criticized by some, who rightly argue that the fear of crime can be profoundly affected by all the aforementioned factors.<sup>36</sup> Empirical studies typically find that older women generally feel less safe than younger women.<sup>37</sup> Lower socioeconomic status is often shown to be associated with unsafe neighborhoods and transient domiciles.<sup>38</sup> Therefore, women in poor neighborhoods are typically afraid of being assaulted on the street.<sup>39</sup> Women from non-white and ethnic backgrounds often experience higher levels of fear in their neighborhoods than white women.<sup>40</sup> Similarly, women with physical or mental disabilities and lesbian women are more fearful of assault in public spaces.<sup>41</sup>

Finally, as Pain<sup>42</sup> argues, “fear and boldness, although they may be gendered, are not essentially female and male qualities.” While many women tend to feel unsafe in certain environmental settings, fear is not inherent in women but rather socially constructed. The conceptualization of women as victims entails a certain danger of increasing women’s fears, or perpetuating the notion that they must “operate under some kind of curfew”.<sup>43</sup>

While women’s fear of public and transit environments often has social connotations, it also appears to be firmly situated in particular built environments. Empirical studies such as the analysis of crime data from Chicago showed that women tend to be more sensitive than men to signs of danger and social disorder, graffiti, and unkempt and abandoned buildings.<sup>44</sup> A Swedish study using crime data from Stockholm found that

women and men respond to similar environmental conditions differently. Women are typically more fearful in public settings because they tend to perceive a higher risk there than men. The researchers attributed that finding to the threatening sexual behavior that many women often encounter from men in public settings.<sup>45</sup>

Gil Valentine<sup>46</sup> emphasizes two general categories of spaces as particularly frightening to women: 1) enclosed spaces with limited exit opportunities such as multi-story parking structures, underground passages, and subway stations and 2) anonymous and deserted open spaces such as desolate transit stops. The first provide opportunities for criminals to trap and attack women, while the second may allow potential offenders to conceal themselves and act outside the visual range of others.

Many of the feared spaces include transportation settings. Table 1 shows the significantly higher percentages of British women feeling unsafe after dark in various transportation settings. Empirical studies have shown that women take precautions and make behavioral adjustments to the perceived risk in public and transit settings. If their financial situation allows, they often prefer to use their car or take a taxi rather than walk or use public transit because of fear for their safety.<sup>47</sup> Indeed, exactly half of the Canadian women surveyed indicated that fear prevents them from using public transportation or parking garages.<sup>48</sup> Women more than men also tend to confine their use of public transit to certain hours of the day, or use it if only accompanied by boyfriends, spouses, or friends.<sup>49</sup>

**Table 1 Transportation Settings where (British) Women and Men Feel Unsafe After Dark**

Women	Men
Walking in multi-story parking structures (62%)	Waiting on underground station platforms (32%)
Waiting on underground station platforms (61%)	Travel on the underground (32%)
Waiting on train platforms (60%)	Walking in multi-story parking structures (31%)
Travel on the underground (60%)	Waiting on train platforms (25%)
Walking from bus stop or station (59%)	Walking from bus stop or station (25%)
Travel on Train (51%)	Walking in surface parking lot (21%)
Walking in surface parking lot (51%)	Walking to bus stop or station (20%)
Waiting at bus stop (49%)	Waiting at bus stop (20%)
Walking to bus stop or station (48%)	Travel on Train (20%)
Travel on Bus (40%)	Travel on Bus (18%)
Source: Department for Transport (2004), London, UK, p. 28	

Women's fear of crime in public spaces has been adequately documented.<sup>50</sup> Research of transit passengers' perceptions of transit safety has also intensified in response to the recognition that anxieties about crime are impeding travel choices and affect transit ridership and revenue,<sup>51</sup> and researchers have written guidelines for safer cities and transit environments.<sup>52</sup> Some of the aforementioned studies incorporate an analysis of gender differences in perceptions of safety on transit; however, the focus is not specifically on women and safety. In contrast, a small subset of studies has focused on women's concerns and fears about personal safety in transit environments.<sup>53</sup> Criminologists complain, however, that our increased knowledge about the causes of fear has not necessarily translated into nuanced policy responses tailored to the

particularities of different groups and physical settings. Additionally, there remains a general lack of knowledge regarding specific female requirements for transit environments. Researchers have argued that “this is partly due to the imperceptibility of women, for which female researchers criticize most of the existing research. It applies a universal human concept based on the assumption that women and men are in the same situation, and therefore, have the same needs and attitudes”.<sup>54</sup>





## INPUT OF WOMEN RIDERS

Empirical research has clearly established that the transportation needs and travel behavior of women are different from men.<sup>55</sup> Women often work closer to home, make more trip chains between home and child care or school and on to work, and are often accompanied by their children in their trips.<sup>56</sup> Because they frequently have to do non-work related chores, they need more travel flexibility than men.<sup>57</sup> As already discussed, women typically have many more concerns for their safety during travel than men.

Women, however, are not a homogeneous group. As Lang<sup>58</sup> explains: “There are vast differences between the needs of elderly women, women in the paid labor force, and women whose work is home-based. There are also differences between the needs of women at different stages in their life cycle.... Similarly, there will be vast differences in needs depending on the income of the household and whether women have access to a car.”

While scholars agree that women have diverse and specific transportation needs, few researchers, transit agencies, or policy makers have directly asked women riders about their safety needs or sought to identify women’s proposals and preferences regarding safe and secure travel. The limited information we have on this topic comes primarily from surveys of women in the United Kingdom and Canada as well as safety audits undertaken by women in these two countries. In safety audits, women walk around a transportation setting or public environment noting their fears and concerns and making suggestions for improved safety. From such surveys and audits we know that women passengers generally prefer staffing to technological solutions and are very skeptical of the tendency of transit agencies to replace staff from trains or buses with automated machines. Discussing the findings of a 2002 survey by the Department of Transport in the UK, Carter<sup>59</sup> explained that “when traveling by bus, women prefer an additional staff member and the refusal by the driver to board those influenced by alcohol or drugs, whereas men prefer CCTV [closed-circuit-television] and in-vehicle radio contact for the driver. On trains, women and men both prefer to have a staff member walking through a train, although for women the preference is more marked.” Similarly, an earlier survey of women in Southampton, England, found that they repeatedly favored more staff and police officers as measures to improve their perceptions of safety while on the buses, parking lots, or streets.<sup>60</sup>

The tendency of many transportation agencies to retrofit their station platforms and bus stops with CCTV cameras seems to offer little comfort to women. Female participants in focus groups and workshops at Nottingham, England, argued that they “do not feel more secure in the knowledge that someone, somewhere is supposed to be watching them.”<sup>61</sup> Similarly a study of transit passenger reactions to implemented safety measures in Ann Arbor, Michigan, found that while CCTV cameras were the most noticed of the various security improvements, they did not have a significant impact on passengers’ feelings of safety.<sup>62</sup>

Certain design measures seem to have a positive effect in reducing women’s fear. Surveys of women passengers in the United Kingdom,<sup>63</sup> Canada,<sup>64</sup> and the United States<sup>65</sup> showed that good lighting has a positive role in reducing women’s fear. Women

conducting safety audits in Scarborough, Canada, indicated, however, that good lighting should extend from the bus stops to the adjacent streets so that bus stops avoid the “fishbowl effect.”<sup>66</sup> Good visibility and natural surveillance opportunities of transit stops and stations from surrounding establishments emerged as a positive feature in the 1997 national perceptions study conducted in the UK. In contrast, survey participants argued that they often felt unsafe and entrapped in corridors and ramps leading to underground stations.<sup>67</sup> The same respondents also stated that the presence of graffiti and litter at transit settings, the absence of visible staff, the inadequacy of travel information, long wait times and infrequent service contributed to feelings of insecurity.<sup>68</sup>

Women seem to have mixed reactions to segregated transport schemes (to be discussed in section 5), which establish women-only services or women-only cars on commuter trains and subways. Female transit riders in Brazil seemed to appreciate them,<sup>69</sup> while women in Southampton, England, were concerned that such segregated transport facilities would draw attention to them as targets.<sup>70</sup> Policies that receive high marks from women passengers include request-stop programs, allowing women to disembark from the bus at locations closer to their final destination during late evening hours, and public awareness campaigns denouncing groping.<sup>71</sup>

## **INTERVIEWS WITH REPRESENTATIVES OF WOMEN'S INTEREST GROUPS**

To get a better grasp of the concerns of women riders in the U.S., we conducted sixteen in-depth interviews with leaders of national women's interest groups. These groups included: 9to5 National Association of Working Women, Alliance of Faith and Feminism, Church Women United, Black Women's Health Imperative, LIFETIME, Gender Public Advocacy Coalition, American Nurses Association, DC Rape Crisis Center, Chicago Foundation for Women, National Research Center for Women and Families, National Family Planning and Reproductive Health Association, MANA-National Latina Association, NOW Foundation, OWL, and Women in Cities International (See Appendix B for a list of interview contacts and mission statements). While none of these groups has transit safety as its explicit focus, their representatives talked eloquently and passionately about the topic on behalf of their members and themselves, and were able to highlight a number of issues relating to women's fears, needs, and aspirations for safe travel.

Many interviewees stressed the interconnectedness of transit safety/security to other issues important to both men and women. They reasoned that transit security relates to economic security (access to better jobs, better educational opportunities, and better pay), which leads to better housing and neighborhood environments. For poor women, safe public transportation is also important to accomplish everyday tasks. As argued:

As an organization that works with the poorest, the most at-risk families, we do always see transportation as an important issue to these families. Many of them don't have cars. It is not even always about access to jobs. Many times it is about mothers traveling on buses just to get to the grocery store, just to do basic, everyday things. They rely on that transportation not just for themselves but they may have a couple of little kids in tow. They are not just bringing them with them, but they are caring for them and protecting

them. So public transportation safety is very important. —*Amy Stear, 9to5*

### **Women's Fear of Public Settings**

The overwhelming sentiment of respondents was that safety issues are more prominent for women than for men, because of the pervasive fear that many women feel when in public spaces, specifically being at certain settings during certain times. Some felt that such fears are justified because “most public spaces in urban communities are dangerous for women,”<sup>72</sup> while others indicated that this fear is socially constructed, arguing that:

Our culture has done a very good job of convincing women that we are unsafe in public space and that we should not go to certain places at certain times, where certain people might be present, and that if we follow those rules we'd be safe. I think that we are probably safer in public space, and those arbitrary forms of social control are lies. —*Lynne Johnson, Chicago Foundation for Women*

Additionally, some respondents referred to statistics that show that the majority of violent acts against women happen by people they know in domestic and private environments. Some, however, also pointed to the significant under-reporting of sexual harassment in public spaces, stating that “harassment transcends age, race, and income for both harassers and victims. It is consistently felt by women in transit or walking around the city.”<sup>73</sup> One interviewee mentioned that 60-80% of sexual assault and harassment incidents are never reported to the police.<sup>74</sup> This claim is consistent with a recent survey which found that 63% of the respondents had been sexually harassed in the New York City subway. Nevertheless, 96% of those harassed did not contact the NYPD and/or the MTA to file a report.<sup>75</sup> This discrepancy between incidences of violence against women and the rate at which they are reported is highly problematic and was attributed by some respondents to a misplacement of the blame for the crime onto the victim rather than the perpetrator. As one interviewee poignantly asked, “What happens if a woman is harmed or hurt? If she is out in public in the evening, or at a place she shouldn't go, then she is blamed for violating the rule of social control.”<sup>76</sup>

### **Feared Transit Settings**

Consistent to the findings of empirical studies, some transit settings and modes emerged as highly problematic for women passengers. In general, private automobiles and taxis were much preferred for their perceived safety to riding public transit, even though one respondent argued that considerable harassment also occurs in taxi cabs for lesbian, gay, or transsexual individuals. Riding on the metro was considered safer than riding on the bus, which was in turn preferred to walking or waiting at a bus stop if conditions seemed threatening:

I may be less worried about the bus itself than the street. —*Amy Stear, 9to5*

The perception is that I am safer if I am on the bus or the subway, than if I am walking. —*Rev. Della Fahnestock, Alliance of Faith and Feminism*

I don't take the bus because it is very unpredictable, uncomfortable, unsafe, and not fast—the worst of all worlds....Most women feel much safer and don't hesitate to go out at night if they have a car and a safe place to park it. They do hesitate if they have to walk 3 blocks to the bus stop. —*Diana Zuckerman, National Research Center for Women and Families*

It is definitely safer to be waiting at a metro station than on a street corner for the bus. —*Denise Snyder, DC Rape Crisis Center*

Other feared transportation settings mentioned by respondents included “dimly lit parking lots,” “parking garages,” “walkways connecting station platforms to park-and-ride facilities,” and “unstaffed stations with no service and ticket booths.” Representatives of the Older Women's League (OWL) also characterized as unsafe, settings where older women may trip and fall, such as “streets without sidewalks, bus shelters without lighting, benches too close to the curb, crosswalks with short signal timing and metro escalators not well marked for ingress and egress.”<sup>77</sup>

Consistent to the findings of other empirical studies, many respondents felt that certain environmental characteristics contribute to the perceived lack of safety. Dark, desolate, or confined spaces were overwhelmingly perceived as unsafe:

I got off the wrong stop at MARTA and it was really deserted. My heart rate went up a little bit because there wasn't anybody around. —*Nancy Hughes, American Nurses Association*

The smaller more confined spaces where there aren't a lot of people around are more dangerous for women. —*Brittney Hoffman, Gender PAC*

In contrast, other environmental characteristics of settings, such as cleanliness, good visibility, and the presence of staff, police, or simply other passengers contributed to feelings of safety. Interviewees living in Washington DC (where many of the women's interest groups have national headquarters), gave the DC Metro high marks in terms of safety because it exhibits these positive environmental characteristics.

The DC metro is very safe because it is used by a diverse group of people. It is very clean, very well lit, well used. There is safety in numbers. —*Diana Zuckerman, NRCWF*

DC has one of the best metro systems around. It is clean and of high caliber. It makes a difference that it does not feel like something that has been abandoned. —*Denise Snyder, DC Rape Crisis Center*

The DC metro, which has lots of transit safety personnel and is designed well with lots of lighting and numerous station managers at entrances, and officers who ride its trains, is safer than other public transit systems in large cities. —*Jan Erickson, NOW Foundation*

## **Behavioral Adjustments**

Fear felt by many women leads to behavioral adjustments and precautions—not walking alone, avoiding certain settings completely, avoiding travel in the evening, not using public transportation, not wearing certain types of clothing or jewelry. Some of the

interviewees confirmed the argument of feminist criminologists, that the fear of crime may be more potent than the actual risk.

I am always looking for cues to establish if the environment is safe. Does the parking lot have lights? Are the street lights on? Is there anyone else entering the elevator? There's definitely a need to be aware of all that whenever I am walking from my car to the transit station. —*Rev. Della Fahnestock, Alliance of Faith and Feminism*

When you are by yourself you have to really watch where you go, try to eliminate going in certain areas, going alone at dark, and watch what you carry in your purse. When I am at the metro I watch who is in the car. I am very uncomfortable if I'm the only woman in the car. I'll move to another car.... You really have to use precautions wherever you are. You don't want to go out at night carrying a big purse and look like a target. I try not to wear hooded clothing that someone can grab. —*Nancy Hughes, ANA*

You have to be thinking of things that could happen and try to limit those situations. Not running around scared, but at the same time don't leave yourself open for something to happen. —*Alma Morales Roja, MANA*

Whenever I use the bus or metro I have my fare card or bus money ready and never open my purse in public. Otherwise, you are asking for mugging. —*Shelia Willet, OWL*

Some respondents argued that fear not only leads to behavioral adjustments for women but also makes them feel the need to manufacture legitimacy for their presence in public spaces. Purposeful jogging, walking the dog, or waiting for the bus at the bus stop are viewed as more legitimate activities in public spaces than “aimlessly” waiting at a street corner.

### **Distinct Needs of Women**

Almost all respondents agreed that women riders have distinct safety needs, and these needs are affected by age, race, and income because vulnerability is related to these characteristics. Respondents gave a number of reasons as to why women have distinct needs. Some argued that this is because “safety issues are more prominent for women. Not only are they fearing for their own safety, but for their kids’ safety as well.”<sup>78</sup> Others reasoned that “women passengers have distinct safety needs because they are not physically built to be as strong as most men and they are often preyed upon by men.”<sup>79</sup> Still others argued that women are easier targets and more susceptible to transit crime because they carry purses that are easier to grab.<sup>80</sup> Some underlined that it is the risk of sexual assault in transit settings that makes women’s needs different from those of men.

Women face different issues than men in regards to security in public transport. I'd be concerned about my son riding the bus as it relates to groups of young men targeting and picking on him, but I would be worried about my daughter as it relates to sexual assault. I don't think that I would allow her to ride alone. —*Amy Stear, 9to5*

Some respondents made special mention of the hardship and resulting greater safety needs of older women, who “are easier to prey on and overcome;”<sup>81</sup> mothers travelling with children;<sup>82</sup> as well as low-income women who “don’t live in the safest neighborhoods,”<sup>83</sup> are “less likely to have a car and more likely to use buses, and are more at risk because they have to work late and rely on public transportation.”<sup>84</sup> One respondent also argued that the environmental characteristics present at transit settings in low-income neighborhoods are quite different and inferior to those in more affluent areas:

There are about 1/8 the number of stops on the south side [of Chicago] as there are on the north side. It’s a very different CTA picture. The sheer difference in the images between the north and south sides is so stark because there are many more empty lots and vacant property and poor lighting. It’s not as populated, it’s not as dense as what a neighborhood is going to look like on the north side....and crimes on the south side get very little media attention.  
—*Lynne Johnson, Chicago Foundation for Women*

## **SUGGESTED ACTIONS AND POLICIES**

Right now I walk around in a culture that tolerates, even perpetuates violence against women and girls, and I’d rather walk around in a culture that simply says it is not acceptable, and we are going to focus all our attention on stopping this. —*Lynne Johnson, Chicago Foundation for Women*

Traditionally, women’s safety has not been part of city design.  
—*Eleanor Hinton, Black Women’s Health Imperative*

While concerned about the relative lack of societal attention to issues of violence against women, respondents also had a wealth of suggestions to offer for making transit environments safer and more fitting to the needs of women riders. These suggestions can be classified into strategies that use environmental design, security technology, policing, education and outreach, as well as policy changes to promote the safety of women riders.

### **Design Strategies**

Design can be applied to different components of the transportation network in an effort to enhance the environmental factors that reduce fear and eliminate or curtail those that promote it. For one, the location of transit settings (particularly bus stops) away from desolate environments and near people and activities was deemed essential to achieve the “safety in numbers” dictum. Additionally, general maintenance and upkeep of transit facilities and the regular cleaning of graffiti and litter was found to provide comfort to riders. As argued, “Keeping an environment clean not only encourages positive behavior therefore discouraging potential perpetrators; it also makes things feel comfortable for someone who might have anxiety or fear.”<sup>85</sup>

Good lighting of all aspects of the transportation network, including bus stops, platforms, parking lots, and streets, was mentioned as extremely important by all respondents:



I think that lighting is huge. It's not that it doesn't happen in broad daylight, but it seems that it would reduce incidences. —*Amy Stear, 9to5*

Transit settings do not have as much lighting as they should. Every parking lot at every line should have good lighting. Agencies should make sure that there is a well-lit area around the station with no dark corners. That's an easy fix. There's no excuse for not having good lighting. —*Alma Morales, MANA*

Some respondents also argued for bus shelter designs that allow good visibility from the surroundings, have minimum advertising so that people can see you from the street, and incorporate armrests on benches to discourage the homeless from sleeping there.

### **Security Technology Strategies**

Respondents emphasized that the presence of staff (taking tickets, opening gates, watching over the space and at station entries and exits) provides a level of security unattainable through technological substitutes. Nevertheless, one respondent found that technology could be very useful in providing real time scheduling information at bus stops for predictability, reliability and efficiency, and to reduce extended waiting time. This added information gives a sense of accountability and relief from the feeling of being stranded. Other security technology devices that were mentioned by a number of respondents included emergency buttons and phones on trains, buses, and at bus stops.

Security cameras (CCTV technology) received mixed marks, but in general most respondents were in favor of using them as a measure of safety and a deterrent to crime at transit settings. As argued:

Cameras are quite controversial. Some people want more; others realize that they just move crime from one corner to the other. But if we are talking about transit, I can see an impact of having this kind of presence, so that women do not feel alone standing at the bus stop. —*Lynne Johnson, Chicago Foundation for Women*

I am not sure how I feel about security cameras. We are a surveillance society but at the same time I am sure that things seen on security cameras help catch people doing what they shouldn't be doing, or maybe even possibly be a deterrent to acts of crime. —*Amy Stear, 9to5*

### **Policing**

A number of respondents felt that the hiring of additional security guards and staff to patrol transit stops and the routes connecting them to various destinations, especially in poor neighborhoods, would go a long way towards ensuring their safety. They stressed that security officers should be visible primarily during the very early morning and late evening hours, when the transit settings are quite desolate. Security should not only be present on station platforms but also at parking lots and pathways connecting the different components of a transit system. The presence of homeless and other destitute individuals at transit settings, while often harmless, is nevertheless a cause of concern for many women riders. In such cases, the presence of security guards is reassuring:

In Atlanta there is a lot of police presence at MARTA stations. They move panhandlers around, they don't let them linger. They keep a good eye on them and this is a good practice....In Silver Spring we have police on bicycles. They bike in parking lots. That is very effective and gives you a nice, secure feeling. —*Nancy Hughes, ANA*

### Education and Outreach Strategies

Some respondents expressed the desire to see transit agencies organizing or co-sponsoring public education workshops and events, encouraging people to report sexual assaults and crime, instead of hushing up such incidents. Others stressed the importance of public information signs such as those that started appearing at New York's subway stations, which encourage victims or bystanders to speak up and report crime (Figure 1).



**Figure 1 Sign Installed at New York Stations by MTA**

Some also argued that the responsibility does not stop with the transit agency, but rather a needed cultural shift in attitudes can only be achieved through education in schools. Education and awareness for both women and men of all ages is needed to help define appropriate behavior, redirect responsibility to the perpetrator, promote awareness and encourage intervention where possible. As stressed:

We need more public education and messages to achieve an enormous cultural change in how our system responds to gender-based bias....Right now gender-based violence gets a victim-centered explanation. The very first narrative from the media and everyone is “what did she do wrong to cause this.” The recipient of violence is responsible for ensuring her own safety. That’s the wrong message. It should be the other way around: Why do we have a culture that breeds this level of violence and how can we disrupt it? —*Lynne Johnson, Chicago Foundation for Women*

### Other Policies

Respondents suggested a number of policies as particularly beneficial to women riders. These include:

- Special escort programs for female passengers during early morning or late evening hours. Allowing female passengers to get off the bus where they want at night.



- Affordable transit passes so that women do not have to open their wallets or carry cash.
- Better and more reliable information about bus schedules so that the wait at the bus stops is minimized.
- Good availability of public transportation and more bus stops in poor neighborhoods so that people do not have to walk for long distances.
- Cab vouchers available to low-income women for use in emergency situations.
- Demonstration projects or best practice case studies so that cities and transit agencies learn from one another.
- Incorporation of women in the transportation planning process; having women conduct safety audits of their neighborhoods.

Anita Rees, the Associate Director of LIFETIME, also argued that policy makers should consider policies that enable car ownership and car sharing for low-income women, reasoning that private automobiles and car sharing programs provide women with the individualization, safety, and convenience that mass transit does not. As she argued: “We need to figure out a way to help those folks get cars, and maintain those cars, and not simply say ‘sorry—you are poor, so deal with it—take the bus with your kids.’”

Finally, some also stressed the importance of grassroots and community-based actions and the community’s responsibility as a whole to fight back against harassment and violence. As Lynne Johnson of the Chicago Foundation for Women explained:

Domestic violence and rape crisis centers have organized “take back the night” rallies, where they march through communities in the evening and create a presence. I like the message of women and men saying “this community should be safe for me at any time of the day and night”....It would be helpful if the community in general, whether it is government, community organizations, churches are verbal in the spaces they occupy (shops, libraries, clinics), and say “this is a safe place that you can come.” This means that you can come in here to just take a break, or report crime, or just get support. This community based strategy is a way to make the community feel that they have a role to play in our safety.

The interviews gave a clear picture of the sentiments, preferences, and needs felt by many women riders. Are these preferences satisfied by U.S. transit operators? Do transit agencies have in place distinct strategies to address the safety concerns of female passengers? What types of policies and design measures, if any, are taken by transit agencies and transportation authorities to make travel less threatening to women? The next section will explore these issues by reviewing and analyzing information from a survey of transit operators in the United States.



---

## THE RESPONSE OF TRANSIT OPERATORS

During the winter of 2006, we administered a survey to U.S. transit agencies across the country.<sup>86</sup> This web-based survey targeted all 245 transit agencies in the United States that operate at least 50 vehicles in peak period service as indicated in the Federal Transit Administration's National Transit Database.<sup>87</sup> The sizes of these agencies spanned a considerable range from MTA-New York City Transit at the high end with 9,551 vehicles, to a number of agencies at the low end with 51 vehicles, including Montgomery Area Transit System in Montgomery, Alabama; Bay Metropolitan Transportation Authority in Bay City, Michigan; Okaloosa County Transit in Fort Walton Beach, Florida; City of Jackson Transportation Authority in Jackson, Mississippi; and Kalamazoo Metro Transit System in Kalamazoo, Michigan (see Appendix A).

The purpose of our survey was to identify the types of strategies these agencies have used, are currently using, or plan to use for the safety of their passengers on different transportation modes and different components of their transportation systems, as well as the perceived effectiveness of these strategies. The survey asked respondents both closed- and open-ended questions about the safety and security strategies used in six different areas of their systems (where applicable): 1) buses, 2) bus stops, 3) trains (light, heavy, and commuter rail), 4) train stations and platforms, 5) train station entrances and exits, and 6) parking lots and area about stops or stations. These strategies included uniformed and non-uniformed police officers, public education/user outreach, surveillance cameras/closed circuit television (CCTV), panic/alarm buttons, emergency telephones, public address systems, other security hardware, and environmental design.<sup>88</sup>

Another major purpose of the survey was to identify what, if anything, U.S. transit agencies are doing to address the security needs of female riders. Two earlier surveys of U.S. transit agencies by Needle and Cobb<sup>89</sup> and Shen et al.<sup>90</sup> have explored the type of strategies followed by agencies against crime, but they have only surveyed a small number of agencies (45 and 10 respectively), were conducted ten years ago, prior to the events of September 11, 2001 (9/11), and did not investigate the security needs of women passengers. Similarly, a more recent survey of 113 transit agencies in the U.S. focused primarily on the agencies' responses to the threat of terrorism and did not investigate women's concerns or their specific security needs.<sup>91</sup> The same survey compared the use of different categories of security strategies before and after 9-11 as well as between systems with and without rail.<sup>92</sup> Our survey sought to expand on this work by examining the strategies used on particular and separate components of transit systems, including vehicles, facilities, and areas around stations and stops, but also identifying if transit operators tailor safety/security strategies and programs to the particular needs of their female clients.

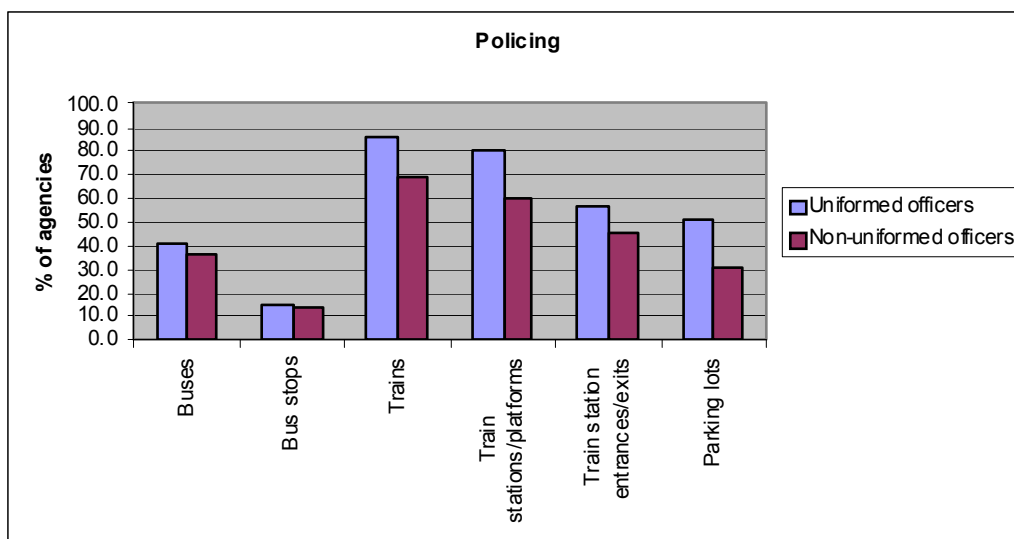
In all, respondents from 131 transit agencies completed the survey (53% of the 245 agencies contacted). The geographical distribution of respondents varied with most respondents in California (27 agencies), Florida (13 agencies), Ohio (8 agencies), Washington (8 agencies), and New York (6 agencies). The size distribution of responding agencies generally mirrored that of the survey universe, including a number of the smallest and largest agencies in the final survey count. Appendix A lists the participating

agencies, the size of their fleet, the modes of transportation they provide,<sup>93</sup> and the size of the metropolitan area in which their systems are located.

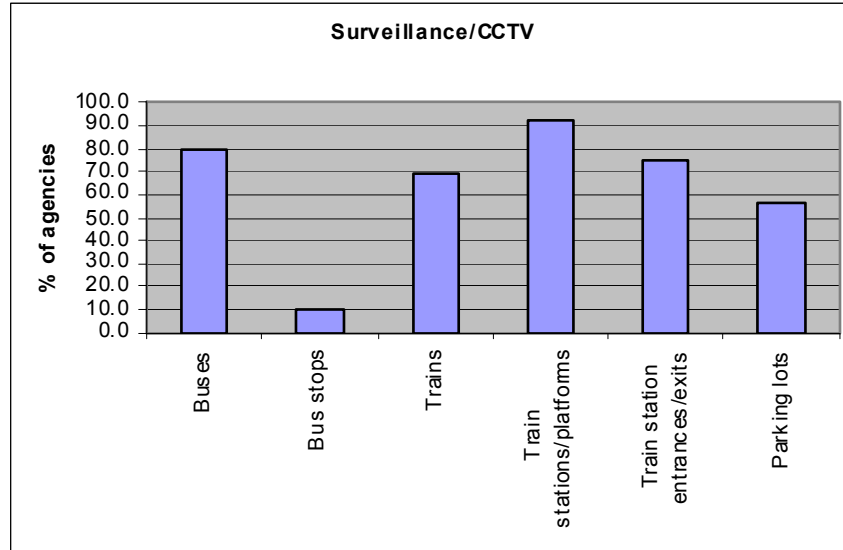
### CHOICE AND PERCEIVED EFFECTIVENESS OF SECURITY STRATEGIES

Since 9-11, passenger security has been elevated as an all-important concern of transit agencies. Indeed, Taylor et al.<sup>94</sup> found that safety and security strategies in four categories (policing, security hardware and technology, public education and user outreach, and environmental design) became much more central in the security planning of transit agencies after 9-11. They noted that a significant collateral benefit of this attention may be an increase in the personal safety of transit passengers through the reduction of personal and property crime.<sup>95</sup>

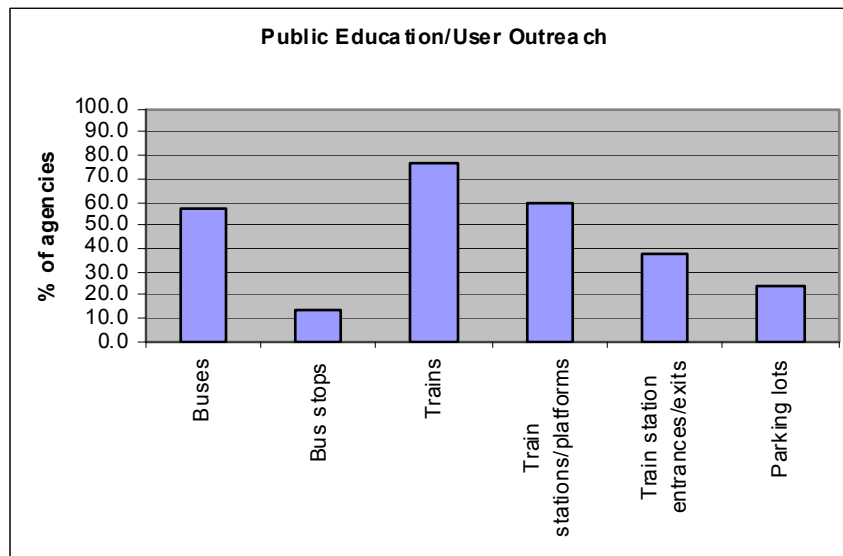
In our survey we found that transit operators draw from all four strategies for their security planning but tend to privilege certain strategies over others, while certain components of their system more often receive particular types of security measures than other parts.<sup>96</sup> Figures 2 to 5 show how agencies are utilizing policing, CCTV technology (the most common of the technology strategies), public education/user outreach, and environmental design strategies to protect different parts of their systems. We wish to clarify that our survey documents the relative popularity and perceived effectiveness of some security strategies over others but did not attempt to measure the amount of resource commitment to or the extent of system coverage via any strategy.



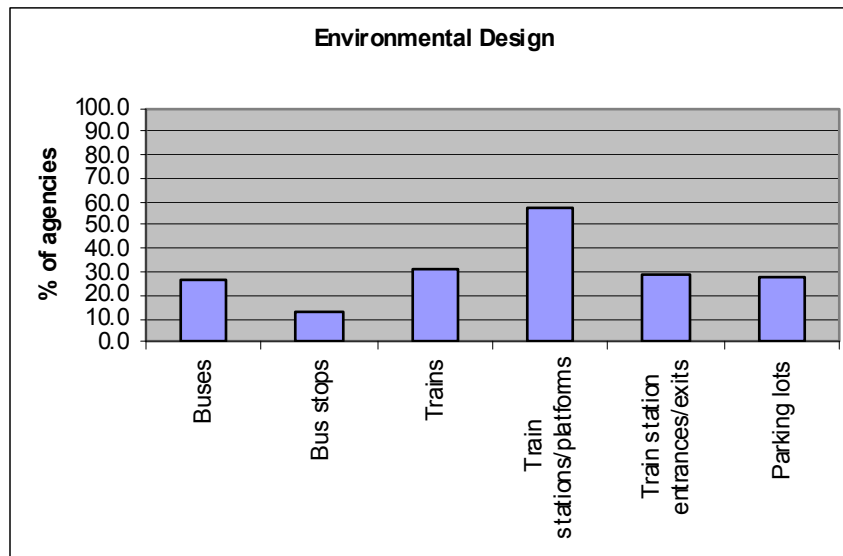
**Figure 2 Use of Policing by System Area**



**Figure 3 Use of Surveillance/CCTV Technology by System Area**

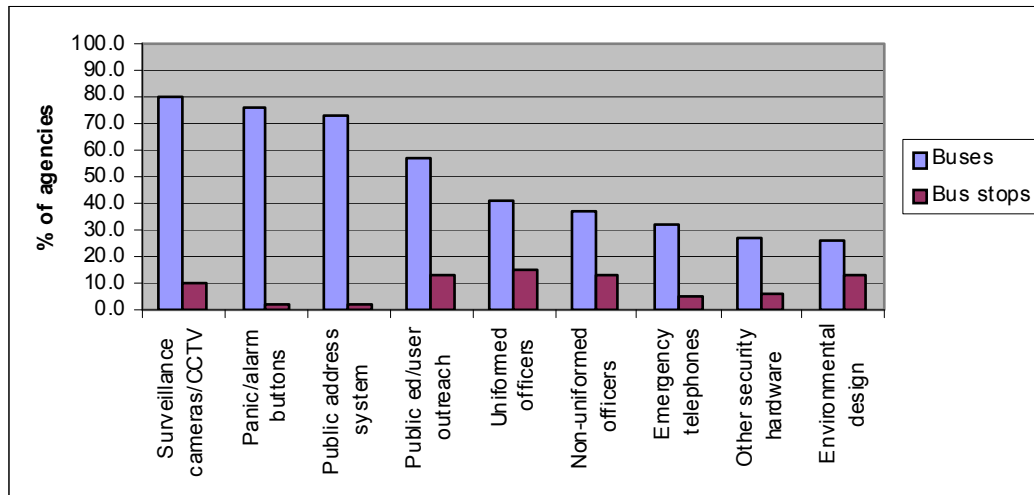


**Figure 4 Use of Education/Outreach Strategies by System Area**



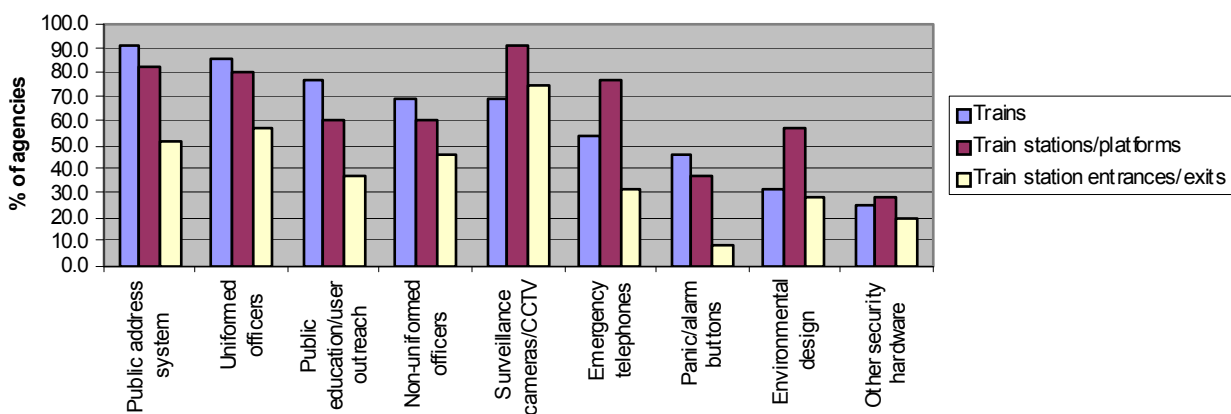
**Figure 5 Use of Environmental Design Strategies by System Area**

The types of security measures provided to the different components of the transportation system are quite unequal. Train stations and trains, and to a certain extent buses, are most often the focus of security efforts by transit agencies. In contrast, the use of various safety and security strategies is very low at bus stops, even though most passengers (and especially women) report greater levels of anxiety and fear waiting for the bus than riding on a transit vehicle. Most survey respondents indicated that they do not employ particular strategies at their bus stops. Only 15% of agencies reported using uniformed officers and about 13% use non-uniformed officers, public education/user outreach, and environmental design.<sup>97</sup> Similarly, relatively low percentages of agencies not currently using particular safety and security strategies at bus stops indicated they would like to use such strategies in the future. Between 5% and 10% want to use public address systems, CCTV, panic/alarm buttons, and emergency telephones. Interestingly, very few agencies want to employ uniformed and non-uniformed officers in the future at bus stop facilities (2% and 1% respectively), even though many women express a preference for human than technological security measures. On the other hand, the security of buses receives greater attention. The majority of responding agencies reported using various hardware and technology strategies on their buses: surveillance cameras/CCTV (80%), panic/alarm buttons (76%), and public address systems (73%) (Figure 6).



**Figure 6 Security Strategies on Buses and at Bus Stops**

The security of rail stations and trains receives significant attention, with the vast majority of agencies employing a wide range of safety and security strategies on the various components of their systems, both vehicles and stations (Figure 7). The most common strategies are security hardware and technology, including public address systems and CCTV, and policing strategies, specifically uniformed officers. For example, nine out of ten agencies use public address systems on their trains and CCTV in their stations. About eight out of ten use uniformed officers on trains and in stations as well as public address systems in stations. However, only half the agencies reported using CCTV and uniformed officers to help protect station parking areas, despite the fact that studies have shown that a significant percentage of crime incidents occur at station parking lots.<sup>98</sup> The relative lack of attention to the security of the more open and public areas of the transportation system is arguably due to the greater difficulty and cost of securing open areas and the perception by transit agencies that they are not solely responsible for the protection of such areas, which are viewed as belonging to the city's larger public realm.

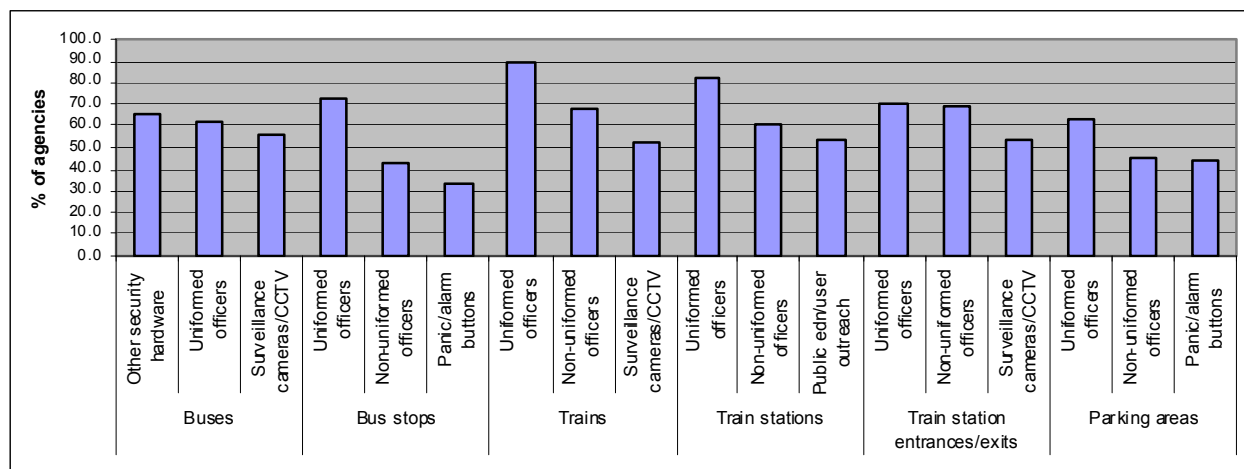


**Figure 7 Security Strategies in Rail Transport**

The survey also asked those respondents not currently using a particular strategy if they anticipated using it in the future. The strategies that agencies most often reported

wishing to use in the future were hardware and technology strategies and, to a lesser extent, policing. Very high percentages of respondents want to use CCTV on buses (88%), on trains (73%), and in parking lots and areas around stops and stations (71%). Other hardware and technology strategies desired by high percentages of respondents for future use include panic/alarm buttons (55%) on buses, public address systems on trains (33%), public address systems (50%) and emergency telephones at train stations (50%), and emergency telephones in parking areas (44%). The percentage of agencies wishing to use uniformed or non-uniformed officers throughout their systems in the future was moderate (25%).

Figure 8 shows the top three strategies in terms of effectiveness as perceived by transit operators for the different components of their system.<sup>99</sup> For buses, the three strategies with the highest “very effective” ratings included “other security hardware”<sup>100</sup> (66%), “uniformed officers” (62%), and “CCTV” (57%). While most agencies do not employ officers at bus stops and did not express a desire to use them in the future, almost three-quarters of those who do use uniformed officers perceived them to be “very effective.” In contrast, only 25% of respondents using CCTV at bus stops considered it “very effective.” The three security strategies perceived as most effective on trains were uniformed officers (90% rated them “very effective”), non-uniformed officers (68%), and CCTV (52%). With regard to train stations, respondents rated the use of uniformed and non-uniformed officers as the most effective strategy for the protection of station platforms, entrances and exits, and station parking lots. Interestingly, an earlier survey by Needle and Cobb<sup>101</sup> had also found that transit operators cited uniformed officers as the most effective strategy for transit security.



**Figure 8 Three Perceived Most Effective Strategies by System Area**

Transit operators were also asked if they implement safety and security strategies only on specific lines or routes of their system. Less than one third (27%) of the agencies indicated that this was the case, and a number of these respondents reported that their staff monitors incident reports and patterns in order to more effectively utilize particular safety and security tools:

While all of our strategies can be implemented on all routes, information from our security database identifies problem areas and



issues and is used to target police resources. —*Operations administrator, female, very large agency in the West*

The utilization of police officers is “target-specific.” In other words, when a serious issue develops and we can pinpoint a specific route, bus, etc., off-duty officers [are] used. —*Safety and security officer, male, small agency in the West*

One respondent reported that the agency had three buses with surveillance cameras and these vehicles were moved to different routes as needed. Other agencies sought to identify particular locations in their transit networks which they believed were more prone to crime—such as transit centers, high-profile terrorist targets, and, particularly, schools—and implemented safety and security strategies along lines and routes in those areas. Two respondents specifically mentioned using random patrols and uniformed and non-uniformed officers on certain routes. Another respondent discussed the employment of overtime officers on sections of a rail line used heavily by school children, a demographic group which a number of bus agency respondents also reported to be a target group for potential safety and security concerns.

Overall, a very small percentage of agencies (only seven) have safety and security strategies for particular railway lines, even though several indicated that the various lines in their systems have very different needs:

Each rail line route is different and has local operating safety measures, speed restrictions, horn sounding instructions, etc. —*Administrator, male, very large agency in the West*

Confined space and volume of people in the subways require varied measures. —*Director of system safety, male, very large agency in the Northeast*

Such responses were, however, the exception as most transit agencies did not report adjusting security strategies to anticipated levels of crime risk or tailoring them to the particularities of specific customers or transit routes. Empirical research has shown that transit crime is highly concentrated in specific hot spots,<sup>102</sup> therefore selective spatial and temporal application of security measures in the most dangerous routes of the transit system, especially during the late evening hours, can provide a more efficient deployment of limited resources. Nevertheless, most transit agencies do not seem to differentiate their practices taking into account the spatial, temporal, or social characteristics of the transportation setting.

## **(NOT) ADDRESSING THE SPECIFIC NEEDS OF FEMALE PASSENGERS**

A specific interest of the survey was to assess the transit operators’ perspectives about the safety and security specifically of female passengers. Therefore, a series of questions sought to identify: 1) if transit operators believed that women have distinct security needs; 2) if they considered necessary the instigation and implementation of specific security programs targeting women passengers; 3) if they had such programs in place for the safety of their women passengers; and 4) if they knew of programs in other transit agencies addressing the security needs of female passengers.

While two-thirds of the respondents (67%) indicated that female passengers have distinct safety and security needs, only about one-third (35%) believed that transit agencies should put into place specific safety and security programs for them. A higher percentage of female (74%) than male (65%) respondents thought that female passengers have special needs; still this difference was not statistically significant.<sup>103</sup> Those respondents who claimed that women do have specific safety and security concerns supported this contention by asserting that women are more vulnerable than men for a number of reasons. One group of respondents believed that women are physically more vulnerable than men:

In general, female passengers are more vulnerable than male passengers due to physical size and ability to defend themselves.  
—*Field operations manager, male, small agency in the West*

To most criminals, most women are not seen as big a threat or [as] able to resist an assault or robbery as a man. —*Chief of transit enforcement, male, small agency in the West*

Women walking alone between the bus stop and their destination or origin are vulnerable. They are also more vulnerable than men on the bus. —*Director of transit operations, male, small agency the West*

Other respondents felt that the ways women travel make them more vulnerable than men:

Visibility of bag/purse could attract [a] thief. —*Director of operations, male, large agency in the Midwest*

Generally because they [women] are carrying purses, traveling with small children, and/or carrying several packages [they are more vulnerable]. —*Administrative analyst, female, very small agency in the South*

Women, especially those with young children, and senior citizens may be more susceptible to attacks by an assailant. Women with young children typically have additional items (i.e., strollers, bags, and young children in tow). —*Transportation analyst, female, very small agency in the Northeast*

Some respondents stated that women have particular safety and security needs because they perceive themselves to be more vulnerable than men:

Female passengers tend to believe they are vulnerable. —*Risk manager, male, medium agency in the West*

Female riders feel they are more frequent targets of crime, especially in parking lots. —*Director of safety and training, male, very small agency the Midwest*

Female passengers may feel more vulnerable particularly when traveling alone or at night even if they are not being targeted for crime at a higher rate. —*Assistant general manager, male, very large agency in the Northeast*

Respondents also suggested that assailants focus on female passengers, and therefore women have safety and security needs distinct from male passengers:

Women are usually targeted by criminals more often than men. Because of this high rate, we must target all areas, but be especially aware of areas where there are large concentrations of female patrons. —*Training and safety specialist, male, very small agency in the South*

[Women are] perceived as easier crime targets by the criminal element. —*Safety officer, male, small agency in the West*

Finally, some respondents stated that women have particular safety and security needs in general, not just on transit:

I believe females in general have distinct safety needs—in all areas, not just in transit use. —*Public transportation director, female, very small agency in the West*

Females and children may be more vulnerable in any public setting. —*Director of safety and training, male, very small agency in the Midwest*

Those who stated that female passengers do not have different safety and security needs supported this assessment by providing two general arguments. The first was that safety and security are issues that affect all passengers regardless of gender:

We ensure the safety of all our passengers! Everyone is treated equally. —*Regional director of safety, female, small agency in the South*

In today's society I [feel] all passengers have the same safety and security needs. We should not just focus on one group of individuals. We as a transit agency should attempt to protect all passengers equally. —*Director of safety and security, male, very small agency in the Midwest*

Safety and security issues and concerns are non-gender specific. —*Safety and security manager, male, small agency in the West*

The second argument was that women are no more vulnerable than men and do not have special safety and security needs:

We are not aware of any specific information that our female passengers have any more [or fewer] safety and security needs than our other passengers. —*General manager, male, very small agency in the South*

Statistical data for our system does not show females have a greater risk. —*System safety and security officer, male, small agency in the South*

You're assuming that the world is less safe for females. —*Chief operating officer, male, small agency in the West*

Despite the fact that two thirds of the respondents believed that women have distinct transit security needs, only three agencies reported as having in place such programs for women. Since our survey covered more than half of all the large and medium-sized transit operators in the U.S., we have to sadly conclude that the United States is considerably behind other countries on the issue of transit safety for women. Canada, the United Kingdom, Australia, Germany, Sweden, Mexico, and Japan, among other countries, have initiated and practiced a variety of measures to ease the fear of women passengers and provide them with more safe and secure public transportation.

Among the one-third of respondents who believed that transit agencies should have women-focused safety and security programs, some argued that such an effort would provide benefits to all passengers:

I see that safety and security programs for females will also help men. Men too are at risk, but they will not admit it. Any security upgrades will assist all of our customers and employees. —*Transit safety supervisor, male, very small agency in the West*

We feel if you plan to protect those who are less likely to be able to protect themselves you will meet the greatest need. —*Administrator, male, small agency in the South*

Others emphasized that public education efforts were key to empowering women and improving their overall safety:

[We should] explain vulnerabilities, threats, trip planning, travel precautions, emergency actions and what protective measures are currently in place. —*Safety officer, male, small agency in the West*

Using other social agencies/programs to [provide] the education aspect in self-defense, safe haven locations, and tips in staying safe/secure. —*Transit planner, male, small agency in the Midwest*

While several respondents did think these programs should be implemented, they were not sure about what types of programs would be most useful:

Other than a high profile security presence, escort or shuttle programs to and from the parking facilities, I am not sure what more can be done. —*Chief of transit enforcement, male, small agency in the West*

Unsure just what would be effective. —*General manager, male, very small agency in the Northeast*

Finally, one respondent argued that such programs should be developed not just within an agency, but among agencies:

There should be a coordinated effort to enhance safety and security programs for female passengers on a national scale. —*Chief operations officer, male, small agency in the Northeast*

Many of the respondents who did not see the need for specific programs for women stated again that agencies should develop safety programs that would help all passengers and not solely female passengers:

I feel that transit agencies should place more effort and emphasis on educating the ridership as a whole on safety and security materials and not one type of passenger. —*Deputy director of operations, male, small agency in the South*

I think specific safety and security programs should be in place for all passengers: the elderly, the disabled, females, males. I'm not sure that females as a group should be singled out for any special programs, but safety programs should reflect the needs of the entire passenger community. —*Claims specialist, female, small agency in the Midwest*

Increasing overall safety and security awareness for all should solve the special issues for female passengers. —*Operations director, male, medium agency in the West*

Other respondents reiterated earlier sentiments about women not having specific safety and security needs generally by stating that agencies should not put female-specific programs into place because this was not necessary:

The public has not indicated a need for specific programs only for women passengers. —*Director of transit services, female, small agency in the West*

[Our agency] believes that general safety and security features should be sufficient to address the needs of female passengers. —*Manager of strategic planning and compliance, male, very small agency in the West*

Only three agencies reported having heard about safety and security programs specifically for female passengers. One program is a night stop service that allows women passengers to alight the vehicle at locations other than bus stops after dark. The goal of this program is to enhance safety by decreasing walking distances for passengers at night. A second program is a collaborative effort between a transit agency and a local domestic violence prevention agency. If a victim boards a bus and requests help from the driver, the agency has in place an established protocol to transfer the person to the domestic violence facility. Local police are called if the situation is one that cannot be handled safely by transit agency personnel. A third program involves teaching drivers to encourage female passengers to sit at the front of the bus and to notify operators as soon as possible if someone is causing them to feel uncomfortable.

Respondents were also asked if their agencies had programs for other vulnerable populations, such as elderly, disabled, and young riders. Thirty-nine percent stated they did have specific programs for other groups. These programs focused on different transit user populations and used a variety of approaches, including safety and security education for young riders, programs to aid unaccompanied minors using the system, safety and security training for agency staff around issues specific to elderly and disabled riders, participation in National Safe Place programs (a program which helps youth in need access emergency resources), safety brochures, and community outreach meetings. Several respondents stated that they wanted to develop and implement such programs for vulnerable populations, and one respondent cited the agency's limited financial resources as a barrier in pursuing target programs:

Currently we have no specific or general safety and security programs in place for any population classification on our system. This is an area that we need to do more work to ensure that staff and riders are properly educated and aware of situations. —*Deputy director of operations, male, small agency in the South*

[We are] currently working on an initiative to include elderly/disabled as part of emergency response plans. —*Safety and security administrator, male, medium agency in the West*

We are a small agency with about 160 bus drivers. We just don't have the funds to create programs for these groups. We would love to provide them, but we must focus on the basics. —*Transit safety supervisor, male, very small agency in the West*

This last response regarding funding was the only mention by an agency about resource limitations in implementing specific programs. Operations funding is a challenge for many transit agencies as safety and security funding is often very limited. Therefore, the fact that this was not discussed as a factor in the development of safety and security strategies and programs is quite surprising.

## CASE STUDIES OF INNOVATIVE RESPONSES TO WOMEN'S FEAR OF TRANSPORTATION ENVIRONMENTS

The previous section illustrated that U.S transit agencies have not, for the most part, initiated programs to address the specific needs of women riders or respond to their fear of transit environments and public settings. In contrast, this section presents some specific initiatives, programs, and plans that can be characterized as innovative practices, which seek to provide safer transportation options for women. These include initiatives launched by nonprofit and community-based organizations in the U.S. and Canada, as well as a comprehensive planning effort undertaken by a large transportation agency in the UK. This section also presents some popular but controversial women-only schemes, operated by transit agencies in different parts of the world.

### RIGHTRIDES

RightRides is a grassroots nonprofit organization that offers women, transgender, and gender queer individuals a free, safe, late night ride home on Saturday nights and early Sunday mornings (from 11:59 PM–3 AM) in forty-five New York City neighborhoods. The RightRides motto reflects the heart of its goals: “Because Getting Home Safely Shouldn't Be a Luxury.”

The organization began in 2004 as a response to increased assaults against women, who were walking home alone at night in Brooklyn. The free service provides secure transportation for individuals who feel threatened walking the streets and who find that other transportation modes, such as cabs, private cars or public transit, are financially unviable or otherwise risky. As argued by its co-founder and executive director, Oraia Reid:

We recognize that all too often, only those with financial wealth are able to ensure their own safe commute at all hours of the day and night by paying for taxis or expensive car services. On the other hand, for lower-income individuals with limited funds or resources (traditionally encompassing women of color and Lesbian, Bisexual, Transgender or Queer-identified people) public transit is the only affordable mode of transportation, forcing vulnerable people to take the train or bus and then walk home. The areas RightRides serves are often desolate and poorly lit late at night, which can foster predatory opportunities for assault walking from public transit.

—Reid interview

The organization relies on volunteer drivers and has partnered with Zipcar (a car sharing service), which provides six vehicles for free use during RightRides operating hours as well as discounted Zipcar memberships for the RightRides volunteers. For each shift, volunteer drivers are paired with volunteer navigators. The responsibility of these teams is to “see our riders home safely and help advocate for their increased personal safety.”<sup>104</sup> Driver/navigator teams are dispatched by a volunteer dispatcher with the aim of reaching the rider within a 20-minute window. Both pick up and drop off must happen within the 45 neighborhoods currently covered by the RightRides service. RightRides

only offers rides to women and gender queer individuals because they identify them as particularly at risk of assault when travelling. According to the RightRides website:

We understand that many in these communities experience frequent predatory assaults, hate crimes and random street violence just because they identify outside of society's two-gender bias. We recognize that they do not have fair or just representation within traditional support systems such as law enforcement or by medical professionals, and we wish to lend our support towards ending discrimination, hate crimes and assaults based on gender stereotypes.

We are committed to providing a safe ride home for these individuals as they have limited resources available to them not only financially, but within the greater society to make sure they can get home without threat of assault. RightRides strives to address the safety needs of these individuals with respect and dignity that all humans deserve. —*RightRides website*<sup>105</sup>

RightRides volunteers pick up riders at any location within the covered range and take them to their home or the home of a friend also within the covered range (they do not drop off at parties or clubs). All driving teams go through a screening process to assure a safe and supportive environment for all riders and volunteers. One person of each team has to always be female. The cars are clearly marked with the RightRides logo for safety.

Since September 2004 when it started, RightRides has grown from two founders—Oraia Reid and Consuelo Ruybal—responding to a need for safe, secure late night mobility for women at risk by using their own private car, to a non-profit, award-winning organization with a fleet of six donated cars and over one hundred active volunteers serving forty-five neighborhoods in four boroughs. According to Reid, RightRides has given nearly 2,000 rides since its founding.

A larger organization, RightRides for Women's Safety, Inc. (RRWS), carries out initiatives in addition to the RightRides program that encourage empowerment and awareness in an effort to reduce the risk of harassment and assault in New York City. Such initiatives include the neighborhood safety meetings program, which organizes panel discussions with local leaders in crime prevention to hear the concerns of participants and generate discussion regarding neighborhood street safety. In 2007, neighborhood safety meetings organized by RRWS were held in the South Bronx, Sunset Park, and Harlem. RRWS now partners with several other organizations to produce a growing range of safety programs.<sup>106</sup> Though RightRides is the core service of the organization, RRWS also supports a Safe Walk program that provides walking escorts and educational programs that hope to “empower and educate people of all ages and backgrounds to increase their personal safety awareness to reduce the risk of harassment and assault.”<sup>107</sup> These include panels on crime prevention as well as assistance in providing access to affordable self-defense training.

RRWS also assisted in conducting a Subway Safety Survey in 2007 undertaken by the Manhattan Borough President's Office. Nearly two-thirds of the 1,780 survey respondents reported some version of sexual harassment on the subway and one tenth reported sexual assault. RRWS uses this study, titled *Hidden in Plain Sight: Sexual*



*Harassment and Assault in the New York City Subway System*, to encourage the transit police/MTA to take the issue more seriously. RRWS is a central organizer leading their newest effort, the Subway Safety Coalition. Formed in 2008, the Coalition is pursuing the recommendations of the Manhattan Borough President's report, by collaborating with civic groups and other community organizations, such as Hollaback NYC, to pursue further work in this area.<sup>108</sup>

The organization has a very modest budget. According to their 2007 Annual Report, the total income of the RightRides organization is \$122,797.24, the majority of which (\$52,325) comes from sponsorships from foundations. Of that income, 69.7% goes to the RightRides program, 0.5% to other programs, and 29.8% to organizational expenses.<sup>109</sup> According to Reid:

We are primarily foundation supported along with individual donations and some corporate sponsorship. We do receive some city government funding, but this is only about 5-10% of our annual budget. RightRides, without organizational overhead and personnel expenses, is a reasonable investment, and we believe that it's a program that can and should be brought to other cities. Because we've already established the operational model and the partnership with Zipcar, we are actively seeking non-profit partners to foster authorized RightRides chapters in other cities. We've been in contact with groups from Seattle, Chicago, Southern California, DC, Boston, New Jersey, Philadelphia – even Toronto, Canada, France, and Mexico! —*Reid interview*

According to Reid, the increasing numbers of neighborhoods served, volunteers, and program participants attest to the effectiveness of RightRides. The organization also surveys its riders and volunteers. One hundred percent of surveyed riders felt that "RightRides made a positive difference in their lives," while 93% of riders and 80% of volunteers found that it was "contributing to systematic change working to end harassment and assault." Comments from both riders and volunteers on the organization's website are enthusiastic:

When I first discovered RightRides, I viewed the organization as an important contributor in the effort to reduce sexual violence against women in New York. But until last August, this was just a theoretical concept in my mind. As a guy from the suburbs, what in the world did I know about sexual violence in the city? This changed when I started to volunteer as a driver and navigator. Each night, I would inevitably hear stories from women who had experienced close calls or were victims of violence, usually on their way home at night. I quickly realized the magnitude to which I had taken this safety for granted in my own life. When I talked with female friends, I discovered that virtually everyone had their own experience to share. Worse than the stories was the outlook that this was somehow inevitable—they would always be afraid to walk home at night. I volunteer with RightRides because I believe that no one should have to live with that fear —*Toby, RightRides volunteer*<sup>110</sup>

If there is any criticism about RightRides, it is that many are unaware of the program despite ongoing outreach efforts, such as posting flyers and distributing the dispatch number on palm cards. Primarily known through a strong word-of-mouth network, RightRides would benefit from better publicity, especially in the neighborhoods that it covers. Reid, however, is optimistic and sees the program as “a seed for further action.”

RightRides is one part of a much larger effort to end gender based violence. For many in NYC it's been the seed for further action, in the sense that it's a simple, yet empowering solution for getting involved, including raising awareness about sexual assault and gender based violence with their peers, and volunteering to offer a safe ride home to people. But more than a ride home, we've really focused on growing our related educational efforts and we're also working on creating primary prevention programs to further engage the communities we serve. We're looking at increasing our community organizing and coalition-building efforts along with working with youth and pursuing policy change work....We believe that in providing a free and safe ride to their home, RightRides reduces riders' threat of sexual assault while guaranteeing their right to safe mobility. ...Violence and the threat of violence are exploited by society to restrict or eliminate mobility, especially late at night, which further enforces gender segregation and ultimately, oppression. Our core values demand systemic change to expose, address and eradicate gender-based oppression and assault, by utilizing methods that resonate with, and are led by the community members most affected. —*Reid interview*

## **HOLLABACKNYC**

HollaBackNYC is a website that provides a forum for victims of street harassment in New York City who contribute verbal and visual postings that document their assaults. The goal is to offer a virtual public space for women to reclaim power from perpetrators by providing a collective location for the victims' stories to be told and their assaulters to be recorded. HollaBackNYC seeks to contribute to the creation of communities “where everyone feels comfortable, safe, and respected.” According to the HollaBackNYC website, the “larger goal of the program is to support women's rights to exist in public in safety and without fear of harassment, particularly on the street.”<sup>111</sup> In summary, the objectives include: 1) to raise awareness of street harassment; 2) to give women a voice; 3) to lobby for cultural and legal change; and 4) to provide an alternative to the “helpless” objectification of women. Numerous relevant resources and information are also collected on the site, including links to self-defense resources, legal resources, rape support sites, etc.

HollaBackNYC has participated in the 24-hour Sexual Assault Yearly Speakout, and has organized informal outreach, panel discussions, and protest events. The organization has supported Operation Exposure, a police sting operation in New York City, during which four undercover female officers travelled on public transit for two weeks and arrested more than a dozen male passengers for lewd acts and sexual harassment. As a result of this operation, the Transit Bureau was convinced of the destructive and negative

impact that street harassment has on the quality of life of women riders in New York City.<sup>112</sup>

HollaBackNYC was founded by four women and three men in September 2005 following a well-publicized sexual harassment incident on the New York subway. In the summer of 2005, a young woman riding the train snapped a picture on her cell phone of her harasser as he was performing a lewd act in front of her. She took the picture to the police who did not show interest in the evidence presented. She then posted the image on the web warning other women to watch out for this guy. The *New York Daily News* picked up the story and published the image on its front page. This led to further identifications and accusations of the perpetrator by more women victims and his arraignment in court on four counts of public lewdness.<sup>113</sup> Motivated by this incident, a group of young people (all in their twenties) established the site to allow women to tell their stories and post pictures of their harassers in an effort to stop them.

According to Emily May, one of the HollabackNYC founders, “street harassment happens to women on a daily basis. Men don’t understand the extent or effect of the harassment, and women are in denial like other women who are coping with violence against women. That’s why we wanted to give them a safe space to talk about it.”<sup>114</sup> May also sees the site as “therapeutic,” an opportunity for women who are victims of street harassment to find others in similar situations sharing their stories. This helps combat both the fear of confronting abuse and harassment as well as simply recognizing what constitutes appropriate behavior and what crosses an acceptable line. Obviously, the proliferation of the internet is necessary for the successful operation of HollaBack, as are cell phones with photo (and now video) capabilities. Says Emily May, “We wouldn’t have been able to do this even a year earlier....[The website and blog] give a sense of being able to create a worldwide community beyond our social networks.”<sup>115</sup> The downside of this, however, is that those with access to technology have a greater opportunity to join the group’s community than those without.

Since its establishment, the New York-based website has accumulated multiple postings, and has on average 1500 hits per day.<sup>116</sup> As the original website started receiving significant media attention, several national and international branches of HollaBack emerged in other cities (in Boston, Charleston, Chicago, Miami, San Francisco, Seattle, Washington DC, and Toronto, among others). The founders believe that all this attention and visibility has helped to bring awareness to the severity and seriousness of street harassment, particularly to men who often do not fully understand the abuse, disrespect, or intimidation felt regularly by women in public spaces. According to Anna Weichselbraun, one of the co-founders:

The site is ONE way to respond to street harassment, and certainly it is not meant to be the only one. We hope that it serves as inspiration for other campaigns especially using new media to effect political and social change. A further goal is working with officials on a local level to launch a (traditional media) public awareness campaign (for example, posters in the NYC subway) about street harassment. —*Weichselbraun interview*

The main operation of HollabackNYC is the upkeep of their website. Costs, therefore, are minimal as the tasks of answering emails, posting the images and stories, and

responding to media inquiries are shared by the organization's founders. The growing visibility of the website and the fact that similar websites are now operating in other cities in the US, Canada, and Europe supports the perception that this is a successful endeavor. HollaBackNYC founders also hope that their site has made transit police more sensitive and attentive to the security issues faced by women riders, as evidenced by the aforementioned sting operation and the posting of signs and posters at New York's subway stations (Figure 1). On the other hand, the organization has also raised criticism by those who are concerned that it perpetuates a surveillance society, mutual suspicion, or even paranoia, and may open the door to misuse and defamation.<sup>117</sup> According to Daniel Solove, author of *The Digital Person*, Hollaback's practice of posting pictures and stories of alleged harassers is "kind of vigilantism that falls beyond structures we've put up to deal with things in a more orderly and civil way. If you resort to this kind of activity you could be fighting lawlessness with another kind of lawlessness."<sup>118</sup> Although under U.S. law it is not illegal to photograph and post images of strangers as long as it is not for commercial gain, misrepresenting the actions of someone could constitute libel. No one, however, whose picture has been posted on the Hollaback website has complained or brought legal action against the organization.<sup>119</sup>

A further concern is if HollabackNYC is contributing to the promotion of stereotypes about harassers. Weichselbraun referred to this issue in an email interview:

Certainly one difficulty has been around the complexity of race, class, and street harassment and the perception that our site unwittingly or even purposely perpetuates stereotypes (despite our clear policy to do otherwise). We've had some comments from activist communities about our failure to address these elements in all their complexity. While we have obviously thought a lot about these issues in the construction of the project, and try to eliminate any contentious positions, practice is always messier than theory and some of that theoretical complexity (needs to) get lost in order to construct an effective activist response and methodology. ...[We] try to keep all perspectives in mind but you can't please everyone all of the time. Street harassment is part of a spectrum of violence against women that cuts through class and race lines.  
—Weichselbraun interview

## **METRAC—METROPOLITAN ACTION COMMITTEE ON VIOLENCE AGAINST WOMEN AND CHILDREN**

METRAC was founded in the early 1980s as a reaction to a series of sexual assaults and rapes that had occurred in Toronto parks. There was an outcry from many women's groups, as well as support from counselors and police, to form a specific body and committee to address violence against women in public spaces. Since that time, METRAC has grown into a nonprofit community-based organization with various programs. At the root of the community safety program is the idea of trying to create safer public spaces for women. According to Narina Nagra, METRAC's Safety Director, "one of METRAC's mottos is 'safer for women, safer for everyone.' The idea is that when you make a space safer for the most vulnerable members of society, you make it safer for all."

METRAC's mission has expanded over time to include other marginalized communities, as the organization recognizes the intersection of identities and the various experiences of diverse communities.<sup>120</sup> According to their website:

METRAC works to ensure women, youth, and children live free from all forms of violence and the threat or fear of violence. We address the distinct realities of women within and among diverse communities. METRAC's programs seek to prevent and end all individual, institutional, and systemic forms of violence. We work collaboratively with a broad range of partners to develop strategies to end violence against women and build safer communities for everyone. METRAC has three main program areas: Community Safety, Community Justice, and Community Outreach and Education....The Community Safety Program provides training, workshops, and educational materials on personal and community safety in the diverse communities of Toronto....We work with individuals, community groups and organizations, government agencies, police, educational institutions, development companies, and the medical profession in drafting recommendations and developing long term safety plans and actions for safer communities. —METRAC website<sup>121</sup>

A major contribution of METRAC is the invention of the *Safety Audit* process. This is a tool that can be used by a group to document a variety of physical and social factors in their environment. Safety Audits provide a method to evaluate space from the perspective of those who feel threatened, and lead to improvements reducing the risk of assault. METRAC developed the tool as a grassroots approach that could empower community members and women. According to Nagra:

METRAC was the first organization to create safety audits in 1989. METRAC pioneered the idea of safety audits and the concept that a group of women, who live in and frequent an area, can assess the physical elements of a neighborhood and help improve safety and prevent assaults. Through the safety audit process, METRAC developed best practices around physical features and standards for safety. Since that time the safety audit has become a global resource that has been translated around the world. Different governments use it in different capacities. —Nagra interview

Indeed, a recent survey of organizations working on women's safety around the world, commissioned by the UN-Habitat Safer Cities Programme and the Huairou Commission, found that the Safety Audit was the "single specific tool most often mentioned." It has been translated in different languages, adapted and replicated worldwide, and is generally recognized as a best practice tool (UN-Habitat and Huairou Commission 2007: 19). The tool has been used extensively by the city of Toronto, where between 2000 and 2004 women, youth, and community groups have audited more than 150 neighborhoods.<sup>122</sup> METRAC's core funding comes from the City of Toronto. They focus on education, training, and dissemination of information on violence against women, sexual assault and stalking, and other safety issues. METRAC also does consultancy work such as workplace and campus safety audits. The organization's annual budget is



\$400,000, and they have a current staff of seven.<sup>123</sup> However, based on project funding, the organization, at different times, hires 10–15 staff as part time employees or on short-term contracts. This modest budget does not allow METRAC to track the effectiveness of safety audits. Their hope is that in the future they will be able to enhance their staff or collaborate with a research institution to augment their tracking and annual evaluation of statistical data. As explained by METRAC staff, ideally neighborhood safety audits should take place annually, with METRAC helping to track the changes from one year to the next.

METRAC has collaborated with Toronto's Transit Commission to conduct a comprehensive safety audit of the city's transit system. The goal was to assess the Toronto transit system and define ways it could be made safer for women riders. Their recommendations included: 1) transparent bus shelters for better visibility; 2) emergency intercoms in transit settings with little or no staff; 3) elevators for safer and easier access of under- or above-ground transit settings; 4) designated waiting areas at subway stations which are well lit and equipped with CCTV cameras and intercoms; and 5) request stop program on buses between 9 pm and 5 am for women traveling alone. Most of these recommendations including the request stop program were implemented.<sup>124</sup>

According to Nagra, the community safety audit process has gone through several adaptations over the years. Currently, the process begins with METRAC giving safety audit kits to communities. Participants attend one of the four citywide training workshops that METRAC hosts each year. The trained members work with their communities to select a route and conduct the safety audit themselves. METRAC is available to provide support but it is really the community who are the "safety experts" responsible for data collection and neighborhood feedback. Once the community members have conducted the audit, they send the information back to METRAC. Their staff writes a report card, which is eventually sent back to the community as well as to the city council member that represents that area. METRAC does not take the recommendations and act on them, instead the organization tries to give the community contacts and tools so they can advocate for themselves how to make changes.

In the past METRAC would send the safety audit results directly to city staff and political leaders in Toronto. With the new safety audit structure, METRAC hopes that communities are getting more centrally involved and empowered to not only identify safety issues, but also make more connections within their community and affect change. As argued by Nagra:

The process gives community members an opportunity to discuss safety, which has become obsolete in our society in so many ways. In particular, it has become normalized that women should be fearful at night....The [safety audit] benefits are around empowering communities to address public safety and for individuals to connect with their community. Safety audits are a community development tool in many ways, because they can foster dialogue around these issues and provide an opportunity for staff and residents to come together to address these issues. A lot of times we don't feel that we have a say in what kind of safety we should have. And our tool provides a way to say, "yes we can address these issues together."  
— *Nagra interview*

Using the community as safety experts is not without challenges, however. As Nagra explains, “Because we put the responsibility back in the hands of the community, lack of resources and time can make it difficult to get information back or keep the process moving forward. There is also a lack of funding at the municipal level to make changes and implement community suggestions.” Another challenge comes in the form of gentrification; safety audits have been used at times to gentrify an area or push people out. Low-income or homeless individuals, sex-workers, and drug addicts are often identified as safety concerns by neighborhood groups who seek their removal. METRAC believes that you should not make a space safer for some at the expense of others by simply calling the police and getting rid of certain groups, but rather work towards identifying safe places and fostering more resources for these marginalized groups.

## TRANSPORT FOR LONDON'S PLANS FOR WOMEN PASSENGERS

While the previous three case studies involved grassroots efforts of small non-profit, community based groups, this case study focuses on a large transport operator, Transport for London (TfL), and its efforts to respond to the specific needs of its women customers. TfL is one of the largest transport operators in the world, as it manages all public transportation modes in London including the London Underground, London Rail, Surface Transport (which includes London's buses and about 17,500 bus stops), and London River services. It also manages 580 km of roads, 4,600 traffic lights, and regulates all London cabs.<sup>125</sup>

TfL has initiated a large effort of understanding and responding to the distinct needs of its women riders, reasoning that “once TfL has improved London's transport system to a standard that meets the needs of every woman, then everyone in London will benefit.”<sup>126</sup> TfL is supported in such efforts by the Women's Transport Network (WTN), which is facilitated by the Accessibility and Equalities Unit of United Kingdom's Department for Transport (DfT). The WTN was established in 1995 “to bring together like-minded women who work in the transport sector in the UK,” and now has about 200 members (Lewis interview). The WTN was influential in aiding DfT to initiate and support research on gender auditing which led to a significant publication in 2000, titled *Women and Public Transport: The Checklist*.<sup>127</sup> This was distributed to all municipal governments and transport operators in the UK, urging them to conduct regular gender auditing of the vehicles and waiting areas of their transportation facilities, and providing detailed checklists of how to do so.<sup>128</sup> As reasoned in the document:

Gender auditing is a means by which public transport operators and other providers can assess whether the services within their responsibility take account of the specific needs of all their passengers: men, women, and children (p. 1)....While gender auditing seeks to benefit both men and women passengers, the emphasis is on women (p. 2)....The Gender Audit pack has been prepared for use by managers to: 1) raise awareness of the gender differences in use and experience of public transport by men and

women; 2) assess how well the organization meets women's needs; 3) identify priorities for improvement; and 4) measure progress towards targets.<sup>129</sup>

According to the document by DfT, "the results of the Audit need to be transformed into a strategy and action plan, which have to be properly communicated."<sup>130</sup> In response to this directive, TfL issued in 2004 its first Women's Action Plan for London, titled *Expanding Horizons*, which is a far-reaching document that includes a total of 21 actions to better address the needs of women riders. The Plan is motivated by the realization that:

There are recognizable differences between women's transportation demands and experiences, as opposed to those of men....Women are heavy users of public transport. However, the message that we regularly hear from women is that they have to overcome several barriers to use the system. It also seems that women are increasingly more prepared to turn to the car as a means of meeting their specific transport needs. In order to build or renew women's confidence in public transport TfL wants to understand the barriers women face and address their needs.<sup>131</sup>

The Plan has the following four goals: 1) improve levels of real and perceived personal security; 2) provide a transport system shaped by women's lifestyles and needs in terms of flexibility, cost, and accessibility; 3) develop TfL's relationship with women by proactively engaging with them to better comprehend their travel preferences and barriers they may face; and 4) increase the number of women employees at TfL.

To increase the levels of security, the plan initiates or enhances a series of actions and offers a time frame for their implementation. These include the following:

1. Transport Policing Initiative, which calls for the hiring of additional uniformed officers for London's bus network and London Underground.
2. Safer Travel at Night Initiative, which includes personalized night travel information at college campuses and the designation of 'hub stops' with safe waiting areas along night bus routes.
3. Real Time Information Initiative, with electronic displays at stations and bus stops, showing arrival times of services. At the time that the Plan was issued, about 2,000 bus stops (out of approximately 17,500) already had such displays installed.
4. Secure Stations Scheme, this is a national accreditation scheme setting standards for safety, which was launched in 1998 to improve security at Great Britain's railway stations.<sup>132</sup> By 2004, twenty London Underground stations had been accredited, and there were more in the pipeline for accreditation. Additionally, security enhancements for the above-ground network of stops and stations have been launched on pilot routes. These included 24-hour CCTV, better lighting, signage and customer information, reduced waiting times, the availability of staffed Help Points at stations, and the cleaning of bus shelters and transit vehicles from graffiti and vandalism.

In order to achieve the goal of providing a transport system shaped by women's lifestyles, *Women's Action Plan* calls for a series of actions that include the promotion of alternatives to car use, so that parents do not always have to drive their children to school. Since many women are working part-time, the Plan proposes discounted fares



for part-time employees. It also calls for more research to evaluate the success of providing child care centers at transit stations. Women are often likely to travel with children in strollers and/or with large shopping packages. The Plan calls for a fleet of buses which are low-floor and step-free, allowing easy access by disabled individuals and women carrying strollers and young children. Additionally, the Plan calls for an upgrading of bus stops to ensure that they are compatible with the low-floor, step-free transit vehicles.<sup>133</sup>

A number of actions are also proposed in the Plan to improve TfL's interaction with its women customers. The agency has started consultation with women's focus groups across London to find out about their specific travel needs, and plans to commission research studies investigating the various lifestyles of London women and their impact on travel patterns. TfL has started reviewing its passengers' correspondence by gender, to gain a better understanding of the complaints raised by women riders. The agency is also in the process of reviewing and determining standards that safeguard against advertising that is offensive to women. Finally, the Plan sets recruitment targets to increase participation of women in its labor force from the current 22% to 52%, which is in alignment with London's population.<sup>134</sup>

A number of the proposed actions are under way or have been completed. More specifically, by 2005 all London buses have become low-floor and step-free. The new London buses have large designated spaces for people with strollers, which also accommodates wheelchairs when needed. There are also designated areas on the bus for packages and groceries, useful also for the elderly and infirm. One hundred and seventy-two of London Rail's above-ground stations have been retrofitted with CCTV, while 160 stations have monitored Help Points. Two hundred additional transit police officers have been hired for the London Underground and Docklands Right Rail network, and 89 extra officers have been hired for the above-ground network. TfL completed the installation of real-time information on buses, bus stops, and stations by the end of 2008.<sup>135</sup>

In 2007, in response to the government's Gender Equality Act of 2006, which required all public authorities in Great Britain to produce a gender equality scheme,<sup>136</sup> TfL published the *Gender Equality Scheme 2007-2010*. This involved extensive consultation with 140 different women's groups in London's 24 different boroughs. This consultation informed the proposed Action Plan, which falls into five broad categories: 1) Accessibility; 2) Safety and Security; 3) Affordability; 4) Information; 5) Employment in the transport sector. The 2007 Plan extends the Plan of 2004 by presenting all the key concerns of women riders from its many consultations, and outlines a specific timetable as well as the responsible agency unit charged with the implementation of each proposed action.

TfL's Plans for its women passengers are arguably the most comprehensive effort by a transport operator to respond to the needs of women riders. The effort is notable and represents a best practice not only because of its wide-ranging initiatives but also because it involved an unprecedented inclusion of women's voices in the planning process.

## WOMEN-ONLY TRANSPORTATION SCHEMES

In the last few years, women-only transportation schemes ranging from railway cars or buses on which men are not allowed, to taxi cabs driven by women and accepting only women passengers, to parking structures with areas designated only for women drivers, have become popular in different parts of the world. More specifically, a “Ladies Special” train was introduced on the Mumbai Suburban Railway as early as 1992. Women-only train cars appeared on a few railway lines in Tokyo in 2001, and became more widely adopted by 2004. Earlier, Mexico City had introduced women-only subway cars during rush hours, a practice that was also started in Rio de Janeiro in 2006. “Pink Ladies,” a women-only cab company started operating in London in 2006.

Women-only transportation schemes vary depending on the city or transit company; some are effective only during weekday rush hours, while others are operating throughout the day, and some are limited to only specific lines or types of trains (e.g. rapid transit). Women-only vehicles are typically well marked with pink stripes and “women-only” signs, to make sure that they are visible even to absent-minded male passengers.

Countries that also have some versions of women-only transportation schemes include Egypt, Taiwan, Belarus, and the Philippines. Women-only schemes have not appeared yet in the U.S., even though at the turn of the 20<sup>th</sup> century, the Hudson and Manhattan Railroad, which ran between New York and Jersey City, briefly featured women-only cars on their system.<sup>137</sup>

On January 14, 2008, Mexico City’s bus company introduced twelve women-only buses on three busy bus routes from 6:00 am to 9:00 pm daily, with plans to expand the service to more routes later.<sup>138</sup> Indeed, Program Atenea, as the program is called, proved to be popular and quickly expanded. According to Ariadna Montiel Reyes, General Director of the Network of Passenger’s Transportation for the Government of the Federal District in Mexico City:

So far we have 65 diesel buses travelling over 22 different routes through Mexico City. To date, we have provided our transportation service to over 5 million women. This year, we hope to increase the number of female riders on our service. The buses pass every 20 minutes, but over the coming year we hope to reduce that time interval as we strive to make our service more efficient. In conjunction with our service, there is also a special Metro program that consists of special vehicles called Rapida which women can take to a special station where they can file a harassment report. Metro also provides separate vehicles for women during rush hour. Unlike the Metro program which operates during specific hours, Atenea’s service is available all day, seven days a week. —*Montiel Reyes interview*

Program Atenea costs 35 million pesos annually and relies on state government subsidies. According to Montiel Reyes: “We charge every female rider two pesos, and the government puts in three pesos. So the breakdown is that the users pay 40% per ride, and the government puts in the other 60%. That is how public transportation is funded in general here in Mexico.”

Women-only transportation schemes represent a response from the part of transit operators, governmental authorities, and private enterprises to the growing complaints of women for the pervasive sexual harassment they are experiencing during their travels. According to Montiel Reyes:

The problem was particularly acute in Mexico City, where cases of sexual harassment in public were so commonplace, that it became almost an acceptable part of daily life. However, because some levels of sexual harassment which led to violence became so great, the issue needed to be addressed. —*Montiel Reyes interview*

How effective are these schemes in reducing sexual harassment? Surveys are only available in Japan, where researchers found that the number of reported cases of lewd behavior against women dropped in Tokyo by about 3% one year after the introduction of women-only wagons. The number of arrests on JR East's Chuo Line and Keio Corp's Keio Line, both linking eastern and western Tokyo rose, however, by 15%-20% depending on the line.<sup>139</sup> This may be a result of more incidents of sexual harassment in the mixed train cars, but it may also mean higher reporting rates from women victims. In terms of use, more than a third of the Japanese women surveyed (35.9%) never used women-only wagons, while 46.5% used them "sometimes," 13.2% used them "usually," and only 3.8% "always" used them.<sup>140</sup>

Women-only transportation services seem to be quite effective and popular in Mexico City, and other municipalities in Mexico are considering adopting similar programs:

As our data shows, we have provided over 5 million rides where women travelled in comfort and security. We are very proud of this because that is 5 million rides that women have been able to take without getting harassed, improperly touched, or stared at (by men)...Thankfully, we have received much positive feedback from our program. As a city, we want to show that we are worried about the safety of our women that use public transportation. In order to expand our program focus from only women, we also cater to the elderly and the disabled so as to address a wider constituency.  
— *Montiel Reyes*

But providing safer transportation settings by segregation raises a number of questions, and women-only transportation schemes have generated considerable debate between their supporters and critics. Newspaper articles from Mexico City to Mumbai, and from Rio de Janeiro to Tokyo, are filled with comments of women using the service, who now find their commute much less stressful and more comfortable. On the other hand, feminist groups call the schemes "a big step backward in the fight for women's equality."<sup>141</sup> Some see the practice of providing segregated transportation settings as nothing better than "reverse discrimination" for men, while others fear that women who avoid patronizing women's-only settings, may be considered as "free game" by men in the mixed wagons.<sup>142</sup> Some are also concerned that such schemes divert attention from the harassers to the victims. As editorialized by the British newspaper *The Guardian*:

While the idea of a safe space is compelling, this international trend, which often comes couched in paternalistic rhetoric about "protecting" women—raises questions of just how equal the sexes

are if women's safety relies on being separated. After all, shouldn't we be targeting the gropers and harassers? The onus should be on men to stop harassing women, not on women to escape them. ...Women should have the right to be safe anywhere and everywhere.<sup>143</sup>

## CONCLUSIONS AND RECOMMENDATIONS

Any time public transit is affordable and available it will benefit women. Safe public transit will get you to work, get your kids around. So access to safe and affordable transit anywhere, at any time, is a legitimate feminist concern. —Rev. Della Fahnestock, *Alliance of Faith and Feminism*

There are distinct differences between women's travel patterns, experiences, and needs, as opposed to those of men. While great differentiations exist among women because of their age, income, race/ethnicity, or lifecycle stage, researchers have also found a number of characteristics that generally distinguish female from male travel patterns and needs. Women are most likely to be the primary caregivers for their children, and increasingly for their aging relatives. They typically have more responsibilities for household-related tasks and errands than men, which often translate to a variety of daily trips to their children's school or little-league practices, neighborhood supermarket, or bank. While they have entered the labor force in unprecedented numbers, women are more likely to fall below the poverty level, earn less, and be in part-time work than their male counterparts. If a household owns only one car, this is more likely used by a male. On average, women tend to live longer than men, and as they are aging and can no longer drive, they are also finding public transportation more difficult to use.<sup>144</sup>

In general, women register much higher levels of fear of victimization in public and transit settings than men, which clearly affects their travel patterns and modal choices, and often makes them prefer—if they can afford it—the security of the private automobile over the unpredictability of public transportation. Women's fear is rooted in a variety of factors, which have been previously discussed. It is also a response to a persistent level of sexual harassment that many women encounter walking on the street, waiting at the bus stop or riding overcrowded trains and buses. Unfortunately, this phenomenon is encountered in many different parts of the world.

In the last decade, municipal governments and transit operators in different parts of the world have started responding to the different travel needs and concerns of women by initiating specific policies and plans. Thus, as already discussed, in London, TfL has initiated plans targeting the needs of its women riders, while the government of Great Britain issued the Gender Equality Duty in 2007, a mandate to all public agencies to promote gender equality, and eliminate sexual discrimination and harassment. In Mexico City, the municipal government started the WE TRAVEL SAFE program in 2007, with the goal to respond to women's needs and prevent physical and sexual violence in the city's public transportation system. In Canada, a number of municipal governments have funded METRAC to train community and women's groups to conduct safety audits of transportation settings. In 2005, The Government of South Australia's Minister for the Status of Women, launched a program called Our Commitment to Women's Safety, which explicitly focuses on improving the safety and security of transportation settings. In these countries and others (e.g. Japan, Brazil, India, etc.), transit operators have also started specific initiatives to better respond to the needs and aspirations of women passengers.

On the contrary, any special attention to the specific anxieties and needs of women passengers is all but missing from the practices of U.S. governmental and transit agencies. While women, like all passengers, are expected to benefit from the increased attention given to the security of transportation systems post 9-11, no special effort is made by most transit agencies to offer special safety/security programs for them. Simply, the concept of providing services and security tailored to the needs of women passengers is not yet espoused by U.S. transit operators, despite the fact that most of them admit that women do have some specific and different needs than men. Interestingly, a significant number of agencies rightly provide special services to other sub-groups of vulnerable customers, but are worried that they may be accused of “reverse discrimination” if they develop specific security strategies for women.

Additionally, our study showed a serious mismatch between the existing safety and security practices of transit operators and the needs and desires of women passengers as identified by our interviews, as well as those of other empirical studies. For example, the concentration of security measures on the more enclosed and easily controllable parts of the transportation system (buses, trains, and station platforms) and the relative neglect of the more open and public parts (bus stops and parking lots) does not serve women’s needs well. Women passengers are typically more fearful of waiting at desolate bus stops or walking through parking lots devoid of human activity than being seated among other passengers on the bus or train. Similarly, the practice of privileging technological over human security measures, which is widely followed by transit agencies as our survey has found, goes contrary to women’s wishes. Women passengers certainly feel safer being watched by a police officer than by the lenses of CCTV cameras.

There seem to be important reasons why the response of U.S. transit operators to the particular safety and security needs of women is less than satisfactory, and why there seems to be a mismatch between research findings and policy. For one, unlike in some other countries, there has not been any funded mandate or support from federal or state governments to address women’s safety and travel needs.

Second, there are only limited financial resources available to public transit operators. As indicated by Taylor et al.,<sup>145</sup> especially after 9-11 “transit managers have struggled to balance the costs and uncertain benefits of increased transit security against the costs and certain benefits of attracting passengers.” There is no doubt that transit agencies do not have the resources to install a police officer at every transit stop of their system. Security strategies generally favored by transit operators, such as the installation of cameras, are decidedly less expensive than instigating police patrols or employing security personnel on transit vehicles and stops.

Third, the overreliance on technological responses to crime is also influenced by the aggressive marketing of “anti-terrorist” technologies and security hardware by the security industry, post 9-11, as well as the example of British and Japanese cities, which have extensively retrofitted their stations with security cameras and CCTV technology.<sup>146</sup> Fourth, transit operators are facing a risk management dilemma, as courts are not inclined to find against them when passengers are accosted while travelling to and from bus stops and stations. On the other hand, if a transit agency institutes an on-street security program and then fails to provide accurate security measures, and an incident occurs, they may be found liable by the court.



Fifth, transportation planning arguably has a higher concentration of male planners than other planning subfields. Therefore, it is likely that the gender mix of management in public transit agencies is overrepresented by male planners, who may not be as knowledgeable about or responsive to the particular needs of their female transit customers. In our survey (which was sent to the general managers of transit agencies) 76% of the respondents were male. As already mentioned, a higher percentage of female than male survey respondents indicated that women passengers have distinct needs; however this difference was not statistically significant.

## **RECOMMENDATIONS**

The last decade has witnessed an increase in scholarly activity on issues relating to women's safety, travel patterns, and health.<sup>147</sup> Nevertheless, our survey revealed a general ambiguity among transit operators regarding the security needs and the appropriate security measures for female passengers, and an almost complete lack of implemented programs in the U.S. This finding points to a major gap between research and practice, and a mismatch between the needs of women and the practices of transit operators in the U.S. The following proposed initiatives may help close this gap.

### **Researcher-Practitioner Dialogues**

The initiation of researcher-practitioner dialogues in professional and academic conferences would help make research on women's issues in transportation more accessible to transit professionals. Initiatives, programs, and policies targeting women's safety in the United Kingdom, Canada, Australia, Germany, Japan, and Sweden remain largely unknown in the U.S. The compilation, publication, and dissemination of best practices from the American Public Transportation Association and/or the Transit Cooperative Research Program would allow operators to access information about the lessons learned from successful programs in other countries.

### **Incorporating Women's Voices in the Planning Process**

Women are often the real experts of their neighborhoods, and they are the best to articulate their own needs as well as the barriers they may encounter which limit their mobility. The incorporation of women's voices in the planning and policy making around transportation issues, through regular consultation with focus groups, targeted surveys of women's passengers, and safety and gender audits would help diminish the current ambiguity of US transit operators regarding gender-appropriate safety/security measures.

### **Partnering with Local Non-profits**

As the examples of RightRides, Hollaback, and METRAC indicate, community, grassroots, and nonprofit groups have an important role to play in promoting women's safe travel. Such groups are often hampered by a lack of resources and organizational structure. A partnership between such nonprofit, community, and volunteer groups with municipal departments and transit agencies can be beneficial for both parties, and most of all for women's safety.

### **Prioritizing Needs**

The issue of funding safety/security initiatives is always challenging for transit operators. At the same time, particular transportation settings in a city may be less safe than others. Nevertheless, our survey showed that less than one third of the transit agencies surveyed assess the different safety/security needs on their systems and allocate security resources accordingly. A careful monitoring of incident reports, coupled with regular safety and gender audits, could show agencies how to make the best use of their limited security budgets.

### **Adopting a “Whole Journey Approach”**

While transit agencies have to prioritize their needs, they should not only focus their resources on improving the safety of their vehicles or transit stations. It is clear from our interviews as well as other empirical studies<sup>148</sup> that in addressing crime and fear of crime, a whole journey approach should be adopted. Block and Davis<sup>149</sup> have found that areas in close vicinity of Chicago transit stops were more susceptible to street crime than station platforms, while Loukaitou-Sideris et al.<sup>150</sup> found that a significant percentage of crime incidents occurred at parking lots adjacent to Green Line stations in Los Angeles. A holistic approach should include input from women’s groups and transit operators, as well as law enforcement officers, and neighborhood groups (e.g. merchant associations, homeowner or tenant associations, Parent-Teacher Associations, etc.). Such a holistic approach is challenging, however, as it requires better coordination between transit agencies and other entities responsible for public environments (e.g. Bureaus of Street Services, Sheriff’s departments, etc.).

### **Tailoring Safety/Security Initiatives to Particular Needs of Communities**

Different groups have different needs as well as different levels of vulnerability. It is therefore important that interventions are tailored to the needs of particular subgroups, as well as the characteristics of the neighborhood and its various transportation settings. It is also important to evaluate whether proposed interventions are reaching the populations who seem to display higher levels of fear and/or vulnerability, may be more susceptible to crime and harassment, and may have the least mobility options, such as the elderly, low-income, minority women, and lesbian/ gay/bisexual/transsexual individuals.

### **Adopting a Multipronged Approach to Safety**

The suggested actions and policies discussed by representatives of women’s interest groups (presented in the section titled “Input of Women Riders”) point to the need for a multipronged approach to women’s travel safety. Environmental design strategies should be complemented by policing and neighborhood watch groups, the use of security technology in transportation settings, information and media campaigns (such as anti-harassment messages on bus shelters and stations); and specific policies (e.g. escort programs, cab vouchers, request-stop programs) that intend to decrease the fear of women riders. The balance and particular mix of these strategies should depend on the particularity of each setting, women’s expressed needs, and available resources.



**Initiating Pilot Programs**

The creation of certain pilot programs with the explicit goal of enhancing the safety of women riders, supported through targeted and competitive funding from the Federal Transit Administration, could go a long way towards implementing initiatives “on the ground” and measuring their impact and success.

Safe travel is extremely important for both men and women. Being able to reach desired destinations safely and with comfort is not only an aspect of the quality of life in cities but also relates to economic security and well-being. Safe travel should, therefore, be seen as an important right of citizens. This and other studies have, however, found that this right is often compromised for many women who feel unsafe while traveling. The above initiatives would be necessary first steps toward a transportation system that serves the needs of female passengers and achieves what one of our interviewees referred to as “nothing less but transportation justice.”



## APPENDIX A: LIST OF PARTICIPATING AGENCIES (BY NUMBER OF VEHICLES IN OPERATION)

Agency Name	City	State	Vehicles in Operation	Modes Used	Urbanized Area UZA) Name	Urbanized Area UZA) Population
Montgomery Area Transit System	Montgomery	AL	51	bus	Montgomery, AL	196,892
Okaloosa County Board of County Commissioners	Fort Walton Beach	FL	51	bus, dial-a-ride	Fort Walton Beach, FL	152,741
City of Jackson Transportation Authority	Jackson	MI	51	bus	Jackson, MI	88,050
Bay Metropolitan Transit Authority	Bay City	MI	51	bus	Bay City, MI	74,048
Broome County Department of Public Transportation	Vestal	NY	54	bus	Binghamton, NY-PA	158,884
Portage Area Regional Transportation Authority	Kent	OH	54	bus	Akron, OH	570,215
City of Waukesha Transit Commission (Waukesha Metro Transit)	Waukesha	WI	54	bus	Milwaukee, WI	1,308,913
Centre Area Transportation Authority	State College	PA	55	bus	State College, PA	71,301
CyRide	Ames	IA	57	bus	n/a	n/a
Charleston Area Regional Transportation Authority	Charleston	SC	58	bus	Charleston-North Charleston, SC	423,410
Kanawha Valley Regional Transportation Authority	Charleston	WV	59	bus	Charleston, WV	182,991
Montebello Bus Lines	Montebello	CA	60	commuter rail, bus, dial-a-ride	Los Angeles-Long Beach-Santa Ana, CA	11,789,487
Antelope Valley Transit Authority	Lancaster	CA	60	bus	Los Angeles-Long Beach-Santa Ana, CA	11,789,487
Santa Clarita Transit	Santa Clarita	CA	61	bus	Los Angeles-Long Beach-Santa Ana, CA	11,789,487

Livermore / Amador Valley Transit Authority	Livermore	CA	61	bus	San Francisco-Oakland, CA	3,228,605
Greater Bridgeport Transit Authority	Bridgeport	CT	61	bus	Bridgeport-Stamford, CT-NY	888,890
Eastern Contra Costa Transit Authority	Antioch	CA	63	bus	Antioch, CA	217,591
Indian River County Council on Aging, Inc.	Vero Beach	FL	63	bus	Vero Beach-Sebastian, FL	120,962
Central Arkansas Transit Authority	North Little Rock	AR	64	light rail, bus	Little Rock, AR	360,331
Greater Peoria Mass Transit District	Peoria	IL	65	bus	Peoria, IL	247,172
Northern Indiana Commuter Transportation District	Chesterton	IN	66	commuter rail	Chicago, IL-IN	8,307,904
Southeastern Regional Transit Authority	New Bedford	MA	66	bus	New Bedford, MA	146,730
StarTran	Lincoln	NE	68	bus	Lincoln, NE	226,582
Chattanooga Area Regional Transportation Authority CARTA)	Chattanooga	TN	68	bus, incline railway	Chattanooga, TN-GA	343,509
City of Tallahassee	Tallahassee	FL	69	bus	Tallahassee, FL	204,260
Virginia Railway Express	Alexandria	VA	69	commuter rail	Fredericksburg, VA	97,102
City of Appleton - Valley Transit	Appleton	WI	69	bus	Appleton, WI	187,683
Potomac and Rappahannock Transportation Commission	Woodbridge	VA	70	commuter rail, bus	Washington, DC-VA-MD	3,933,920
Whatcom Transportation Authority	Bellingham	WA	70	bus	Bellingham, WA	84,324
Stark Area Regional Transit Authority	Canton	OH	78	bus	Canton, OH	266,595
Greater Roanoke Transit Company	Roanoke	VA	80	bus	Roanoke, VA	197,442
Cape Cod Regional Transit Authority	Dennis	MA	81	bus	Barnstable Town, MA	243,667
San Diego Trolley, Inc.	San Diego	CA	83	bus	San Diego, CA	2,674,436
Knoxville Area Transit	Knoxville	TN	83	bus	Knoxville, TN	419,830
Santa Barbara Metropolitan Transit District	Santa Barbara	CA	84	bus, demand response	Santa Barbara, CA	196,263
Greater Hartford Transit District	Hartford	CT	85	paratransit	Hartford, CT	851,535

Sarasota County Area Transit	Sarasota	FL	86	bus	Sarasota-Bradenton, FL	559,229
Champaign-Urbana Mass Transit District	Urbana	IL	88	bus	Champaign, IL	123,938
The Greater New Haven Transit District	Hamden	CT	89	bus	New Haven, CT	531,314
Rockland Coaches, Inc. Coach USA)	Westwood	NJ	91	bus	New York-Newark, NY-NJ-CT	17,799,861
Gainesville Regional Transit System	Gainesville	FL	93	bus	Gainesville, FL	159,508
Regional Transportation Commission of Washoe County	Reno	NV	93	bus, paratransit	Reno, NV	303,689
Municipality of Anchorage - People Mover	Anchorage	AK	94	bus	Anchorage, AK	225,744
Ann Arbor Transportation Authority	Ann Arbor	MI	98	bus	Ann Arbor, MI	283,904
Prince George's County Transit	Largo	MD	102	bus	n/a	n/a
Lane Transit District	Eugene	OR	107	bus, paratransit	Eugene, OR	224,049
San Joaquin Regional Transit District	Stockton	CA	109	bus	Stockton, CA	313,392
Mountain Metropolitan Transit (Mountain Metro)	Colorado Springs	CO	109	bus	Colorado Springs, CO	466,122
Monterey-Salinas Transit	Monterey	CA	111	bus	Seaside-Monterey-Marina, CA	125,503
Regional Public Transportation Authority, dba: Valley Metro	Phoenix	AZ	114	bus	Phoenix-Mesa, AZ	2,907,049
Dallas - VPSI, Inc.	Arlington	TX	119	vanpool	Dallas-Fort Worth-Arlington, TX	4,145,659
Blue Water Area Transportation Commission	Port Huron	MI	123	bus	Port Huron, MI	86,486
Laketran	Grand River	OH	128	bus	Cleveland, OH	1,786,647
Central Oklahoma Transportation and Parking Authority	Oklahoma City	OK	136	bus	Oklahoma City, OK	747,003
Clark County Public Transportation Benefit Area Authority	Vancouver	WA	136	bus	Portland, OR-WA	1,583,138
Montachusett Regional Transit Authority	Fitchburg	MA	140	bus, paratransit	Leominster-Fitchburg, MA	112,943

Georgia Regional Transportation Authority	Atlanta	GA	143	bus, vanpool	Atlanta, GA	3,499,840
Metropolitan Transit Authority	Nashville	TN	144	bus	Nashville-Davidson, TN	749,935
County of Volusia, dba: VOTRAN	South Daytona	FL	147	bus	Deltona, FL	147,713
Santa Monica's Big Blue Bus	Santa Monica	CA	148	bus, paratransit	Los Angeles-Long Beach-Santa Ana, CA	11,789,487
CNY Centro, Inc.	Syracuse	NY	155	bus	Syracuse, NY	402,267
Intercity Transit	Olympia	WA	155	bus	Olympia-Lacey, WA	143,826
Southern California Regional Rail Authority	Los Angeles	CA	159	commuter rail	Los Angeles-Long Beach-Santa Ana, CA	11,789,487
Capital Area Transportation Authority	Lansing	MI	167	bus	Lansing, MI	300,032
ATC / Vancom - Dallas	Oak Brook	TX	169	bus	Dallas-Fort Worth-Arlington, TX	4,145,659
Lehigh and Northampton Transportation Authority	Allentown	PA	170	bus, paratransit	Allentown-Bethlehem, PA-NJ	576,408
Interurban Transit Partnership	Grand Rapids	MI	175	bus	Grand Rapids, MI	539,080
Riverside Transit Agency	Riverside	CA	180	bus, paratransit	Los Angeles-Long Beach-Santa Ana, CA	11,789,487
Des Moines Metropolitan Transit Authority	Des Moines	IA	181	bus, vanpool	Des Moines, IA	370,505
Connecticut Transit - Hartford Division	Hartford	CT	183	bus	Hartford, CT	851,535
ABQ Ride	Albuquerque	NM	183	bus, paratransit	Albuquerque, NM	598,191
Toledo Area Regional Transit Authority	Toledo	OH	191	bus	Toledo, OH-MI	503,008
Long Beach Transit	Long Beach	CA	197	bus, ferry	Los Angeles-Long Beach-Santa Ana, CA	11,789,487
Hillsborough Area Regional Transit Authority	Tampa	FL	199	light rail, bus, paratransit	Tampa-St. Petersburg, FL	2,062,339
Indianapolis and Marion County Public Transportation	Indianapolis	IN	200	bus	Indianapolis, IN	1,218,919

San Diego Metropolitan Transit System	San Diego	CA	211	light rail, bus	San Diego, CA	2,674,436
Capital District Transportation Authority	Albany	NY	215	bus	Albany, NY	558,947
North County Transit District	Oceanside	CA	221	commuter rail, light rail, bus	San Diego, CA	2,674,436
Greater Dayton Regional Transit Authority	Dayton	OH	221	bus	Dayton, OH	703,444
Greater Richmond Transit Company	Richmond	VA	221	bus	Richmond, VA	818,836
Golden Gate Bridge, Highway and Transportation District	San Francisco	CA	222	bus	San Francisco-Oakland, CA	3,228,605
Memphis Area Transit Authority	Memphis	TN	226	light rail, bus, paratransit	Memphis, TN-MS-AR	972,091
Omnitrans	San Bernardino	CA	233	bus	Los Angeles-Long Beach-Santa Ana, CA	11,789,487
Spokane Transit Authority	Spokane	WA	233	bus, van	Spokane, WA-ID	334,858
Mass Transportation Authority	Flint	MI	235	bus	Flint, MI	365,096
Metro Regional Transit Authority	Akron	OH	247	bus	Cleveland, OH	1,786,647
Advanced Transportation Solutions, LLC	Miami	FL	259	demand response	Miami, FL	4,919,036
Jacksonville Transportation Authority	Jacksonville	FL	275	light rail	Jacksonville, FL	882,295
Transit Authority of River City	Louisville	KY	280	bus	Louisville, KY-IN	863,582
Central Ohio Transit Authority	Columbus	OH	283	bus	Columbus, OH	1,133,193
Kitsap Transit	Bremerton	WA	283	bus, ferry, paratransit	Bremerton, WA	178,369
Niagara Frontier Transportation Authority	Buffalo	NY	321	light rail, bus	Buffalo, NY	976,703
San Mateo County Transit District	San Carlos	CA	346	commuter rail, bus	San Francisco-Oakland, CA	3,228,605
Charlotte Area Transit System	Charlotte	NC	363	light rail, bus	Charlotte, NC-SC	758,927
Sacramento Regional Transit District	Sacramento	CA	383	light rail, bus	Sacramento, CA	1,393,498

Board of County Commissioners, Palm Beach County, PalmTran, Inc.	West Palm Beach	FL	384	bus, paratransit	Miami, FL	4,919,036
City of Los Angeles Department of Transportation	Los Angeles	CA	388	bus, paratransit	Los Angeles-Long Beach-Santa Ana, CA	11,789,487
Central Florida Regional Transportation Authority	Orlando	FL	390	bus	Kissimmee, FL	186,667
Regional Transportation Commission of Southern Nevada	Las Vegas	NV	405	bus	Las Vegas, NV	1,314,357
Access Transportation Systems, Inc.	Pittsburgh	PA	430	paratransit	Pittsburgh, PA	1,753,136
Snohomish County Transportation Benefit Area Corporation (Community Transit)	Everett	WA	467	bus, vanpool, dial-a-ride	Seattle, WA	2,712,205
Bi-State Development Agency	St. Louis	MO	476	light rail, bus, paratransit	St. Louis, MO-IL	2,077,662
Metropolitan Council	St. Paul	MN	507	light rail, bus	Minneapolis-St. Paul, MN	2,388,593
Capital Metropolitan Transportation Authority	Austin	TX	510	bus	Austin, TX	901,920
San Francisco Bay Area Rapid Transit District	Oakland	CA	522	heavy rail	San Francisco-Oakland, CA	3,228,605
Access Services Incorporated	Los Angeles	CA	530	demand response	Los Angeles-Long Beach-Santa Ana, CA	11,789,487
VIA Metropolitan Transit	San Antonio	TX	538	bus	San Antonio, TX	1,327,554
City and County of Honolulu Department of Transportation Services	Honolulu	HI	541	bus, paratransit	Honolulu, HI	718,182
Pierce Transit	Tacoma	WA	543	bus, paratransit	Seattle, WA	2,712,205
City of Phoenix Public Transit Department	Phoenix	AZ	572	bus	Phoenix-Mesa, AZ	2,907,049
Santa Clara Valley Transportation Authority	San Jose	CA	630	light rail, bus	San Jose, CA	1,538,312
Alameda-Contra Costa Transit District	Oakland	CA	633	bus	San Francisco-Oakland, CA	3,228,605



Milwaukee County Transit System	Milwaukee	WI	646	bus	Milwaukee, WI	1,308,913
The Greater Cleveland Regional Transit Authority	Cleveland	OH	679	heavy rail, light rail, bus	Cleveland, OH	1,786,647
Metro Transit	Minneapolis	MN	744	light rail, bus	Minneapolis-St. Paul, MN	2,388,593
Miami-Dade Transit	Miami	FL	783	heavy rail, bus, automated guideway transit	Miami, FL	4,919,036
Orange County Transportation Authority	Orange	CA	796	bus	Los Angeles-Long Beach-Santa Ana, CA	11,789,487
San Francisco Municipal Railway	San Francisco	CA	815	light rail, bus, cable car	San Francisco-Oakland, CA	3,228,605
MTA Long Island Rail Road	Jamaica	NY	969	commuter rail	New York-Newark, NY-NJ-CT	17,799,861
Dallas Area Rapid Transit	Dallas	TX	969	commuter rail, light rail, bus, paratransit	Dallas-Fort Worth-Arlington, TX	4,145,659
Port Authority of Allegheny County	Pittsburgh	PA	1,056	light rail, bus, incline plane	Pittsburgh, PA	1,753,136
Maryland Transit Administration	Baltimore	MD	1,140	commuter rail, heavy rail, light rail, bus	Washington, DC-VA-MD	3,933,920
Denver Regional Transportation District	Denver	CO	1,292	light rail, bus, paratransit	Longmont, CO	72,929
Metropolitan Transit Authority of Harris County, Texas	Houston	TX	1,933	light rail, bus	Houston, TX	3,822,509
Washington Metropolitan Area Transit Authority	Washington	DC	2,221	heavy rail, bus, paratransit	Washington, DC-VA-MD	3,933,920
Southeastern Pennsylvania Transportation Authority (SEPTA)	Philadelphia	PA	2,224	commuter rail, light rail, bus	Philadelphia, PA-NJ-DE-MD	5,149,079
Los Angeles County Metropolitan Transportation Authority	Los Angeles	CA	2,338	heavy rail, light rail, bus	Los Angeles-Long Beach-Santa Ana, CA	11,789,487
King County Department of Transportation - Metro Transit Division	Seattle	WA	2,615	bus	Seattle, WA	2,712,205

New Jersey Transit Corporation	Newark	NJ	3,221	commuter rail, light rail, bus	New York-Newark, NY-NJ-CT	17,799,861
Chicago Transit Authority	Chicago	IL	3,812	commuter rail, bus	Chicago, IL-IN	8,307,904
MTA New York City Transit	Brooklyn	NY	9,551	commuter rail, bus	New York-Newark, NY-NJ-CT	17,799,861

---

## **APPENDIX B: LIST OF NATIONAL WOMEN'S ORGANIZATIONS INTERVIEWED AND THEIR MISSION STATEMENTS**

### **9to5, National Association of Working Women**

Interview with Amy Stear, Wisconsin Director

The mission of 9to5, National Association of Working Women, is to build a movement to achieve economic justice, by engaging directly affected women to improve working conditions. Founded in 1973, 9to5 is a grassroots membership organization with activists in more than 200 cities and members in every state.

Website: <http://www.9to5.org/>

### **Alliance of Faith and Feminism**

Interview with Rev. Della Fahnestock, President, York, PA

Alliance of Faith and Feminism works to support the struggle for global ecological justice and human equality that emanates from and occurs within the various expressions and institutions of faith, thereby uniting various religious and non-religious feminists in a common purpose.

Website: <http://www.faithfeminism.org/>

### **Church Women United**

Interview with Patricia Burkhardt, Legislative Officer, Washington DC

Church Women United is a racially, culturally, theologically inclusive ecumenical Christian women's movement, celebrating unity in diversity and working for a world of peace and justice.

Website: <http://www.churchwomen.org/>

### **Black Women's Health Imperative**

Interview with Eleanor Hinton Hoytt, President, Washington DC

The mission of Black Women's Imperative is to promote optimum health for Black women across the life span – physically, mentally, and spiritually.

Website: <http://www.blackwomenshealth.org/site/c.eeJIIWOCIrH/b.3082485/>

### **LIFETIME: Low Income Families Empowerment Through Education**

Interview with Anita Rees, Associate Director, San Leandro, CA

LIFETIME's mission is to empower low-income parents to determine, pursue and achieve their goals for education, employment and economic security.

Website: <http://www.geds-to-phds.org/>

### **Gender Public Advocacy Coalition**

Interview with Brittney Hoffman, Campus Director, Washington DC

The Gender Public Advocacy Coalition works to ensure that classrooms, communities, and workplaces are safe for everyone to learn, grow, and succeed—whether or not they meet expectations for masculinity and femininity. As a human rights organization, GenderPAC also promotes an understanding of the connection between discrimination based on gender stereotypes and sex, sexual orientation, age, race, and class.

Website: <http://www.gpac.org/about/>

### **American Nurses Association**

Interview with Nancy Hughes, Director of the Center for Occupational and Environmental Health, Washington DC

The American Nurses Association (ANA) is the only full-service professional organization representing the nation's 2.9 million registered nurses (RNs) through its 54 constituent member associations. The ANA advances the nursing profession by fostering high standards of nursing practice, promoting the rights of nurses in the workplace, projecting a positive and realistic view of nursing, and by lobbying the Congress and regulatory agencies on health care issues affecting nurses and the public.

Website: <http://www.nursingworld.org/>

### **DC Rape Crisis Center**

Interview with Denise Snyder, Executive Director, Washington DC

The DC Rape Crisis Center is dedicated to creating a world free of sexual violence. The Center works for social change through community outreach, education, and legal and public policy initiatives. It helps survivors and their families heal from the aftermath of sexual violence through crisis intervention, counseling and advocacy. Committed to the belief that all forms of oppression are linked, the Center values accessibility, cultural diversity and the empowerment of women and children.

Website: <http://www.dcrcc.org/>

### **Chicago Foundation for Women**

Interview with Lynne Johnson, Director of Advocacy, Chicago

Chicago Foundation for Women believes that all women and girls should have the opportunity to achieve their potential and live in safe, just and healthy communities. For the last 22 years, the Foundation has influenced social justice through advocacy, leadership development, grant making and public and grantee education.

Website: [www.cfw.org](http://www.cfw.org)

### **National Research Center for Women and Families**

Interview with Diana Zuckerman, President, Washington DC

The National Research Center for Women and Families is dedicated to improving the health and safety of women, children, and families. The Center scrutinizes the latest research, and explains it clearly to make it useful to the public. Our mission is to improve the health and safety of adults and children by promoting better programs and policies.

Website: <http://www.center4research.org/>

### **National Family Planning and Reproductive Health Association**

Interview with Mary Jane Gallagher, CEO, Washington DC

NFPRHA is a membership organization dedicated to ensuring that all Americans have access to the tools they need to act responsibly, stay healthy and plan for strong families.

Website: <http://www.nfprha.org>

### **MANA - National Latina Association**

Interview with Alma Morales Roja, President and CEO, Washington DC

MANA's mission is to empower Latinas through leadership development, community service, and advocacy. MANA fulfills its mission through programs designed to develop the leadership skills of Latinas, promote community service by Latinas, and provide Latinas with advocacy opportunities. Support for these programs is derived from members, corporations, foundations, and government grants.

Website: <http://www.hermana.org>

### **National Organization for Women Foundation**

Interview with Jan Erickson, Director of Programs, Washington DC

NOW Foundation is devoted to furthering women's rights through education and litigation. The NOW Foundation is affiliated with the National Organization for Women, the largest women's rights organization in the United States, with a membership of over 500,000 contributing women and men in more than 550 chapters in all 50 states and the District of Columbia.

Website: <http://www.nowfoundation.org/>

### **Older Women's League (OWL)**

Interviews with: Shelia Willet, President, Washington DC

Ashley Carson, Executive Director, Arlington, VA

OWL, the only grassroots membership organization to focus solely on issues unique to women as they age, strives to improve the status and quality of life for midlife and older women. It educates about and advocates for health, economic security.

Website: <http://www.owl-national.org/>

### **Women in Cities International**

Interview with Caroline Andrew, Board President, Montreal, Canada

Women in Cities International is meant to be an exchange network for various partners concerned with gender equality issues and the place of women in cities on the five continents. It brings together people interested broadly in questions of building safer communities for women and girls.

Website: <http://www.femmesetvilles.org>



---

## **APPENDIX C: LIST OF CASE STUDIES AND THEIR MISSION STATEMENTS**

### **RightRides**

Interview with Oraia Reid, Executive Director and Co-founder May 6, 2008)

The mission of RightRides for Women's Safety is to build safer communities by ending harassment and sexual assault. We accomplish this through community organizing and offering direct service programs, plus fostering greater safety awareness and individual empowerment in our related educational programs.

Website: <http://www.rightrides.org/>

### **HollaBack NYC**

Interview with Anna Weichselbraun, Co-founder May 27, 2008)

The goal of HollaBack NYC is to support women's right to exist in public in safety and without fear of harassment, particularly on the street.

Website: <http://hollabacknyc.blogspot.com/>

### **Metropolitan Action Committee on Violence Against Women and Children (METRAC)**

Interview with Narina Nagra, Safety Director

METRAC works to ensure women, youth, and children live free from all forms of violence and the threat or fear of violence.

Website: <http://www.metrac.org>

### **Transport for London (TfL) and Women's Transport Network (WTN)**

Email correspondence with Annette Lewis, Accessibility and Equality Unit, Department for Transport and WTN

TfL's mission is to provide a world class transport system for London.

The Women's Transport Network, facilitated by the Accessibility and Equality Unit within DfT, has the mission to promote transport systems and pedestrian environs that are safe and accessible to all, and encourage women to enter and progress in the transport industry.

TfL Website: <http://www.tfl.gov.uk>

WTN website: <http://www.ciltuk.org.uk/pages/wtnhome>

### **Programa Atenea. Mexico City**

Interview with Ariadna Montel Reyes, General Director, Red de Transporte de Pasajeros del Distrito Federal, Mexico City October 28, 2008).

Website: [www.rtp.gob.mx](http://www.rtp.gob.mx)





---

## ENDNOTES

1. Gordon and Riger, *The Female Fear*.
2. Stanko, *Everyday Violence: Women's and Men's Experience of Personal Danger*; Morrell, *Changing Places: Women's Lives in the City*.
3. Needle and Cobb, *Improving Transit Security*.
4. Carter, "Gender Differences," 100.
5. Wekerle and Whitzman, *Safe Cities*.
6. Loukaitou-Sideris, "Inner-City Commercial Strips."
7. Dept. for Transport, *People's Perception*.
8. Brownson et al., "Determinants of Physical Activity."
9. Clancy et al., *Crime, Policing and Justice*.
10. Craig et al., "Walking to Work."
11. Loukaitou-Sideris, "Neighborhood Safety and Security."
12. Gilchrist et al., "Fear of Crime."
13. Atkins, *Critical Paths*; Valentine, "Women's Fear."
14. Wilson and Kelling, "Broken Windows."
15. Day in Zelinka and Brennan, *Safescape*, 7.
16. Dept. for Transport, *Crime Concern*.
17. Dept. for Transport, *People's Perception*.
18. LaGrange et al., "Perceived Risk."
19. Rohe and Burby, "Fear of Crime."
20. LaGrange et al., "Perceived Risk."
21. Dept. for Transport, "People's Perception."
22. Dept. for Transport, *Crime Concern*.
23. Dept. for Transport, *People's Perception*.
24. Dept. for Transport, *Crime Concern*; Loukaitou-Sideris, "Hot Spots."
25. Shen et al., *Analyses of Technologies*.
26. Junger, "Sexual Harassment."
27. Loukaitou-Sideris, "Design and Policy Responses."
28. Warr, "Fear of Victimization."
29. Dept. for Transport, *People's Perception*.
30. Loukaitou-Sideris, "Design and Policy Responses."
31. Bennett, "Fear in the City."

32. Fenster, "Gendered City"; Stringer, "Hidden in Plain Sight"; Viswanath and Mehrotra, "Safe in the City?"
33. Viswanath and Mehrotra, "Safe in the City?", 22.
34. Hall, *Ask Any Woman*; Loukaitou-Sideris, "Hot Spots;" Viswanath and Mehrotra 2008
35. Pain, "Fear in the City."
36. Koskela and Pain, "Revisiting Fear."
37. Brownson et al., "Determinants of Physical Activity."
38. Seefeldt et al., "Physical Activity in Adults."
39. Ross, "Walking, Exercising, and Smoking."
40. Ibid.
41. Morrell, "Women's Safety"; Valentine, "Lesbian Production of Space."
42. Pain, "Fear in the City," 905.
43. Trench et al., "Safer Cities," 283.
44. Wekerle and Whitzman, *Safe Cities: Guidelines*.
45. Smith and Torstensson, "Gender Differences."
46. Valentine, "Women's Fear."
47. Wekerle and Whitzman *Safe Cities: Guidelines*; Stanko, *Everyday Violence*.
48. METRAC, "Why Women's Safety?"
49. Atkins, *Critical Paths*; Ross, "Walking, Exercising, and Smoking."
50. Hall, *Ask Any Woman*; Gordon and Rigger, *The Female Fear*; Valentine, "Women's Fear"; Gilchrist et al., "Fear of Crime"; Koskela and Pain, "Revisiting Fear"; Pain, "Fear in the City."
51. Thrasher and Schnell, "Studies of Public Attitudes"; Austin and Buzawa, "Citizen Perceptions"; Atkins, *Critical Paths*; Ingalls et al., "Public Fear of Crime"; Wallace et al., "Who Noticed, Who Cares?"; Loukaitou-Sideris, "Hot Spots"; Reed et al., "Transit Passenger Perceptions."
52. Wekerle and Whitzman, *Safe Cities: Guidelines*; Needle and Cobb, *Improving Transit Security*; Boyd and Boyd, *Transit Security Handbook*.
53. Lynch and Atkins, "Influence of Personal Security Fears"; Trench et al., "Safer Cities"; Loukaitou-Sideris, "Design and Policy Responses."
54. Larsen and Topsøe-Jensen, *Urban Planning*, 2
55. Rosenbloom, "Travel by Women"; Bianco and Lawson, "Trip-Chaining."
56. Women's Planning Network Inc., *Women's Transport Needs*.
57. Spain, Run, "Don't Walk."
58. Lang 1992:14, quoted in Women's Planning Network, *Women's Transport Needs*.
59. Carter, "Gender Differences," 100.
60. Lynch and Atkins, "Influence of Personal Security Fears."

- 
61. Trench et al., “Safer Cities,” 291.
  62. Wallace et al., “Who Noticed, Who Cares?”
  63. Lynch and Atkins, “Influence of Personal Security Fears”; Trench et al., “Safer Cities.”
  64. Scarborough Women’s Centre/METRAC, *Making Transit Stops Safer*.
  65. Wallace et al., “Who Noticed, Who Cares?”
  66. Scarborough Women’s Centre/METRAC, *Making Transit Stops Safer*; The “fishbowl effect” describes the situation where a setting (e.g., a bus shelter) is brightly lit, but the surrounding environment is dark. In such a case the passenger is seen, but he/she is unable to see others outside the bus shelter.
  67. Department for Transport, 2002.
  68. Department for Transport, 2002.
  69. Khimm, “No-Groping Zone.”
  70. Lynch and Atkins, “Influence of Personal Security Fears.”
  71. Trench et al., “Safer Cities”; Schulz and Gilbert, “Women and Transit Security.”
  72. Eleanor Hinton Hoytt, Black Women’s Health Imperative (see Appendix B).
  73. Brittney Hoffman, Gender PAC.
  74. Denise Snyder, DC Rape Crisis Center (see Appendix B).
  75. Stringer, “Hidden in Plain Sight.”
  76. Lynne Johnson, Chicago Foundation for Women (see Appendix B).
  77. Shelia Willet, OWL (see Appendix B).
  78. Anita Rees, LIFETIME.
  79. Diana Zuckerman, NFPRHA, Women in Cities (see Appendix B).
  80. Ashley Carson, OWL.
  81. Diana Zuckerman NFPRHA, Caroline Andrew, Women in Cities.
  82. Shelia Willet, OWL. A number of women interviewed referred to the added responsibility and fear for their safety of women who are often accompanied in their travels by young children. Some indicated that they also felt anxious when their teenage children were travelling on public transit.
  83. Anita Rees.
  84. Representatives from MANA, DC Rape Crisis Center.
  85. Denise Snyder, DC Rape Crisis Center
  86. The survey template is available at <http://www.its.ucla.edu/safety/instructions.htm>.
  87. We sent hard-copy and electronic letters to the general managers of the 245 transit agencies asking them to designate the most appropriate person or persons to complete an on-line survey. In the case of smaller systems, this was often the general manager, and in larger systems this was most often (but not always) the director of security or safety. Seventy-six percent of the respondents were men.

88. In the directions given to survey respondents, we had defined environmental design strategies “as strategies working to deter or reduce crime through modifications in the built environment and physical space. These changes alter the social and physical use of space and help with surveillance and access control.”
89. Needle and Cobb, *Improving Transit Security*.
90. Shen et al., *Analyses of Technologies*.
91. Taylor et al. 2005
92. Taylor et al. 2005
93. Ninety-two percent of the responding agencies have bus service and 27% manage rail systems. Two agencies provide some type of ferry service. About a quarter of agencies have various other modes as part of their systems, including paratransit, van pools, dial-a-ride/demand response vehicles, people movers, and cable cars. Of the agencies with rail networks, about two-thirds (66%) have light rail, 40% have commuter rail, and 17% have heavy rail.
94. Taylor et al., *Assessing Current Practices*.
95. Ibid. at 16.
96. The survey also asked respondents to indicate the percentage of their overall budget that is allocated for security. Unfortunately, only a small number responded to this question, and thus we are unable to report findings.
97. Environmental design strategies mentioned included lighting, solar lighting, transparent panels on bus shelters, and general crime prevention through environmental design (CPTED) strategies.
98. Loukaitou-Sideris et al., “Geography of Transit Crime.”
99. We asked respondents to rate the perceived effectiveness of security strategies on a scale from 1 = not at all effective to 5 = very effective.
100. Respondents listed a range of different security hardware strategies, including global positioning system (GPS) vehicle locators, two-way radios, wireless live surveillance, silent alarms for drivers, and electronic fare boxes. Of these additional hardware strategies, respondents mentioned GPS devices most often (15 respondents).
101. Needle and Cobb, *Improving Transit Security*.
102. Loukaitou-Sideris, “Hot Spots.”
103. In addition, analysis of survey questions related to the safety and security needs of female passengers showed no statistically significant differences among respondents based on fleet size or types of modes in operation.
104. RightRides website, <http://www.rightrides.org>.
105. RightRides website, <http://www.rightrides.org>.
106. RightRides 2008.
107. RightRides website, <http://www.rightrides.org>.
108. RightRides, *Annual Report (2008)*.
109. RightRides, *Annual Report (2008)*.

- 
110. Toby, volunteer, on March 2008, RightRides website, <http://www.rightrides.org>.
111. HollaBackNYC website, <http://hollabacknyc.blogspot.com>.
112. Clift, *Women and Life*
113. Ibid.
114. Ibid, quoting Emily May.
115. Elaine May quoted in Corbett, "Women Strike Back."
116. Agrell, "Let cat calls slide?"
117. Belgiorino, 2006. "21st century peep show."
118. Belgiorino, 2006.
119. Clift, "End Street Harassment."
120. Nagra interview, May 2008.
121. METRAC website, [www.metrac.org](http://www.metrac.org).
122. Ibid.
123. Nagra interview, May 2008.
124. METRAC website, [www.metrac.org](http://www.metrac.org).
125. Transport for London, *Gender Equality Scheme*
126. Ibid at 9
127. Dept. for Transport, *The Checklist*.
128. The checklist includes 96 items that have to be marked with a Yes/No response. The items are grouped into 12 categories: 1) Gender equality: Policy and commitment, 2) Staff recruitment and training, 3) Service planning, 4) Passenger research, 5) Consultation, 6) Passenger complains, 7) Fares and ticketing, 8) Service information, 9) Getting to the stop or station, 10) Getting on public transport, 11) Information, and 12) Comfort and security.
129. Dept. for Transport, *The Checklist*, 4.
130. Dept. for Transport, *The Checklist*.
131. Dept. for Transport, *People's Perception*, 4.
132. To achieve accreditation as a Secure Station, the operator of the station has to demonstrate that "1) the design of the station conforms to standards which prevent crime and improve passenger perceptions; 2) the station is managed so as to prevent crime, respond to incidents, and communicate effectively with passengers; 3) the crime rate at the station is evidence that crime is being managed; and 4) passengers feel secure when using the station" (Dept. for Transport, *Women and Public Transport*, 15).
133. Transport for London, *Expanding Horizons*.
134. Ibid.
135. Transport for London, *Gender Equality Scheme*.

136. The Equality Act of 2006 in Great Britain stipulates that all public authorities enact the “gender equality duty” as of April 2007, to eliminate sexual harassment and discrimination, and promote gender equality.
137. Schulz and Gilbert, “Women and Transit Security.”
138. Springwise, “Women-only bus service”; Miller Llana, “Ladies Only.”
139. Pravda.com, “Japanese women.”
140. Ken, “Just one in fifty.”
141. Feministing, “Women-only train cars.”
142. Ken, “Just one in fifty.”
143. Valenti, “The only answer?”
144. Transport for London, *Gender Equality Scheme*.
145. Taylor et al., *Assessing Current Practices*.
146. Cherry et al., “Subway Station Design.”
147. There have been three conferences in the US explicitly on women’s issues in transportation. The first was sponsored by the U.S. Department of Transportation in 1978. The second conference was sponsored by the Federal Highway Administration in 1996. The third conference, sponsored by the Transportation Research Board (TRB), took place in 2004 and produced two volumes of conference proceedings with research on Women’s Issues in Transportation (TRB 2005a; TRB 2005b). A fourth conference on women’s transportation issues, sponsored by TRB, is scheduled for October 2009. TRB has also established a committee on Women’s Issues in Transportation.
148. Smith, “Security Needs of Women”; Loukaitou-Sideris et al., “Geography of Transit Crime.”
149. Block and Davis, “Another Risky Place.”
150. Loukaitou-Sideris et al., “Geography of Transit Crime.”

## BIBLIOGRAPHY

- Agrell, Siri. "Let cat calls slide or hollaback?" *Globe and Mail*, November 29, 2007, <http://www.theglobeandmail.com/servlet/story/RTGAM.20071129.wlcatcall29/BNSStory/PersonalTech/home>. (accessed November 3, 2008).
- Atkins, Stephen T. *Critical Paths: Designing for Secure Travel*. London: Design Council, 1989.
- Austin, Thomas L. and Eve S. Buzawa. "Citizen Perceptions on Mass Transit Crime and Its Deterrence: A Case Study." *Transportation Quarterly* 38, no. 3 (1984): 103–120.
- Belgiorno, Katherine. "The 21st century peep show: Big Brother's got you under surveillance. But so does little sister." *The Village Voice*, April 18, 2006, <http://www.villagevoice.com/news/0616,belgiorno,72978,6.html>. (accessed December 12, 2008).
- Bianco, Martha and Catherine Lawson. "Trip-Chaining, Childcare, and Personal Safety: Critical Issues in Women's Travel Behavior." In *Women's Travel Issues*, Proceedings from the Second National Conference, FHWA, U.S. Department of Transportation, 1997.
- Block, Richard. and Sean Davis. "The Environs of Rapid Transit Stations: A Focus for Street Crime or Just Another Risky Place?" In *Preventing Mass Transit Crime*, edited by R. Clarke. Monsey, NY: Criminal Justice Press, 1996.
- Boyd, Annabelle and Patricia Boyd. *Transit Security Handbook*, Report FTA-MA-90-9007-98-1, DOT-VNTSC-FTA-98-4, FTA, US Department of Transportation, 1998.
- Brownson, Ross C., Elizabeth A. Baker, Robyn A. Houseman, Laura K. Brennan, Stephen J. Bacak. 2001 "Environmental and Policy Determinants of Physical Activity in the United States." *American Journal of Public Health* 91, no. 12 (Dec 2001): 1995-2003.
- Carter, Miranda. "Gender Differences in Experience with and Fear of Crime in Relation to Public Transport." In *Research on Women's Issues in Transportation*, Vol. 2, Conference Proceedings 35, Washington DC: Transportation Research Board, 2005, p. 100.
- Cherry, Christopher., Anastasia Loukaitou-Sideris, and Martin Wachs. "Subway Station Design and Management: Lessons from Case Studies of Contemporary Terrorist Incidents." *Journal of Architectural and Planning Research* 25, no. 1 (2008): 76-90.
- Clancy, Anna, Mike Hough, Rebecca Aust, and Chris Kershaw. *Crime, Policing and Justice: The Experience of Ethnic Minorities: Findings from the 2000 British Crime Survey*, London: Home Office, 2001.
- Clift, Elayne. "If You Can't Slap 'em, Snap 'em." *Boloji.com*, 2006, <http://www.boloji.com/wfs5/wfs729.htm> (accessed October 12, 2008).
- Clift, Elayne. "HollaBack to End Street Harassment," in *Women and Life on Earth*, 2008, <http://www.wloe.org/Holla-Back-to-End-Stree.340.0.html> (accessed on October 7, 2008).

- Corbett, Rachel. "Women Strike Back Online Against Street Harassment." *Women's Enews*, May 9, 2006, <http://www.womensenews.org/article.cfm/dyn/aid/2734>. (accessed on November 2, 2007).
- Craig, Cora L., Ross C. Brownson, S. E. Cragg, and Andrea L. Dunn. "Exploring the Effect of the Environment on Physical Activity: A Study Examining Walking to Work." *American Journal of Preventive Medicine* 23, no. 2 (2002): 36-43.
- Department for Transport. *Crime Concern and Transport and Travel Research: Perceptions of Safety from Crime on Public Transport*. London, UK, 1997.
- Department for Transport. *Women and Public Transport: The Checklist*. London, UK, 2000.
- Department for Transport. *People's Perception of Personal Security and Their Concerns about Crime on Public Transport: Literature Review*. London, UK, 2002.
- Department for Transport. *People's Perception of Personal Security and Their Concerns about Crime on Public Transport: Research Findings*. London, UK, 2004.
- Feministing.com. "Women-only train cars in Brazil," April 4, 2006, <http://www.feministing.com/archives/004937.html> (accessed October 2, 2008).
- Fenster, Tovi. "The Right to the Gendered City: Different Formations and Belonging in Everyday Life." *Journal of Gender Studies* 14, no. 3 (2005): 224.
- Gilchrist, Elizabeth, Jon Bannister, Jason Ditton, and Stephan Farrall. "Women and the 'Fear of Crime': Challenging the Accepted Stereotype." *British Journal of Criminology* 38 (1998): 283-299.
- Gordon, Margaret T. and Stephanie Riger. *The Female Fear*. New York: The Free Press, 1989.
- Hall, Ruth E. *Ask Any Woman: A London Enquiry into Rape and Sexual Assault*. Bristol: Falling Wall Press, 1985.
- Hamilton, JK., Jenkins, L., and Gregory, A. *Women and Transport: Bus Deregulation in West Yorkshire*. University of Bradford, UK., 1991.
- Ingalls, Gerald, David Hartgen, and Timothy Owens. "Public Fear of Crime and Its Role in Bus Transit Use." *Transportation Research Record* No.1433 (1994): 201-11.
- Junger, Marianne. 1987. "Women's Experience of Sexual Harassment." *British Journal of Criminology* 27, no. 4 (1987): 358-383.
- Ken Y-N. "Just one in fifty always use women-only carriages." What Japan Thinks, August 22, 2006, <http://whatjapanthinks.com/2006/08/22/just-one-in-fifty-always-use-women-only-carriages/> (accessed October 2, 2008).
- Khimh, Suzy. "Warning: No-Groping Zone," Alternet, May 3, 2006, <http://www.alternet.org/module/printversion/35753> (accessed June 6, 2006).
- Koskela, Hille and Rachel Pain. "Revisiting Fear and Place: Women's Fear of Attack and the Built Environment." *Geoforum* 31 (May 2000): 269-280.



- LaGrange, Randy L., Kenneth F. Ferraro, and Michael Supancic. "Perceived Risk and Fear of Crime: Role of Social and Physical Incivilities." *Journal of Research in Crime and Delinquency* 29, no. 3 (1992): 311-334.
- Larsen, Vivi and Hanne Topsøe-Jensen. November 1984. *Urban Planning and the Everyday Life of Women*. Hørslø: Danish Building Research Institute, Urban and Regional Planning Division.
- Loukaitou-Sideris, Anastasia. "Inner-City Commercial Strips: Evolution, Decay—Retrofit?" *Town Planning Review* 68, no. 1 (1997): 1-29.
- Loukaitou-Sideris, Anastasia. "Hot Spots of Bus Stop Crime: The Importance of Environmental Attributes." *Journal of the American Planning Association* 65, no. 4 (1999): 395-411.
- Loukaitou-Sideris, Anastasia. "Is It Safe to Walk Here? Design and Policy Responses to Women's Fear of Victimization in Public Places." In *Research on Women's Issues in Transportation*. Vol. 2, Conference Proceedings 35, Washington DC: Transportation Research Board, 2005, 102-112.
- Loukaitou-Sideris, Anastasia. "Is it Safe to Walk? Neighborhood Safety and Security Considerations and Their Effects on Walking." *Journal of Planning Literature* 20, no. 3 (2006): 219-232.
- Loukaitou-Sideris, Anastasia, Robin Liggett and Hiroyuki Iseki. "The Geography of Transit Crime: Documentation and Evaluation of Crime Incidence On and Around the Green Line Stations in Los Angeles." *Journal of Planning Education and Research* 22, no. 2 (2002): 135-151.
- Lynch, G. and S. Atkins. "The Influence of Personal Security Fears on Women's Travel Patterns." *Transportation* 15 (1988): 257-277.
- Metropolitan Action Committee on Violence Against Women and Children (METRAC). "Why Women's Safety?", 2006, <http://www.metrac.org/programs/safe/why.htm> (accessed on October 16, 2007).
- Miller Llana, Sara. "Mexico City's newest bus option: 'Ladies Only.'" *The Christian Science Monitor*, January 30, 2008, <http://www.csmonitor.com>.
- Morrell, H. "Women's Safety," in *Changing Places: Women's Lives in the City*, edited by Christine Booth, Jane Darke, and Susan Yeandle. London: Paul Chapman Publishing Ltd., 1996.
- Needle, Jerome A. and Renée M. Cobb. *Improving Transit Security*. Transit Cooperative Research Program. Washington DC: National Academy Press, 1997.
- Pain, Rachel. "Gender, Race, Age, and Fear in the City." *Urban Studies* 38, no. 5/6 (2001): 899-914.
- Pravda.com. "Japanese women can now travel in women-only train cars to avoid groping," August 8, 2006, <http://english.pravda.ru/news/society/21-08-2006/84007-groping-0> (accessed September 27, 2008).

- Reed, Thomas B., Richard R. Wallace and Daniel A. Rodriguez. "Transit Passenger Perceptions of Transit-Related Crime Reduction Measures." *Transportation Research Record*, no. 1731 (1999): 130-141.
- RightRides. *RightRides for Women's Safety Annual Report*, 2008.  
[http://www.rightrides.org/templates/about.php?page=annual\\_report](http://www.rightrides.org/templates/about.php?page=annual_report).
- Rohe, William M. and Raymond J. Burby. "Fear of Crime in Public Housing." *Environment and Behavior*. 20 (Nov 1988): 700-720.
- Rosenbloom, Sandra. "Travel by Women," in *Demographic Special Reports* (1990 NPTS Publication Series), FHWA, U.S. Department of Transportation, 1995, pp. 2-1 to 2-57.
- Ross, Catherine E. "Walking, Exercising, and Smoking: Does Neighborhood Matter?" *Social Science and Medicine* 51, no. 2 (2000): 265-74.
- Scarborough Women's Centre/METRAC. *Making Transit Stops Safer for Women: Scarborough Moves Forward*. Scarborough, Canada, 1991.
- Schulz, Dorothy and Susan Gilbert. "Women and Transit Security: A New Look at an Old Issue," in *Women's Travel Issues Second National Conference*. Washington DC: Federal Highway Administration, 1996
- Seefeldt, Vern, Robert M. Malina, Michael A. Clark. "Factors Affecting Levels of Physical Activity in Adults." *Sports Medicine*. 32, no. 3 (2002):143-168.
- Shen, D., D. Ospoina, F. Zhao, and H. Elbardawi. *Analyses of Technologies and Methodologies Adopted by Us Transit Agencies to Enhance Security*. Florida International University: National Urban Transit Institute, 1997.
- Smith, Martha J. "Addressing the Security Needs of Women Passengers on Public Transport." *Security Journal* 21 (2008): 117-133.
- Smith, William and Torstensson. "Gender Differences in Risk Perception and Neutralizing Fear of Crime: Towards Resolving the Paradoxes." *British Journal of Criminology*, 37, no. 4 (1997).
- Spain, Daphne. "Run, Don't Walk: How Transportation Complicates Women's Balancing Act," in *Women's Travel Issues*, Proceedings from the Second National Conference. FHWA, U.S. Department of Transportation, 1997.
- Springwise.com. 2008. "Women-only bus service in Mexico City."  
[http://www.springwise.com/transportation/womenonly\\_bus\\_service](http://www.springwise.com/transportation/womenonly_bus_service) (accessed October 7, 2008).
- Stanko, Elizabeth A. *Everyday Violence: Women's and Men's Experience of Personal Danger*. London: Pandora, 1990.
- Stringer, Scott M. "Hidden in Plain Sight: Sexual Harassment and Assault in the New York City Subway System," July 2007,  
[http://www.nytimes.com/packages/pdf/nyregion/city\\_room/20070726\\_hiddeninplain\\_sight.pdf](http://www.nytimes.com/packages/pdf/nyregion/city_room/20070726_hiddeninplain_sight.pdf) (accessed on October 2, 2008).

- Taylor, Brian, Anastasia Loukaitou-Sideris, Robin Liggett, Camille Fink, Martin Wachs, Ellen Cavanagh, Christopher Cherry and Peter Haas. *Designing and Operating Safe and Secure Transit Systems: Assessing Current Practices in the US and Abroad*. San Jose: Mineta Transportation Institute, 2005.
- Thrasher, E. and J. Schnell. "Studies of Public Attitudes Toward Transit Crime and Vandalism." *Transportation Research Record* No. 487 (1974): 26-33.
- Transport for London (TfL). *Expanding Horizons: Transport for London's Women's Action Plan*. London, 2004.
- Transport for London (TfL). *Gender Equality Scheme 2007-2010*. London, 2007.
- Transportation Research Board. *Research on Women's Issues in Transportation*, Volume 1: Conference overview and plenary papers. Conference Proceedings 35, 2005. Washington DC: TRB.
- Transportation Research Board. *Research on Women's Issues in Transportation*. Volume 2: Technical papers. Conference Proceedings 35, 2005. Washington DC: TRB.
- Trench, Sylvia, Oc, Tanner, and Steven Tiesdell. "Safer Cities for Women: Perceived Risks and Planning Measures." *Town Planning Review*, 63, no. 3 (1992): 279-293.
- UN Habitat Safer Cities Programme and Huairou Commission. *Global Assessment on Women's Safety: Preliminary Survey Results*. September 2007.
- Valenti, Jessica. "Is segregation the only answer to sexual harassment?" *The Guardian*, August 3, 2007, <http://www.guardian.co.uk/lifeandstyle/2007/aug/03healthandwellbeing.gender/> (accessed on September 27, 2008).
- Valentine. Gill. "Women's Fear and the Design of Public Space." *Built Environment* 16, no. 4 (1990): 288-303.
- Valentine, Gill. "(Re)negotiating the 'Heterosexual Street': Lesbian Production of Space," in *Body Space: Destabilizing Geographies of Gender and Sexuality*, edited by Nancy Duncan. London: Routledge, 1996.
- Viswanath, Kalpana and Surabhi Tandon Mehrotra. "Safe in the City?" *Seminar* 583 (March 2008) 21-24, online at [http://www.india-seminar.com/2008/583/583\\_kalpana\\_and\\_surabhi.htm](http://www.india-seminar.com/2008/583/583_kalpana_and_surabhi.htm) (accessed October 2, 2008).
- Wallace, Richard R, Daniel A. Rodriguez, Christopher White and Jonathan Levine. "Who Noticed, Who Cares? Passenger Reactions to Transit Safety Measures." *Transportation Research Record* No. 1666 (1999): 133-138.
- Warr, Mark. "Fear of Victimization: Why Are Women and the Elderly More Afraid?" *Social Science Quarterly* 65, no. 3 (1984): 681-702.
- Wekerle, Gerda and Carolyn Whitzman. *Safe Cities: Guidelines for Planning, Design and Management*. New York: Van Nostrand Reinhold, 1995.
- Wilson, James Q. and George L. Kelling. "Broken Windows: The Police and Neighborhood Safety," March, 1982. *Atlantic Monthly* 249, no. 3: 29-38.

Women's Planning Network Inc. *Women's Transport Needs*. Victoria, Australia, July 1995. online at [http://www.wpn.org.au/researchresource/womenstransportneeds/Womens\\_Transport\\_Needs\\_Report\\_1995.pdf](http://www.wpn.org.au/researchresource/womenstransportneeds/Womens_Transport_Needs_Report_1995.pdf).

Zelinka, Al and Dean Brennan. *Safescape: Creating Safer, More Livable Communities Through Planning and Design*. Washington DC: American Planning Association Planner's Press, 2001.

---

## ABOUT THE AUTHORS

### **Anastasia Loukaitou-Sideris, Ph.D – Principal Investigator**

Anastasia Loukaitou-Sideris is professor and former chair of the Department of Urban Planning at UCLA. She holds a doctorate in urban planning and master's degrees in architecture and urban planning from the University of Southern California. Her areas of specialization are urban design, and physical and land use planning. She has published extensively on issues of downtown development, inner-city revitalization, cultural uses of parks and open spaces, transit-oriented design and transit safety. Her projects have been funded by the National Endowment for the Arts, Federal Transit Administration, California Department of Transportation, Poverty and Race Research Action Council, California Policy Research Center, the John Randolph and Dora Haynes Foundation, and the Mineta Transportation Institute.

Dr. Loukaitou-Sideris has served as a consultant to the Transportation Research Board, Federal Highway Administration, Southern California Association of Governments, Los Angeles Metro, South Bay Cities Council of Governments, Los Angeles Neighborhood Initiative, Robert Wood Johnson Foundation, the Transportation and Education Ministries of Greece, and many municipal governments on issues of urban design, land use and transportation, and higher education. She is the coauthor of *Sidewalks: Conflict and Negotiation over Public Space* (MIT Press: 2009) and *Urban Design Downtown: Poetics and Politics of Form* (University of California Press: 1998), and the coeditor of *Jobs and Economic Development in Minority Communities* (Temple University Press: 2006).

### **MEMBERS OF THE RESEARCH TEAM**

#### **Amanda Bornstein**

Amanda Bornstein holds a Master's degree from the Department of Urban Planning at UCLA. She has a B.A. in American Studies from Tufts University and a B.F.A. in Visual Art from the School of the Museum of Fine Art in Boston. Her research interests include how urban design can be used as a tool to improve safety and quality of life in neighborhoods.

#### **Camille Fink, M.A.**

Camille N.Y. Fink is a Ph.D. student in the UCLA Department of Urban Planning. Her interests include transportation safety and security; transportation equity; race, gender, and the built environment; and ethnographic research methods. She has a B.A. in sociology from the University of California, Davis, and an M.A. in urban planning from UCLA.

**Shahin Gerami, Ph.D.**

Shahin Gerami is Associate Professor in the Department of Social Sciences and Coordinator of the Program of Women's Studies at San José State University. She holds a law degree from the University of Tehran, and a Ph.D. in Sociology from the University of Oklahoma.

**Linda Samuels**

Linda Samuels is a Ph.D. student at the Department of Urban Planning at UCLA. She holds a Master of Architecture degree from Princeton University and a Bachelor of Design from the University of Florida. Before coming to UCLA, she taught in the College of Architecture at the University of North Carolina at Charlotte. Her current research considers the role of the road as a political space in the American built environment.

# MTI FOUNDER

Hon. Norman Y. Mineta

## MTI BOARD OF TRUSTEES

### Honorary Co-Chair

**Hon. James Oberstar** \*\*

Chair  
House Transportation and  
Infrastructure Committee  
House of Representatives  
Washington, DC

### Honorary Co-Chair

**Hon. John L. Mica** \*\*

Ranking Member  
House Transportation and  
Infrastructure Committee  
House of Representatives  
Washington, DC

**David L. Turney** \*

Chair/President/CEO  
Digital Recorders, Inc.  
Dallas, TX

**William W. Millar** ^

Vice Chair/President  
American Public Transportation  
Association (APTA)  
Washington, DC

**Hon. Rod Diridon, Sr.** #

Executive Director  
Mineta Transportation Institute  
San Jose, CA

**Ronald Barnes**

General Manager  
Veolia Transportation/East  
Valley RPTA  
Mesa, AZ

**Rebecca Brewster**

President/COO  
American Transportation  
Research Institute  
Smyrna, GA

**Donald H. Camph**

President  
California Institute for  
Technology Exchange  
Los Angeles, CA

**Anne P. Canby**

President  
Surface Transportation  
Policy Project  
Washington, DC

**Jane Chmielinski**

President  
DMJM Harris  
New York, NY

**William Dorey**

President/CEO  
Granite Construction, Inc.  
Watsonville, CA

**Mortimer Downey**

Chairman  
PB Consult Inc.  
Washington, DC

**Nuria Fernandez**

Commissioner  
City of Chicago,  
Department of Aviation,  
Chicago, IL

**Steve Heminger**

Executive Director  
Metropolitan Transportation  
Commission  
Oakland, CA

**Hon. John Horsley** #

Executive Director  
American Association of State  
Highway & Transportation  
Officials (AASHTO)  
Washington, DC

**Joseph Boardman**

President/CEO  
Amtrak  
60 Massachusetts Ave., N.E.  
Washington, DC 20002

**Will Kempton**

Director  
California Department of  
Transportation  
Sacramento, CA

**Brian Macleod**

Senior Vice President  
Gillig Corporation  
Hayward, CA

**Dr. Bruce Magid**

Dean  
College of Business  
San José State University  
San José, CA

**Stephanie Pinson**

President/COO  
Gilbert Tweed Associates, Inc.  
New York, NY

**Hans Rat**

Secretary General  
Union Internationale des  
Transports Publics  
Bruxelles, Belgium

**Vickie Shaffer**

General Manager  
Tri-State Transit Authority  
Huntington, WV

**Paul Toliver** #

President  
New Age Industries  
Seattle, WA

**Michael S. Townes** #

President/CEO  
Transportation District  
Commission of Hampton Roads  
Hampton, VA

**Edward Wytkind**

President  
Transportation Trades  
Department, AFL-CIO  
Washington, DC

\*\* Honorary

\* Chair

^ Vice Chair

# Past Chair

## Directors

**Hon. Rod Diridon, Sr.**

Executive Director

**Karen E. Philbrick, Ph.D.**

Research Director

**Peter Haas, Ph.D.**

Education Director

**Donna Maurillo**

Communications Director

**Brian Michael Jenkins**

National Transportation Security Center

**Asha Weinstein Agrawal, Ph.D.**

National Transportation Finance Center

## Research Associates Policy Oversight Committee

**Asha Weinstein Agrawal, Ph.D.**

Urban and Regional Planning  
San José State University

**Jan Botha, Ph.D.**

Civil & Environmental Engineering  
San José State University

**Katherine Kao Cushing, Ph.D.**

Environmental Science  
San José State University

**Dave Czerwinski, Ph.D.**

Marketing and Decision Science  
San José State University

**Frances Edwards, Ph.D.**

Political Science  
San José State University

**Taeho Park, Ph.D.**

Organization and Management  
San José State University

**Diana Wu**

Martin Luther King, Jr. Library  
San José State University



**MINETA**  
TRANSPORTATION INSTITUTE

Created by Congress in 1991



**SAN JOSÉ STATE**  
**UNIVERSITY**

Funded by U.S. Department of  
Transportation and California  
Department of Transportation

