VISION DISSONANCE IN LATIN AMERICAN TRANSIT REFORM

Gwen Averill Kash

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Approved by:

Daniel Rodriguez

Dario Hidalgo

Nichola Lowe

Nina Martin

Noreen McDonald

ABSTRACT

Gwen Averill Kash: Vision Dissonance in Latin American Transit Reform
(Under the direction of Daniel Rodríguez)

When planners and policymakers fail to understand community needs, they risk harming

vulnerable people. This dissertation examines the disconnect between transit users' self-

identified needs and city planners' assumptions about those needs in two sustainable transit

reforms in Latin America: (A) TransMilenio BRT in Bogotá and Soacha, Colombia and (B) El

Alto, Bolivia's attempt to regulate and formalize transit. I analyze the gulfs that can separate

planners from the perspectives of the planned-for through a theoretical lens I refer to as *Vision*

dissonance.

A stakeholder's Vision of a policy situation encompasses their definition of both the

substance of an issue and the processes viewed as appropriate for learning about and solving it.

Conflicts can occur not only due to overt differences in priorities or goals, but also due to latent

factors such as incompatible assumptions and norms about what information is considered valid

evidence. Vision dissonance builds an previous theoretical constructs such as paradigms,

framing, and ideology by analyzing how these components, often discussed individually, act in

concert to shape people's overarching visions.

The three papers that compose this dissertation illuminate how vision

dissonance can negatively impact the success and equity of sustainable transit reforms. In both

countries, I find that vision dissonance reduced planners' ability to meet transit users' needs.

The costs fell disproportionately on the most vulnerable users.

In El Alto, Bolivia, vision dissonance lead to the failure of an attempt to replace a dysfunctional informal transit network with Bus Sariri, a more sustainable municipal bus service. Because planners devalued local knowledge, they excluded community members from planning. As a result, a conflict over goals was revealed too late to resolve it. Bus Sariri collapsed in just four months, leaving *alteños* in poorly-served neighborhoods stranded.

Colombia's TransMilenio, the highest capacity Bus Rapid Transit (BRT) system in the world, is often considered a successful example of sustainable transportation reform. However, where planners viewed full buses as a sign of efficiency, users protested extreme crowding. Left unaddressed, this dissonance lead to a crisis: TransMilenio became so unpopular that planners had difficulty securing funding to improve service.

Finally, I examine vision dissonance in a single, socially-complex issue: transit sexual assault. Sexual violence is common in both transit systems, but more prevalent in the overcrowded TransMilenio. Unsafe transit restricts women's freedom of movement and reduces the wellbeing of sexual assault victims, with effects that may last years after an assault. However, many planners trivialized the issue by blaming or disbelieving victims. As a result, some dismissed both victim complaints and empirical data about the problem. The common belief that transit sexual assault is an imagined problem leads planners to leave women in real danger.

To my wife, Eva. You know what you did.

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INTRODUCTION

Efforts to improve the lives of marginalized people often fail when decision-makers incorrectly assume that they understand community members' needs. The failure to consult community stakeholders has been strongly criticized for depriving people of the right to advocate on their own behalf. However, exclusionary planning has an additional toll: it deprives planners of a learning opportunity to replace incorrect assumptions with a meaningful understanding of the challenges marginalized stakeholders face. Planners cannot address needs that they do not know exist.

I analyze the gulfs that can separate planners from the perspectives of the planned-for through a theoretical lens I refer to as *Vision dissonance* (Chapter 1[1]). A stakeholder's Vision is a mental model that converts a planning situation (Schön and Rein 1994) into a comprehensible problem and solution. Visions define both the content of a perceived problem and the processes viewed as appropriate for learning about and solving it. Conflicts can occur not only due to conflicting priorities, but also due to latent factors such as incompatible assumptions and norms about what information is considered valid evidence. While it may not always be possible, or even desirable, to fully overcome "deep divides" (Watson 2003) between Visions, exclusionary

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planning virtually guarantees that community members' self-identified needs will be a low priority (Ardila 2004, Arnstein 1969).

One arena in which the costs of exclusionary planning are evident is Latin American transportation planning. Though Latin American cities have been consistently recognized as leaders in sustainable transportation, internationally-emulated transit systems in countries such as Mexico, Brazil, and Chile have been subject to harsh criticism and protests at the local level. This apparent contradiction stems from the fact that planning practice in the region is still dominated by the rational planning paradigm, imported from the United States in the 1950s (Vasconcellos 2001, Bassett 2013). Even planners with progressive ends pursue their goals using techniques and practices that exclude community voices. As a result, the pursuit of sustainable transit *systems* has sometimes come at the expense of transit *users* (Ardila 2004). Examining two cases of Latin American transit reform, I ask the following questions:

- How consonant/dissonant are planners' and users' priorities for transport reform?
- How are underlying elements of stakeholder visions (such as framing, paradigms, and beliefs) creating dissonance?
- How does vision dissonance affect planning practice and outcomes in arenas such as communication, perceived legitimacy, efficacy, and equity?
- How do stakeholders overcome or fail to overcome Vision dissonance barriers?

The evolution of Vision dissonance

Bogotá, Colombia's TransMilenio BRT, one of the cases for this dissertation, epitomizes the threat Vision dissonance poses to the social sustainability of ecologically sustainable transportation. Since its launch in 2000, TransMilenio has been credited with popularizing BRT around the world (Suzuki et al 2013), and served as a literal 'gold standard' that continues to

influence industry evaluation criteria for BRT projects (ITDP et al 2016). To take one example, in 2005 TransMilenio was honored as the inaugural winner of the Sustainable Transport Award.

However, ten months before the award ceremony in Washington DC, five hundred TransMilenio users blockaded the busway for four hours. They demanded service improvements, and that TransMilenio stop treating passengers "like animals" (*El Tiempo* 2004). More protests erupted in the months and years after the award ceremony. By the time I first visited TransMilenio in 2011, more than 200 protests had occurred (*El Tiempo* 2010). However, planners were still largely unaware of the conflict between their priorities and those of most users (Kash and Hidalgo 2014). Though planners and public officials routinely dismissed the blockades as not representative of 'real' transit users, surveys consistently found that satisfaction with TransMilenio was plummeting, largely due to crowding and other quality of service issues identified by protestors (e.g. BCV 2017).

By the time I returned to Bogotá in 2015, TransMilenio's consistent inattentiveness to user perspectives had precipitated a crisis. System popularity was at an all-time low. *Bogotanos* elected a mayor who described TransMilenio as "collapsed," and advocated redirecting resources to the planning of a metro. TransMilenio lacked financial resources and political capital to address the intensifying crowding and deteriorating travel times. Further complicating the threat to the system's financial sustainability, fare evasion had become endemic; planners estimated that 10-15% of trips each day were from users who did not pay. Transit users' views of TransMilenio had deteriorated so badly that many viewed efforts to address fare evasion as a cynical cash grab, and did not trust the agency to focus on improving the quality of service. While local planners now recognize the severity of the situation, in the most recent BRT

evaluation standard (ITDP et al 2016), TransMilenio was once again honored internationally with inclusion in the BRT Awards Showcase.

Over the four years between my visits, most planners had become aware of users' main complaints. However, the Vision dissonance between planners and the planned-for had not evaporated; it had simply evolved. Originally, planners were unaware that their perspectives differed from users. Now, they were aware of this difference, but interpreted it in two ways. Some planners concluded that users were simply wrong about their needs. This type of Vision dissonance is strongly encouraged by the technocratic paradigm, which devalues local knowledge and user perspectives. Planners' understanding of crowding is a good example of the evolution between these two types of dissonance. In 2011, planners described pointed to high occupancy levels with pride; as one put it, "we're moving the city." By 2014, planners had stopped describing the crowding as a *sign* of success and concluded that TransMilenio was instead a *victim* of success. Planners using this narrative sometimes came to the conclusion that despite users' complaints, the fact that so many people chose TransMilenio indicated that users were not nearly as bothered by crowding as they claimed. (Users, in contrast, expressed frustration that, much as they disliked TransMilenio, other options were even worse).

The third type of Vision dissonance is more subtle because the planners displaying it had accepted the validity of many user complaints, and to varying degrees, agreed that they were high policy priorities. However, while planners agreed with users' assessment of specific problems *with* TransMilenio (increasing travel times, excessive crowding, insufficient supply to accommodate growing demand), many planners embedded these complaints in a narrative about the overarching problem *of* TransMilenio that continued to put them at odds with users:

> There was a beautiful thing when we launched TransMilenio for the first time… which is that it was sacred. People behave themselves in sacred places, the church, the synagogue,

wherever, because they're sacred places to them... But since the quality of service has deteriorated, the people disrespect it, and then we start to disrespect each other. We have a big job to recover and make it so people love the system, so they feel proud, so they see that they can do things to make the city better. -Planner, Bogotá

This lyrical description of a lost golden age typifies a narrative that punctuated the otherwise prosaic comments of the planners and engineers interviewed. Though the story has a few variations, it is remarkably consistent, crossing years, academic backgrounds, and areas of expertise. The fundamentals are as follows:

When TransMilenio first opened, it was beloved to the people. They felt a sense of pride and ownership of the system. That love has evaporated. Users no longer feel the system belongs to them. They no longer respect it. This disrespect causes behaviors that pose an existential threat to the system, particularly fare evasion. Users also behave disrespectfully towards each other. To move forward, planners feel they must convince users to claim ownership for TransMilenio, to love it once again. In other words, the goal is to get users to see the truth that planners already see.

Given that many users dispute the idea that such a golden age ever existed, the quest to convince them to love TransMilenio is perhaps a bit quixotic. However, among planners who view service improvements as the path to redemption, the dissonance of the "lost love" narrative may not necessarily lead to conflict. Others, however, viewed the loss of love as cause of TransMilenio's decline rather than the effect.

For political, technical, and social reasons, people have stopped appreciating TransMilenio. How does this manifest? In a large number of people evading the fare, in an invasion of pedestrians, cyclists, motorcycles, and cars in our exclusive lanes, in the growing number of ambulatory vendors in the system... and so this discrediting, this loos of reputation of the system has made users have bad behaviors that make operations difficult. Because fare evasion [by running across the busway] isn't a financial matter. ...It puts people's lives at risk and it diminishes operating speeds.... So we don't just have to maximize limited resources, we also have to look for ways to make people

appreciate the service and combat these bad behaviors in the system. -Planner, Bogotá

Users, in other words, are not responding only to technical problems. Rather, planners argue that their views have been shaped by outside forces, such as a mayoral candidate who characterized TransMilenio as beholden to the financial interests of the "families" who operate it. The bad behavior sparked by these forces lead to a sort of tipping point, sending the service into free fall. As one put it:

> Sometimes the users themselves are the ones who are in charge of the deterioration of the system, the ones who are in charge of breaking the rules, the ones who are in charge of taking actions against the system, and [then] they complain!

For planners who attribute bad service to bad behavior, and bad behavior to a loss of love, the solution is not to improve the service, at least not directly. The solution is to make users love TransMilenio so that they will stop making service bad. This belief, that users should learn to see what planners see, but not the other way around, is at the heart of most of the conflicts discussed in this dissertation.

About this dissertation

The three papers that comprise this dissertation use the Vision dissonance frame to examine the disconnect between planners' assumptions about transit users' needs and users' self-identified needs in two sustainable transit reforms in Latin America: (A) TransMilenio and (B) Bus Sariri, a recent unsuccessful attempt to formalize bus transit in El Alto, Bolivia. These cases illuminate different facets of Vision dissonance at various stages of planning, implementing, and operating sustainable transit. I examine conflicts between Visions at a broad scale – the overall problem of transportation – and with a more intimate view of a single, socially-complex issue: sexual assault on transit. Vision dissonance can show up when planners and transit users do not

have information about each other's views, but also when a failure to agree on the nature of the problem leads to a rejection of other people's perspectives.

The three papers are built on a shared mixed-methods dataset collected between 2014-2016. In each country, I studied a pair of cities: the capital and an adjacent "overflow" city that has expanded in recent years due to a lack of space in the capital. As detailed in Appendix 1, the data collected in each country includes an intercept transit user survey; qualitative 'in transit' field interviews conducted with transit users; extended interviews with transit users; extended interviews with transit planners; and heterogeneous focus groups mixing users and planners. This data, some of which was collected collaboratively with local organizations, is supplemented by participant-observation of interactions with planners. These multiple sources reinforce each other, maximizing both breadth and depth. Each chapter lists only the portion of the dataset used in formal analysis for that chapter, but analysis is informed by the more comprehensive dataset.

In **Chapter 1**, I describe the Vision dissonance frame and use it to explain the failure of El Alto's Bus Sariri. The strength of the framework is that it allows us to account for the multiple elements that shape people's perspectives both independently and by influencing each other. Bus Sariri stalled because of a conflict over route design. However, underneath this concrete disagreement, planners and community leaders also had incompatible *framings* of what the problem with transportation 'really' was (Schön and Rein 1994) and *theorizations* about who transit users 'really' are (Strang and Meyer 1993).

This multilayered conflict was compounded by incompatibilities between planners' and community leaders' *paradigms* (Kuhn 1962), or "shared beliefs within a community . . . about which questions are most meaningful and which procedures are most appropri- ate for answering

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those questions" (Morgan 2007, 63). *Alteño* Planners operated within a technocratic paradigm, which privileged the results of technical, 'rational' studies above all other kinds of information. Community leaders were frustrated because they felt the studies were incomplete, and wanted to extend them by incorporating local knowledge that the planners dismissed as anecdotal and irrelevant (Corburn 2005).

Bus Sariri is an unusual case because El Alto's planning agency was relatively weak, while the interests of transit users were represented by a strong grassroots organization. This is the inverse of a more typical Latin American transit planning process, including TransMilenio. However, the unusual circumstances throw into sharp relief a problem that manifests more quietly in many other cases: the views of the planners and the planned for were incompatible (Scott 1998).

The remaining chapters focus on transit sexual assault, which is both an urgent policy issue and an exemplar of a complex issue where the divides between stakeholders are sharp and shaped by multiple components of Visions simultaneously.

Chapter 2 documents the epidemic of transit sexual assault in both TransMilenio and El Alto's existing informal transit. The effects of sexual assault on victims' behavior and wellbeing are documented quantitatively and qualitatively. The effects of transit sexual assault on victims are poorly understood among both planners and researchers. The most common approach is to focus on the *fear* of crime, with a presumption that crime itself is rare. Unfortunately, transit sexual assault is common in cities around the world (e.g. de Jubainville and Vanier 2017; Dunckel-Graglia 2013; Gekoski et al. 2017; Horii and Burgess 2012; Stringer 2007; Tripathi et et al 2017). TransMilenio and El Alto's informal transit are no exception; 37% and 22% of female transit users have been victimized, respectively. Contrary to popular imagination, most

assaults occur on crowded vehicles and platforms, often at rush hour (Ceccato and Paz 2017, Ball and Wesson 2017).

Studies of the fear of crime focus on improving women's mobility in isolated environments, largely following Jacobs' (1961) recommendation to encourage more 'eyes on the street' (e.g. Loukaitou-Sideris 2014). While this approach is effective for easing women's fear at isolated transit stops, women who have been assaulted at rush hour surrounded by hundreds of potential witnesses are painfully aware that numbers are far from 'safe.'

Chapter 2 does not directly address Vision dissonance. The needs of transit sexual assault victims are urgent, and their perspectives are so poorly understood that it is worth devoting an entire paper to documenting victims' experiences and analyzing their Visions not in comparison to planners, but to transit users who have not been victimized. This helps differentiate the effects of sexual assault from the more general fear of insecure transit.

Chapter 3 returns to the theme of Vision dissonance by contrasting planners' views of transit sexual assault with the Visions of victims that were documented in Chapter 2. I find that the Visions of (mostly male) planners are completely divorced from those of (mostly female) victims; even when provided with evidence to the contrary, many planners maintained that transit sexual assault is not an urgent problem, or not a problem at all. These attitudes were based on five common *deproblematizing beliefs*: (1) most victims are mistaken or lying; (2) groping and sexual rubbing, the most common types of assault do not seriously harm victims; (3) victims incited their attackers; (4) assault is natural and unchangeable; and (5) responsibility for addressing transit sexual assault lies outside the domain of planning. Though most of these pre-existing beliefs are demonstrably false, they were strong enough to bias planners' absorption of new information about sexual assault. For example, technocrats who normally favor quantitative

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evidence rejected statistics about sexual assault on the grounds that victims' self-reports cannot be trusted.

Despite the evidence that planners' views, like those of every human, are shaped by gender and other social factors, technocratic planners view themselves as immune to such subjective forces as values, personal experience, and pre-existing beliefs. Herein lies the greatest danger of the technocratic paradigm: planners who are convinced of their own objectivity dismiss the lived experiences of the most vulnerable community members not just as unimportant, but as untrue. Accordingly, they react to complaints about transit sexual assault as if the problem were imaginary, leaving women vulnerable to real, measurable harm.

Having established that planners' pre-existing Visions of transit sexual assault are a serious obstacle to addressing the problem, I consider how advocates can make progress nevertheless. I suggest that researchers and advocates should present information to planners with consciousness of their audiences' likely pre-existing beliefs and biases.

Misconceptions based on deproblematizing beliefs should be proactively countered with data. For example, many male planners do not have the quotidian experience of attempting to discern the intentions of the passenger next to them. They may therefore have no awareness of strategies that are so obvious to female transit users and advocates that they seem unnecessary to describe. However, lacking this information, many planners base their skepticism about sexual assault on the perceived inability of women to distinguish between assault and normal crowding-related contact. In reality, women interviewed described a long list of specific criteria they use to distinguish between assailants and innocents. Providing information that empirically but nonjudgmentally addresses a myth about transit sexual assault might decrease planners'

skepticism and increase the likelihood that they will accept statistical data and other information about the problem.

Together, the three papers of this dissertation document the damage planners can do by failing to listen to and learn from the people they hope to help. A planning project might fail and the proposal or implementation stage. A reform might be enacted and prove unpopular. Even a 'successful' project may contribute to injustice if planners fail to identify and meet the needs of vulnerable minorities. The technocratic paradigm plays a prominent role in Vision dissonance conflicts discussed here for two reasons. First, because it discourages planners from seeking, hearing, or heeding community perspectives, the technocratic paradigm is a major source of dissonance between planners and communities. Technocracy encourages planners to consider their own assessments to be objectively true, delegitimizing any objections as factually incorrect. Additionally, the technocratic preference for quantitative evidence predisposes planners to devalue local knowledge, which typically fails to conform to technocratic norms. Technocratic planners are less likely to view community members as legitimate sources of information. They are therefore less likely to see value in seeking public input, insulating them from the information needed to bridge the divide between planners and the communities that many genuinely want to help. In sum, if planners hope to improve understanding of community needs, it is critical to address technocracy's contributions to Vision dissonance.

The second reason I focus on the technocratic paradigm is pragmatic: almost all of the planners I encountered were technocrats. This is not the case for every planning institution, so it is important to note that Vision dissonance can exist without technocracy. Paradigms are only one component of Visions, and more than two paradigms exist. In the conclusion, I will briefly

consider the potential of the Vision dissonance framework for extending our understanding of

other types of planning processes, for example communicative planning.

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CHAPTER 1: VISION DISSONANCE: CONFLICTING CONCEPTIONS OF BUS SARIRI[2]

1.1   INTRODUCTION

On March 10, 2015, the mayor of El Alto (EA), Bolivia met with leaders from a local civic organization to discuss Bus Sariri, a municipal mass transit system that had launched the previous week. The community representatives were unhappy with the routes chosen by municipal planners. They presented the mayor with a paper map on which they had drawn an alternate route proposal. The mayor agreed to adopt the proposal, and two days later, all the Sariri buses convened in front of city hall. The representatives boarded the buses and guided drivers along their new routes. Municipal planners were excluded from the process, only learning the specifics of the new routes the following day by driving behind the Sariri buses. This dramatic overnight change sent a shock wave through an already-struggling system, contributing to Bus Sariri's total collapse within four months.

Local planners attributed the system's failure in large part to this "interference" from the community leaders. However, I argue that Bus Sariri's failure was driven not by too much public involvement, but by too little. While there was basic agreement about the necessity of transit reform, the municipal Vision and goals for Bus Sariri diverged strongly from those of transit users and the civic organization representing them. Because the municipality declined to include meaningful opportunities for participation in planning, these incompatible visions remained submerged until it was too late to reconcile them, destabilizing Sariri's implementation.

The sudden pivot from listening only to planners to listening only to community leaders

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[2] This chapter first appeared in the Journal of Planning Education and Research. It can be found at http://journals.sagepub.com/doi/10.1177/0739456X17745974

makes Bus Sariri an unusual case. In most Latin American transport reforms, there is no strong

actor representing the views of transit users (Ardila 2004, Bassett 2013). However, the unusual

circumstances throw into sharp relief a problem that manifests more quietly in many planning

and policy processes: the views of the planners and the planned-for were incompatible (Scott

1998).

To analyze the conflict, I construct a theoretical framework I refer to as Vision

dissonance (Kash and Hidalgo 2014). A stakeholder's Vision[3] of a policy situation is their mode

of seeing and articulating a problem and its solution. Though the conflict in Bus Sariri

manifested as a disagreement over routes, it was rooted in latent differences in stakeholders'

framings of the problem, paradigmatic assumptions about appropriate methods for identifying a

solution, and theorizations about who *alteños* (residents of El Alto) 'really' are.

I begin by discussing public involvement in developing cities. I next explain the Vision

dissonance framework and its relationship to existing theory, particularly communicative

planning. I use the framework to analyze how incompatible municipal and community Visions

precipitated the conflict that overwhelmed Bus Sariri. I argue that in cases characterized by

stark divisions between stakeholders and their perspectives, reaching full understanding may not

be possible. We therefore need theory that allows for the possibility of identifying *solutions*

without requiring Visions of the *problem* to fully align. The Vision dissonance framework

provides a lens for constructing a non-idealized account of communication within actual

planning processes, diagnosing problems and identifying ways forward.

1.2   BACKGROUND

1.2.1   Public involvement in Latin American transport planning

As in much of the global south, "rational planning" tools, imported to Latin American cities in

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[3] I use capitalization to differentiate this definition from more general uses of the word "vision" such as sight or imagined future, as in community visioning.

the 1950's, still dominate planning processes in the region, especially in the transport sector (Watson 2009, Vasconcellos 2001, Bassett 2013). Rational planning has been criticized for being undemocratic, camouflaging political decisions under a veneer of objectivity by treating complex social issues as empirically solvable problems (Jacobs 1961; Rittel and Weber 1973; Krumholtz 1982).

The inherent weaknesses in the rational planning model are magnified by the weak democracy and stark inequality characterizing many Latin American countries (Vasconcellos 2001). While transit users remain the majority in most Latin American Cities, many cities have been reshaped to benefit auto users (Vasconcellos 2001). Even in public transit planning, as compared to more powerful stakeholders such as transport operators, transit users often shoulder a disproportionate share of the burdens of reform relative to the benefits they receive (Ardila 2004).

These problems can best be addressed by bringing the perspectives of users, particularly marginalized subgroups, into the planning process through some form of public involvement, used here as an umbrella term for techniques that solicit the perspectives of community stakeholders in a planning or policy process (Wekerle 2005, Hook 2011). Under the dominant theoretical approach to public involvement in planning, communicative action, planners help stakeholders overcome communication distortions in order to reach shared understanding and consensus, transforming relationships in the process (Forester 1989, Innes 1996, Healey 2006, Willson 2001).

However, the question of how to communicate effectively across deep divides remains unresolved. Watson (2003) argues that "the reality of fundamentally different worldviews and different value-systems is still often treated as superficial in planning theory" (396). Particularly in developing countries, the gulf between perspectives of the planners and the planned-for is wide, growing, and potentially insurmountable (Watson 2003, Vasconcellos 2001). Planners

may be unable to overcome entrenched interests and power dynamics (Flyvbjerg 1999, Huxley 2000, Abram 2000). In many cases, stakeholders have strong incentives *not* to act in accordance with the communicative process, protecting real interests by communicating in strategic or dramaturgical fashions (Phelps and Tewdwr-Jones 2000); this reinforces existing power imbalances (Fainstein 2010, Higdem and Hanssen 2014). Because communicative planning underestimates the magnitude and complexity of these problems, it does not provide adequate theoretical or practical guidance for understanding communication barriers.

Communicative planning also assumes that planners are the ones to initiate and guide participation (Willson 2001), which may not always be an appropriate role (Huxley 2000). Because many planners in developing countries are skeptical of the benefits of public involvement (Dotson 2011), it is important to recognize that protests and organizing by excluded stakeholders are legitimate forms of participation (Vasconcellos 2001, Ardila 2004, Alinsky 1971).

1.2.2 Vision dissonance

Theorists from many disciplines have examined communication barriers using a number of often-overlapping constructs, including framing (Schön and Rein 1994), ways of knowing (Corburn 2005, Irwin 1995), paradigms (Kuhn 1962), and conflicting rationalities, logics, and storylines (Watson 2009, Stark 2009, Peters 2003). The Vision dissonance framework synthesizes and builds on these threads.

A stakeholder's Vision is their mental model of a policy situation. Dissonance between Visions can prevent an effective exchange of views by shaping how participants speak, understand, and interpret information. A Vision is a compound lens, composed of (1) overt (if sometimes unstated) differences in normative philosophies and goals and (2) latent differences in factors such as framing, evaluative criteria, assumptions, communication styles, cultural context, and norms about what constitutes 'good' evidence. One major contribution of the Vision

dissonance framework is that it facilitates analysis of how these multiple elements simultaneously shape a stakeholder's Vision, both independently and jointly. For this study, I focus on three elements of Visions.

1. Frames. Frames are tacit "underlying structures of belief, perception, and appreciation" on which explicit policy positions rest (Schön and Rein 1994, 23). A frame is a story that transforms a situation into a problem into a solution (though not necessarily in that order). While each individual's frame may be slightly different, organizations play a large role in shaping the frames employed by their members.

Visions and speech are not synonymous. Frames can also be used to convince other actors. These 'rhetorical frames' (Schön and Rein 1994) may accord with privately expressed Visions, or may reflect strategic choices (Phelps and Tewdwr-Jones 2000, Peters 2003, Higdem and Hanssen 2014). My analysis here focuses on frames in their capacity for private meaning-making.

2. Paradigms. Whereas frames are content-oriented (what is the 'right' answer?), paradigms focus on process (how do we *identify* the 'right' answer?). Paradigms (Kuhn 1962) are "shared beliefs within a community… about which questions are most meaningful and which procedures are most appropriate for answering those questions." (Morgan 2007, 53). They define what methods and information are considered legitimate. Rational planning, for instance, is guided by a positivist, 'technocratic' paradigm that privileges quantifiable data.

Paradigms are inherently value-laden; a question worth asking denotes a problem worth solving. Technocratism generally venerates modernity. Particularly in developing countries, this can feed what Watson (2009) refers to as a "conflict of rationalities – between the logic of governing and the logic of survival" (p. 2268).

Paradigms shape what information an actor is likely to seek and reject. The technocratic paradigm privileges quantitative information. This can create conflict with actors who prioritize

local knowledge, the expertise of members of an affected community (Corburn 2005). As compared with technical ways of knowing, local knowledge tends to explicitly rely on first-hand experience, narratives, and other forms of information often rejected as "unscientific" by technocratic stakeholders. Local knowledge advocates are not anti-empirical, but argue that technical studies are incomplete when they exclude relevant local knowledge.

Paradigms guide, but are not synonymous with, practice. A technocratic planner is likely to gravitate towards 'rational' planning techniques, whether or not they successfully produce 'rigorous' analysis. A technocratic planner will avoid public involvement because the local knowledge such involvement could elicit is not valued. If community advocates manage to demand a seat at the table or if local laws require participation, the technocratic planner will be disinclined to listen to or incorporate community concerns unless they can be presented in the form of "hard" evidence (Tauxe 1995, Corburn 2005). Conversely, a stakeholder acting in accordance with a paradigm that values local expertise will prioritize creating opportunities to learn from and with community members.

3. Theorizations. When considering the needs of transit users, planners, like their peers in other policy sectors, necessarily rely on simplified theoretical abstractions, or *theorizations* positing similarities among categories of actors (Strang and Meyer 1993). For example, when planners consider the needs of the people who will use a transit system, their point of reference is not thousands (or millions) of unique individuals, but a theorized Transit User, perhaps subdivided into further categories such as Captive versus Choice Rider. Other actors in the process, including users themselves, will have their own theorizations.

Theorizations often "substitute for close, inductive examination of the experiences of others" (Strang and Meyer 1993, 499). Especially in professions that prioritize international best practices, theorizations of the local may be based largely on international examples. Incorporating information from local stakeholders can make theorizations more accurate and "socially robust" (Gibbons 1999).

Visions and their constituent elements rest on non-empirical assumptions and values; some of these are incommensurable, or irreconcilable (Kuhn 1962, Schön and Rein 1994). As a result, a conclusion that seems obvious when following the logic of one Vision may be impossible to prove within the boundaries of another. Some suggest that communication across Visions can be accomplished through a form of world-view translation (Kuhn 1962, Schön and Rein 1994, MacCallum 2008). Others feel that in situations of "deep difference" (Watson 2003), full mutual understanding may be impossible, and suggest that dissonance could actually improve outcomes (Stark 2009, Mouffe 1999, Phelps and Valler 2016). Unfortunately, in the following case, neither mutual understanding nor cooperative action were achieved.

1.2.3 Case background: El Alto, Bolivia

El Alto, Bolivia began as an outgrowth of La Paz (LP), the capital of Bolivia and became an independent municipality in 1985. With slightly over 1,000,000 residents, EA has outgrown its parent. EA was a dormitory city for LP, but job opportunities within EA have increased.

The center of EA's economic and cultural life is the La Ceja neighborhood. La Ceja is home to many universities, civic organizations, and one of the largest outdoor markets in Latin America. Because EA is bisected by the region's airport, La Ceja is also the main connection point for transport between the north and south sides of the city and the primary transport hub to LP. The streets are permanently congested. As we will see, La Ceja's dual role as city center/transport problem is critical for understanding the conflict over Bus Sariri.

Before Sariri, all public transport in EA was provided by informal operators (*transportistas)*, who either own their vehicle or lease it from a small company. Drivers derive their incomes from the fares they collect. The system is one of the most atomized in Latin America, dominated by what the locals call minibuses: vans that have been modified with foldout seating to legally hold 14 people, including the driver. A minority of service is provided by 36-passenger "microbuses" (Pando Solares 2012).

Alteños suffer from many problems common to informal transit (Pando Solares 2012, Cervero and Golub 2011). In search of profit, drivers allow an excess of passengers to board and neglect vehicle maintenance. They abandon unprofitable routes, leaving residents of some marginalized neighborhoods without transport. Additionally, the *transportistas* are organized into powerful unions. They have successfully resisted many government attempts at reform by staging strikes that paralyze the entire city. However, the unions' power has occasionally been overcome when the municipality has allied with a powerful civic organization, The Federation of Neighborhood Associations (FEJUVE).

Fares range between Bs1-Bs2.50 (USD 0.14-0.36). The poorest *alteños* pay an average of 48% of their income on transport due to low wages and a locally-widespread practice called route partitioning (Pando Solares 2012). Drivers partition routes into shorter segments, obliging passengers to disembark at an intermediate point and pay a second fare to continue. Most drivers

turn around to collect more passengers (illegal short turning), but some continue on the same route after illegally collecting additional fares.

The whole metropolitan area is working to modernize the transport system. In early 2014, LP began operating PumaKatari, an intra-city surface bus service named for an indigenous mythical creature. A *teleférico* (aerial tram), operated by the national government, began linking EA and LP a few months later. However, due to the inconvenient locations of terminals and the relatively high cost (twice that of a minibus), many residents view it as a tourist project.

Bus Sariri, from the Aymara word for "traveler," was EA's entry into transit reform. Like PumaKatari, Sariri was a municipally run surface bus service, with the goal of eventually enabling the implementation of Bus Rapid Transit (BRT). Though it would operate only within EA, Bus Sariri was also expected to connect *alteños* with transit options to LP. After several delays, the first two lines began operating on March 3rd, 2015. However, despite strong support from both government and community stakeholders, in less than four months, Bus Sariri collapsed. Plagued by low ridership and maintenance and budget issues, only ten of the original sixty buses were still in service as a new mayoral administration contemplated Sariri's fate.

Four groups of stakeholders are relevant to analysis:

1. The Municipal Secretary of Sustainable Urban Mobility (SMMUS[4]), the government organization tasked with regulating existing public transport and planning and operating Bus Sariri. During Sariri's planning phase, the head of SMMUS was Daniel Fernández.

2. The Federation of Neighborhood Associations (FEJUVE), a grassroots organization with representatives from each neighborhood in the city. Their goal is to represent the needs of ordinary *alteños*. FEJUVE's transport committee, headed by Renán Cabezas, was vocal and active during Sariri's planning and implementation.

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[4] This organization was formerly known as the Municipal Secretary of Urban Mobility and Transport. For clarity, I use its new name throughout.

3. <u>Unaffiliated users and potential users</u> of Bus Sariri, the intended beneficiaries of the project. This group did not participate directly in Sariri's planning, but as I will establish, FEJUVE's platform closely matched users' self-identified needs.

4. <u>Informal transport operators</u>, who viewed Sariri as a threat to their livelihood.

1.3 METHODS

I conducted fieldwork in EA in two visits totaling 6.5 months. The first (2014) was during the late stages of planning for Sariri . The second (2015) began three months after Sariri's launch, by which point the system was already encountering serious difficulties. I conducted 36 extended interviews with transport planners (mostly SMMUS staff), members of FEJUVE's transport committee, and unaffiliated transit users. Informal transport operators were not directly interviewed. With a research assistant, I also conducted 62 semistructured "in-transit" interviews of approximately 5-15 minutes with users as they waited for or took public buses, a technique drawing from sociological mobile methods (Buscher and Urry 2009).

I also collaborated directly with SMMUS for a survey of 851 public transit users in 2014. The collaboration created an opportunity to engage in supplementary participant observation, providing additional insight into the work and challenges facing local planners. Uncited information in this paper is drawn from these data sources.

I begin analysis by comparing the perspectives of SMMUS, FEJUVE, and unaffiliated transit users on the problem of transport and goals for Sariri. The Visions of users are summarized by selecting the most common issues mentioned in the survey and in-transit interviews. To describe the visions of SMMUS and FEJUVE's transport committee, I focus on the views of the head of each organization. Fernández and Cabezas serve as official spokespeople and archetypal examples of their respective organizations' ethos. The comparison is also useful because the two men's lives have followed parallel trajectories in several important

respects: both grew up working-class in El Alto and went on to obtain advanced degrees and assume leadership roles in influential organizations. The differences between them, then, cannot be attributed merely to differences in power or level of education.

While perspectives within each organization were not monolithic, the tendencies discussed below were also found in interviews with colleagues and subordinates, whose voices I incorporate where appropriate. Though focusing on the leadership minimizes the ability to discuss *intragroup* differences, it facilitates analysis of *intergroup* differences.

As I delineate the municipal and community Visions of transportation and describe the process of planning and implementing Sariri, I draw attention to the conflicting frames, paradigms, and theorizations underlying stakeholder Visions. I illuminate how these elements of Vision shaped each organization's platform, their process of arriving at it, and the two groups' increasingly conflictual interactions.

1.4   PRE-IMPLEMENTATION PERSPECTIVES

In the months before Sariri launched, most stakeholders, including many *transportistas* (Pando Solares 2012), agreed that the quality of transit service was unacceptable. Though some *transportistas* viewed Sariri as a threat to their livelihood, all other stakeholders believed transport reform should include municipally-run transit. Despite this broad agreement, SMMUS and FEJUVE differed sharply on their views about what Sariri should accomplish.

Both SMMUS and FEJUVE claimed to speak on behalf of transit users and, as the implementation became increasingly contentious, sought to discredit each other. I assess these claims of representing 'the people' by evaluating how participatory each organization was, and how closely their positions matched unaffiliated transit users' preferences.

While SMMUS leadership is appointed by elected officials, there are no vehicles for users to participate directly in planning. Nominally, the survey included in this report (conducted in collaboration with SMMUS) was a low-grade form of public participation.

However, it suffered from the weakness identified by Arnstein (1969): officials were under no obligation to act on the findings. Rather than using the survey to learn about user preferences, findings were used in statements to the press to bolster SMMUS's pre-existing positions. While SMMUS occasionally held public meetings, staff described them as opportunities to secure cooperation with pre-set plans.

FEJUVE, in contrast, is open to all *alteños*, and has members of all income levels from across the city. It is an amalgamation of several hundred independent Neighborhood Councils, which have varying procedures for choosing representatives and making decisions. Measures are in place to encourage women's leadership, though indigenous women are still somewhat underrepresented. While FEJUVE does not always achieve its aim of fully democratic representation, it is a strong grassroots advocacy organization.

Because of FEJUVE's power, it is also sometimes able to demand meetings with SMMUS. In the face of a municipal body that actively avoided providing opportunities for public involvement, FEJUVE was virtually the only vehicle by which community perspectives penetrated the otherwise closed planning process for Bus Sariri. As we will see, FEJUVE's participatory procedures generated a platform that closely matched public opinion about the problems with transport.

1.4.1 The problem of transport

Interviews and surveys of transit users began with the same open-ended question: What are the main problems with public transport in EA today? Results from the two methods largely coincided (Figure 1.1)[5]. The four main concerns as measured with both instruments are route partitioning, travel times, cost, and mistreatment by bus operators (including discrimination).

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[5] Survey responses were field coded by interviewers and blind recoded by data entry staff. The interviews were coded from a full transcript. In the survey, "Lack of control" over *transportistas* was coded as "Mistreatment."

Partitioning, it should be noted, is deeply entwined with the other problems listed. Users must pay multiple fares, greatly increasing user costs. It increases travel time and unpredictability by adding transfers, and is viewed as an egregious form of mistreatment.

FIGURE 1.1 Principal problems with public transit in El Alto according to users
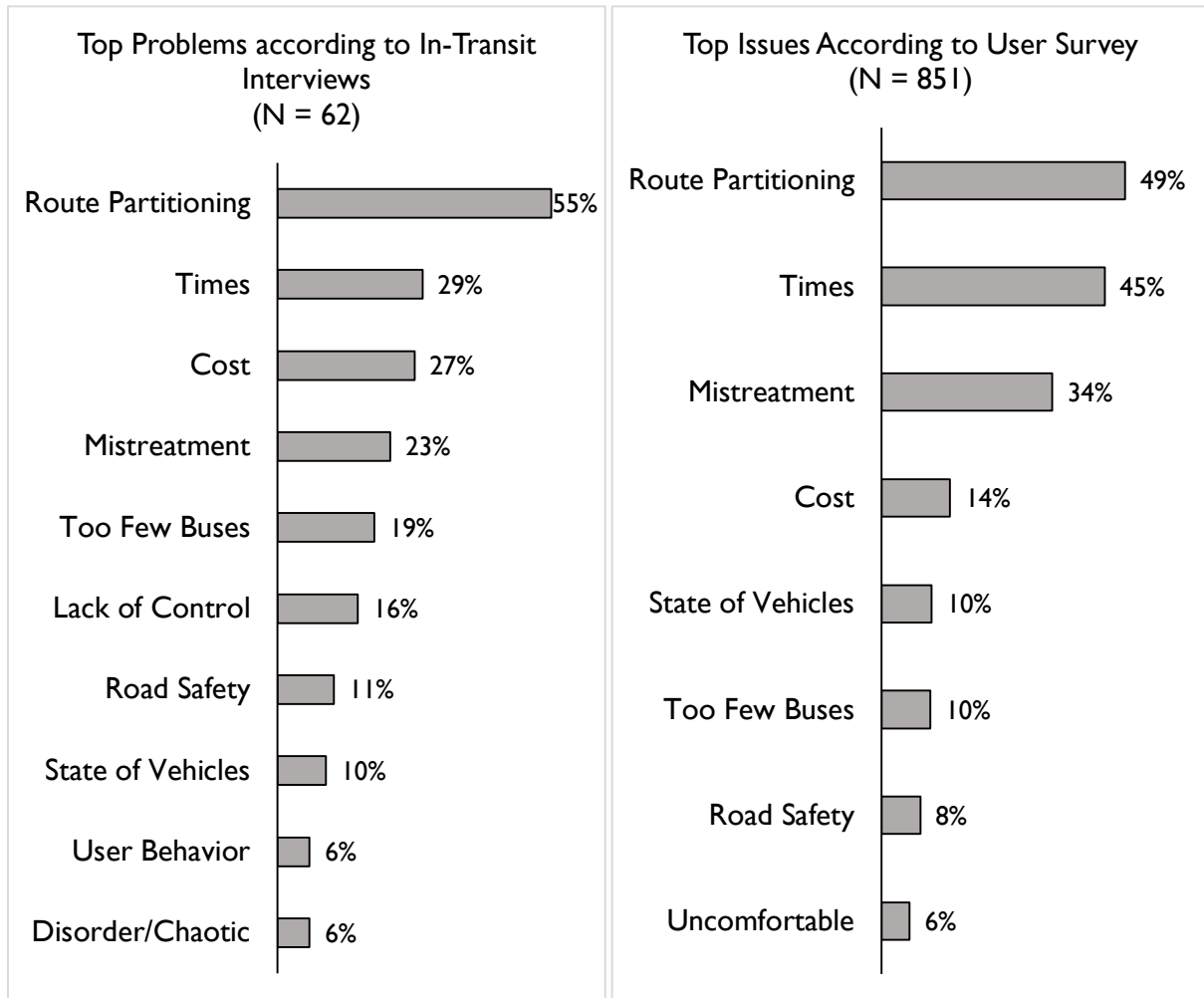
Table 1.1 displays excerpts of in-transit interviews chosen to represent typical user perspectives and contrasts them with the views of Cabezas (FEJUVE) and Fernández (SMMUS). Quantitatively, both Fernández and Cabezas addressed most of users' principal concerns[6]. However, on two critical issues, Fernández's views clash with those of most users.

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[6] Neither mentioned road safety and Cabezas did not mention the state of vehicles.

TABLE 1.1 Perspectives on existing public transit

	Transit Users	Renán Cabezas (FEJUVE)	Daniel Fernández (SMMUS)
Route Partitioning	Route partitioning is the biggest problem. Drivers charge by sector, so we end up spending more…. By force, we have to get off and take another bus. Sometimes when we work in La Ceja, for example, we have to take two or even three vehicles to get home.	The driver turns around where it's convenient, leaving passengers to their luck to try and take another vehicle.	It's not that they obligate you, it's that they tell you, 'I'm going to wait [in this queue] until my bus is full,' …and people say 'I don't want to lose an hour… I'll get off and get on the vehicle at the front of the queue and continue my trip.' This used to be half-accidental, but now it's become a custom.
Cost	It's a little difficult for us. Sometimes we've counted our coins really well, and the drivers raise the price, and it affects our pocketbook. They charge section by section… so the cost is double or triple. Those of us who live in the periphery live it more than anybody.	If service gets better, would people pay more? No! Where would we get the money to pay more? …. When a neighbor goes from a distant neighborhood to another distant neighborhood in LP, they pay many fares for many sections… It can add up.	[If] we let the operators raise the fare…, even if I think the increase is fair… people get mad because on top of the bad service, we're rewarding the drivers with a fare increase.
Mistreatment	A man can board quickly. There isn't consideration for women, children, and the elderly… When you're pregnant, with a baby, sometimes with bags… the drivers want to make you beg. They don't want you to get on their bus.	Sometimes they carry us as if we were products and not people. And they won't pick up *señoras de pollera* [indigenous woman], who always carry their *bulto* [traditional bundle], because the *bulto* occupies a space. Or they won't pick up people with children.	Some of [the drivers] discriminate… They see children and know they will pay a little less and don't pick them up. They see elderly people who will be slow to board and don't pick them up.
Times	There are lots of traffic jams, and one wants to go fast. In La Ceja, you can be jammed for 10 minutes… sometimes we walk instead of waiting there in the traffic jam.	We have congested routes, and we need more roads and highways. Everybody goes to La Ceja, and public institutions are also concentrated there.	We have a special program to intervene in La Ceja, since the theme of La Ceja is basically the problems there, the roads, the congestion, and not just of vehicles, but also of people.

First, Fernández views partitioning as something that is almost voluntary, reflecting a choice to value time over money. Users and Cabezas portray it as something that is forced upon users. Secondly, Fernández believes transit users would willingly pay more for higher-quality transit, and that an increase is "fair," given providers' operating costs. Transit users – and Cabezas – overwhelmingly asserted that most *alteños* cannot afford to pay more, regardless of quality. These differences suggest that when the two men theorize a generic Transit User, Fernández's

point of reference is choice riders while Cabezas's is captive riders.

Cabezas's views aligned with those of transit users. He spontaneously focused on the main user concerns described above, framing the problem around Serving the Citizens by meeting these needs. In keeping with the democratic paradigm, Cabezas and his colleagues explicitly based their views on meetings and conversations with individual residents. Because of FEJUVE's broad membership, they are regularly exposed to the opinions of a cross-section of *alteños,* and this influence is readily apparent. In fact, even Cabezas' emphasis on crime, which users did not mention as frequently, demonstrates how his views are informed by his contact with 'neighbors': many victims of transit crime, mistrusting the police, report their experiences to Cabezas instead.

Fernández, in contrast, had little contact with transit users in his professional life. Furthermore, because SMMUS operates within a technocratic paradigm, he does not believe users' self-identified needs represent the 'true' problem. Rather, these quality of service issues are merely symptoms of a larger problem:

> "[Users] don't understand the problem of growth… 10, 15 years ago, the city was smaller, but as it's grown, it's spread out in an unintelligent way…. because the density is very low in areas of new growth.... I think what we're missing here is that when we talk about transport, we can't just talk about streets, vehicles, pedestrians. We have to talk about growth, land use, how we can densify the city… I think this will be the long-term method to solve the problem of transport."

Fernández frames the problem of transport around Shaping the City by managing growth by densifying outlying areas in order to mitigate congestion in the city center, La Ceja. Cabezas did sometimes describe growth as *a* problem, but for Fernández, it is *the* problem. As we will see, Fernández's framing of transport as fundamentally a problem of growth, and in particular his focus on La Ceja as a problem to be solved, clashed with FEJUVE's focus on users' day-to-day needs, feeding the conflict that resulted in the failure of the Sariri project.

1.4.2 The purpose of Bus Sariri

Both SMMUS and FEJUVE were passionate about the need for Bus Sariri, but their Visions for it were incompatible. The differences can be summarized as follows:

- FEJUVE embraced a democratic paradigm: the solution should be identified by consulting 'the people.' SMMUS embraced a technocratic paradigm: the solution must be found in technical analysis rather than 'uninformed' community views.

- FEJUVE framed the problem of transportation around Serving the Citizens, asserting Sariri should meet the current needs of the poorest *alteños*. SMMUS framed the problem around Shaping the City: Sariri should be used to manage future growth and congestion by reshaping the movement patterns of *alteños*.

- FEJUVE viewed La Ceja as the heart of EA, while SMMUS viewed it as the heart of the problem.

Neither view is objectively correct; both are normative. However, these incompatible views of La Ceja – as economic and cultural center or as a problem to be solved – are the fundamental source of the conflict over routes that ultimately caused Sariri to fail. If La Ceja is the heart of EA, if the goal is to help impoverished *alteños* access resources, it is self-evident that Bus Sariri's routes should connect poor peripheral neighborhoods to La Ceja (Figure 1.2). If already-congested La Ceja is the heart of the problem and the goal of Sariri is to redirect traffic to less saturated neighborhoods, it is equally obvious that Bus Sariri should *not* go to La Ceja.

FIGURE 1.2 Conceptual Diagram of Envisioned Routes for Bus Sariri
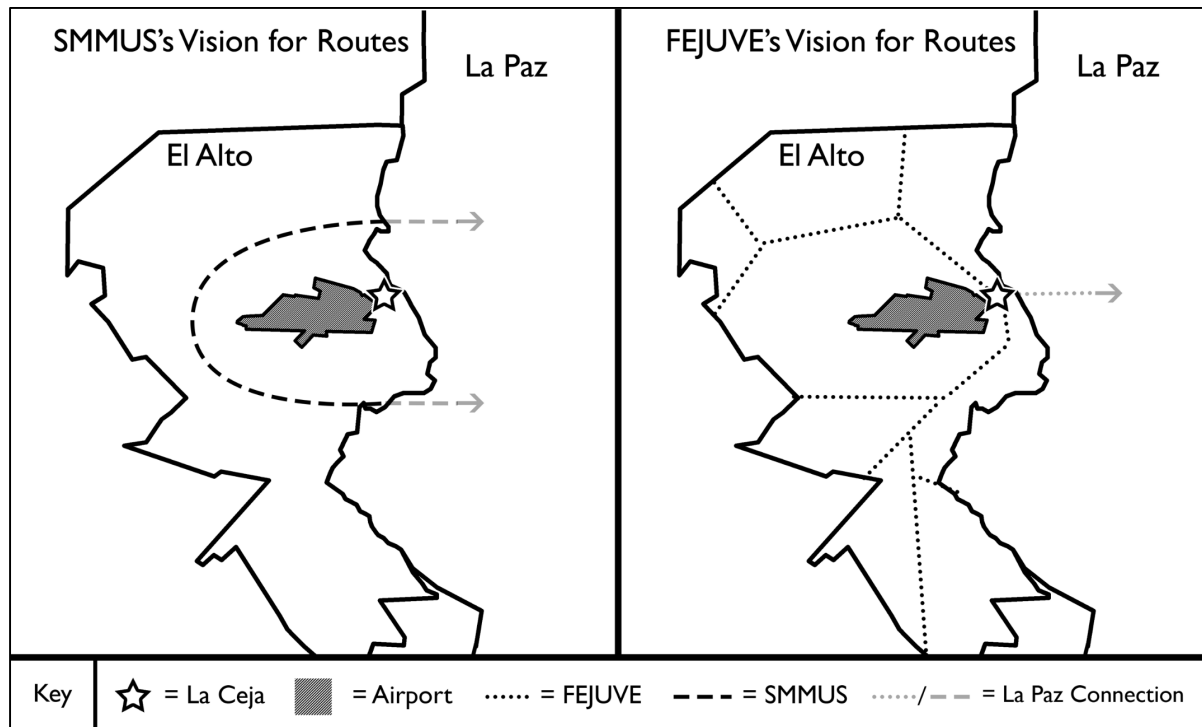
Cabezas, who emphasized that Sariri should be implemented according to "the criteria of necessity," described his aspirations as follows:

> We will ask that Sariri arrive to the most distant neighborhoods in the city, that it benefits people with scarce resources. The fare should be the most economical in EA…. [T]he routes… have to go to La Ceja because if not, what good is it? The people go to La Ceja. That's the reality.

Accordingly, FEJUVE wanted Sariri to provide service between the periphery of the city and La Ceja, connecting poor people to currently-available opportunities in EA and LP. This addresses the needs voiced by current users. As one explained, "we always have to go [to La Ceja], and… we always have to suffer for transport."

Fernández, in contrast, viewed La Ceja as a problem to be circumvented and eventually solved. For him, La Ceja is primarily a place people pass through to go somewhere else. Because EA is "a city divided in two by the airport," virtually all transport routes begin or end in La Ceja, positioned to the airport's east. For the planners, it was axiomatic that La Ceja was too

congested to accommodate Bus Sariri. SMMUS' Sariri route proposal was intended to relieve

congestion in La Ceja by circumventing it, connecting north to south via the less-congested west

side of the airport. Even if Sariri might fail to mitigate congestion, officials were determined not

to add more vehicles.

Regardless of the rigor of the ensuing alternatives analysis,[7] the actual seed of conflict

was that this normative precept was incorporated into the study parameters as if it were a

statement of fact. As a result, any route that could have addressed FEJUVE's goals was excluded

from consideration before alternatives analysis began.

In some ways, the conflict over whether to help users access La Ceja or circumvent it is a

clash between present versus future orientation. For Fernández, Sariri should not serve what is,

but rather guide what will be. For instance, informal transit to LP is available in a few locations

besides La Ceja. SMMUS' Sariri route intentionally avoided these sites on the ideological

grounds that the new service should connect with other "modern" systems, even if those systems

were not yet ready (such as a PumaKatari line still in the planning stage).

Cabezas does not reject the importance of shaping future travel patterns, but he is

unwilling to defer meeting *alteños'* present needs:

> We have to make a structural plan and decongest La Ceja. But even so… it's La Ceja
> that makes it possible for peripheral neighborhoods to connect to LP, to universities and
> public and private institutions.

The conflict over whether to help users access La Ceja or circumvent it is a clash between

goals, but it also reveals a conflict between traditional ways of interacting with space and the

ethos of modernity. Consider this statement from Fernández:

> A pedestrian in La Ceja… attracts informal commerce, so where we have enough people
> walking, we also have a social problem. People say "I have the right to survive and I can
> vend, let me survive!" Maybe they're right, but they do it in such a disorganized
> form! ….This generates chaos.... We're taking advantage of Sariri to free La Ceja of this

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[7] SMMUS faced serious data limitations such as the lack of an origin-destination survey.

oversaturation, this pressure that exists from the quantity of vehicles there, from people who go to La Ceja to get to someplace else.

Fernandez does not simply want to reduce traffic congestion; he wants to remake La Ceja so that it more closely aligns with ideals of modernity, which have no space for informality (Watson 2009). Like Le Corbusier, he is calling for "the death of the street" (Scott 1998).

It is here that Fernández's views diverge most sharply from those of most *alteños*. Informal commerce is central to La Ceja's economic functioning and neighborhood identity. It is also closely identified with indigenous Bolivians, who are celebrated as the center of Bolivia's cultural heritage but commonly face discrimination.

1.4.3   The routes are announced

While FEJUVE was outspoken about their goals for Sariri, SMMUS did not publicly present Sariri as a way to restructure EA. Though studies had been completed in September, SMMUS kept route plans secret in an attempt to reduce opposition. Public communications focused instead on the comfort and safety of the Sariri buses. This strategy failed spectacularly. The latent conflict between SMMUS's and FEJUVE's visions for Sariri remained bottled up until SMMUS presented their plan for Sariri's routes in mid-January 2015, only weeks before the planned opening. When FEJUVE saw the routes, they immediately expressed concern that Sariri was not serving low-income, peripheral neighborhoods or reaching La Ceja.

Ostensibly, the public was invited to "validate" the planning process. In practice, SMMUS was less than receptive to criticism, as Fernández revealed in a statement to the press:

> "The residents can't impose routes. They should respect our work. Nobody likes it when someone invades their space…. We've already finished the study…. It received the support of knowledgeable professionals… [and] it's for users' common good.[8]"

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[8] La Razón. 2015. "El Sariri Ya Tiene Rutas, Pero Se Validarán Con Los Vecinos." *La Razón*, Jan 14. http://search.proquest.com/docview/1645142838?accountid=14244.

This dismissal of public involvement is a predictable result of the technocratic paradigm, which rejects the possibility that laypeople might have valuable information. The municipality insisted their routes were objectively the best without addressing what they were the best *for*. Because technocratism positions technical study as disparate from "politics," the value judgment that La Ceja was too congested for Sariri was never publicly acknowledged. This left community members mystified as to how routes avoiding the city's main demand points were the "best" for meeting their urgent needs.

The conflict was revealed so late in the planning process that it was impossible to resolve before implementation. Though SMMUS made some minor adjustments, Sariri began operating free "promotional service" on February 23rd with routes that avoided La Ceja. Meanwhile FEJUVE, still dissatisfied, crafted an alternate route plan. In a bottom-up process in keeping with FEJUVE's democratic paradigm, hundreds of neighborhood representatives met to select routes for their district by consensus processing[9]. These routes were then amalgamated into one city-wide map. One transport committee member explained,

> "Serving everybody was impossible…, so we tried to serve the largest quantity of people possible…. Sariri doesn't arrive here [to my neighborhood]. I can't think of myself, but I have to think about the majority of people."

All committee members interviewed focused on meeting the needs of either the most or the neediest *alteños*. The emphasis on collective benefit and the fact that at least four of ten committee members did not directly benefit from the chosen routes contradicts SMMUS staff's frequent accusation that the leadership was acting out of self-interest. Nevertheless, there is a tension in democratically selecting routes for a project that could not serve all *alteños*. Another committee member, an indigenous ambulatory vendor, noted that "if you ask people where they

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[9] In a key difference from communicative planning, FEJUVE sought consensus within its membership, not with municipal actors.

want the route, they'll always say 'I want it in my neighborhood...' [But] I have to think of my brothers; I have to think like a representative, and I know the peripheral zones have bad service."

The processes by which SMMUS and FEJUVE identified routes also underscore differences in their theorizations of transit users. For FEJUVE representatives, *alteños* were "neighbors," "*compañeros*," sources of expertise. If FEJUVE classified users as "us," SMMUS viewed "them" as uninformed and refractory; modernist projects often involve the transformation not only of urban space, but of urban subjects (Watson 2009).

1.5   THE LAUNCH AND COLLAPSE OF BUS SARIRI

FEJUVE's concerns might not have had much of an effect on Bus Sariri's trajectory if it had not been for another stakeholder: the powerful unions representing the traditional *transportistas*. They had an economic incentive to derail Sariri. Within ten days of opening, *transportistas* had twice paralyzed the city – and Sariri - by staging strikes. Fernández, unable to overcome their opposition, was fired on March 9th.

Sariri reached a pivotal moment the next day. FEJUVE met with the mayor and Fernández's replacement. They requested that the municipality adopt their alternate route proposal. The mayor was facing mounting pressure from the strikes and an upcoming election. Needing allies, he decided to adopt FEJUVE's proposal wholesale. Virtually overnight, six new routes were added to the two already in operation.

In the short term, FEJUVE's now-enthusiastic support for Sariri literally cleared the path for its continuing operation. The day after the meeting, FEJUVE delegates and allies worked with the police to dismantle blockades set up by the *transportistas*, reopening the streets. Once this was accomplished, the Sariri buses were brought together in front of City Hall. FEJUVE representatives boarded the buses to demonstrate the new routes. As Cabezas recounts,

> A neighborhood director boarded each bus in order to go on the route we planned.... Drivers didn't know the routes, so we indicated where they should go...., as if we were the drivers' helpers.

Sariri's technical team at SMMUS, already reeling from the sudden change in leadership, was excluded from this process entirely. One planner complained:

> They *imposed* the routes on us…. There wasn't planning or signage or anything. In fact, the next day, we had to get in one of the municipal trucks and follow the buses... That's the only way we found out what the routes were.

In the coming months, the chaos introduced by this sudden, drastic policy change sent Sariri into a downward spiral from which it never recovered. Five months after Sariri launched, its technical director acknowledged, "we are not offering good service." SMMUS continued to provide skeletal service on two routes, conducting studies in preparation for what they hoped would be a more organized relaunch[10].

Even without the conflict with FEJUVE, SMMUS would have faced an uphill battle. El Alto is a poor city, and despite strong political support from the highest levels of municipal government, severely limited resources were available for the Sariri project. An overworked staff of fewer than a half-dozen individuals, mostly early-career professionals, was pressured to launch Sariri prematurely. Despite the formidable challenges, it is conceivable that the small but committed team could have addressed them. *Alteños* were used to bus routes without marked stops, for instance, so installing signage gradually might have been an incremental path towards successful implementation.

It was the overnight route change, which could have been prevented if SMMUS had collaborated with FEJUVE earlier in the planning process, that proved insurmountable. With a fleet of buses intended for two routes now spread out over six, frequencies were as low as once every two hours. Adding to the confusion, routes continued to be changed or discontinued with

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[10] When the service, rebranded as WaynaBus, launched five months later, it operated on two routes that closely resembled SMMUS' original plan, avoiding La Ceja. http://www.la-razon.com/ciudades/El_Alto-Wayna_Bus-opera-rutas-servicio-gratuito_0_2400359972.html

little warning. Struggling to adapt to the changes, SMMUS could not advance on installing signage and other basic infrastructure. Many *alteños* did not know if they could rely on Sariri, or even how to access it. Ridership was lower than projected. Since many of the new routes followed unpaved roads, buses were damaged without sufficient resources available to repair them. Bus Sariri disintegrated.

Arguably, SMMUS could have better implemented Sariri with more rigorous technical planning, even if the process was exclusionary. For instance, if physical infrastructure was installed prior to rollout, it would have been harder for FEJUVE to demand a route change. However, it is important not to confuse successful implementation with success as an instrument of public policy. FEJUVE would have viewed a fully-operational Sariri that followed SMMUS's ring route as an egregious waste of public resources on a service that benefited very few *alteños*. The success of Sariri as a project can only be evaluated with respect to broader policy objectives, and one major failure of the Sariri process is that the municipality and community did not agree on what those objectives were.

Sariri *service* was not the only casualty of its troubled implementation process. The *relationship* between SMMUS and FEJUVE was severed, perhaps irreparably. Many SMMUS staffers viewed the FEJUVE leadership as at best misguided and at worst active saboteurs. The head of the technical team refused to allow a meeting between his staff and FEJUVE representatives, believing that even a conversation was dangerous. One staff member voiced this resentment:

> We were trying to retake control, because after all the improvisation they forced us to do, we still had to administer the system. They left all the shit they created behind, and said… 'make it work.' …We don't have resources or planning, we don't know where the routes are, we don't have signage. How are we supposed to make it work? 'I don't know, you're the technical part. You'll figure it out.' They passed the whole disaster to us and we had to try and make it function.

1.6   DISCUSSION

1.6.1   Vision dissonance and public involvement

In the case of Bus Sariri, two groups of stakeholders sincerely trying to improve local public

transport ended up locked in a conflict that destroyed a system both supported. On the surface,

the disagreement between SMMUS and FEJUVE was over the routes Sariri would take. At the

root, however, was dissonance between two widely divergent Visions of public transport and of

EA itself.

The most obvious incompatibility between the two Visions was that FEJUVE framed the

problem of transport as a failure to meet *alteños'* daily needs, while SMMUS's Vision focused

on restructuring EA's urban form. La Ceja had a prominent place in this conflict as either the

economic and cultural heart of EA, or as a problem to be solved. These two visions of La Ceja

are incommensurable, and each leads inexorably to different criteria for selecting routes for

Sariri. Viewed through the municipal frame of Shaping the City to accommodate growth, the

conclusion that Sariri should avoid the congested city center is inescapable. Viewed through

FEJUVE's frame of Serving the Citizens*,* it is equally obvious that the routes must take the

poorest *alteños* to the heart of the city.

These frames interacted with divergent theorizations of who *alteños* really are. For

SMMUS, 'they' were subjects to be modernized (Watson 2009). If users' expressed desires

diverged from the municipal plan, this was simply evidence that they were uneducated.   To

FEJUVE, the 'neighbors' were sources of expertise and moral authority. Accordingly, the

problem of transportation ought to be framed in a way that matched the complaints of ordinary

alteños.

These theorizations of users as experts or subjects correspond with a strong paradigmatic

difference. In SMMUS's technocratic paradigm, transportation must be solved with quantitative

'hard facts', not irrelevant community complaints. They planned *for* users (theorized as too

uninformed and insufficiently modern to understand the problem). FEJUVE, meanwhile,

operating within a democratic paradigm, aspired to plan *with* neighbors (theorized as experts).

Though FEJUVE leaders articulated their democratic values explicitly, SMMUS

submerged its technocratic ethos in the language of objectivity. When asked why the municipal

plan was the best, many staff simply explained that the routes were the result of technical study.

They did not acknowledge, either publicly or privately, the political reality that the study

proceeded from the normative assumption that La Ceja was a problem to be solved. They also

openly dismissed FEJUVE's pejoratively "political" paradigm. As one engineer complained,

"their route plan wasn't a study; it was a vote."

FEJUVE members, in contrast, were not hostile to technical study. Like many local

knowledge practitioners, they hoped to complement analysis they viewed as incomplete

(Corburn 2005). As one member explained,

> "We live this situation daily…. They need to understand our reality, because a scientific
> study isn't always in agreement with the situation…. We've had a lot of meetings to try
> to find a way to fuse our ideas… and make Sariri work."

Could Sariri have succeeded if SMMUS had approached public participation differently? Or,

more broadly, can strong Vision dissonance be overcome? I argue that it can. If SMMUS had

spoken with FEJUVE sooner and displayed a genuine willingness to incorporate FEJUVE's

perspective, they could have achieved cooperation, even without complete consensus.

Yet it is precisely here that we observe one of the more pernicious effects of technocratic

Visions: if technical study is the only valid form of inquiry, if community stakeholders are

theorized as uninformed, planners will be indifferent or hostile to public involvement. This

unwillingness to seek or incorporate community perspectives led SMMUS to produce a plan for

Sariri that did not match *alteños'* self-identified needs.

It is understandable that FEJUVE would not help SMMUS implement a project they

viewed as a wasted opportunity, particularly when respectful critiques were met with hostility. Cabezas noted, "The authorities just want us to applaud for them, but when you have questions, they see you as opposition." This turned out to be a self-fulfilling prophecy.

In the case of Sariri, the need for cooperation was pressing because the *transportistas* were more powerful than SMMUS. They needed FEJUVE, who Fernández himself described as "a huge ally" in previous confrontations. If SMMUS's route plan had met FEJUVE's goals, FEJUVE would have provided immediate support rather than wait until the system was already in crisis, when it was too late for effective cooperation.

In the end, the implementation process for Bus Sariri was participatory (despite planners' objections), but it was not Communicative. Communicative planning assumes *planners* are willing to learn from other stakeholders (Healey 2006, Willson 2001). This conflicts with the technocratic paradigm. Before technocratic planners can ethically help stakeholders transform their Visions through communicative action, they must first transform their own, relinquishing the technocratic claim of being able to identify a single True answer. However, the case of Sariri clearly illustrates that planners eschew public involvement at our peril. At least some SMMUS staff learned this lesson, such as the head of Sariri's technical team:

> "We can't do a project for society closing ourselves up within four walls, [saying] 'This is the solution and it doesn't matter to me what others think…' But it also can't be the reverse: 'I listen to the people and don't listen to the technical part.' There needs to be equilibrium."

If planners become convinced that public involvement can add value to a planning process, they will have to attempt to communicate with people whose Visions conflict with their own. The act of translating across worldviews does not leave the translator unchanged (Kuhn 1962, Schön and Rein 1994). If rational planners can open themselves to the possibility that local perspectives can strengthen technical planning, they will join practitioners of local knowledge, who are often already committed to "fusing" different forms of expertise to produce analysis that reflects both

scientific and everyday empiricism (Corburn 2005).

1.6.2 Directions for future research

Though I challenge the idealism of communicative theorists, I do not wish to promote fatalism. Sometimes the divide between stakeholder Visions is too wide to overcome completely (Watson 2003). To find a path forward, we need case-centered theory that allows for the possibility of identifying *solutions* with stakeholders whose Visions of the *problem* may never fully align (Stark 2009, Mouffe 1999). We must analyze people's non-idealized actions, actual communication, and the power dynamics within which both are enacted (Phelps and Tewdwr-Jones 2000, Flyvbjerg 1999).

The Vision dissonance framework supports this effort by providing a way to analyze specific incompatibilities that interfere with communication and assemble an account of whether, when, and how differences in perspective can be overcome. It provides theoretical guidance for uncovering latent conflicts without losing the richness of specificity in each individual case. It integrates insights of promising analyses of framing, paradigms, theorizations, and ways of knowing (e.g. Schön and Rein 1994, Strang and Meyer 1993, Corburn 2005), allowing us to analyze multiple elements that operate simultaneously to shape stakeholders' perspectives.

A few questions need particular attention. Does communication between stakeholders with conflicting Visions require them to adjust their way of seeing, or can compromise be reached even if actors never reach shared understanding? How is communication *within* groups of stakeholders affected by Vision dissonance? How do top-down and bottom-up organizations differentially shape their members' perspectives? We must examine the role of power, and planners' willingness and ability to work with the public. In particular, acknowledging the technocratic paradigm is critical for avoiding overly-optimistic assumptions about planners' likelihood of transformational outcomes. Finally, we must establish links between Vision, action, and results.

1.7 CONCLUSION

This article has argued that dissonance between stakeholders' Visions, or mental models of a policy situation can interfere with communication in planning processes. The Vision dissonance framework builds on previous analysis by considering how multiple elements, including frames, paradigms, and theorizations, act in concert to shape a stakeholder's problem definition, preferred solution, and willingness to collaborate with other stakeholders. The findings question the wisdom of assuming planners are universally willing and able to facilitate a consensus-seeking process. Indeed, the technocratic paradigm associated with rational planning (still prevalent in practice if not in theory) encourages planners to avoid public involvement by devaluing local knowledge. In the case of Bus Sariri, this avoidance led to the failure of the project and a lost opportunity to improve the lives of thousands of residents.

Planners can be both facilitators of and obstacles to public involvement, and their work can serve both progressive and regressive ends. To provide relevant guidance for this wide array of circumstances, we must enrich planning theory by building a non-idealized account of communication within real planning processes. The Vision dissonance framework supports this effort by facilitating analysis of overt and latent conflicts between stakeholders.

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CHAPTER 2 ALWAYS ON THE DEFENSIVE: THE EFFECTS OF TRANSIT SEXUAL ASSAULT ON THE TRAVEL BEHAVIOR AND WELLBEING OF VICTIMS IN COLOMBIA AND BOLIVIA

2.1   INTRODUCTION

For many female transit users, a daily risk of sexual assault on public transportation is a fact of life. Sexual assault and harassment are prevalent in transit systems across the developed and developing world (e.g. UN Women 2017, Bhatt et al 2015, Clark et al 2016, Ceccato and Paz 2017, Stringer 2007). Chronic transit insecurity has deleterious impacts on women's freedom of movement and wellbeing (Condon et al 2007, Clark et al 2016, Gardner et al 2017). However, the problem remains understudied and inadequately addressed in many cities (Loukaitou-Sideris et al 2009, Ceccato and Paz 2017, Lubitow et al 2017, Smith 2008).

In this paper, I use survey and interview data to document transit sexual assault in two Latin American metropolitan areas: Bogotá and Soacha, Colombia and El Alto and La Paz, Bolivia. Colombia's world-renowned TransMilenio Bus Rapid Transit (BRT) is often considered emblematic of best practices for reforming public transit (Suzuki et al 2013). Counterintuitively though, the dysfunctional informal transit in Bolivia (Pando Solares 2012) is safer for women. While transit crime is widespread in both systems, chronic overcrowding on TransMilenio has exacerbated the problem; I document that 37% of female users report having been sexually assaulted. In El Alto, where transit is dominated by small vans known as minibuses, the fact that most passengers travel seated provides less opportunity for predators to sexually abuse women. While this does not eliminate the problem of sexual assault, it does

mitigate it; a comparatively-low 22% of *alteños* report being subjected to some form of unwanted sexual contact.

Most previous research on women's safety focuses on the fear of isolated environments. Policy recommendations are needed that focus on the riskiest transit environment for women: crowded vehicles and platforms (Ceccato and Paz 2017, Ball and Wesson 2017, Clark et al 2016). However, isolation-focused studies typically assume crime is rare, there has been very little research of effects of transit sexual assault on actual victims. To protect women, planners urgently need information about sexual assault not just as a specter to be feared, but as a real experience that harms women around the world. This paper addresses that need by documenting the experiences of transit sexual assault victims and analyzing the differences between their behavior and that of other transit users.

My results affirm previous findings that the risk of transit crime curtails the mobility of transit users, particularly women, regardless of whether they have been personally victimized (e.g. de Jubainville and Vanier 2017, Delbosc and Currie 2012, Loukaitou-Sideris 2014). However, I find that sexual assault victims are significantly more likely than other women to restrict their own mobility, sacrificing freedom of movement for a sense of safety. When they re-enter transit by necessity or choice, many victims experience long-lasting signs of trauma such as hypervigilance, a stressful state characterized by fear, anxiety, and a need to continuously scan one's surroundings for danger (Greenwald 2012). Though victims develop defensive positioning strategies in an attempt to physically protect their bodies in crowded conditions, the effort required to manage fears of being re-victimized colors their daily experience of transit and infringes on their right to freely access public space.

High occupancy levels are seen as a cornerstone of efficient, ecologically and financially sustainable transit. However, crowded transit elevates the risk of both sexual assault and pickpocketing because it obligates passengers to submit to contact that would normally be a

violation of social norms (Ceccato and Paz 2017, Natarajan et al 2015). As a result, it enables

sexual assailants to engage in "'legitimate' inappropriate behavior" (Ceccato and Paz 2017, 13),

providing camouflage and plausible deniability. As TransMilenio demonstrates, transit reforms

do not necessarily make transit more secure for women. To the extent that planners encourage

crowding in the name of efficiency, I argue that reform actually runs the risk of amplifying the

problem. Crowded transit requires passengers to submit to contact that would normally be a

violation of social norms.

Addressing transit sexual assault requires addressing danger and fear in both crowded and

isolated environments. Isolated environments, which account for a minority of sexual assaults,

have received the majority of attention from researchers and practitioners. I do not wish to

downplay the importance of addressing women's fears of moving through isolated places.

However, framing transit safety almost exclusively around the danger of isolated environments

has resulted in a lack of guidance about how to address the most common type of transit sexual

assault. The principle of safety in numbers (Loukaitou-Sideris 2014) cannot protect women from

the risks posed by too many 'eyes' (and bodies) on the bus. Examining the experiences of actual

transit sexual assault victims can help planners understand how to mitigate the quotidian danger

of crowded transit.

I argue that in order to facilitate women's right to move freely through space, planners

must focus on preventing future sexual assaults and caring for women who have already been

harmed. Drawing on the results of this investigation and the Situational Crime Prevention (SCP)

framework (Clarke 1992, Smith 2008, Natarjan et al 2015), I discuss the potential of various

policy options. Though empirical evaluation is needed, I find that the most promising methods

are crowding reduction, promoting bystander intervention, and police and staff training. Each of

these has the potential to both reduce crime and care for existing victims. Currently, the two of

the most popular strategies among planners are security cameras and leaving women to fend for

themselves (Loukaitou-Sideris and Fink 2009). While inaction obviously fails to protect women, security cameras are also of extremely limited utility for either reducing the number of sexual assaults in crowded conditions or making victims feel comfortable reentering peak hour transit (Loukaitou-Sideris 2014, Cho and Park 2017).

Women-only carriages and buses are likely not well-suited for decreasing transit sexual harassment and assault, particularly if they account for only a small portion of the transit supply (Dunckel-Graglia 2013, Horii and Burgess 2012). However, victims discussed feeling more comfortable with other women, and even in mixed-gender transport, attempted to surround themselves with female passengers. Women-only transportation may therefore be an important tool for restoring the freedom of movement for women who are suffering from the aftereffects of sexual assault.

2.2   BACKGROUND

2.2.1   Defining Sexual Assault

Sexual assault and harassment encompass an array of behaviors that mainly target women (Stringer 2007, Clark et al 2016, Madan and Nalla 2016). These acts can be verbal (sexual comments or intrusive questioning), physical (touching, fondling, groping, rape), or based on exposure (exhibitionism, showing pornography). There is no universally accepted dividing line between harassment and assault. Here, I define sexual assault as any form of unwanted physical contact, and harassment as non-contact forms of sexual aggression. Some studies adopting this definition of assault also include exhibitionism, a behavior that many women consider to be as severe as many forms of contact (Natarajan et al 2017, Clark et al 2016) . Some authors classify groping and frotteurism as harassment, in some cases to reflect local laws in the cities being studied (Madan and Nalla 2016, Neupane and Chesney-Lind 2014). Others aggregate all these

behaviors under the broader heading of violence against women (Dunckel-Graglia 2013), Condon et al 2007). Given the differences in vocabulary, it is recommended that researchers should specify what behaviors they include in their classifications of harassment and assault (Madan and Nalla 2016). In general, men have been found to classify all forms of sexual harassment and assault as less severe than do women (Ibid., Dunckel-Graglia 2013).

The overwhelming majority of victims of sexual assault and harassment in public spaces are cisgender women (Stringer 2007, Clark et al 2016, Madan and Nalla 2016). Women who are also members of other marginalized groups, such as those with physical and mental disabilities, are at even higher risk (Iudici et al 2017). While gender non-conforming people (e.g. transgender and non-binary individuals) represent a relatively small percentage of the population, they also face a highly elevated risk. Gay men may also be targeted. (Ceccato and Paz 2017) While straight men are sometimes victimized, if the assault is not physically violent, they are often less affected than female victims (Clark et al 2016, Spicer and Song 2017).   The suggested explanation for this phenomenon is that for men, the experience represents an anomaly, whereas for women, it is an escalation of chronic sexual harassment and long-standing socialization to view themselves as vulnerable (Clark et al 2016, Condon et al 2007, Valentine 1992).

2.2.2   Describing Transit Sexual Assault

Although public transit accounts for a large share of sexual assaults in public spaces, transit sexual assault has received comparatively little individual attention (Loukaitou-Sideris 2014, Ball and Wesson 2017, Clark et al 2016). Nevertheless, researchers around the world have found that sexual assault and harassment are endemic to many transit systems in both developed and developing cities (e.g. UN Women 2017, Natarajan et al 2017, Bhatt et al 2015, Clark et al 2016, Ceccato and Paz 2017). Non-penetrative acts such as fondling and frotteurism (genital rubbing) are the most common type of transit sexual assault. In New York City, approximately 15% of female subway users have been sexually assaulted (Stringer 2007). Half of female transit

users in Tokyo have been groped while using public transit (Horii and Burgess 2012). In Mexico City, three-quarters of women report having been subjected to frotteurism on transit (Dunckel-Graglia 2013).

Scholarship and public dialog on transit sexual assault often focus on the risks of isolated places (e.g. Loukaitou-Sideris et al 2009, Smith 2008, Wallace et al 1999). While incidents in isolated areas are more likely to result in violent or penetrative attacks, most sexual assaults actually occur in crowded transit, during peak hours (Ball and Wesson 2017, Ceccato and Paz 2017). In fact, because crowding provides a 'stealth' advantage, in crowded conditions, groping is even more common than verbal harassment (Lea et al 2017). Further, transit users tend to perceive an assault as less severe if it occurs in a crowded area as opposed to an isolated one, and are less likely to report that they would intervene (Ball and Wesson 2017).

The technological solutions favored by planners (e.g. cameras and security chips) do not match women's more general preference for human-centered policies such as security staffing and emergency notification systems that will summon aid from other people (Cho and Park 2017, Loukaitou-Sideris and Fink 2009, Loukaitou-Sideris 2014, Tudela et al 2015, Yavuz and Welch 2010). However, because of the overemphasis on isolated environments, even the recommendations of planners who take women's concerns seriously have generally not focused on the most common type of assault (e.g. Loukaitou-Sideris and Fink 2009, Loukaitou-Sideris 2014, Wallace et al 1999, Koskela and Pain 2000, Smith 2008, Yavuz and Welch 2010)[11]. Many suggested interventions focus on improving lighting and sight lines and increasing the presence of 'eyes on the street' (Jacobs 1961). Loukaitou-Sideris (2014) determined that "Siting bus stops near people and activities [is] essential to achieve 'safety in numbers'" (250-251). Many women

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[11] The exceptions to this is a handful of case studies of cities where crowding-related sexual assault is known locally to be common (Tudela et al 2015, Horii and Burgess 2012, Ceccato and Paz 2017, Dunckel-Graglia 2013).

do find these measures comforting (Ibid., Wallace et al 1999). However, while these tactics are effective for easing women's fear at isolated transit stops, women who have been assaulted on crowded vehicles and platforms are painfully aware that numbers are far from 'safe.'

Transit sexual assaults go largely unreported (Ceccato and Paz 2017, Stringer 2007, Tudela et al 2015). One reason for underreporting is that women fear being blamed, retaliation from the perpetrator, and having their families impose restrictions on their mobility; these fears are often justified (Lea et al 2017, UN Women 2012). Another reason for underreporting lies with planners and police, who often dismiss non-rape assault as not 'serious' (Clark et al 2016). When victims do attempt to report to police or transit staff, they sometimes encounter outright hostility, compounding the effect of an already-upsetting experience (Ibid., Natarajan et al 2017). Another factor that reduces police reporting is the time burden and lack of confidence that the complaint will lead to action. Accordingly, police reports dramatically understate the true extent of the problem (Tripathi et al 2017).

Planners in many cities have yet to take action, in part due to a perception that transit sexual assaults, particularly non-penetrative incidents, are minor 'nuisance' crimes. (Loukaitou-Sideris et al 2009, Clark et al 2016, Ball and Wesson 2017). One purpose of the present study is to address these misperceptions by providing a comprehensive account of the multilayered consequences of sexual assault and transit insecurity.

A minority of cities are enacting multipronged strategies to make transit safer for women. Some cities are implementing hotlines or apps where women can report incidents without having to interact with police. Quito is taking this a step further, with a text message hotline that will cause an alert message to play in real time in the transit vehicle where the problem is reported (Carvajal 2017). Public awareness and education campaigns targeted at improving bystander intervention are popular among women (Tudela et al 2015). Some cities have experimented with women-only carriages or separate services for women; both the efficacy and equity of these

'pink' services are hotly debated (Horii and Burgess 2012, Dunckel-Graglia (2013, Lobo 2014). While it is not the purpose of this study to evaluate the efficacy of the many policy tools available, I will discuss the relevance of my findings to crowding reduction, social education/bystander intervention, improving reporting, and women-only transportation.

2.2.3 The effects of fear

There is a large body of evidence that fear of crime, particularly sexual violence, negatively impacts women's mobility (e.g. Lynch and Atkins 1988, Valentine 1989, Pain 1997, Condon et al 2007, Vanier and de Jubainville 2017). The most obvious results of women's fear are what de Jubainville and Vanier (2017) refer to as 'avoidance behaviors.' Women avoid travel at certain times – often nights, but avoidance of rush hour and crowding have also been documented (Ibid., Clark et al 2016). Women limit their use of public spaces, avoiding routes, neighborhoods, or locations perceived as dangerous (Gardner et al 2017, Bastomski and Smith 2017, Condon et al 2007). This often includes isolated transit waiting areas (Loukaitou-Sideris 1999, Loukaitou-Sideris 2014, Smith 2008, Yavuz and Welch 2010). Fear of crime also changes women's mode choices, decreasing transit use and increasing the usage of private autos (Loukaitou-Sideris 2014, Pain 1997). Similar effects of a much smaller magnitude have been observed among men (Spears 2013). In some areas, women-only services are also popular among some women, though often strongly opposed by others on the grounds that women should be free to use regular transit without fear (Dunckel-Graglia 2013, Horii and Burgess 2012, Lobo 2014).

Even when fear does not cause women to change their behavior in ways that would be reflected in a travel survey, they adopt defensive strategies that allow them to go out in spite of their fear (Condon et al 2007, Dunckel-Graglia 2013, Natarajan et al 2017). Traveling with other people is a common strategy. Women carry pepper spray or enroll in self-defense classes. Reflecting a widespread societal tendency to blame victims of sexual assault, some women choose non-revealing clothing, and outfits in which they can flee if needed. Above all, they

practice what Condon et al (2007) refer to as constant vigilance: heightened situational awareness, paying attention to the physical environment and the movements and possible intentions of other people present.

The culturally-instilled awareness of women's responsibility to make such preparations causes many women to implicitly or explicitly view public space as male territory (Madan and Nalla 2016, Valentine 1989). Condon et al (2007) summarize the effect:

> "There is no outright prohibition against entering public places, rather a kind of delimitation, and even reduction, of possible space…. The violence that engenders fear and avoidance… instates real spatial segregation, segregation found in diverse forms in all regions and that has hardly varied since texts in the 1970s first denounced it." (116)

This analysis illuminates the need to attend to the social dimensions of public space as well as the physical. These writers critique the assumption that fear can be "designed out" through approaches such as defensible space (Koskela and Pain 2000). Though physical improvements such as lighting can mitigate women's fear, an integrated approach is needed. This critique is consonant with findings about women's preferences for security measures. For example, on average, women tend to prefer human-centered approaches to safety, such as increased security staffing, education campaigns to encourage bystander intervention, and sensitivity trainings for transit staff and police (Dunckel-Graglia 2013, Natarajan et al 2017).

Scholars of women's fear of crime also draw attention to the need to acknowledge diversity in women's experiences. For example, a woman who would prefer to switch to private transportation may be prevented from doing so if she lacks the economic resources. Women who are disabled, carrying shopping bags, or attending to small children are more vulnerable than those who travel unencumbered (Iudici et al 2017). Racial minorities may receive less assistance from transit staff, and have reasons to distrust security personnel (Lubitow et al 2017). In Nepal, where women demarcate their marital status through traditional clothing, married

women have "more power and agency to challenge the harassers back, albeit from a culturally conservative space as the presumed 'sexual property' of another man" (Neupane and Chesney-Lind 2014). Transgender women are at high risk for violence of all kinds, and may not be welcomed into women-only spaces (Ceccato and Paz 2017, Lombardi et al 2002).

Many researchers have focused on explaining why women's fear of crime in isolated public spaces is often much greater than their *risk* of crime. Some writers dismissed women's fear as 'irrational,' though some of these early studies relied on crime data that understated women's risk because it did not include sexual assault (Pain 2001). Feminist researchers argue that planners should attend to women's fears regardless of whether those fears are proportional to the likelihood of victimization (e.g. Valentine 1992, Condon et al 2007). As Smith (2008) contends, "Treating women's fear of crime as rational has a number of advantages. First, it takes the views of female passengers seriously." (123)

Smith and others also offer pragmatic arguments. Women's perspectives can help planners identify and target aspects of the transit system that need improvement. Addressing women's fear can increase transit ridership, and therefore transit revenues. However, the fundamental reason that women's fear should be addressed is that it restricts women's mobility and right to public space. Further, by diminishing women's ability to move freely, insecure public transit also infringes on their ability to exercise other basic human capabilities such as obtaining health care, furthering their educations or careers, and participating in social life (Nussbaum 2009, Sen 2009).

2.2.4 The effects of sexual assault on victims

While the literature on crime draws attention to how insecurity negatively affects even women who have not been personally victimized, it suffers from a major limitation: whether writers address women's fear of crime from a dismissive or feminist perspective, most studies are

predicated on the assumption that actual sexual assault on transit is rare[12]. It is not (Bhatt et al 2015, Blain 2017, Condon et al 2007, de Jubainville and Vanier 2017, Dunckel-Graglia 2013, Horii and Burgess 2012, Iudici et al 2017, Madan and Nalla 2016, Natarajan et al. 2017, Stringer 2007, Secretaría de la Mujer 2014, Tripathi et al 2017, Tudela Rivadeneyra et al. 2015, UN Women and The International Center for Research on Women 2012).

As a result of this blind spot, while we know a great deal about the effects of the fear of sexual violence in environments where the risk of crime is low, there are few studies on the effects of actually experiencing sexual assault and harassment. It is tempting to attribute the privileging of fear over direct victimization to the fact that most fear of crime studies focus on cities in the global north, where crime the risk of crime is lower overall than in most developing cities (Loukaitou-Sideris 2016). However, transit sexual assault is also common in a number of developed cities with crowded transit (e.g. Stringer 2007, Condon et al 2007, Horii and Burgess 2012).

It is clear that even in 'safe' cities, many women are not reacting only to a fear of crime, but to the experience of having been personally assaulted. There is an urgent need for information about the effects of transit sexual assault on victims' wellbeing and behavior. I will now review what is known about the effects of sexual trauma in general, and then the findings of the small-but-growing body of literature about transit sexual assault specifically.

While early psychological investigation of trauma focused on physical violence such as combat experience, more recent clinical studies have found that a wide range of stressors, including sexual assault, can lead to symptoms of trauma (Massicotte 2012). As summarized by Rooney (2012), the emotional consequences of trauma include anxiety, fearfulness, depression,

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[12] A small number of studies take the opposite perspective: women's exposure to sexual violence in the cities being studied is so close to universal that discussing the 'fear of crime' is assumed to include a high probability of personal experience with it (e.g. Dunckel-Graglia 2013).

withdrawal, and difficulty concentrating. In addition to the emotional and psychological effects, trauma can result in social consequences (such as a difficulty trusting others), economic consequences due to missed work or changes in travel patterns, and an increased vulnerability to physical health problems (Massicotte 2012).

Some victims are able to resolve acute effects of the experience and avoid longer term problems; for others, traumatic exposure can result in chronic mental health problems including clinical depression and Post Traumatic Stress Disorder (PTSD). Some victims exhibit subclinical symptoms (i.e. not enough to be diagnosed with one of the previously mentioned conditions), which can nevertheless impact quality of life and, if left untreated, sometimes escalate over time (Nader 2012). Survivors of sexual trauma are especially likely to experience changes in their self-image and an acute and long-term erosion of their sense of safety, in part due to external and internalized victim-blaming (Rooney 2012).

Many trauma survivors experience hypervigilance, a stressful state characterized by fear, anxiety, and a need to continuously scan their surroundings for danger (Greenwald 2012). Hypervigilance tends to result in some of the same behaviors captured under Condon et al's (2007) description of "constant vigilance." However, in the case of hypervigilance, the enhanced situational awareness is accompanied by significant emotional distress. As we shall see, a number of sexual assault victims describe experiencing chronic anxiety while taking transit. Victims who are captive transit users are forced to either accept this distress or avoid travel, while those with more resources may opt out of the transit system.

Trauma response is determined by the interaction of a range of factors, including not only the intensity of the stressor, but also personal history, repeated exposure to similar incidents, and availability or lack of social support (Nader 2012). As a result, while non-penetrative sexual assaults can generally be considered a lower-intensity stressor than rape, individual victims of non-penetrative assaults may nevertheless be strongly negatively affected (Clark et al 2016). It

is therefore important not to trivialize the experiences of victims of 'lesser' crimes, some of whom endure negative effects that last for years after the experience (Ibid., Ball and Wesson 2017).

In a variety of cities, victims of sexual harassment and assault in public spaces restrict women's mobility and use of public spaces (Gardner et al 2017, Lynch and Atkins 1988). Horii and Burgess (2012) found that Japanese victims of *chikan* (subway groping) were much more likely than female non-victims to approve of and use women-only carriages. Women also experience non-sexualized harassing behavior at higher rates than men, and are more likely to be discouraged to use public space because of it, particularly if the perpetrator was male (Bastomski and Smith 2017). One reason harassment affects women's behavior is because it reminds victims of the potential for escalation (Macmillan et al 2000, Natarajan et al 2017). Conversely, one reason sexual assault in public places impacts women so strongly is that the fear is reinforced by more quotidian forms of harassment (Valentine 1992).

Spicer and Song (2017) found that not only are female crime victims more affected by the experience than men, but their fear tends to be more geographically diffuse. In other words, male crime victims tend to fear specific places, while female victims develop increased fear of a much larger territory. They also found that violent and sexual crimes had a broader geography of fear than did property crimes.

The effects of transit sexual assault victimization appear to be for the most part similar across various national contexts. Condon et al (2007) found that French women who have been victims of crime report increased levels of fear and avoidance behaviors. Further, groping had the largest effect of any of the crimes studied, beating out exhibitionism, violent theft, physical brutality, and threats with a weapon. This is a strong reminder that a lack of physical damage does not imply a lack of harm to victims.

Lea et al (2017) studied women's immediate reaction to being assaulted, dividing

women's responses into three categories: staying silent, which tended to be associated with feelings of shame, quietly fleeing, and "making a scene" by verbally confronting the attacker. This last strategy was the only one that was likely to result in a cessation of the sexual aggression or the victim receiving help from other passengers (Lea et al 2017, Neupane and Chesney-Lind 2014). Unfortunately, many women are afraid or ashamed to make a scene This tendency is especially strong in some developing cities, where being a victim of such conduct is viewed in an especially negative light (Neupane and Chesney-Lind 2014, Tripathi et al 2017). An additional barrier to victims speaking up in their own defense is that when sexual harassment and assault are not discussed, women, especially young women, may lack the vocabulary to explain to themselves why conduct they find upsetting is also unacceptable (Ibid.)

Clark et al (2016) documented the effects of frotteurism in public space on college students in New York City; while not focused specifically on transportation, 84% of cases took place on public transit, and 90% in crowded areas. Female victims were almost universally upset by the experience, and one-third reported long-term effects. In terms of behavior changes, 39% reported increased caution, 29% began to monitor their proximity for others, and 10% say they avoid crowds. While Clark et al were only able to interview eight male victims of frotteurism, two reported no emotional reaction (as compared to only one of 83 women). Further, none of the male victims reported changing their behavior.

In summary, women who have been victims of transit sexual assault have been found to engage in many of the same behavioral adaptations as non-victims, but at higher rates and greater intensities. While both victims and non-victims are wary of isolated spaces, victims are more likely to be discomfited by crowded conditions. Sexual assault victims' defensive behaviors are accompanied by increased fear and emotional distress, but as of yet, the experiential attributes of this distress are not well documented. Women may sacrifice freedom of movement to preserve bodily integrity or reenter unsafe environments to attain mobility. Both approaches have

emotional costs, and force women to make unacceptable tradeoffs between two central human capabilities (Nussbaum 2003), infringing on their right to the city.

2.2.5   Case Background: Informal Transit in El Alto, Bolivia

El Alto, Bolivia began as a bedroom community for La Paz, the capital of Bolivia. With slightly over 1,000,000 residents and increasing local employment opportunities, El Alto has outgrown its parent.   However, the two cities still form an integrated metropolitan area. As in many developing cities, public transit in El Alto is informal: it is provided by individual *transportistas* who either own their vehicle or lease it from a small company. These drivers earn their livings directly from the fares they collect, which results in an economic incentive to neglect vehicle maintenance, abandon service in unprofitable neighborhoods, and discriminate against passengers who are entitled to lower fares or may be slow to board and alight (Cervero and Golub 2011). All these problems are widespread in both La Paz and El Alto (Pando Solares 2012). Though a "pure" informal system exists entirely outside of government regulations, many systems, including El Alto, are at least partially regulated. However, the government lacks enforcement capacity and is largely unsuccessful at curbing the abusive behaviors described above.

El Alto's informal transit network blends with that of La Paz, and it is not uncommon for providers to operate in both cities, whether or not they have authorization to do so. La Paz has also begun offer limited formal transit service in the form of the municipally operated PumaKatari bus, but most transit at the time of this study was still informal. This project focuses predominantly on planners in and residents of El Alto, but because the informal transport networks are interlinked, I incorporate some interviews with residents of La Paz.

The system is one of the most atomized in Latin America. A minority of service is provided by 36-passenger "microbuses," 60% of which are at least thirty years old. More recently, these vehicles have been supplanted what the locals call minibuses: vans that have been

modified with foldout seating to legally hold 14 people, including the driver (Pando Solares 2012). The small vehicles composing the massive informal transit fleet bring traffic in the city centers to a standstill, erode local air quality, and sporadically, due to deferred brake maintenance, careen off the steep mountain roads descending to La Paz.

However, as we shall see, this broadly dysfunctional system has one important accidental benefit: the fact that all minibus passengers travel seated insulates transit users in El Alto and La Paz from the risk of transit crime. Aside from the microbuses, the primary risk of crime comes instead from having too *few* fellow passengers, with the concern that the transit operator himself is a potential criminal. In fact, informal taxis are perceived to be much more dangerous than public transit because drivers sometimes take passengers to an isolated area to rob or assault them.

2.2.6   Case Background: TransMilenio Bus Rapid Transit

Given the problems caused by informal transit, in recent decades, an increasing number of cities have worked to provide alternative forms of mass transit. One Latin American innovation that is increasingly popular in both developing and developed countries worldwide is Bus Rapid Transit (BRT) (Hidalgo and Gutierrez 2013). BRT is a bus system characterized by 1. Exclusive, physically protected bus lanes; 2. Elevated stations where users pay their fare before entering the platform; 3. At-grade boarding, where users walk directly from an elevated platform onto a bus with no need for stairs or a 'kneeling' bus (Hook 2009). These features allow BRT to provide faster service with a higher capacity than conventional buses, rivaling rail service for a fraction of the cost (Ibid.).

TransMilenio is a recognized leader in the BRT movement (Suzuki et al 2013). Since launching operations in Bogotá, Colombia in 2000, it has received numerous international awards recognizing its success in increasing sustainability, reducing travel times, and promoting

road safety, among other achievements (Suzuki et al 2013).

TransMilenio BRT is operated by a state-owned corporation known as TRANSMILENIO S.A. (TM), with a director appointed by the mayor of Bogotá. Since 2013, TM has also overseen Bogotá's Integrated Public Transit Service (SITP). The same year, TM extended TransMilenio service to the neighboring municipality of Soacha, providing that city's predominantly low-income population with faster access to Bogotá. By the beginning of this study in 2015, TransMilenio transported approximately two million passengers each weekday.

However, in recent years, quality of service and user satisfaction have declined precipitously, primarily due to severe crowding (Kash and Hidalgo 2014). In 2016 and 2017, TransMilenio was the most used but worst rated transportation option in the city of Bogotá, with fewer than 20% of users rating it as satisfactory (Bogotá, ¿Cómo Vamos? 2017). The crowding has become extreme enough that it negatively impacts the system's operating speeds. Users have expressed their dissatisfaction through periodic walkouts, protests, and blockades of the busway.

TransMilenio is supplemented by some informal transit and city-run surface buses, TransMilenio is the largest and most prominent component of Bogotá's transit system. While the Bolivia data focuses on informal transit (the only public transit option in El Alto), the Colombia data focuses specifically on TransMilenio.

2.3 METHODS

This paper is part of a broader study of transit user needs in Colombia and Bolivia, conducted in four trips between 2014-2016. During exploratory research, transit sexual assault was identified as a critical policy problem that was poorly documented and understood. As shown in table 2.1, in both countries, transit users' experiences and perspectives were documented through extended interviews and surveys, where users were intercepted while taking transit. Two other data sources, which are not directly analyzed for this project, were used in the design of the survey and interview guides: extended interviews with transit planners and semistructured "in transit"

field interviews with users.   In all cases, participants first discussed the problems with transportation generally, and were then asked more specifically about sexual assault.

TABLE 2.1 Sample Characteristics

	Total	TransMilenio Users (Colombia)	Informal Transit Users (Bolivia)	Female
Extended interviews[a]	46	29	26	46%
Users: Sexual Assault Victims	10	6	4	80%
Users: Not Sexual Assault Victims	19	8	11	42%
Transit User Surveys	1,444	593	851	49%
Low Socio-Economic Status[b]		6%	52%	
Mean age		32.3	29.2	
Female		43%	52%	
Live in Bogotá (vs Soacha)[c]		52%	-	

a. Most extended interviews were with individuals; a few were with small groups. Some interviews were with a primary respondent with a few statements made by other individual(s) present; these secondary respondents are not included in the listed sample.
b. In Bolivia, this measure was based on poverty. In Colombia, I use strata, a neighborhood-level indicator used to determine eligibility for social services and subsidies. Strata ranges from 1-6; I define strata 1 as low SES.
c. To allow intercity comparisons, residents of Soacha were deliberately oversampled. To correct for this, descriptive statistics for the TransMilenio survey are weighted by city and gender. The Bolivia survey, and all regression models, are unweighted.

The transit user surveys were intercept surveys conducted at rush hour in transit stations. A stratified random cluster sampling strategy was employed; the cities were divided into sectors and survey sites were selected randomly from among the stations within each sector. For the TransMilenio survey, users in Soacha, who make up a small proportion of overall ridership, were intentionally oversampled to allow intercity comparisons. Descriptive statistics presented here adjust for this by weighting for city and gender. Significant differences are calculated with logistic or linear regression as appropriate.

A diversity sampling design was used for transit user interview participants, ensuring representation of respondents of different genders, economic backgrounds, ages, and neighborhoods. Interview participants for extended transit user interviews were identified through volunteers from the survey and in-transit interviews, as well as in collaboration with local community organizations. These initial informants sometimes served as the beginning of a sample chain.

Survey Questions: In addition to more general questions about transportation usage and opinions, survey participants were asked about their personal experience with transit crime, including whether they had ever been victims of robbery or, for women, sexual assault. They were also asked if they had witnessed these crimes, or heard from a friend, family member, or acquaintance about being victimized. To reflect local conditions, a question was added to the TransMilenio survey (which was conducted second) about whether women had been touched in a way that made them feel uncomfortable but they were unable to determine if the contact was intentional. Respondents for surveys in both cities were also asked about engaging in five defensive behaviors as a response to the risk of crime, including avoiding night travel, not making trips, traveling in groups, and taking more expensive transport.

Extended Interview Design and Analysis: Extended interview participants responded to an unstructured module of questions about the principal problems with public transport, as identified by the respondent. They were then prompted for a more focused discussion on transit sexual assault. Assault victims described their experiences and any ways their behavior and perception had changed in the aftermath of their assault(s). To provide a point of comparison, non-victims were also asked about their perceptions of safety and security-related behaviors. Participants were also invited to comment on cards containing information about sexual assault, mainly preliminary results from the surveys and excerpts from prior interviews with victims. Respondents also discussed incidents of assault they had witnessed or heard about from friends

and family members. Most interviews took place in homes; others were conducted at NGO

offices or cafes or cafes convenient to the participant.

Women base their travel decisions on the perceived safety of most dangerous portion of

their trips, often the walk to or from the transit station (or even parking garage); for this reason,

many researchers recommend analyzing the problem using a 'whole journey approach'

(Natarajan et al 2017, Smith 2008). While I do discuss how the effects of transit sexual assault

spill out onto the street and vice versa, I choose to focus predominantly on the portion of the trip

that occurs within the transit system itself (at closed platforms and on vehicles). My main reason

for this approach is that assaults inside the transit system comprise the majority of transportation-

related sexual assaults (Clark et al 2016, Lea et al 2017 et al, Ceccato and Paz 2017). Due to the

dominant 'fear of crime' research approach, sexual assaults on transit are not as well understood

as the effects of street insecurity. Study focused on sexual assault victimization in crowded

spaces is needed so that we can complement best practices for attaining 'safety in numbers' with

recommendations for how to keep women safe *in spite of* numbers.

2.4   RESULTS

As Table 2.2 shows, while transit crime was a common problem in both systems, it was

substantially more common on TransMilenio; the rate of sexual assault was 70% higher, and the

rate of robbery was more than double. Additionally, the majority of respondents in both places

had second-hand experience with transit crime through hearing from a friend or family member

who had been victimized, or by witnessing a crime committed against someone else.

No significant difference in rates of robbery by gender was observed in either city. As I will

show, gender does shape behavioral responses to insecurity, though having been sexually

assaulted has a much stronger effect. First, however, it is necessary to discuss the form transit

crime takes.

For both robbery and sexual assault, news reports tended to focus on violent incidents,

typically occurring in isolated locations. However, interview results made it clear that crimes of stealth in crowded areas were far more common. Most robberies described in interviews were pickpocketing of items such as wallets and cell phones.

TABLE 2.2 Personal Experience with Transit Crime in TransMilenio and El Alto

	TransMilenio Users (Colombia)	Informal Transit Users (Bolivia)
Experience of Crime on Transit		
Reference Period	ever	ever
Have been robbed	49.4%	21.4%
Have been sexually assaulted (women only)[a]	37.2%	21.9%
Have been ambiguously touched (women only)	44.1%	--
Witnessed assault	34.6%	35.0%
Heard about Assault from a victim	64.3%	36.1%
Witnessed Robbery	58.2%	55.2%
Heard about robbery from a victim	85.9%	58.4%
Defensive Behaviors (in response to risk of crime)		
Reference Period [b]	Past 7 days	Past 30 days
Avoiding night travel	46%	51%
Asking someone to accompany	31%	35%
Accompanying someone else	54%	33%
Taking a more expensive mode	35%	39%
Not making a trip	29%	17%
At least One Change	74%	86%
Average Number of Changes	1.81	1.61

a. To reduce underreporting, the question referred to having been 'touched inappropriately or assaulted.' Originally, this question was intended for both men and women. However, field pretesting revealed that a number of male respondents were interpreting the question differently than intended, including instances like being shoved. As a result, the question was only asked of women.

b. A longer reference period was used in El Alto to account for the more heterogeneous transit system. Due to this difference in reference period, caution should be employed when directly comparing rates of defensive behaviors between the two systems.

In both locations, the most common types of sexual assaults reported were fondling and frotteurism. Less commonly, women reported instances of exhibitionism and public masturbation. While these acts are not classified as assaults, the targets (at whom the perpetrators stared fixedly) reported feeling upset or violated. All but one of the assaults reported in interviews occurred in crowded conditions, which provide camouflage for assailants,

normalize intimate contact with strangers, and create ambiguity. Some victims of frotteurism realized belatedly that they were experiencing inappropriate contact, for example noticing that the man pressed up against them had ample space behind him. In other cases, the extreme crowding made it impossible to determine to whom the offending hand was attached. The ambiguity was commonly described as an inhibiting factor for women speaking up.

In interviews, approximately half of victims who identified an incident as unambiguously inappropriate reacted verbally at the time. Some also hit the attacker (in one notable case, with the umbrella one woman said she always carries for protection). Speaking up sometimes resulted in help from other passengers or staff, but, this support was not guaranteed. For example, when a drunk man sat down next to Juana[13] and began hugging and kissing her, she asked the driver to intervene. When he didn't respond, she demanded that he stop the bus and got off herself, waiting for a second bus and paying an extra fare:

> It makes me mad…. [The driver and his helper] knew that this person was drunk. Their duty should have been to leave him behind or intervene somehow. But since they didn't do anything, I had to stay behind.

A well-grounded fear that, like Juana, they would not receive support prevented some women from reacting verbally. One woman, recalling an incident from when she was a teenager, recounted with some anger how her parents chastised her for confronting her assailant. And yet, if women can face blame for responding, they are sometimes also chastised for not speaking up. Nina, who was not assaulted, asserted that "If you don't speak up, it's because you're permitting it." Some women who had been assaulted and spoken up voiced similar opinions.

It is true that bystanders are unlikely to intervene when victims do not verbally react; only one such incident was documented. Unfortunately, many other factors impede some women from speaking up. Violeta's experience captures the most commonly-cited reasons.

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[13] Names have been changed.

You freeze up because you don't know what to say…. I think it happens to lots of women, because I've heard from other people that they don't know what to say. Or maybe he didn't mean to do it and I'll feel bad, like I overreacted. If he's going to have a violent reaction, why create a violent atmosphere? One prefers to just act like nothing is happening, and get off at the next stop. But I take… an express route, …so I had to stand it for half an hour, feel him rubbing my bottom with his pelvis, and that's very uncomfortable. And without having the power to react like I should, saying to him: "Sir, you have lots of space, please stop pushing me," or "don't crowd me." But I believe I don't have enough determination to be like other women, because I've seen that there are some women who do complain.

Women who feel unable to advocate for themselves, whether due to personality, socialization, or age, are especially vulnerable to the effects of assault, in part because they are less likely to request and receive aid. When bystanders did intervene, the helpful actions cited by victims included verbally confronting the assailant and changing positions with the victim, allowing the bystander to serve as a physical barrier between victimizer and victim.

Very few of the incidents discussed were reported to police. For both types of crime, respondents were pessimistic about the likelihood of action on the part of police. Additionally, the reporting process can be time intensive, a particular concern during morning rush hour. There were also fears that the police were corrupt, or, in the case of assault, would be disrespectful. Heidi, the woman with the umbrella, was the only one to report her assault to the police. However, she was unusually familiar with the legal avenues for reporting assault due to her work at an organization that focuses on violence against women.

Some victims were also reluctant to report their experiences to family or friends. Juana elected not to tell her husband and son out of a fear of a negative reaction, though she did speak with her daughters "so that they could avoid that type of problem." Miranda and Violeta entrusted their parents with their stories, only to encounter anger and blame. Violeta also told a male friend about being sexually harassed; he insisted that she would not have been upset if the man had been attractive. Sanzet, assaulted at age eight, did not know how to describe her upsetting experience at the time, and had never told the story prior to our interview, a decade

later.

2.4.1 BEHAVIORAL RESPONSES TO INSECURE TRANSIT

Sexual assault increases victims' likelihood of altering their travel behavior by curtailing their mobility or expending more resources. As shown in table 2.3, I use logistic regression to model the likelihood that a transit user will report engaging in defensive behaviors in response to transit insecurity as a function of crime victimization. I estimated separate models for each behavior measured, with a common set of independent variables for all models in a given country. Sexual assault is measured categorically in a variable with three groups: women who have not been assaulted (base category), women who have been assaulted, and men. Robbery victimization is a binary variable.

Having been sexually assaulted was associated with an increased likelihood of engaging in every behavior measured; the relationship was statistically significant ($\alpha = .05$) for all but one behaviors in Colombia, and two behaviors in Bolivia. In both cities, as compared to women who have not been assaulted, female victims of sexual assault were twice as likely to avoid travel due to safety concerns. This behavior represents the most extreme security-related limitation on women's mobility. Colombian victims were also more than twice as likely as non-victims to avoid night travel and take more expensive modes of transportation, and 1.7 times as likely to travel accompanied by another person for safety. Robbery, in contrast, does not significantly shape behavior, with the exception that Colombian robbery victims are more likely to choose more expensive transportation[14].

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[14] That Bolivian robbery victims are significantly *less* likely to avoid night travel is most likely an indicator that they are at increased risk, rather than a behavioral effect of victimization.

TABLE 2.3 Behavior changes due to the risk of transit crime (Logistic Regression)

	Avoid Night Travel		Someone accompanied me		I accompanied someone		Took more expensive mode		Didn't Make a Trip	
TRANSMILENIO, COLOMBIA										
Group *(base: female non-victims of sexual assault)*										
Female victims of sexual assault	2.408	***	1.771	**	1.446	*	2.103	**	2.195	**
Female non-victims	(reference)									
Men	0.780		0.176	***	1.844	***	1.886	***	1.138	
Have been Robbed	0.957		1.187		1.337		1.580	***	1.151	
Live in Soacha (vs Bogotá)	0.633	*	0.891		0.870		0.624		0.639	*
Low SES (strata 1)	0.796		0.257	**	0.581	*	0.426	***	0.464	
Age (years)	0.994		0.978	*	0.977	***	1.000		1.001	
Pseudo R2	0.036		0.164		0.032		0.042		0.026	
N	562		562		562		562		562	
BOLIVIA										
Group *(base: female non-victims of sexual assault)*										
Female victims of sexual assault	1.457		1.208		2.024	**	1.606	*	1.944	**
Female non-victims	(reference)									
Men	1.292		0.512	***	1.871	***	1.788	***	2.284	***
Have been Robbed	0.652	**	1.204		1.128		1.345		1.130	
Poor	1.209		0.861		1.050		0.778		0.648	
Age	0.990		0.978	**	0.978	*	1.002		0.961	***
Pseudo R2	0.013		0.039		0.026		0.022		0.049	
N	528		526		529		528		527	

* denotes significance for α = .10, ** for α = .05, and *** for α=.01   Odds ratios shown.   Standard errors clustered by survey site.

Somewhat surprisingly, assault victims in both places were also more likely to accompany someone else for their safety, though in Colombia the effect was marginally significant. This somewhat counterintuitive tendency to spend extra time in transit they feel is unsafe is probably best explained by the interviews with middle-aged and older women who were assaulted in their youth; some felt that they were no longer personally in danger, but most expressed heightened concern for the safety of their daughters.

Men in both cases were more likely than women to accompany someone and less likely to be accompanied, in accordance with cultural norms. Men were also more likely to select more expensive transportation, aligning with the fact that men in most developing countries have greater economic autonomy in transportation as well as other areas (Peters 1998). Men in Bolivia were also more likely to avoid making trips, though over all, Bolivian men made more transit trips per month than their female counterparts

2.4.2 EFFECTS OF SEXUAL ASSAULT ON VICTIMS

In interviews with transit users, assault victims reported quantitatively more and qualitatively more intense behavior changes than women who had not been assaulted, concurring with the quantitative findings. Interviews also revealed several behaviors that were not captured in the survey, which I will describe below. When these are considered, all female victims changed their behavior; this was not observed in the two men interviewed.

Short-term emotional consequences were near-universal for female victims, and present in one of the two male victims interviewed. Victims reported emotional distress and anxiety during and shortly after their assault(s).[15]; five female and one male victim also reported longer-term emotional effects. Mariana, interviewed six years after her assault, noted:

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[15] One male victim reported no emotional reaction, and one female victim reported anger, but not the fear and distress described by other victims.

I don't feel comfortable on TransMilenio. You're always on the defensive so they don't touch you, watching out to see who's in front of you, who's behind you, who's all around you.

This stressful state of heightened alert, known as hypervigilance, is a common psychological response to traumatic experiences such as sexual assault, combat, and life-threatening accidents (Greenwald 2012). Regardless of the source of the original trauma, the emotional distress is often triggered by situations that resemble the site of the original trauma and crowded places in general. Accessing public transit, especially in crowded conditions, requires women who have been assaulted to reenter a situation that, for many, feels distressingly unsafe, and where there is an objective risk that they will be revictimized. As a result, for some women, an incident of sexual assault fundamentally changes the daily experience of taking transit from something mundane into something threatening.

The inevitable contact with strangers provokes anxiety, as Violeta explains: "Any touch I feel on my bottom, whether it's with an umbrella or the edge of a bag, puts me on alert…. The first thing I think is 'they're touching me.'" Contact that may or may not be innocent becomes more threatening; 63.4% of TransMilenio users who had been sexually assaulted also reported having been touched in a way that made them feel uncomfortable, but being uncertain as to whether it was intentional (as compared to 33.5% of women who had not been assaulted). For some, this is an occasional unpleasant incident. Others, like Mariana, reported enduring this discomfiting experience "almost always" when she takes a full bus.

This type of distress can be severe enough to generate long-lasting effects both travel behavior and emotional wellbeing. Persistent anxiety and distress cause some women to reduce

their usage of transit[16]. Those with the means sometimes reallocate most or all of their trips to more expensive modes. Others, like Juana, decrease their own travel: "I've preferred to stay home so that it doesn't happen to me anymore." Other women make less extreme but still significant modifications such as avoiding some locations or times of day, or making certain trips only when someone is available to accompany them.

When they did take transit, almost all assault victims interviewed engaged in behavior I refer to as defensive positioning. Women choose a location within the bus they perceive as safer, typically either up front near the driver, in the back or against a wall where nobody can be behind them, or near other women or elderly people:

> "I'm always prepared on TransMilenio and the feeder buses. I always try to be next to women, because with men, you don't know who is good or who is bad, or who is going to do something obscene to you." –Jazmín

Some also protect themselves by holding backpacks in front of them (for their own protection as much as to safeguard their belongings), or by carrying defensive objects like Heidi's umbrella. Assault victims engage in these behaviors whether or not they perceive any specific threat. They serve to carve out a safer space within a threatening environment, and it can be distressing if conditions make these idiosyncratic rituals impossible:

> I create my own personal space. I put my backpack in front of me and stick out my elbows so that nobody can get close to me…. I always keep my back to the door, but when I can't, like if somebody gets on behind me, I look for a way to make sure nobody is behind me looking at my back. I prefer to be looking at the person face to face. But I feel that the person is behind my back, facing my back, I don't like it…. One should be able to just get on transit and simply think about getting [there] on time. Just be there transporting oneself, but not live with this fear. –Violeta

For victims, sexual assault on transit, even if it only occurs once, can have lasting behavioral and

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[16] These types of avoidance behaviors are, by their nature, underrepresented in the survey sample of rush-hour commuters.

emotional effects that intrude on daily life. Discussing a time when she took TransMilenio only

because a man offered to accompany her, Violeta continued:

> It's horrible to think that because we're women, we can't take public transit alone at 8
> pm. One doesn't want to be *machista*, but this type of things obligates you to have
> *machista* behaviors, like 'Accompany me, because if not, I'll be afraid….' So you go
> reproducing systemic *machismo*, naturalizing something that shouldn't be like that.

The distress caused by assault, particularly the distrust of strangers, can invade life outside of the

transit system. Violeta didn't see her attacker's face, and lamented that he might have been

anyone, perhaps even the security guard at her college. Distress can also leak back in: the only

two "non-victims" interviewed who described defensive positioning behaviors had been sexually

assaulted outside of public transit. Diana, who was assaulted on the street, explained:

> People begin to condition themselves because of fear and vulnerability. It's really strong,
> and it's terrible. I even suffer it. I have panic on the street, and when I get on a bus, it
> begins to make me very anxious.

Diana's remarks are a reminder that transit sexual assault is a subset of a broader problem of

sexual harassment and assault of women in public spaces. The effects of crime on women's

mobility include conditions inside the transit system, and also the street environments through

which women access and egress from transit. However, as the responses of assault victims

show, victims' fears about transit sexual assault center on the environment in which they have

been victimized, most commonly crowded vehicles and platforms.

2.5   DISCUSSION

This study joins a growing body of evidence that transit sexual harassment and assault are

common in cities around the world (e.g. UN Women 2017, Bhatt et al 2015, Clark et al 2016,

Ceccato and Paz 2017), and that they have serious effects on victims' behavior and wellbeing

(Clark et al 2016, Condon et al 2007, Gardner et al 2017, Horii and Burgess 2012).   While

insecure transit affects most women and, to a lesser degree men, the effects are amplified for

female victims of sexual assault[17]. Women who have been victims of sexual assault are more

likely than other users to modify their travel behavior in ways that restrict their mobility, or to

take on a higher financial burden in order to feel safe.

While many female transit users described increasing their situational awareness while

using unsafe transit, for a number of sexual assault victims, this everyday "constant vigilance"

(Condon et al 2007) intensifies and morphs into hypervigilance, a distressing emotional and

physiological response to prior trauma (Greenwald 2012). Traumatized victims attempt to

manage their anxiety and rational fear of being assaulted again by adopting defensive positions

to physically and psychologically protect themselves from their fellow passengers. While not

every victim is traumatized, for some, distress and symptoms of trauma color their experience of

transit and intrude on their daily quality of life for years after an attack.

In addition to the harm transit sexual assault does to users, insecurity has negative

impacts for the transit system as a whole. Even the most conservative interpretation[18] of the

TransMilenio user survey, for example, suggests that 300,000 trips are suppressed each week due

to the risk of crime, and 350,000 are redirected to more expensive modes of transportation.

Similar suppression of demand has been documented in other cities; the effect of transit crime on

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[17] Empirical documentation of the effects on male victims of transit sexual assault is limited; most studies have too small a sample size to generalize. However, male victims of transit sexual assault have been observed to be less affected than female victims (Clarke 2016). This concords with research and theory about male victims of sexual assault and harassment in public space more generally (Bastomski and Smith 2017, Condon et al 2007, Macmillan et al 2000, Valentine 1992).

[18] This includes unrealistically restrictive assumptions: that the number of unique weekly users is the same as unique riders on a weekday, that everyone who engaged in these behaviors did so only once, and that there is no underreporting due to the fact that people who are avoiding TransMilenio are likely to be undersampled in a survey conducted in TransMilenio stations.

ridership and revenues can be substantial Loukaitou-Sideris 2014, Pain 1997).

Safe transportation for women is composed three interlocking problems. The first, which has received by far the most attention, is fear of victimization in isolated environments. While the probability of stranger rape is relatively low, the extreme potential consequences lead many women change their behavior and travel patterns to protect themselves from an unknown risk. The second problem, to which I draw attention here, is widespread sexual assault in crowded transit environments. The third problem is widespread sexual harassment, which bluntly reminds women that they are at constant risk of escalating violence (Condon et al 2007). These three problems are embedded in and reinforced by cultural messaging that, as early as primary school, teaches women to view themselves as simultaneously vulnerable and culpable if they fail to protect themselves from sexual victimization (Valentine 1992).

It is critical to address all of these problems, but each requires different strategies. Tools designed to make women feel safe and welcome in public space in general are valuable for addressing fear of isolated environments in public transit and walking to and from stations (Loukaitou-Sideris 2014). However, we cannot prevent the fear of violence from impacting women's wellbeing and mobility if we fail to protect them from a very real risk of transit sexual assault. To truly address the 'whole journey,' transportation planners and policymakers must increase the attention paid to the portion of the trip that occurs within the transit system and adopt strategies that are effective in crowded environments.

2.5.1 Policy Implications

To combat transit sexual assault and enable women to move freely, planners need to address the everyday dangers of rush hour and crowding. Measures to improve the safety of public transit are most effective when they are part of a multipronged strategy (Ceccato and Paz 2017 and Paz, Tudela et al 2015). An integrated program must focus not just on punishing offenders, but on

decreasing crime, caring for victims, and credibly assuring women that they are safe and welcome in public transit.

One promising framework for reducing the frequency of sexual assault is Situational Crime Prevention (SCP) Clarke 1992). SCP attempts to prevent crime before it happens by making it more costly and more difficult to commit, and less rewarding to the potential perpetrator. It is particularly well-suited to situations where many strangers interact, such as public transit (Smith 2008, Natarajan2015). Smith (2008) identifies five categories of techniques, which amount to five causal pathways by which crime rates can be influenced. Smith discusses these categories primarily with regards to violent and property crimes, but they can be adapted for sexual assault.

1. Increase the effort required for crime: increase the difficulty of making inappropriate contact with potential-victims

2. Increase the risk by making detection more likely: This is distinct from the harshness of penalties and does not necessarily require police involvement; the more important factor is to increase the probability that a perpetrator will be caught.

3. Reduce the rewards of the behavior: From the standpoint of a perpetrator, a "successful" assault allows them to elicit fear and shame from their victims without themselves experiencing shame for their own inappropriate reactions. Social approbation from other passengers can negate this benefit.

4. Reduce "situational provocations" for crime: For Smith, this category of intervention centers on reducing service difficulties that elevate passenger emotions, increasing the risk of aggressive behavior. Given the long history of blaming sexual assault victims for "provoking" their attackers, this concept should be applied with extreme caution.

However, situational provocations can be a factor in verbal harassment, where the perpetrator may be encouraged by male companions, and assaults committed by more than one person.

5. <u>Removing excuses</u>: Eliminate situational factors to which perpetrators can falsely attribute their actions. For transit sexual assault, the main situational excuse is crowding. However, rough roads and uneven driving have also been mentioned, as they allow perpetrators to "fall" on or bump against victims repeatedly.

These categories can serve as a guide to evaluate the potential of some popular security measures (Table 2.4). Because sexual assault victims suffer long-lasting negative effects, I have added a sixth category for consideration: whether or not a measure takes care of victims' emotional needs and/or increases their comfort with future use of the transit system.

TABLE 2.4 A Situational Crime Prevention analysis of anti-sexual assault policies

Policy	Increase Effort	Increase Risk of Detection	Reduce Rewards	Reduce Situational Provocations	Remove excuses	Care for Victims
Encourage defensive behaviors	✗	✗	✗	✗	✗	✗
Crowding Reduction	✓	✓	✓	✗	✓	✓
Bystander Intervention/Social Education	✗	✓	✓	✓	✓	✓
Security Cameras	✗	?	✗	✗	✗	?
Staff and Police Training	✗	✓	✓	✗	✗	✓
Improved Reporting	✗	✓	?	✗	✗	✓
Women-only transport	✗	✗	✗	✗	✗	✓

The most notable feature of this evaluation is that the defensive behaviors women adopt in response to insecure transit affect *none* of the SCP pathways. Leaving women to fend for themselves does nothing to decrease either transit sexual assault or the fear of transit sexual assault. Worse, planners' inaction comes at the cost of women's freedom of movement and

emotional security. While some of the other security measures listed here are untested or contentious, every single one of them has a greater potential of helping sexual assault victims than doing nothing.

Of the policies listed here, crowding reduction is the most important and the one with the greatest likelihood of success in reducing the number of assaults. Crowding maximizes opportunity to commit assault by normalizing close contact with strangers. It decreases the risk of detection because in a closely-packed car, even the victim may be unsure to whom the hand that is stroking her is attached. After an assault, the perpetrator can melt into the crowd. The ambiguity provides an excuse, sometimes causing victims to question their own perceptions and reducing the likelihood that they or a bystander will challenge the perpetrator. Crowding increases the rewards for perpetrators because victims are sometimes physically prevented from getting away, allowing their victimizer to continue the attack over long stretches of time. Finally, in addition to putting women in harm's way, after an assault has occurred, reentering a crowded transit vehicle can be particularly anxiety-provoking for a victim.

Social education is a promising complement to crowding reduction, particularly if it focuses on bystander intervention. Bystander intervention is critical to caring for victims; a supportive response can reduce future trauma and fear (Ullman and Filipas 2001). If bystander intervention becomes normal and expected, it also increases perpetrators' perceived likelihood of being identified and shamed, reducing the expected rewards. Consciousness raising among women can encourage them to speak up, and reassure them that they did nothing wrong. Men can be encouraged to be more empathetic to women with whom they interact and challenge friends' harassing behavior rather than encouraging them to continue; this makes social education the only listed intervention that targets situational provocations.

Security cameras, despite their popularity with planners, are likely of extremely limited utility. They may increase the risk of detection in non-crowded conditions, but in a crowd, blocked sight lines and the ambiguity introduced by obligatory contact between passengers means that cameras will be unable to capture many assaults. They therefore do not have much potential for reducing transit sexual assaults. To the extent that victims view the cameras as effective, they may reduce some women's anxiety. However, none of the victims interviewed mentioned security cameras, and other studies have found that female transit users are not as enamored of them as are male passengers and planners (Cho and Park 2017, Loukaitou-Sideris and Fink 2009) .

Instead of a technological fix, staff training might be a better investment for safe transit. Rather than simply monitoring events for potential later prosecution, transit staff who are trained to identify and intervene in sexual harassment and assault can provide protection to women in the moment. These sorts of "human" solutions are generally more popular with women (Loukaitou-Sideris and Fink 2009, Loukaitou-Sideris 2014, Cho and Park 2017, Tudela et al 2015). To the extent that training focuses on personnel who would have been in the transit system regardless, staff training may also cost less than adding security hardware.

While improved reporting does not operate through many SCP channels, it is an important component of any security strategy. Victims in many cities have found the formal reporting process at best time-consuming and at worst, an upsetting experience that compounds an already-traumatic event. As a result, sexual assault on transit is dramatically underreported (Ceccato and Paz 2017, Stringer 2007, Tripathi et al 2017, Tudela et al 2015). This makes it difficult to effectively target future policy responses or identify victims in need of care. Improving reporting rates provides important data about the spatial and temporal patterns of

assault, and for some victims, sharing their experience with a sympathetic listener is inherently comforting.

To improve reporting, in addition to training and adding security personnel, many cities have implemented alternate methods for women to alert transit agencies, such as help lines, text messages, and web interfaces. To reduce the effects of income inequality, reporting platforms should be available through both smart and analog phones (Tudela et al 2015). Quito is integrating this reporting function into more direct assistance to victims, by causing text messages to play a real-time warning announcement in the vehicle where the incident is taking place (Carvajal 2017).

It should be noted that publicity is important for the success of phone and text reporting; two hotlines were available for victims of sexual assault in Bogotá, but most users interviewed (and some TransMilenio staff) were unaware of their existence. São Paulo achieved greater success at increasing reporting rates by promoting in-person and online reporting as part of a broader campaign called "You are Not Alone (Ceccato and Paz 2017).

From a crime-prevention standpoint, women-only transit services have not been shown to be successful. The main reason for this is that these services do not address any of the underlying problems of the all-gender transit system, and typically provide service only to a minority of users (Dunckel-Graglia 2013). Even in Tokyo, where women-only carriage rates are favorably evaluated by most sexual assault victims, many say that operational difficulties make them too difficult to use (Horii and Burgess 2012). A number of transit users and women's advocates have raised objections at the notion of safety through segregation, expressed concern that doing so may implicitly mark other public spaces as belonging to men, and fail to help gay men and gender non-conforming people (Lobo 2014, Loukaitou-Sideris 2016, Sweet and Ortiz

2015, Tudela et al 2015)[19].

While I agree that segregated transit is not a viable long-term solution, my research does suggest that there is an important argument for considering women-only transit spaces in the short term: they provide a way for the many women who are suffering from sexual trauma to recover their freedom of movement. In fact, many transit sexual assault victims already manage their distress by attempting to create bubbles of women-only space, surrounding themselves with other female passengers whenever possible. Spaces designated specifically for women mimic and expand on this strategy, assuring women of reliable access to transit that will not induce intense emotional distress.

Women-only transit should never be the only strategy for improving transit safety. It is imperative to work for a tomorrow where public transit is safe for people of all genders. Today, though, many women are suffering because they have already been harmed by a transit system that has not valued their safety. Planners have a duty to provide vulnerable people with access to transportation that does not require them to sacrifice their bodily autonomy and emotional wellbeing.

2.5.2   Directions for future research

Transit sexual assault remains an under-documented crime. Given the inadequacy of police statistics, local policymakers and advocates urgently need better documentation, and researchers need a broader understanding of the effects of victims in different contexts and cultures. Given the lack of agreed-upon terminology, researchers should specify which behaviors they classify as harassment or assault, and provide disaggregated results. This allows researchers to compare

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[19] Dunckel-Graglia (2013) makes the opposite argument, claiming that once Mexico City's women-only services were branded pink, they served to raise awareness of women's right to be in public space. However, she notes that many locals raised the same objections described above.

rates of harassment and assault across countries, even if studies use different classification systems. Because transit users may also be unclear about what constitutes harassment and assault, asking them about specific behaviors will also increase accuracy and reduce underreporting.

We need research about the effectiveness of innovative policies to reduce sexual violence. However, we must also face the reality that our cities are full of women who have already been assaulted, are already traumatized, and who need additional help to recover their ability to move freely. Additional qualitative research into the experiences, concerns, and behavioral strategies of assault victims could provide clues as to how best to welcome them back into public transit and public space. For example, we have identified physical characteristics that increase women's sense of safety in isolated conditions (Loukaitou-Sideris 1999); are there design solutions that would increase sexual assault victims' sense of safety in a full transit vehicle? Some victims interviewed for this project preferred to keep their backs against a protected surface, typically a wall or door. Would maximizing the available area of these surfaces, perhaps preserving visibility by using transparent materials, help these survivors feel safe using transit
by allowing them to reliably carve out a protected space for themselves?

In addition to analyzing the physical qualities that affect safety, empirical study of the social dimensions of the problem are also needed. For example, what logistical factors and social norms inhibit bystander intervention? It has generally been found that male passengers consider transit sexual assault to be less serious than do female passengers. How do these attitudes arise, and what information and interactions are most effective for challenging demonstrably false perceptions that transit sexual assault does not seriously harm victims?

Given that many planning agencies fail to take action to curb transit sexual assault, we must also turn the lens on the attitudes of planners themselves

Finally, transit crime is merely one of many arenas in which a 'one size fits all' policy has differential impacts and worse outcomes for marginalized people. Crowding disproportionately affects assault victims, but also people with disabilities, the elderly, caretakers of young children, and even short people (some of whom reported in interviews for this project that they found it difficult to breathe). It is hoped this research will serve as a reminder that in many domains of planning, researchers should check for differential impacts, to ensure that we are meeting the needs of the most vulnerable.

2.6 CONCLUSION

Transit sexual assault is common in cities in Colombia, Bolivia, and nations around the world (UN Women 2017, Bhatt et al 2015, Clark et al 2016, Ceccato and Paz 2017, Stringer 2007). Transit sexual assault harms victims, with effects on behavior and wellbeing that sometimes persist for years (Clark et al 2016, Ball and Wesson 2017). Women who have not been personally assaulted are also affected by transit insecurity (de Jubainville and Vanier 2017, Delbosc and Currie 2012, Loukaitou-Sideris 2014). Insecure transit constrains women's freedom of movement and limits their right to enjoy public space (Condon et al 2007, Gardner et al 2017, Valentine 1989).

While the majority of research and policy on women's safety has focused on the fear of isolated environments and late-night travel (Loukaitou-Sideris et al 2009, Smith 2008), the majority of transit sexual assaults occur in crowded conditions, often during peak hours (Ball and Wesson 2017, Ceccato and Paz 2017). The twin risks of isolation and overcrowding must both be addressed, but require different strategies.

A lack of research on crowding-facilitated sexual assault has left planners and policymakers with little guidance on how to protect female transit users from the most common type of sexual assault and improve the mobility and wellbeing of women who have already been victimized. This paper fills addresses that gap by examining the experiences of sexual assault victims and the effect of the experience on their travel behavior and wellbeing. I find that women who have been sexually assaulted are more likely to limit their own mobility or opt out of public transit. Even when victim's travel patterns do not change in ways that would be captured in a conventional travel survey, their daily experience of taking transit can change dramatically, exposing them to long-term stress and emotional distress.

Planners need to focus on preventing future assaults and caring for victims who have already been harmed. Empirical study of available policy options is needed. However, considering the techniques of Situational Crime Prevention and the results of this study, I contend that crowding reduction, bystander intervention, and staff/police training are the most promising methods. Women-only service is unlikely to significantly decrease future assaults, but may play an important role in caring for victims who have already been harmed. Unfortunately, two of the most popular techniques among planners are unlikely either to deter assaults or significantly improve women's sense of safety in crowded environments. Security cameras are unable to cut through the ambiguity of normalized close contact on which perpetrators relay. Leaving women to fend for themselves, a common strategy, forces them to continue to choose between freedom of movement and bodily integrity. Further study is needed not only of the most effective methods for improving safety, but also of ways to encourage planners to take action.

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CHAPTER 3 PLANNERS' VISIONS OF TRANSIT SEXUAL ASSAULT: THE PROBLEM OF DEPROBLEMATIZING BELIEFS

3.1 INTRODUCTION

Sexual assault and harassment in public places are common in cities around the world (e.g. UN Women 2017, Bhatt et al 2015, Clark et al 2016, Stringer 2007). A high proportion of these attacks occur on public transit, predominantly on crowded vehicles and platforms (Ball and Wesson 2017, Ceccato and Paz 2017). Common forms of assault such as groping and sexual rubbing exact a measurable toll on victim's mobility and wellbeing (Gardner et al 2017, Horii and Burgess 2012, Clark et al 2016). Nevertheless, these crimes are frequently dismissed by planners as mere nuisances, and the problem remains understudied and inadequately addressed in many cities (Clark et al 2016, Ball and Wesson 2017, Loukaitou-Sideris et al 2009).

This study examines the perspectives of planners in two transit systems where sexual assault is widespread (see Chapter II): TransMilenio Bus Rapid Transit (BRT) system in Bogotá and Soacha, Colombia and informal transit in El Alto, Bolivia. While El Alto's transit is low-performing in general, the fact that most passengers travel seated in small vehicles has an accidental protective effect; 'only' 22% of female transit users have been assaulted, as compared to 37% on the chronically overcrowded TransMilenio. In both cities, the risk of crime curtailed the mobility of many transit users, but disproportionately affected female victims of sexual assault. Some transit sexual assault victims also experienced long-lasting emotional distress and symptoms of traumatic exposure.

In both cases, despite the ubiquity and measurable adverse impacts of sexual assault, many planners did not view the issue as a problem. Additionally, a number of male planners were dismissive of victim testimonies and unswayed by statistics about the scope of the problem in their own transit systems. Planners' perspectives are sharply at odds with the lived realities of transit sexual assault victims and female users in general. Further, planners' disinterest in taking action leaves women in harm's way.

I examine attitudinal factors that keep sexual assault off the agenda of many planning organizations through the theoretical lens of Vision dissonance (Chapter 1). I find that deproblematizing beliefs, which position sexual assault as a non-issue, are widespread among planners, as well as among transit users who have not been victimized. Five *deproblematizing beliefs* were especially common among male planners: (1) victims of sexual assault on transit are often mistaken or lying; (2) groping and sexual rubbing do not seriously harm victims; (3) victims brought the attack on themselves; (4) assault is natural and unchangeable; and (5) planners should not be responsible for addressing sexual assault because they did not create the problem.

Regardless of the intentions of each individual planner, the ubiquity of these deproblematizing beliefs poses a significant barrier to action because they support an attitude that sexual assault on transit is not a problem to which planners should devote resources; either there is no problem to solve or attempting to solve it is so difficult as to be futile. Though these statements are apparently contradictory, a number of respondents made both arguments at once. Several deproblematizing beliefs are demonstrably false, and others are inconsistent with generally accepted norms about planners' responsibility for addressing other complex issues. However, such beliefs affect action regardless of their veracity (Perloff 2010). They also lead to

biased uptake of empirical information about sexual assault (Perloff 2010). For example, a technocratic planner who normally privileges quantitative data (Chapter 1) may reject a statistic about the frequency of sexual assault; if alleged victims are considered untrustworthy, then self-reported data about the problem is invalid. This resistance to information that contradicts pre-existing attitudes must be taken into account in efforts to educate planners about sexual assault.

I argue that in order to combat transit sexual assault, researchers and advocates must be mindful of the likely biases and pre-existing views of planners. Information about sexual assault should be in formats that concord with planners' general paradigms and evidence standards, making sure to incorporate quantitative documentation. However, deproblematizing beliefs can override norms about valid information. To increase the likelihood that the audience will accept findings, presenters must directly confront and debunk deproblematizing myths about sexual assault.

Finally, I discuss the danger of approaching sexual assault from an exclusively criminological standpoint. Applying the judicial standard of "beyond a reasonable doubt" outside of a courtroom results in a miscarriage of justice; the fact that most assaults are unprosecutable leads many planners who approach the problem as a crime wave to dramatically underestimate the magnitude of the epidemic. Out of concern for hypothetical harm to an imagined falsely-accused perpetrator, planners leave real women in danger. Rather than centering punishment, I suggest that planners approach deterrence from the standpoint of reducing *opportunities* for crime, for example decreasing overcrowding. Pursuing safer transit, combined with caring for the needs of victims, can help welcome women who have been harmed by insecurity back into public space.

3.2 BACKGROUND

3.2.1 Sexual Assault in Public Space and Public Transit

Sexual violence restricts women's mobility and use of public space, infringing on their right to the city (Condon et al 2007, Smith 2008, Sweet and Ortiz 2015, Valentine 1989). The majority of victims of sexual assault are women, although gay men and gender non-conforming people are also at elevated risk (Stringer 2007, Clark et al 2016, Madan and Nalla 2016, Ceccato and Paz 2017). Even among women who have not been personally assaulted, a culturally-instilled awareness of vulnerability, often reinforced by street harassment and other forms of sexual aggression, exert a 'tax' on women's use of public space (Condon et al 2007, Valentine 1992). The resulting fear shapes women's travel, inspiring many to avoid certain types of space, times of day, or modes of transportation (Loukaitou-Sideris 2014, Pain 1997, Condon et al 2007). In particular, women are deterred from using public transit, both by the transit service itself and the need to walk in and wait in sometimes-isolated environments in order to access the service. When women venture out in spite of fear, they commonly take "everyday precautions" such as traveling in groups, choosing well-lit walking routes, and in some cases, choosing clothing they believe will attract less attention (Condon et al 2007, de Jubainville and Vanier 2017).

Men are also affected by insecure streets and transit systems, but the effects tend to be much less pronounced (Spears et al 2013). For example, while both male and female crime victims often report increased fear after the experience, men's fear tends to center on specific geographic points; women's fear generalizes to a much broader portion of public space (Spicer and Song 2017).

Although fear of crime is most often associated with the risk of rape in isolated environments and late at night, the largest number of sexual assaults occur in crowded conditions during the day (Ball and Wesson 2017, Ceccato and Paz 2017). This can include venues such as

concerts, markets, and public festivals, but public transit is a dominant setting (Clark et al 2016). The most common crowding-facilitated assaults are groping and frotteurism (sexual rubbing). By normalizing physical contact that would normally be unacceptable, crowds provide perpetrators with access, camouflage, and plausible deniability (Ceccato and Paz 2017). As we shall see, many planners react to the ambiguity of physical contact in crowds by doubting the trustworthiness of victim reports. Further, transit users tend to perceive an assault as less severe if it occurs in a crowded area as opposed to an isolated one, and are less likely to report that they would intervene (Ball and Wesson 2017).

The reality that most transit sexual assaults occur in crowded conditions is at odds with the fact that most research and policy focuses on assuaging women's fear of solitary environments (e.g. Loukaitou-Sideris 2014, Valentine 1992, Smith 2008). The common presumption that actual crime is rare has lead researchers to lose sight of a very real epidemic: sexual assault on transit is common in cities around the world. In a number of cities, at least half of female transit users have been assaulted; when sexual harassment is included, this figure sometimes approaches 100% (Horii and Burgess 2012, Dunckel-Graglia 2013, Tripathi et al 2017). Even in relatively safe cities such as New York (Thomson Reuters 2015), about 15% of female subway users have been sexually assaulted, a figure that appears to be growing as the system confronts increasing crowding (Stringer 2007). Victims rarely report assaults to police, in part because the experience is often made unpleasant by dismissive attitudes and insensitive questioning implying that the victim is at fault (Ibid., Tripathi et al 2017, Natarajan et al 2017). The systemic factors that discourage reporting reinforce the invisibility of the problem (Ceccato and Paz 2017).

Planners in many cities have yet to take action to address transit sexual assault and

harassment. This has been attributed to planners' tendency to minimize the consequences of 'minor' crimes (Loukaitou-Sideris et al 2009, Clark et al 2016, Ball and Wesson 2017). Additionally, the failure to apply a gendered lens to planning issues tends to result in a failure to address women's needs (Fainstein and Servon 2005). In Loukaitou-Sideris et al.'s (2009) survey of medium and large transit agencies, they found while two-thirds of transit planners believed women had specific security needs, only one-third believed planners should implement programs targeted towards those needs. The percentage of agencies that acted on this belief was even lower: out of the 131 systems surveyed, only three had women's safety programs. Although some cities, such as São Paulo, Mexico City, Tokyo, and Quito have been more proactive in addressing the problem (Ceccato and Paz 2017, Dunckel-Graglia 2013, Horii and Burgess 2012, Carvajal 2017), women's needs for safe transit remain, by and large, inadequately addressed (Loukaitou-Sideris and Fink 2009).

Sexual assault in general is underreported and under-prosecuted.   In the US, only 31% of rapes are reported to the police, as opposed to 62% of robberies (RAINN 2015[20]). Rape reports are also less likely to result in an arrest, and less likely to be referred to a prosecutor. The cumulative result of these discrepancies at every stage of the process is that a robber is three times as likely to face jail time as a rapist; less than 1% of rapes result in jail time for the perpetrator.

For transit sexual assault, the reporting rate is even lower, partially because it is dominated by acts that are not considered "serious," particularly by men (Clark et al 2016, Dunckel-Graglia 2013). To take an extreme example, every single one of the 200 female

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[20] RAINN's report was based on data from the Bureau of Justice Statistic's 2014 National Crime Victimization Survey, available at https://www.bjs.gov/index.cfm?ty=pbdetail&iid=5366.

students surveyed by Tripathi et al (2016) in Uttar Pradesh, India had been a victim or witness of sexual harassment or assault on public transit in a six month period of 2015, with 25% of respondents experiencing at least ten incidents per month. According to police records for the province of 200 million people, no incidents of harassment or assault on transit were reported in all of 2014-2015. While the situation in New York City is not quite so extreme, only 14% of subway sexual assault victims reported contacting the police or transit agency (Stringer 2007), less than half the national reporting rate for rape (RAINN 2015).

The low reporting rate is a serious obstacle to prosecution. To the extent that policymakers incorrectly view crime statistics as an accurate representation of the extent of assault, underreporting also decreases the likelihood that policymakers will prioritize addressing the problem. Potential predators are empowered by the knowledge that, given this pervasive, systemic sexism, they are unlikely to face negative consequences for mistreating or assaulting women.

In this paper, I focus on planners' Visions of sexual assault specifically on transit. However, since transit sexual assault is one manifestation of a systemic threat to women's safety in public and private spaces, it is worth considering gendered experiences and attitudes more broadly. For example, for women, sexual assault represents the escalation of a more quotidian experience of harassment (Clark et al 2016, Condon et al 2007, Valentine 1992). Cisgender men, in contrast, are not conditioned through acculturation and daily experience to perceive themselves as vulnerable to sexual aggression. While cisgender men sometimes experience sexual assault, the incident is not reinforced by lifelong experience with harassment and gendered norms of vulnerability. As a result, they may find a women's fear difficult to empathize with, exaggerated, or unbelievable (West 1991). This contributes to male skepticism

about sexual harassment and assault, whether on the street or in the workplace. On sexual

harassment in academia, Jahren (2016) remarked wryly, "my male colleagues will sputter with

gall, appalled by the actions of bad apples so rare they have been encountered by every single

woman I know." This skepticism extends into the criminal justice system; the tendency of police,

judges, and juries to put victims of sexual violence, rather than their attackers, on trial is well-

documented (Richardson and May 1999, Jordan 2008).

3.2.2   Case Backgrounds

While the experience of transit sexual assault appears to have many commonalities wherever it

occurs, planners interviewed for this study discuss assault as they perceive it in the cities in

which they work. Accordingly, I compare their views with empirical evidence about sexual

assault specifically in the sites studied. The substantive findings about the form, frequency, and

effects of sexual assault on victims are available in their entirety elsewhere (see Chapter 2), but I

will summarize the most relevant findings here.

In some ways, TransMilenio BRT in Bogotá/Soacha, Colombia and the informal transit

network of El Alto and its sister city, La Paz are polar opposites: TransMilenio is an

internationally recognized example of successful transit reform, and a leader in BRT (Suzuki et

al 2013, ITDP et al 2016). In contrast, transit in El Alto is provided informally in a system

similar to the one TransMilenio was designed to replace: a chaotic network of individual drivers

who earn their livings directly from the fares they collect. As a result, drivers defer maintenance,

discriminate against passengers who are perceived to be less profitable, and do not respect

regulations about routes and fares (Chapter 1, Pando Solares 2012). Whereas TransMilenio

provided users with a way to escape Bogotá's formerly-notorious congestion, El Alto's

minibuses are the primary components of local traffic jams.

El Alto's army of 14-passenger *minibuses* is seen as antiquated by local planners, who

aspire to replace them with a system resembling TransMilenio. However, the atomization of the transit market provides an accidental safety benefit: *minibus* passengers all travel seated. This protects users from crowding, a known risk factor for sexual assault (Ceccato and Paz 2017, Ball and Wesson 2017, Clark et al 2016)).

Though sexual harassment and assault are not unheard of on the minibuses, local discussion of the problem often focused on larger *microbuses*. These crowded vehicles comprised only 9% of the transport fleet (Pando Solares 2012), but play an outsized role in sexual assault. Expressing a common sentiment, one interviewee described sexual assault as "a problem of the *micros*."

While TransMilenio outperforms El Alto's informal transit on most measures, chronic overcrowding exposes passengers to much higher risk of sexual assault. This is reflected in findings about the frequency of sexual assault in the two systems: 37% of female TransMilenio passengers report having been subjected to some form of unwanted sexual contact while using transit. In El Alto, 22% of women reported similar experiences.

Despite the dramatic differences between the two systems, the effects of sexual assault were broadly similar in both cases, and conformed with findings from other case studies (eg Clark et al 2016, Condon et al 2007, Natarajan et al 2017, Spicer and Song 2017). In both cities, transit users modified their behavior by avoiding travel at night, traveling in groups for safety, taking a more expensive mode, or avoiding making a trip entirely. Insecurity can affect transit users' travel behavior, regardless of whether they have been personally victimized. However, female victims of sexual assault were more likely to engage in every defensive behavior measured, almost always significantly. Sexual assault victims in both countries were twice as likely to avoid making a trip due to safety concerns. Colombian victims were 2.4 times as likely

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to avoid night travel as compared to other Colombian women (in Bolivia, this figure was 1.5, but was not significant for α=.05). The effect for most behaviors was stronger in Colombia, where the likelihood of being assaulted a second (or third, or fifth) time was higher. In interviews, all female sexual assault victims from both countries reported changing their behavior in the wake of their assaults.

In addition to the above actions, when victims re-enter transit, many engage in defensive positioning, placing themselves in locations that they perceive as more secure. They may stand with their back to the wall, surround themselves by other women, or be up near the driver. Many compound the protective effect of their location choice by physically covering their bodies with backpacks or other held objects.

Defensive positioning is often an attempt to mitigate distressing symptoms of trauma such as hypervigilance. Some victims described experiencing this anxiety-provoking state of heightened arousal, awareness of surroundings, and fear of fellow passengers every time they entered the crowded system. While not all victims experienced this type of emotional consequence, for many, the effects lingered for years after the initial assault.

In summary, in both systems studied, transit sexual assault is common. It harms victims, shapes their behavior, and inhibits their ability to move freely. Despite these facts, we will see that many planners in both countries do not consider transit sexual assault a problem. To analyze planners' perspectives, I will employ the theoretical frame of Vision dissonance.

3.2.3 Beliefs, Attitudes, and Visions in Planning

Planners' processes for defining, prioritizing, and solving problems are shaped by their Vision, or mental model, of a policy situation (Chapter 1). Vision, in this context, refers to a compound lens composed of overt and latent elements, including attitudes, beliefs, paradigms, frames, theorizations, and experiences. Both professional and laypeople have Visions of planning issues,

and incompatibilities between stakeholders' Visions can create conflict in the planning process (ibid).

An attitude, as defined by Perloff (2010), is "a learned, global evaluation of an object (person, place, or issue) that influences thought or action. (43)" They are typically based on emotional, rather than cognitive, judgments. An attitude is typically anchored in a number of more specific beliefs.

Beliefs are typically cognitive, and come in two types. Descriptive beliefs are hypotheses about how the world works. They can be empirically tested, but people often perceive their beliefs as fact without testing the hypothesis. For example, a commuter may be certain that one of her possible routes home is faster than the other without having collected systematic data on the subject. Prescriptive beliefs are value judgements, such as "more people should take public transit." Because they are normative, they cannot be empirically evaluated.

Attitudes and beliefs are particularly important when examining socially-charged issues such as sexual assault. I will be documenting and analyzing a number of planners' beliefs about sexual assault that contribute to an overall attitude about whether it is a problem worth addressing.

A frame is a narrative that serves the function of organizing information and beliefs into a coherent description of a problem and articulating an explicit policy position (Schön and Rein 1994). Organizations actively promote their chosen frames when arguing for policy solutions. Individuals' frames often borrow from these readily-available constructs, sometimes employing multiple frames simultaneously (ibid). For example, many planners interviewed for this project defined sexual assault primarily within their organization's overall framework for the problem of public transit in general, but some also borrowed elements of a competing feminist frame.

While frames are oriented towards content, paradigms (Kuhn 1962) are norms about the

process of problem-solving. Paradigms are "shared beliefs within a community . . . about which

questions are most meaningful and which procedures are most appropriate for answering those

questions" (Morgan 2007, 53). Planning scholarship and practice are torn between two

competing paradigms: a technocratic paradigm (a more general name for rational planning) and a

communicative paradigm. The technocratic paradigm approaches planning issues as empirically

solvable problems. Technocracy has been criticized for ignoring the normative dimensions of

planning problems, community desires, and local expertise (e.g. Jacobs 1961, Rittel and Webber

1973, Irwin 1995).   The consensus-based communicative paradigm arose in response to these

critiques. However, communicative planning has been criticized for privileging participatory

processes over just outcomes, failing to provide tools to overcome deep divides between planners

and marginalized people, and for ignoring the value that empirical analysis can add to planning

(e.g. Watson 2009, Fainstein 2005, Abram 2000).

Because the communicative paradigm is not universally accepted, an observation made

more than thirty years ago by Alexander (1984) remains applicable: despite a crisis of legitimacy

for rational planning, the lack of agreement over a paradigm to replace it leads many planners to

continue to rely on rationalist assumptions and methods. As a result, the technocratic paradigm

remains dominant in many planning organizations, particularly in developing cities (Watson

2009, Kash 2017, Dotson 2011). This trend is especially prominent in Latin American

transportation planning (Bassett 2013, Vasconcellos 2001).

The technocratic paradigm is not simply a set of rationalist methods; it is a *belief* in

empirically-discoverable solutions to social problems. The technocratic paradigm dismisses

personal accounts as inherently biased, which can lead to conflict with communities (Corburn

2005, Kash 2017). There is a strong preference for quantitative data. However, as we shall see, planners' deeply ingrained beliefs and attitudes can compete with this technocratic norm, affecting their perception of new information (Perloff 2010).

A *theorization* is an abstract simplification used to categorize and characterize groups of people (Strang and Meyer 1993). In the case of sexual assault, respondents' theorizations of who sexual assault victims 'really' are varied as to whether victims, as a group, were trustworthy or deserving of sympathy.

Personal experience affects Vision because it is an important lens through which people process new information and empathize with others' experiences. People approach unfamiliar concepts or experiences through analogy, attempting to find an experience in their personal history that is comparable. In the case of sexual assault, there are strong, gendered differences in whether a person is likely to be able to easily locate an emotional entry point to empathize with a sexual assault victim (West 1991). Additionally, when a person does not have analogous experience, he is likely to reject claims that the incident presented is common.

In summary, planning situations do not have objective solutions, or even objectively-defined problems (Schön and Rein 1994). Instead, planners and other stakeholders define problems and identify and evaluate solutions from a composite Vision of the situation. For the purposes of this investigation, the most relevant components of Visions are beliefs (cognitive judgments typically expressed as factual statements); attitudes (learned, global evaluations incorporating multiple beliefs); frames (narratives used to organize and define a problem); paradigms (norms about how problems ought to be solved and what information 'counts' as data); and theorizations (abstract simplification defining salient categories of people).

3.3 METHODS

Fieldwork for this project was conducted in four trips in 2014-2016. As shown in table 3.1, this project centers on interviews with 27 planners, which are compared with the perspectives of ten victims of transit sexual assault and 19 users who have not been victims. This data is supplemented by transit user surveys in both countries (see Chapter 2) and participant-observation reflecting on my interactions with planners during fieldwork, including jointly collecting survey data with planners in El Alto, organizing a dialogue with TransMilenio staff and sexual assault victims, and sharing preliminary findings at both sites.

TABLE 3.1 Sample Characteristics

Group	Total	Colombia	Bolivia	Female
Transit Planners	27	15	12	37%
Users: Sexual Assault Victims	10	6	4	80%
Users: Not Sexual Assault Victims	19	8	11	42%
Total[a]	46	29	26	46%

a. Most extended interviews were with individuals; a few were with small groups. Some interviews were with a primary respondent with a few statements made by other individual(s) present; these secondary respondents are not included in the listed sample.

The planners interviewed worked for TM, the secretariats of mobility in El Alto and Soacha, in government posts responsible for overseeing these agencies, with local organizations that conduct policy-oriented transportation research. Four of the female professionals interviewed worked for Bogotá's Secretariat of Women. Though staff of the Secretariat of Women are not planners by job title, they engage in many planning functions, including surveying transit users and collaborating with the staff of TM to plan and implement a pilot "pink" women-only bus project. Further, women's advocates have been recognized as an integral part of the planning and policymaking team in cities that have more actively addressed transit sexual assault (e.g. Dunckel-Graglia 2013). Their perspectives are therefore critical.

Respondents were selected based on 1) influence in their respective organizations and 2) areas of competency relevant to the research question such as operations, security, communications, and others. Uncited material presented here comes from the aforementioned sources and documents provided by planners interviewed.

For transit user interviews, a diversity sampling design was used. This ensured representation of respondents of different genders, economic backgrounds, ages, and neighborhoods. Interview participants for extended transit user interviews were identified through volunteers from the survey and in-transit interviews, as well as in collaboration with local community organizations. These initial informants sometimes served as the beginning of a sample chain.

Interview Guide: Participants responded to an unstructured module of questions about the principal problems with public transport, as identified by the respondent. They then responded to a semistructured module on sexual assault where they were invited to comment on cards containing information about transit sexual assault, including victims' descriptions of their experiences, statistics about transit sexual assault in the planners' own cities (see Chapter 2), and the perspectives of non-victims (such as one who suggested that women should wear less revealing clothing). This allowed participants to engage in dialogue with the ideas of other stakeholders, if not with the stakeholders themselves. The guides were adjusted to be appropriate to local context and revised as more information became available.

Positionality: When examining policy issues, particularly those that are socially complex, there is no outside, 'neutral' position from which to examine the topic (Kuhn 1962, Schön and Rein 1994). If human being's Visions are shaped by their paradigmatic assumptions, life history, goals, and frames, the researcher is no exception. In this scenario, the recommended path to

trustworthy analysis is to compare multiple sources of data (triangulation), reflect on how the researcher's views might shape her line of questioning and subsequent understanding of data, use this introspection to seek a balanced interpretation, and to discuss findings with others before settling on a final interpretation (Weiss 1995, Marshall and Rossman 2011). That is the approach taken for this paper.

In addition to these quality assurance mechanisms, transparency is recommended to enable the reader to interpret and evaluate the analysis. This is done in two primary ways. First, wherever possible, data (such as quotations) is included alongside interpretation. Second, the researcher is open about her role, using first-person where appropriate and discussing potentially-salient aspects of his identity and standpoint, also known as positionality. (Marshall and Rossman 2011)

I am a white, cisgender, queer, American woman. At the time of data collection, I was a PhD candidate at UNC Chapel Hill. These factors influenced how research participants interacted with me, though not always in predictable ways. For instance, the data does not suggest that most male respondents self-censored views they thought I might find unpalatable, but as we shall see, participants' perceptions of my expertise influenced their responses to the information presented as part of the interviews.

I was sexually assaulted while conducting exploratory fieldwork for this project, though not on public transit. This experience generated the seed of a few questions asked, notably the TransMilenio survey question about experiences where women may have been uncomfortable but unsure of the intentions of the person touching them. However, my answers come from my data, and my approach to my analysis was to compare interview participants to each other rather than with my own experience.

I personally view transit sexual assault through a feminist frame, one that is shared by some interviewees: sexual assault on transit is one form of violence against women in public spaces that limits their right to move freely. Both transit service and the institutions that govern transit service are legitimate targets for reform. However, my Vision dissonance analytic frame is not explicitly feminist; it focuses instead on identifying the building blocks of people's viewpoints and how those views promote or inhibit action to address sexual assault. With that in mind, I now turn from

3.4   RESULTS

In interviews, it became apparent that many planners did not view transit sexual assault as an urgent problem. Though some female and male planners revised this perception after being exposed to statistics about how common assault was locally and statements from victims about how the experience had harmed them, a number of male planners were not swayed by the information. As a result, their Visions were strongly at odds with those of most female transit users, victims and non-victims alike. Whether male planners were supportive or unsupportive of sexual assault victims, their Visions were more similar to those of male transit users than to those of female transit users and colleagues.

I will now analyze components of planners' Visions that shape their views of whether transit sexual assault is an important, or even appropriate, issue for planners to address. I identify *deproblematizing beliefs* that position transit sexual assault as a non-issue rather than a problem that require action. Because of this, they pose an obstacle to crafting and executing policy to mitigate sexual assault on transit. I analyze how these beliefs interact with the technocratic paradigm through which many interviewees approach planning in general, and

discuss gendered and genderless framings of transit sexual assault.

While many men and women were supportive of victims, sexist attitudes about sexual assault on transit were widespread among both transit users (non-victims) and planners. These attitudes were expressed through deproblematizing beliefs, which fell into the following five categories:

1. Disbelief: women who report sexual assault are likely to be mistaken, over-reacting, or lying for personal benefit.

2. Victim-blaming: victims brought the experience on themselves through their personal appearance or behavior.

3. Limited or conditional empathy: non-penetrative sexual assault does not seriously harm victims. Alternately, only "good" girls are harmed and worthy of sympathy.

4. Naturalization: Assault is inevitable because the male sex drive naturally leads to aggressive sexual behavior. This may be attributed to a natural weakness in the face of temptation ("boys will be boys") or because some men are inevitably "sick." The perceived cause is positioned as an immutable aspect of human nature.

5. "Not my job": Among planners, the belief that it is not their responsibility to address sexual assault, either because it is unsolvable (see naturalization), because it is a problem that comes from outside the transit system, or it should be left to those who are "more knowledgeable" (i.e. women).

As shown in Figure 3.1, approximately 2/3 of men and ¼ of women interviewed expressed one or more deproblematizing beliefs. Attitudes were split primarily along gender lines rather than whether an interviewee was a planner or transit user; this is an inversion of the general trend for

other issues studied at the two sites (see Chapters I and II).

FIGURE 3.1 Presence of Deproblematizing Beliefs about Transit Sexual Assault among Interview Respondents
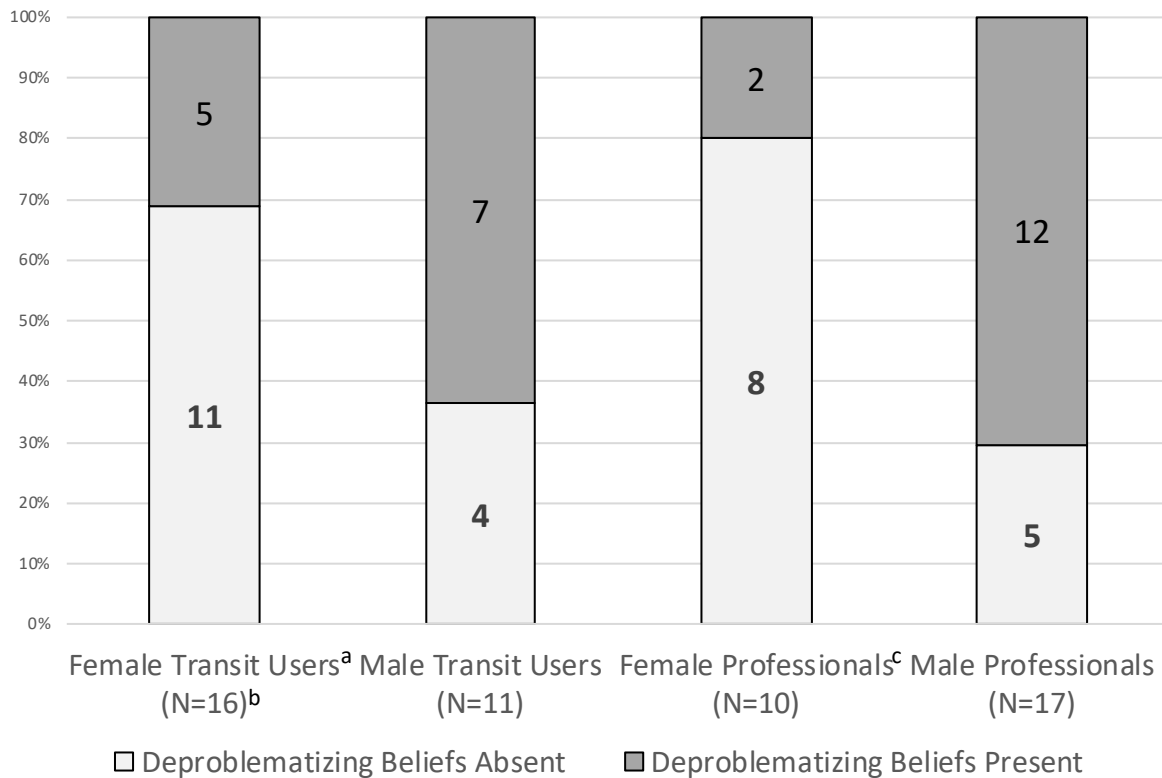
a. User totals include both victims and non-victims. No victims expressed deproblematizing beliefs.
b. One female transit user could not be classified and has been excluded from this figure.
c. Female professionals include planners (6) and staff members at Bogotá's Secretariat of Women. The latter group did not express deproblematizing beliefs.

The sexist beliefs expressed by the men interviewed tended to be more numerous and, in some cases, more extreme as compared to the views of their female counterparts. While some male respondents who expressed deproblematizing beliefs were hostile towards assault victims in general, others, both men and women, were predominantly sympathetic.

This classification should not be viewed as a litmus test, where an absence of deproblematizing beliefs guarantees a planner will take action to address sexual assault and the presence of deproblematizing beliefs means that the planner is a sexist lost cause. Regardless,

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from a policy standpoint, the ubiquity of deproblematizing beliefs about sexual assault among planners is of particular concern because of how these beliefs function to justify a lack of action on transit sexual assault. I will now focus on how (primarily male) planners expressed these deproblematizing beliefs. Most of these beliefs are descriptive statements, meaning they can be empirically tested (Perloff 2010). I therefore compare planners' views with the findings from part I of this study and find that several of them are demonstrably false. However, as we shall see, the presence of such beliefs is nevertheless an obstacle to action regarding transit sexual assault

3.4.1 Disbelief

> The perception of insecurity is bigger than the reality, without saying it's not a problem, because it's clearly a problem. I don't want to say that they're lying, or that they're, well, probably some have more to do with the perception than real, concrete acts. – Mateo[21], Planner

> There are women who, to gain attention, because they're antisocial or rebelling… or if someone didn't let her go first, she can use these mechanisms [of reporting assault] for vengeance. – Henry, Planner

Disbelief of victims falls into two categories. Most commonly, planners believed that women are unable to distinguish innocent actions from assault, particularly in crowded transit. A smaller number of planners believed that women are maliciously making false reports. Both these views result in skepticism of reports of sexual assault and, among some men, a fear of being falsely accused.

Often, this skepticism is coupled with an assertion that assault is uncommon (including rejection of the statistics on sexual assault presented as part of the interview). Several suggested that when false reports were removed, the "true" rate would be about 4-5% of women. This rate

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[21] Names have been changed.

of assault – one in every twenty or twenty-five women - was viewed as too low to require action. However, even some interviewees who believed assault to be common in the abstract tended to be skeptical when confronted with more specific reports. This belief was found among both men and women who were not themselves victims.

In Bogotá, where assault was commonly discussed on the news media, planners expressed disbelief by privileging *perceived* security above actual security. Media reports are viewed as stoking paranoia rather than uncovering a legitimate problem. Decreased reports are viewed as evidence that the problem has been resolved.

There was no evidence that intentional false accusations are common. No interviewee of any gender reported being involved in such an incident, witnessing one, or hearing about it from a friend or on the news.

The evidence also suggests that unintentional false reports are uncommon. It is true that in extremely crowded conditions, it can be difficult to differentiate between intentional and unintentional contact. Figure 3.2 lists some indicators female transit users employ to distinguish between normal and inappropriate contact.

FIGURE 3. 2 Indicators of assault in crowded conditions

Type 1: Characteristics of Touch	Type 2: Behavior of Assailant
• Disproportionate to crowding (e.g. assailant has empty space behind them) • Repetitive rubbing or grinding versus a single touch • Assailant uses palm of hands, fingers, or genitals as opposed to body parts more likely to make contact by chance • Intrusive location (e.g. victim's inner thigh or genitals)	• Prolonged eye contact or staring • Moving closer to victim if victim moves away • Heavy breathing • Physical arousal • Insincere or overly-elaborate apologies ("Sorry, *amiga*, the bus is really full and I didn't realize you were there!" versus "*Ay*, excuse me!")

Though the signs can be subtle, the recurring theme is that inappropriate contact is contact or motion that is not explainable just by the level of crowding. The unnecessary nature of the contact, as well as the affect of the assailant, are indicators of intentionality, which is the

fundamental difference between normal crowding-induced contact and sexual assault.

Even with these criteria, many incidents remain ambiguous. Women generally report that

if an incident does not show one or more of the indicators in figure 3.2, even if it is making them

uncomfortable:

> I always make sure before I make a scene, because it's really ugly to think they're
> touching you so they're groping you. No, you have to be sure, to make certain that it's
> really happening. –Jazmín

> Imagine a man is traveling with his wife, and you say to him "What's wrong with you?
> Stop touching me!" And his wife's by his side. It would be very sad for her. So I think,
> 'maybe he isn't doing it and I'm just imagining it and I'd hurt his marriage…' When I'm
> not sure, I don't want to look like the crazy one, like I'm inventing it, and not feel other
> people's backing. -Violeta

In other words, the ambiguity created by crowding does not overinflate reports of sexual assault;

it has the opposite effect. The evidence is that women err on the side of caution before making

accusations. Further, as previously discussed, many women who are certain they are being

assaulted nonetheless feel unable to react, and few incidents are reported to the police. Sexual

assault is an underreported crime, yet many people, including planners, believe it is overstated.

3.4.2   Victim-blaming

> If I were a woman and I knew they were going to touch me, I wouldn't get on [the bus]…
> I know it's more complicated, but you always have to take your precautions. Put on a
> thick jacket! Wear wide pants! Don't comb your hair…. But if you wear really tight jeans
> that make your butt look good, they're going to look at you. They're going to touch you.
> –Vincente, planner

Interviewees who blamed victims commonly focused on clothing. When asked to comment on

Vincente's opinion (above) during interviews, most planners voiced disagreement.

Nevertheless, their other statements sometimes suggested that the idea that women's clothing

causes men's actions towards them lurked under the surface. One planner explained that the

reason for high local population growth is that "women here don't cover up very much."

Another, Mateo, asserted that TransMilenio had dramatically improved the problem in recent months: "There is a group of [police]women in the system who dress sexy to capture guys doing things like that."

I interviewed one of the directors of policing in the system, who informed me that the policewomen wear "normal" clothing. Mateo's misconception, however, reveals that his causal model of assault places blame on victims' clothing choices, since dressing policewomen in revealing clothing purportedly entraps assailants. Mateo's enthusiasm for the 'sexy policewomen' policy also betrays a lack of understanding of the consequences of assault for victims, since it calls on female officers to repeatedly subject themselves to assault.

The victims interviewed for this project were wearing many different styles of clothing at the time of their attacks. Some were dressed in the expected manner for office work. A middle-aged domestic worker was assaulted while wearing sweat pants. Another victim was wearing a short skirt. It was part of her required school uniform. She was eight years old at the time.

Asking whether clothing plays an influence, then, may be the wrong question. Violeta complained that people talk "as if it were my responsibility to prevent other people from assaulting me, when it shouldn't be like that. It's their responsibility not to assault."

A second strain of victim-blaming concerns a victim's reaction to being assaulted:

> "I believe that if something bad is happening to me, I'm going to react right then. And if I don't do it, it's because my wellbeing isn't important to me." Luciano, planner

It is true that women are unlikely to get help if they stay silent, and women analyzing the problem from an explicitly feminist standpoint also emphasized the importance of women speaking out. However, discussing a woman's responsibility to speak up unequivocally crosses into the territory of victim-blaming when it serves to absolve other actors of responsibility for addressing the problem. As two representatives of Bogotá's Secretary of Women explained,

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emphasizing women's duty to protect themselves makes assault "a women's issue, not a public issue," and "the responsibility of individual women."

In contrast, a feminist call for victims to speak up moves beyond victim-blaming by recognizing (1) the obstacles that make it uncomfortable, risky, or dangerous for women to speak up and (2) the need for public policy to make it easier for women to break the silence. Without these ingredients, a call for women to defend themselves just leaves them to fend for themselves.

3.4.3   Limited and Conditional Empathy

Empathy, the ability to cognitively understand or emotionally share another person's feelings, can motivate people to alleviate another's suffering (Denworth 2017). Unfortunately, when assault victims come forth, they do not always receive empathy from lay-people or planners. Some, like Mateo, grossly underestimate the potential consequences of assault, which he referred to as a "low impact crime" in comparison to robbery. Others had difficulty empathizing and imagining consequences beyond the ones directly described in the interview prompts.

Personal experience plays a strong role in empathy (Perloff 2010, West 1991). Female and male victims accurately described the potentially-traumatic effects of assault, whether or not they had been personally traumatized. Women who were not victims frequently empathized by extrapolating from related experiences, such as street harassment. Many men struggled to find an emotional entry point for the discussion; some fell back instead on discussing their own fears of being falsely accused. Others, however, achieved empathy by drawing on incidents their female friends and family had shared with them[22].

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[22] From a practical standpoint, it was often difficult to assess whether respondents' empathy was emotional, cognitive, or both. Cognitive and emotional empathy may have somewhat different effects on people's motivation to alleviate suffering (Denworth 2000). However, from a practical standpoint, it is often difficult to classify interviewees' expressions of empathy. To

However, the two statements below, from the same planner, illustrate how an ability to empathize in the abstract does not necessarily result in empathy for actual victims:

> When people go somewhere crowded, there's always going to be groping. But women, just like men, feel sexual desire, so 15-20% of them like it when this happens to them. But since the feminist movement appeared, women complain about everything. – Roth, planner

> Women, when they're very well-mannered, when they have principles, something like this will create deep problems because nobody wants to feel abused… so this generates very strong emotional blows…. They feel invaded, violated. It's terrible for people this happens to. Nobody wants to do things against their will. They're obligating you by shock, by fear, by threat of violence, so you go around with shock, with fear, as if everything worries you. – Roth, planner

Roth expressed a more detailed understanding of the effects of trauma than many, if not most, of the planners interviewed. However, he reserves his sympathy for 'good' girls; the others are illegitimate victims because they are secretly hoping to be assaulted, or are feminists. This tendency to put the sexual assault survivor on trial, withholding empathy for all but the 'perfect' victim, has been documented among laypeople, police, and jurors in many different countries (Jordan 2008, Richardson and May 1999). Further, as Mateo's misunderstanding of the undercover policing initiative illustrates, the distinction between normal and overly-revealing clothing is highly subjective. The frequent paucity of empathy for assault victims, then, is not always a result of an inability to empathize. Rather, it is interwoven with the tendency to disbelieve and blame victims.

3.4.4 Naturalization

> We can control the size of stations, the number of buses… but we'll never be able to control people's behavior because we can't have one police officer for each person in the [transit] system." – Michael, planner

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avoid overinterpreting their responses, I will discuss empathy generally rather than differentiate between cognitive and emotional empathy.

Planners view assault as an inevitable consequence of human nature. Some planners expressed a gendered fatalism, implicitly endorsing notions of masculinity that position men as not just unwilling, but unable to control themselves. Others pathologize a 'sick' minority, which simultaneously positions the problem as unsolvable while exonerating the majority of men.

Like Michael, most people who naturalize sexual assault exaggerate the difficulty of addressing the problem, and use this to argue that effective action is at best, cost prohibitive and at worst, impossible. This call to inaction is the trait that differentiates naturalization from more supportive responses that acknowledge the difficulty of fully solving a complex, intractable problem. Supportive respondents discuss the complexity and magnitude of the problem in order to advocate for comprehensive policy rather than as an excuse to ignore the issue.

3.4.5 "Not my job"

> "It's a problem of the city, not of the [transit] system…. We have a problem that's completely cultural, and people can't blame it on the [transit] system. It's a problem of the home, of values, and until we no longer have the law of 'survival of the fittest,' it's going to generate this [problem.] –Leonel, planner

Whether they were supportive of dismissive of the needs of transit sexual assault victims, planners agreed on one point: the problem of sexual assault is complex, and portions of it originate outside the transit system. However, some planners used this complexity as a justification to abdicate responsibility for addressing the problem. They argued that the problem lies outside the domain of problems on which transit planners can legitimately and effectively act. Any given planner will have influence over some, but not all, of the components of sexual assault. Transit planners can't control what happens in homes, schools, and streets, and some used this fact to argue that taking action within the transportation system would be pointless. Others claimed that planners aren't responsible for addressing culture or behavior.

Both these arguments are inconsistent with other commonly-accepted planning norms. It

is unclear, for example, why telling users to respect people with disabilities and not push passengers (of any gender) falls under the domain of planning, while telling users not to grab the private parts of (mostly female) passengers should not. Planners generally agree that it is their job to provide people of all kinds with accessibility and mobility, and routinely grapple with "wicked" problems (Rittel and Webber 1973) not of their making, such as poverty, race, and disability. Around the word, women comprise the majority of public transit users (Loukaitou-Sideris 2016). Why, then, is attending to the needs of the majority of passengers not planners' responsibility?

Some men who accepted planners' duty to address transit sexual assault nevertheless viewed the issue as outside their personal area of responsibility. They referred me instead to their female colleagues. On the surface, this reaction appears to recognize the importance of women's experience and expertise[23]. However, this redirection was always combined with other deproblematizing beliefs and in some cases, active attempts to steer the interview towards other topics. Michael, for example, talked expansively about crowding, user culture, and other problems with transit service. His loquacity vanished when we turned to sexual assault; after just two minutes and forty five seconds, he declared that he had nothing more to say. He reacted to further quotations from assault victims with comments such as "All the statements are about the same thing."

It is true that planners in both cases studied lacked the information needed to address transit sexual assault, perhaps needing more guidance to feel comfortable taking action. In Bolivia, planners faced a genuine lack of resources to address this problem. However, in

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[23] Given the general technocratic devaluation of life experience as a form of expertise (Corburn 2005, Snyder 1995), it is notable that a limited exception is sometimes made in the case of gender and 'women's issues.'

Bogotá, planners lacked information not because it was unavailable, but because they were not motivated to seek it out. Staff at Bogotá's Secretariat of women had collected their own statistics about sexual harassment and assault on TransMilenio, and collaborated with TM on a short-lived pilot of women-only buses. The Secretariat of Women was interested in further collaboration with TM, but noted that previous efforts had encountered a consistent obstacle:

> "The challenge is to get everyone to take on the problem as their own. It's not the problem of the *female* employees at the Secretariat of Transportation…. It's everybody's problem." –Marina, staff member, Secretariat of Women

In fact, Marina's warning proved prescient for the fieldwork conducted for this investigation. Both male and female planners at TM agreed to cohost a joint meeting with victims of sexual assault on transit. Attendance at this evening meeting was optional, but several high-ranking planners chose to participate. Every planner in attendance was female[24].

3.4.6 Deproblematizing beliefs, attitudes, and inaction

It is not my intention to vilify any person who expresses one of these problematic beliefs. Some men expressed multiple extreme views and could be fairly characterized as hostile towards assault victims and the issue of assault in general. In principle, we could imagine an attitude scale with these hostile individuals, who are strongly dismissive of assault victims, at one pole, and advocates who are strongly supportive at the other pole. In practice, while individuals at both extremes of that scale were evident, people in the middle tended to express a complex mix of supportive beliefs and sexist motifs, often contradicting themselves. They would be better understood as well-intentioned people who harbor problematic, culturally-instilled beliefs.

Leonel exemplifies this complexity. He never questioned the idea that assault is common, or that it harms women. He felt that women should not be forced to dress modestly,

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[24] One male planner did participate. He arrived twenty minutes into the meeting, explained his role at the organization, briefly observed the discussion, then left.

but believed that doing so would protect them. He understood that assault would make reentering crowded spaces uncomfortable for victims, and he insisted:

> The statistical details aren't important, because in the end, any abuse against a woman… is already abuse…. It's a problem… it happens on TransMilenio, it happens in a sports stadium. -Leonel, planner

And yet, Leonel ascribed responsibility for what he referred to as "a completely cultural problem" to parents and educators. Though he acknowledged that the culture generated assaults specifically in crowded conditions, he never suggested that planners could try to mitigate the problem by decreasing crowding, or by addressing the cultural sources of sexual assault through public education. Is Leonel a sexist person? The question is complicated, subjective and, ultimately, beside the point. Whatever sympathy Leonel expressed for women, as one of the stewards of a public transportation system that serves millions of women, more than a third of whom have been subjected to sexual assault using transit, his preferred course of action is to do nothing.

Even without identifying individual *sexists*, the ubiquity of sexist *beliefs* among planners about transit sexual assault puts women in danger. Each of the five deproblematizing beliefs serve to justify inaction on the problem of sexual assault on transit. Why address a so-called problem if the reports about it are exaggerated or false? Even if these incidents were common, they're not really harming anyone. If women are bringing these assaults on themselves, the solution is that women need to change their behavior, not me. Why waste time on a problem that is impossible to fix? Even if it could be fixed, it shouldn't be planners' job because we didn't make the culture. Given the prevalence of deproblematizing beliefs among male planners and their presence among female planners, the lack of widespread action is to address sexual assault on transit unsurprising.

3.5   DEPROBLEMATIZING BELIEFS IN THE CONTEXT OF TECHNOCRATIC PLANNING

"Numbers are fundamental, but there are people who wouldn't understand that…. When we talk about numbers, we open up a difference, a universality of themes. -Henry

Rational planning, and the technocratic paradigm in which it is rooted, emphasizes the importance of acquiring knowledge and bringing it to bear on complex social problems (Kash 2017, Irwin 1995), an ideal to which most of the planners interviewed are committed. While the technocratic paradigm devalues 'anecdotal' evidence (including victim reports), this faith in 'hard' data seems to leave an opening for convincing planners to prioritize addressing transit sexual assault: many of the deproblematizing beliefs about sexual assault are empirically false, and this can be demonstrated using data tailored to technocratic norms. However, the combination of cultural beliefs about assault and the technocratic paradigm creates multilayered barriers to effectively addressing sexual assault.

The first barrier is that in many cities, statistics about sexual assault are currently lacking. Police reports represent only a small fraction of actual incidents (Ceccato and Paz 2017, Stringer 2007, Tudela et al 2015, Tripathi et al 2017), and it is not standard practice to collect statistics about sexual assault as part of general surveys of transit users. This situation is self-reinforcing: if planners do not *already* suspect that sexual assault is an important problem, they will not expend resources to gather data about the issue. Victims and advocates may not have the expertise or resources to fill this gap in a way that planners would view as sufficiently rigorous[25].

If statistical data is lacking, victims and advocates have one main weapon with which to

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[25] In Bogotá, while the Secretariat of Women collected statistics, the majority of staff is not trained in survey methods and analysis. Given the highly technical norms and engineering backgrounds of many TransMilenio staff, the reports the Secretariat of Women shared with me might well be rejected on methodological grounds, such as a flawed sampling design.

make their case: personal narratives from victims. However, while those who believe sexual assault is a problem tend to find these accounts compelling, the technocratic paradigm positions these 'anecdotes' as non-representative, irrelevant, and therefore unpersuasive.

In principle, this problem could be corrected by simply collecting rigorous statistics about the prevalence of sexual assault to share with planners, or mandating that planners collect this data; these approaches are being taken in an increasing number of cities (e.g. Tripathi et al 2017, Ceccato and Paz 2017, Excélsior 2017). If the technocratic paradigm guides planners' determination of whether sexual assault is a problem, we would expect quantitative evidence that assault is common to convince them of the problem's urgency, just as we would expect that accounts from victims, in isolation, would have little effect (qualitative data may be viewed as more legitimate when presented as an accompaniment to quantitative analysis). The interviews for this project allow an exploratory test of whether planners find qualitative and/or statistical information convincing.

Recall that as part of the interview guide, participants were presented with interview excerpts and statistics about transit users in their city. Except in a few of the earliest interviews (before the Bolivian survey was complete), this included accounts from assault victims and statistics (in that order) that 22% of *bolivianas* and 37% of *colombianas* reported having been sexually assaulted. If asked, I discussed the survey methodology. Additionally, statistics from the same survey about less emotionally charged topics were presented. This allows us to determine whether or not any skepticism might have emanated from a more global rejection of the survey data.

For some female planners, this scenario played out as hypothesized. One, who had neither expressed any deproblematizing beliefs nor expressed an opinion that the problem was

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urgent, responded to the statistic as follows:

> "This figure looks really serious to me! I didn't have it documented, and really, I don't
> have it on my radar right now. But it looks very serious, and I think that it has to be one
> of the strategic points for work and improvement in the very short term." –Casia, planner

Of the two female planners who expressed deproblematizing beliefs, one was interviewed before

statistics were available. The other, Melody, responded to multiple victim accounts by saying

that she was not comfortable responding to unproven allegations. However, her response to

reading the statistic is a dramatic reversal:

> The way I see it, there's this percentage of incidents, and the problem is that there's
> sexual assault here. Women don't like it, and men should respect them more… If women
> are saying 'they're assaulting me,' it's because they feel like something bad is being done
> to them. -Melody, planner

Modesto, one of the few male planners who did not express any deproblematizing beliefs,

reacted similarly:

> The statistic surprised me a little, but… if that's the number, that's the number, and we
> have to work on that. We can't do anything else. -Modesto, planner

In contrast, the male planners who expressed strong deproblematizing beliefs did not view the

statistics as convincing. One particular belief, that women are likely to be mistaken or lying, was

especially likely to override the technocratic preference for statistical evidence. These men were

generally receptive to statistics from the survey about topics other than sexual assault. However,

even if they were to accept that the statistic about sexual assault was representative of what

female users as a whole would *say*, if those women are not considered reliable narrators, the

statistic is not perceived as meaningful. For example, one reacted to a victim's self-report by

saying "yes, that's women's perception," and then expressed a belief that the statistics presented

were implausibly high. At most, these skeptical technocrats allowed that the statistic indicated

that women subjectively perceived transit to be unsafe, but maintained that this perception did

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not reflect the actual security risk.

These results suggest that if planners already firmly view sexual assault as a non-issue, their strong sexist beliefs are enough to render technocratic planners immune to statistical evidence on the subject. This aligns with scholarship on attitudes in general; strong beliefs tend to bias information uptake in favor of evidence that concords with pre-existing views and against information that conflicts with them (Perloff 2010).

Another important factor for reactions to new information is trust of the source. Max's case illustrates this principle well. As part of my research process, I make my results available to local practitioners. This typically takes place at the close of fieldwork, but for my final visit to Colombia in 2016, Dr. Dario Hidalgo, an advisor to my research, prominent member of the Colombian transport research community, and former TM staff member, arranged for me to present the previous year's results to TM at the beginning of the trip.

Two male TM staff members who attended the presentation were interviewed in the subsequent weeks. Neither expressed any deproblematizing beliefs, and both mentioned the presentation as important to their thinking about the subject. Max was candid about his initial reaction the statistics I presented:

> "I didn't believe it at first… When I first saw it, I said to Dario, 'Dario, that's really high!'"

Though my presentation itself was not entirely convincing to Max, after Dario communicated his confidence in the research, Max accepted the validity of the results. This concords with psychological findings on persuasive communication: acceptance of information is highly dependent on perceived credibility of the source of that information (Perloff 2010). My findings were accepted based not on an evaluation of the quality of my data and research methods, but on the endorsement of a trusted colleague. Dario has many attributes I lack that might contribute to

his high credibility with TM planners, including an established professional reputation in the

local and international transport planning communities, completed doctoral degree, and long

history of working with TM from both inside and out[26]. Coincidentally or not, he is also male,

which a documented effect on perceived credibility in a wide variety of settings (Armstrong and

McAdams 2009, Nagle et al 2014, O'Brien 2016, Paulitz et al 2016, Thomas-Hunt and Phillips

2004).

Vincente's case also suggests that new information is not always the deciding factor in

changing views of sexual assault. A year after he told me women should avoid wearing tight

jeans, I interviewed him a second time. As part of his interview, Vincente reviewed his previous

statement that blamed assault on women's clothing and advising women to dress modestly. I

asked if he still agreed with his earlier comments:

> Vincente: Yes and no, because I, as a woman, should have every right to dress however I like and get on a public transportation service, safe knowing that nobody will harass me, and if someone does harass me, there will be someone, whether it's the driver or fare collector, who will defend me. That's a right.

> Gwen: I find that interesting, because this [statement] is word for word what you told me last year. What changed?

> Vincente: What changed is that we have the obligation to give every person the safety to dress how they like, to act how they like, to speak how they like. It's our responsibility as public servants to generate these conditions…. We are always going to have some informal transportation, and because it's unregulated[27], it can't give you that type of security. But if you get on Pumakatari [La Paz's municipally operated bus service], if you get on in a miniskirt and a neckline down to your belly button, that's fine, because it's your right… and if some guy propositions you or whatever, the driver or helper are obligated to throw out the guy who's assaulting you.

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[26] Incidentally, while Max accepted the results of the research, in the interview he continued to question my credentials as a researcher.

[27] Vincente attributes the futility of intervening in informal transit not to the impossibility of addressing assault, but to the municipality's long-standing difficulties enforcing even basic regulations on informal transit, including route and fare designations and preventing discrimination based on prospective passengers' disability or indigenous status.

Vincente has not abandoned the premise that women's clothing attracts assault, but he affirms that women have the right to dress in clothing he might consider risky and expect that, should someone harass or assault them, they will be protected. Despite the naturalization, victim-blaming, and other deproblematizing beliefs still woven into Vincente's views, he was committed to creating safe transit for women, regardless of their sartorial choices.

Vincente never directly addressed why his views changed. However, in between our first and second interview, we had collaborated closely on several projects, including collecting the quantitative data on security and sexual assault used in this paper. As a result, not only did Vincente have more information about the topic, he had participated directly in creating it. He developed a cordial professional and social relationship with the person presenting the information (me)[28]. He acquired additional life experiences relating to the topic, including defending a female colleague from an aggressive transit user and experiencing anxiety as his own daughter entered her teenage years. All of these are factors that can play a role in changing attitudes (Perloff 2010).

Many male technocrats I interviewed with strong deproblematizing beliefs rejected the statistical information, continuing to assert that assault was uncommon. Vincente, a proud technocrat, displayed no such resistance to information that strongly conflicted with some of his views.

Revisiting our informal hypotheses, this analysis suggests that providing statistical evidence can convince planners of the seriousness of the problem of transit sexual assault, but

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[28] It seems unlikely that Vincente's revised opinion reflects what he thought I wanted to hear; we continued to strenuously disagree on and debate a number of other planning issues.

only if the planner does not hold strong deproblematizing beliefs about the issue. Pre-existing sexist beliefs make technocratic planners likely to disregard new evidence, even if it conforms with the planners' normal preferred type of data (i.e. statistics). The cases of Vincente and Max suggest that factors such as social relationships and source credibility may sometimes counteract this imperviousness to information about sexual assault, but more information is needed to specify what those factors are.

3.6 GENDERED AND GENDERLESS FRAMING

The deproblematizing attitudes described above form the building blocks of a number of framings of transit sexual assault as a non-problem: an annoying but minor chronic illness. A lightning strike that inflicts severe damage on a small number of women. An imagined threat resulting from sensationalist media stoking female anxiety. A feminist plot.

Among respondents who viewed sexual assault as an issue, there was also disagreement as to the fundamental nature of the problem. Problem framings contain intrinsic suggestions of solutions to those problems (Schön and Rein 1994); it is therefore worth examining these alternate views of transit sexual assault. The main distinction between frames was the extent to which respondents emphasize gender. Two main frames were observed: a feminist framing of sexual assault as a form of violence against women in public space, and a largely genderless analysis that positions sexual as a quality of service issue.

Feminist Frame

The feminist frame defines assault on transit as a form of <u>violence</u> against women in public space. It is viewed as a subset of gender-based violence and other problems caused by systemic sexism. It may be described as an infringement to women's right to the city or human rights. Feminist framers often emphasized both the harm caused by transit sexual assault and women's

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resilience. Respondents using this frame commonly defined sexist beliefs and institutions as part of the problem. Therefore, they emphasize the importance of actions to directly improve the quality of service coupled with actions to address the systemic sexism that gives rise to the problem.

This frame was universally adopted by the staff at Bogotá's Secretariat of Women. It was also common among female transit users, particularly those who had experienced assault on transit or in another public place. Two male transit users, both victims of assault, also invoked this frame.

Women who framed transit sexual assault as a feminist issue commonly drew on their identities and experiences as women. This discussion was not always explicitly tied to the issue definition, but transit sexual assault was generally viewed from an interior, street-level perspective, even by some women who could claim technical expertise as transportation planners.

Interestingly, neither male victim interviewed attributed his views to his personal experience. Aurelio commented, "I never felt like I was in danger." However, he proactively sought out information from women close to him to learn how a similar incident might affect others. Renán, a leader in a Bolivian community organization, mentioned having been assaulted while driving a bus many years ago and how his fear had lingered, but his primary focus was on women's experiences. As a community leader, over the years, Renán had been approached by more than thirty community members who, distrusting the police, had reported transit sexual assaults to him instead. In a more general discussion of transit in El Alto, Renán identified insecurity as one of the main problems with transit, a relatively unusual sentiment among

interviewees (Kash 2017)[29].

However, most male planners, even those who were supportive, analyzed sexual assault through an essentially genderless lens, classifying assault as a subset of general quality of service issues. Genderless framings tended to describe sexual assault as disrespect rather than violence, though planners who adopted such frames varied in terms of their supportiveness towards victims. These frames tended to subsume sexual assault into a pre-existing depiction of the problem of transportation, most commonly as a subset of quality of service issues. This tendency was particularly notable in Bogotá, as evidenced by Siro:

> We need to get more people to use public transit, but we have to make public transit safer… There was a beautiful thing when we launched TransMilenio for the first time… which is that it was sacred. People behave themselves in sacred places, the church, the synagogue, wherever, because they're sacred places to them. We have to make public transit a sacred place again... On TransMilenio, people used to behave themselves… because there was a lot of respect. But since the quality of service has deteriorated, the people disrespect it, and then we start to disrespect each other. We have a big job to recover and make it so people love the system, so they feel proud, so they see that they can do things to make the city better. -Siro, planner

This narrative, which defines the problem of TransMilenio as a story of users falling out of love with the system, was a consistent thread tying together the majority of interviews with *bogotano* planners. In general, this narrative generally referred to issues such as users damaging stations, walking in the busways, evading the fare, and being rude to each other. However, when planners discussed sexual assault, a number of them slotted the issue into the same "lost love" narrative, sometimes unintentionally trivializing the issue.

While the feminist framing depicts sexual assault as a form of violence, genderless

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[29] Renan's counterpart in Colombia, Dominick, was an enthusiastic but imperfect advocate for women's safety. Dominick did not invoke the feminist frame, and in fact engaged in some victim-blaming regarding clothing. However, like Renán, he traced his evident compassion and sense of urgency about the issue to the many conversations he had with female assault victims in his neighborhood

framings, like that expressed by Siro, are more likely to classify it as disrespect. Another primary feature of genderless frames is that they usually absorbed sexual assault into the planner's more general narrative about the problem of transportation. Some planners who employed the genderless frame occasionally discussed machismo, especially when commenting on Vincente's statement about the role of women's clothing. However, sexism is always a force that exists "out there," rather than closer to home.

Planners using genderless frames often pointed towards policies such as crowd reduction that might genuinely help address assault. However, these frames are limited because they conceive of sexual assault as something that will be naturally resolved when some larger non-gendered issue is addressed. As a result, planners using genderless frames tend not to believe that policy should take gender into account, a finding corroborated by Loutaikou-Sideris et al's (2009) study of planners in the US. The feminist frame defines planning institutions as an intrinsic part of the problem of transit sexual assault. However, in genderless framings, there is typically little or no self-reflection on the role of institutions in propagating sexist inequality.

As a result, even among supportive planners, genderless frames are less likely to emphasize the importance of action directed specifically at addressing sexual assault. This may be a contributing factor to the tendency to outsource work on sexual assault to female colleagues, on which the staff of the Secretariat of Women previously remarked. Their observation certainly described the course of my research collaboration with TM. The mixed-sex audience at my presentation agreed on the importance of arranging a joint focus group with victims of sexual assault. Attendance at this meeting was optional, but several high-ranking planners chose to

participate. Every planner in attendance was female[30]. I do not wish to overinterpret this limited interaction. However, it did echo the contents of several of the interviews in both countries, where male planners suggested I might be better served by speaking to their female colleagues[31] or strenuously emphasized their lack of knowledge in a way that was uncommon when addressing other topics.

Neither city studied took significant action to address sexual assault in the year after data was collected. The failure of officials in El Alto to take action on this issue is probably best explained by generally low success in changing local transit in general (Kash 2017). TM, on the other hand, worked actively to address a number of problems besides transit crime, including some that conflicted with user priorities. For instance, they installed highly visible changes to station infrastructure[32] to combat fare evasion, which planners view as an illegal behavior driven by cultural forces (much like sexual assault); many users view the move as a cynical cash grab. As a result, TM also launched a public awareness campaign, trying to convince users who were not evading the fare to oppose those who did. Other cities have used analogous tactics to address sexual assault, but TM did not. In fact, in the organization's list of 663 improvements completed in the two years following fieldwork, transit crime is not mentioned[33].

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[30] One male planner did participate. He arrived twenty minutes into the meeting, explained his role at the organization, and then briefly observed the discussion.

[31] Given the general technocratic devaluation of life experience as a form of expertise (Corburn 2005, Kash 2017), it is notable that a limited exception is sometimes made in the case of gender and 'women's issues.'

[32] They installed doors that set off an alarm when people held them open too long (in order to enter illegally). These doors were intentionally visually distinct from regular doors.

[33] http://www.transmilenio.gov.co/Publicaciones/663_mejoras_se_han_realizado_a_la_operacion_de_transmilenio

3.7   DISCUSSION

In both cases studied, transit sexual assault was revealed to be common and disproportionately harmful to female transit users, particularly victims of sexual assault. In both cases, most male planners' Visions of transit sexual assault were starkly at odds with those of the women they are charged with keeping safe. At best, male planners viewed sexual assault as a problem that required gender-neutral solutions. More commonly, they held deproblematizing beliefs that defined transit sexual assault as a non-issue, justifying continued inaction.

The attitudes of the Colombian and Bolivian planners interviewed were influenced more by their genders than by their planning backgrounds. Male planners' Visions of transit sexual assault were divorced from the experiences and views of the predominantly-female victims, but also to a large extent from those of their female colleagues.   However, male planners' Visions were broadly similar to male transit users; the same was true of the women interviewed. Cultural forces do not just shape planning problems; they also shape planners.

Very few studies specifically of planners' views of transit sexual assault have been undertaken. In a notable exception, Loukaitou-Sideris and Fink (2009) found that most US transit systems do not take action specific to women's safety. Many planners[34] argued that women had no special needs, that women *perceived* themselves to be more vulnerable, and that a genderless view of safety would adequately address all of men's and women's needs. Several also cited a lack of existing data as evidence that no problem exists. All of these views were found among the Colombian and Bolivian planners interviewed here. The congruence of findings from two continents is an indicator that turning the analytical lens on planners' attitudes,

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[34] Reflecting the demographics of the transit planning profession, these interviewees were predominantly, but not exclusively, male.

is critical when considering sexual assault in public spaces.

Because planners' views are sculpted by their culture and life experience, we can find other clues that deproblematizing beliefs are likely widespread by examining other actors in the transit system. Women in several countries have complained about the dismissive attitudes of the (predominantly male) police force when they attempt to report transit sexual assault (Natarajan et al 2017, Dunckel-Graglia 2013). Bus operators in México city explained they only intervene in assaults when they are considered severe enough, which they defined as being accompanied by physical violence (Dunckel-Graglia 2013). However, perception of severity is strongly shaped by gender: male transit users and the general public have been found to rate incidents of sexual harassment and sexual assault as less severe, compared to their female counterparts (Madan and Nalla 2016, Herrera et al 2014). Victim-blaming is also widely documented among transit users, drivers, and police (Bhatt et al 2015, Lobo 2014, UN Women 2012).

Given the consistency of the finding that men view sexual assaults as less serious than do women, it is unsurprising that the same attitudes show up among planners. The planners interviewed, trained in engineering, architecture, economics, and similar fields, had no special expertise in gender issues. As a result, they acquired their views of gender the same way as most other people, shaped by the same pervasive cultural forces and gendered differences in the experience of moving through the world (Valentine 1992, Condon et al 2007, Sweet and Ortiz 2015, Natarajan et al 2017, West 1991).

However, the strongest reason for considering planners' attitudes is also the simplest: in far too many cities, planners have yet to take meaningful action to ensure that women have access to safe, dignified mobility. Before we can effectively address sexual assault on transit, we

must first convince many planners that there is a problem.

3.7.1 Re-problematizing sexual assault

Given the ubiquity of deproblematizing beliefs among planners, advocates for women's safety in public space should not proceed from the idea that planners share their assumptions about the urgency, or even the existence, of the problem. To reach planners, particularly in technocratic institutions, high-quality research about the problem and potential solutions are both needed, including statistical documentation.

However when it comes to sexual assault, data does not speak for itself. The prevalence of deproblematizing beliefs and the continued influence of the technocratic paradigm pose formidable obstacles to effective research and advocacy around transit sexual assault. Rather, researchers and advocates should be conscious of their audience's norms and likely misconceptions. It is not enough for research to be correct; it needs to be persuasive to the target audience (in this case, planners) (Perloff 2010).

The technocratic paradigm poses a barrier to encouraging action on sexual assault because it devalues local knowledge, disqualifying 'anecdotes' as a form of valid information (Kash 2017, Corburn 2005, Irwin 1995). Thus, no matter how compelling victims' reports may be to an already-sympathetic audience, because such stories do not conform to technocratic norms of evidence, they may be dismissed as non-representative or irrelevant (ibid).

In a more chronic sense, because user perspectives are not valued in general, current planning and operational practices shield transit planners from contact with users. As a result, planners are less likely to have the sorts of repeated conversations with victims that convinced transit users like Aurelio, Renán, and Dominick that transit sexual assault is a pressing problem. Creating more opportunities for users to communicate with planners has been promoted as an

important component of making planning more responsible to community needs in general (e.g. Dotson 2011, Forester 1999, Healey 2006, Innes 1996, Kash 2017); it may be particularly important for transit sexual assault and other gendered planning issues (Wekerle 2005, Loukaitu-Sideris et al 2009).

Despite the importance of connecting with victims' experiences, if such encounters are not paired with statistical data, it is too easy for technocrats to write off any number of victim accounts as anomalies (Irwin 1995, Snyder 1995). It is important to integrate participatory methods into planning while also drawing on the strength of technical analysis (Corburn 2005, Fainstein 2005). In general, pairing qualitative and quantitative data reinforces and strengthens findings (Axinn and Pearce 2006) and can render them more persuasive (Perloff 2010). When presenting to an audience that may include technocratic planners, quantitative documentation can also help overcome audience resistance based on the *format* of the qualitative information being presented (as opposed to the content).

The ubiquity of deproblematizing beliefs among planners and policymakers must also be directly addressed. As previously discussed, these beliefs render their holders resistant to statistical information they might normally find convincing. As a result, we cannot simply present data about the extent of the problem; we must directly confront and diffuse the deproblematizing beliefs that might cause planners to dismiss the information. We must also be cognizant of our own underlying assumptions, which may conflict with those of our audience.

For instance, the feminist framing for sexual assault, espoused by most advocates for women's safety, rests on a baseline assumption that women report sexual assault not for some imagined gain, but because they have been sexually assaulted. As this investigation clearly shows, not all planners share that assumption. Rather, many believe that, without outside

evidence, it is difficult to know who is telling the truth. Many conflicts between people with divergent Visions stem from incompatibilities between the underlying assumptions each party makes, and an unwillingness to grant the assumptions on which their counterpart's argument is predicated (Kuhn 1962, Schön and Rein 1994).

Insisting that we ought to believe all women can be a powerful message to a sympathetic audience that already shares this assumption. However, when we speak with planners, we should not assume we already have a friendly audience; we should orient our message to bringing new allies on board. This means translating between Visions, focusing not on what arguments make sense to us, but what arguments make sense to our audience (Kuhn 1962, Schön and Rein 1994, Perloff 2010).

When discussing transit sexual assault with planners (or many other audiences), it is likely that some audience members will have deproblematizing beliefs about the issue. An advocate for women's safety could maximize the chance of connecting with those audience members by proactively addressing deproblematizing beliefs from an empirical standpoint, countering misconceptions with information. Predicting and neutralizing audience objections is important for persuasive communication (Perloff 2010). Individuals who hold extreme deproblematizing beliefs, such as that women deliberately lie about assault, are unlikely to substantially change their views in the short term (Perloff 2010). However, in the more common case of planners with a mix of sympathetic and deproblematizing views, information tailored to their concerns could prove valuable for countering all five deproblematizing beliefs.

First and most importantly, the researcher-advocate must confront planners' disbelief of victims. To convince planners who are concerned that women in crowded vehicles may be misinterpreting innocent acts, we must treat the reliability of women's self-reports as a legitimate

question and provide a data-driven answer. For all intents and purposes, men and women traveling through spaces where sexual assault is common are experiencing different transit systems, which contributes to gendered divides in perceptions of and beliefs about the safety of transit (Natarajan et al 2017). For people who grew up male, the social cues to which women turn to divine the intentions of the man next to them in a crowded bus are largely invisible (West 1991). Demystifying women's process for cutting through the ambiguity by presenting concrete examples of how women distinguish between 'normal' crowding and assault (see figure 3.2) may raise confidence in the reliability of victims' reports and reduce resistance to statistics about the frequency of assaults. This task is critical, because any Vision of sexual assault that leads towards effective action must rest on the premise that most victims who report assault do so because they have been assaulted (Dunckel-Graglia 2013, Tudela et al 2015).

Once planners have been convinced that victims' self-reports can be trusted, the second task is to debunk the myth that sexual assault and harassment do not seriously harm victims. Given that the majority of planners are male, this requires overcoming a widespread tendency among men to evaluate instances of sexual violence as less severe than women do (Madan and Nalla 2016, Herrera et al 2014). The most direct way to combat this misperception is with information that comprehensively conveys the total cost on women's freedom of movement, comfort in the transit system, and wellbeing. This study indirectly confronted policymakers with the stories from victims, rather than victims themselves. These strategies may help close the empathy gap and help policymakers understand victims' experiences. Again, given the strong technocratic preference for quantitative information, it is still important to pair narrative and victim testimony with high-quality statistical evidence.

Blaming assault on victims could, in principle, be disproved, but actually collecting data

that those who blame victims would view as convincing might be unattainable. Here, a better strategy might be to steer those who view women's clothing and actions as contributing factors to their victimization towards Vincente's eventual position: people have the right to dress how they want. It is a planners' job to support this right by protecting women, even when they make clothing choices that the planner views as risky.

The best weapon to counteract the perception that sexual assault is an unchangeable fact of life is evidence about reforms that have been successfully implemented elsewhere. Advocates in many cities are experimenting with exciting policy interventions (Carvajal 2017, Tudela et al 2015, Ceccato and Paz 2017); research conducting high-quality evaluations of these programs could be a powerful tool for advocates of safe transit elsewhere for both identifying and promoting effective policies. It is difficult to motivate planners to prioritize a problem they view as unfixable, so dispelling the illusion of futility may also help counter the final deproblematizing belief, that addressing sexual assault is not planners' job.

It is also important to convey to male planners, who remain the majority, that their support is both welcomed and expected. It is critical that male allies proactively find opportunities to listen and learn from female transit users and colleagues (Loukaitou-Sideris 2016, Lubitow et al 2017, Smith 2008). However, listening is not enough. The burden of addressing the inequalities of systemic sexism (and racism, and ableism, and heterosexism) is a heavy one. All too often, women (and people of color, and people with disabilities, and LGBTQ people) are expected to take on responsibility for solving the problems of their "special" interest group. But all people have a gender identity, and people of all genders are responsible for fighting gendered inequality. At the time of interviews, it was clear that many male planners did not (yet) agree with this point.

3.7.2 Beyond Crime and Punishment

The primary policy recommendation of this paper is procedural: researchers and advocates who want to create safe public transit for women must effectively mobilize information to convince skeptical planners that sexual assault is a problem in need of solving. Many planners (and others) gravitate towards thinking of sexual assault as a crime wave, and policy recommendations often focus on punishment. The criminological frame is appealing in its focus on holding sexual predators accountable for their deeds and seeking justice for women who have been wronged. However, as a policy approach, the criminological frame fails to help the vast majority of current and potential victims.

Most transit sexual assaults are, and may always be, unprosecuteable. This is particularly true of crimes that occur in crowded conditions. Just identifying the perpetrator poses a formidable barrier. Many victims are afraid to speak up in the moment, which allows their assailant to disappear into the crowd and become impossible to locate. Other victims never see their attacker's face. Even if the perpetrator is put on trial, the ambiguity created by crowded conditions and the tendency to downgrade the severity of assaults in such situations pose serious obstacles to conviction and proportional punishment.

It is not just that criminological policy tools are insufficient for protecting most women from sexual assault; framing the problem in criminological terms can serve as a mental trap. Planners of all genders, including some who were largely committed to addressing sexual assault, focused on speculatively prosecuting individual cases where nobody was actually on trial. In many cases, planners would conclude that there was not enough proof for this specific case. When so many cases are unprovable, evaluating each individual case using a legalistic standard of evidence causes planners to underestimate the scope of the epidemic. In Bogotá for example, given the magnitude of the problem, even an assumption that half of self-reported

victims were mistaken would lead to the conclusion that nearly one in five female TransMilenio users has been assaulted. Planners did not generally take this statistical approach; those who were concerned about ambiguity often determined that 'real' instances of sexual assault were vanishingly rare.

I am not arguing against prosecuting perpetrators whenever possible. In fact, defining sexual assault as a crime has been noted as an important strategy for conveying how serious the offense is (Dunckel-Graglia 2013). However, as Lynch and Atkins (1988) have argued, outside of a courtroom, individual determinations of guilt and innocence are beside the point. Rather than mentally reviewing and discarding reported assaults one at a time, planners should treat victim reports not as a preamble to legal action, but as useful data for tracking an epidemic.

Regardless of intention to prosecute, improving reporting rates of sexual assault is essential for ensuring that the problem is prioritized, identifying areas of need, and tracking the success of solutions (Ceccato and Paz 2017, Koskela and Pain 2000, Lea et al 2017). We should improve the police reporting process in terms of empathy, respect, clarity, and time burden. However, we also need to recognize that many women will not report the assault to the police due to past experiences, expectations, and more mundane barriers such as a lack of time to talk with police during a morning commute.

Therefore, we must track the epidemic through non-judicial means. In fact, the initial goal of efforts to improve reporting is an *increase* in the number of reports; this should be viewed as a sign of success, not evidence of a new crime wave or media-induced panic (Ceccato and Paz 2017). We should encourage victims who do not plan to seek prosecution to nevertheless make complaints to the transit agency in person, on the phone, and online. In addition to the policy relevance of the information, a sympathetic response to such reports can

reduce the likelihood that victims will subsequently struggle with symptoms of trauma (Ullman and Filipas 2001).

Ultimately, the argument for not treating sexual assault as a crime wave is pragmatic: when planners focus on the impossibility of prosecuting most assaults, they are distracted from the many other steps they could take to improve the safety of transit (See Chapter 2).

3.7.3 Directions for future research

In order to address transit sexual assault, more research is needed on the experience of users, as well as evaluation of policies such as bystander intervention and public awareness campaigns; changes to the formal reporting process; non-judicial avenues of reporting; women-only services; and service improvements such as crowding reduction. However, the results of this paper indicate that more study is urgently needed of planners themselves, who have power to shape the transit system but are themselves shaped by pervasive gendered inequality in society at large. This is not limited to male planners. As Araceli, a planner, put it, "In a way, women are also sexist… because we've grown up with sexism." Neverless, the attitudes of men, who still comprise the majority of transportation planners, are on average less supportive of women's safety needs.

A variety of evidence suggests that the deproblematizing beliefs about sexual assault documented here are not limited to planners in Colombia and Bolivia. However, more direct study of planners' attitudes could prove useful not just for tracking local variations in the problem, but for identifying Visions of sexual assault that are more likely to encourage planners to act. For example, what is different about the views of planners in places like São Paulo and México City, both of which are enacting multipronged strategies to address transit sexual assault? Studies of educational efforts to address attitudes about sexual assault have been conducted with regards to transit operators (drivers and assistants) (Bhatt et al 2015); similar

studies of planners could be valuable.

This paper has identified a number of challenges specific to the technocratic (rational) paradigm. While many champions of gender-inclusive planning have advocated for greater participation and communicative planning, it should not be assumed that planners involved in these processes will be free of problematic misconceptions about sexual assault. Planners' Visions should be examined in communicative as well as rational planning processes.

Finally, sexual assault is one example among many of an issue where the views of planners are insulated from and incompatible with the views of (some of) the planned for. This difference disproportionately impacts the stakeholders who are already more vulnerable. In order to mitigate rather than amplify current inequalities, it is important to examine Vision dissonance in other areas of planning and sectoral form, such as housing, water policy, and economic development.

3.8   CONCLUSION

This paper finds that while transit sexual assault is a palpable presence that colors many women's daily experience, it is invisible to many of the predominantly male transport professionals tasked with keeping transit users of all genders safe. In both Colombia and Bolivia, many planners did not view transit sexual assault as a problem in need of action. Particularly among male planners, this judgment did not change even when presented with statistics showing that transit sexual assault is very common in their transit system and testimony from victims about how the experience had harmed them. Planners' perspectives are sharply at odds with those of female users, particularly sexual assault victims, who suffer measurable harm due to insecure transit.

I identify five widespread *deproblematizing beliefs* that encourage planners to envision

transit sexual assault as a non-issue. Planners disbelieve victim reports, display limited or

conditional empathy, blame victims, naturalize assault, and deflect responsibility for the

problem. Each of these beliefs is either empirically false or inconsistent with other planning

norms espoused by interviewees. Regardless of the good intentions of individual planners,

deproblematizing beliefs put women in danger because they justify inaction.

The evidence suggests that this problem is not unique to Colombia and Bolivia, to Latin

America, or to developing cities. The majority of transit planners in the US shared the belief

documented here that no action is needed that focuses particularly on women's safety

(Loukaitou-Sideris and Fink 2009). Transit planners, staff, and police officers, all of whom are

disproportionately male, commonly trivialize transit sexual assaults such as groping (Clark et al

2016). Male transit users likewise view these crimes as less severe than do female users (Madan

and Nalla 2016, Dunckel-Graglia 2013).

As a result, the first task for researchers and advocates for women's safety is to convince

planners that sexual assault in transit and other public spaces is a problem on which they can and

should take action. Even though many planners are committed to committed to evidence-based

practices, gendered experiences of mobility and sexist attitudes override technocratic norms and

bias the uptake of information (West 1991, Perloff 2010).

To maximize the chance of persuading skeptical planners to take action on sexual assault,

researchers and advocates should respectfully but directly confront deproblematizing

misconceptions with empirical evidence. For example, a better understanding of how women

differentiate between normal contact and sexual assault in crowded conditions could help

increase planners' confidence that women are not simply misinterpreting innocent actions. This

might reduce their likelihood of dismissing self-reported statistics about sexual assault as

untrustworthy.

Based on planners' attitudes and victims' experiences, I close by arguing that planners should not primarily approach sexual assault through the frame of crime and punishment, but by focusing on prevention and caring for victims. Most transit sexual assaults, particularly in crowded environments, are unprosecutable. Approaching the problem through a judicial lens lead many planners to classify these unprosecutable complaints as invalid, leading them to severely underestimate the scope of the epidemic. I suggest that planners focus instead on increasing non-judicial reporting as a form of diagnostic research, preventative strategies such as crowding reduction, and examining ways to welcome women who have already been harmed back into public space.

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CONCLUSION

When planners do not understand community perspectives, they may design projects that do not meet the needs of marginalized stakeholders. When planners are especially isolated from the planned-for, they may not even be aware a conflict exists, as was the case with planners during exploratory research in Bogotá. In other cases such as Bus Sariri, planners operating within the technocratic paradigm may be familiar with community complaints, but view them as inexpert and irrelevant. In a return visit to Bogotá four years after the first, a third type of divide became evident: planners may accept many community concerns as valid, but frame those complaints about the problems *with* transit as part of a broader narrative about the overarching problem *of* transit that continues to pit planners against the transit users they serve.

In order to understand the many permutations of divisions between the perspectives of planners and the planned-for, this dissertation has proposed the theoretical framework of Vision dissonance, or conflict resulting from incompatibilities between stakeholder's mental models of a policy situation. Previous studies have analyzed divisions between stakeholders using the theoretical lenses of framing (Schön and Rein 1994, Hulst and Yanow 2016), paradigms (Kuhn 1962, Snyder 1995, Morgan 2007), theorizations (Strang and Meyer 1993), norms about evidence (Irwin 1995, Corburn 2005), cultural ideology (Valentine 1992, Koskela and Pain 2000), lived experience (Natarajan et al 2017, Spicer and Song 2017), and intersectionality (Snyder 1995, Lubitow et al 2017). Vision dissonance builds on this research by acknowledging that all of these forces act in concert to shape people's views. By providing a framework to

examine how these forces interact with each other, Vision dissonance allows us to holistically understand stakeholders' multilayered, internally conflicted, and evolving views. The main findings are synthesized below.

Chapter 1 discusses Vision dissonance in the context of planning and launching a new project. I examine how Vision dissonance between planners and community stakeholders in El Alto, Bolivia, contributed to the failure of an attempt to introduce high-quality bus service. Planners and users framed the problem of Bus Sariri differently, leading to incompatible criteria for what would constitute a successful outcome. They also had different ideas about who *alteños* 'really' were and what they 'really' needed. However, it was planners' wholehearted embrace of technocracy that made these differences irreconcilable. Because the technocratic paradigm venerates technical analysis and denigrates local knowledge, planners actively avoided creating opportunities to hear from community leaders. As a result, incompatibility between Visions remained submerged until it was too late to reconcile them.

Whereas Chapter 1 examines Vision dissonance in its capacity for shaping the entirety of a planning process, the remaining chapters consider it with regards to a single issue: transit sexual assault. This narrower focus allows an examination of how Vision dissonance contributes to harm that disproportionately affects vulnerable stakeholders whose Visions differ most strongly from planners' own. In this case, while male planners' Visions harmonized with those of most male transit users, their views were divorced from the views and lived experience of (mostly female) victims of sexual assault. As a result, planners failed to take women's safety needs seriously, leaving female transit users in harm's way.

While Chapter 2 does not explicitly address Vision dissonance, it establishes a comprehensive account of the experiences and Visions of transit users, with a focus on the

predominantly-female victims of sexual assault. The harm caused by transit sexual assault and the needs of victims are understudied, and important to understand in their own right. For the purposes of this dissertation, Chapter 2 also serves as a foil to Chapter 3 by providing an empirical account of the extent and consequences of transit sexual assault to which the Visions of planners can be compared.

Building on the user perspectives documented in Chapter 2, Chapter 3 examines how culturally-instilled beliefs distort planners' perceptions of a complex social issue. It is not simply that planners lack information about transit sexual assault. Rather, their strong deproblematizing beliefs and attitudes about gender actively discourage them from seeking information about the topic and distort their uptake of information that is brought to them. Despite espousing beliefs about transit sexual assault that are demonstrably false and dismissing information that could correct their misconceptions, planners who embrace the technocratic paradigm continue to take pride in their ostensible objectivity. Here, we see Vision dissonance at its most insidious: planners dismiss the lived realities of their most vulnerable users not only as unimportant, but as untrue. As a result, planners dismiss complaints about transit sexual assault as a form of hysteria, leaving women to cope with a very real danger.

Reflecting the planning norms in the two cases studied, this dissertation has devoted considerable attention to the perils of the "rational" technocratic paradigm. Though long-since declared obsolete, rational planning continues to influence planning methods, shaping the lives of millions of people around the world. Because the technocratic paradigm actively devalues community perspectives and local knowledge, challenging it is critical to creating planning institutions that are reliably responsive to marginalized stakeholders' self-identified needs.

However, given that fifty years of criticism have failed to totally dislodge rational planning, it is unlikely that technocratic institutions will radically transform in the immediate future. The millions of people worldwide whose lives are shaped by the decisions of 'rational' planners have needs that cannot be deferred until technocracy in their city has been displaced by a more inclusive model. It is therefore critical to examine ways to meaningfully incorporate users' concerns into planning, despite the obstacles posed by technocratic notions of expertise.

Future research should consider how in greater detail how to convert local knowledge and needs into forms that are more likely to be accepted by technocratic planners. However, the case studies for this dissertation also vividly illustrated the danger of which Arnstein (1969) long-ago warned: even when local knowledge is aggregated and presented statistically, planners may still choose to ignore it. As a result, more consideration is needed of how to hold technocrats accountable for not just asking about, but also acting on community needs.

While the technocratic paradigm was a primary contributor to Vision dissonance between planners and users in the cases presented here, technocracy is not a necessary ingredient for dissonance. For example, though few transit users of any gender espoused the technocratic paradigm, male and female users' Visions of sexual assault were strongly incompatible. This points towards two needed lines of inquiry. First, further examination of variations in Vision *within* groups is needed. Planners' Visions often clash with those of users in general, but those who are already marginalized are likely to be at an even greater disadvantage.

Secondly, since technocracy is not the sole source of conflict, study is needed of Vision dissonance in communicative planning processes. Both communicative theorists' claims of transforming perspectives and critics' concerns about an overly-optimistic view of the ease of

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doing so have been discussed primarily theoretically[35] (e.g. Healey 2006, Willson 2001, MacCallum 2008, Mouffe 1999, Huxley 2006), or by critiquing non-communicative planning processes (e.g. Flyvbjerg 1999, Tauxe 1995, Watson 2003). The Vision dissonance framework, used here to understand communication difficulties within technocratic planning, can also be used to address the need for balanced empirical studies of communicative planning. Such studies could also extend our knowledge of when and how Visions change, potentially leading to more refined recommendations about how to adapt participatory processes to diverse local contexts.

Implications for Planning Practice

For practicing planners, this dissertation provides evidence of the importance of identifying community stakeholders' self-identified needs and the need for robust public involvement at all stages of the planning process. It also provides guidance for effective techniques to go about systematically assessing community needs. The conventional surveys, in-transit interviews, extended interviews, and focus groups used in this dissertation are viable tools for planners who hope to better understand community stakeholders' needs and incorporate local knowledge into technical decision-making.

A step-by-step guide to selecting and implementing these techniques, created as a companion document for this dissertation, is available a working paper[36]. Example research

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[35] While case studies of purportedly successful communicative planning processes exist, most are either overly simplistic (e.g. Innes 1995) or rely entirely on planners' perspectives, neglecting to include interviews with other stakeholders (e.g. Healey 1992). Balanced studies of successful communicative processes are much less common (For a notable exception, see Forester 2009). However, cases where planners and policymakers claim successful collaboration may not necessarily merit a favorable evaluation (Ibid., Abram 2000).

[36] Kash, G. (2017). "Guide to Social Assessment of Transit User Needs in Sustainable Transportation Projects." Working paper. Available at

instruments are also included in Appendix B. These data collection methods work best when used in combination. For example, detailed feedback from interviews and focus groups can be paired with statistically representative but less-detailed survey results. The inclusion of qualitative methods is particularly important for populations that are likely to be underrepresented in surveys, such as people with mobility impairments or women who avoid travel out of safety concerns.

Systematically assessing community self-identified needs can help legitimize public input to decision-makers who are skeptical of the process. Citizens' groups are often accused of not representing the interests of 'real' community members.   User needs assessment tools provide a way to establish to what extent community organizations that seek involvement in planning represent the priorities of the broader communities they represent. For example, while planners in El Alto were openly suspicious of FEJUVE's motives, FEJUVE's platform actually closely matched the issues raised by users in the more representative survey and in-transit interviews. Documentation of this reality might help increase the perceived legitimacy of community advocates.

Having data about community views can identify self-styled community leaders who are out of step with their neighbors. However, a divergence between community and community organization priorities need not disqualify local organizations from participating, especially if those organizations are advocating for the needs of a vulnerable minority within the community. Bringing the wishes of those not present into participatory planning is important for meeting the

http://gwenkash.web.unc.edu/files/2013/10/Working-Paper-Kash-SA-guide.pdf or
https://www.dropbox.com/s/t1bzpu3omlo2fjn/Working%20Paper%20-
%20Kash%20SA%20guide.pdf?dl=0

needs of stakeholders who face structural barriers to participating, and can confer greater confidence that the outcomes of the process are consonant with community needs and priorities.

Finally and perhaps most importantly, this dissertation suggests that planners have a duty to seek out the perspectives of the planned-for. When opportunities for communication are created, planners should reflect on how their own beliefs, assumptions, and biases can contribute to Vision dissonance. In particular, planners should be mindful of factors that disproportionately impede their ability to hear and understand the concerns of marginalized stakeholders, including divergent communication styles, norms that devalue anecdotal evidence, and beliefs influenced by societal sexism, racism, and other forms of inequality.

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APPENDIX A: RESEARCH METHODOLOGY

This dissertation examines the causes and consequences of social sustainability problems in public transportation by comparing four cities in two metropolitan regions: Bogotá/Soacha, Colombia and La Paz/El Alto (LP/EA), Bolivia. Each case is comprised of a capital city (Bogotá and La Paz) and an adjacent, poorer municipality (Soacha and El Alto). Both of the outlying cities are dominated by informal transportation, have substantial informal settlements, and have comparatively small municipal budgets compared to their wealthier neighbors. Data was collected in four field visits, alternating between countries. Fieldwork was completed in 2014-2016. This project also builds thematically and methodologically on exploratory research conducted in Bogotá in 2011 and Arequipa, Perú in 2012.

Bogotá and Soacha, Colombia

This case centers on the TransMilenio BRT system. At the start of fieldwork in 2015, TransMilenio was 15 years old, well-regarded internationally, but in crisis locally due to low-quality service. Within the dissertation, TransMilenio is primarily discussed in the context of sexual assault. An analysis of TransMilenio more broadly is forthcoming.

La Paz and El Alto, Bolivia:

These cities were in the early stages of transit reform at the start of fieldwork. Four major transit reforms were in active planning or implementation at the start of fieldwork in 2014. Two of these, La Paz's Pumakatari municipal bus and the national government's intercity Teleférico gondola, began operating their first lines less than six months prior to my arrival. Two additional projects were intended to launch in the next few years: El Alto's Bus Sariri and an integrated transit system (SIT) to coordinate service between the economically-interconnected cities. Both Pumakatari and Bus Sariri were surface bus lines, but both cities had ambitions of following up

with BRT. Data collection for this dissertation focused on the informal transit that then served

most *paceños* and all *alteños*, planning for SIT, and Bus Sariri.

The advantage of choosing an ongoing case is that I was able to capture dynamic,

detailed perspectives on the process of planning, including moments that tend to fade before

retrospective interviews. The challenge is that a story that is still being written may take some

unexpected directions. In one such plot twist, planning for SIT stalled, largely due to political

antagonism between La Paz and El Alto, who were ruled by different political parties.   In

contrast, Bus Sariri, which I initially intended to be a peripheral focus, turned out to be far more

eventful than expected (Chapter 1).

DATA COLLECTION METHODS AND PURPOSES

The overall research trajectory for this project was abductive, moving back and forth between

hypothesis generation (inductive inquiry) and hypothesis testing (deductive inquiry). As shown

in Table 1, four main types of data were collected for this project. These were supplemented by

participant and non-participant observation.

TABLE 1: Total Sample Size (all sites, all years)

	Bolivia	Colombia	Total
1. In-Transit Interviews	130	51	181
2. Sit-down Interviews	60	38	98
2A. Transit Users	30	18	48
2B. Planners	30	20	50
3. Transit User Survey	851	756	1607
4. Focus Group (groups)	2	2	4
4. Focus Group (participants)	20	15	35
Sample sizes indicate total data collected; samples listed for individual chapters include only data analyzed for that chapter.			

The research process was iterative by design. Particularly in Bolivia, where few studies had been done, the first phase of the project focused on identifying the "universe" of problems about which users and planners were concerned. Research questions were then refined to reflect early findings. Research instruments also incorporated prior findings. This was not sequential by mode. Sit-down interviews, for example, were conducted at all stages of the process. Early interviews helped with designing the user surveys, and later interviews provided participants with a chance to comment on the results of those surveys.

This interconnected style of adaptive research and analysis helps capture a larger portion of the information available from each data source, and allows for triangulation.   It also allows early insights to be tested against later data and additional targeted data collection to address emerging questions. The tables that follow give more details on the individual methods.

Source 1: Individual "In-Transit" Interviews

Participants:	Transit Users
Description:	• Intercept interviews at transit stops and occasionally on vehicles • Typically 5-15 minutes in duration, with some as long as 25 minutes
Purposes:	• Capture "Emic" perspectives • Early stage of research; identify questions • Data for survey design and extended interview guides • Provide additional detail to complement survey analysis • Confirmation of survey findings
Format:	• Loosely-structured • "Funnel Method" • Open-ended, non-directive questions • Follow-up questions about previously-identified issues that did not surface spontaneously
Methodology Notes:	• In Colombia, all were conducted by me • In Bolivia, some were conducted by research assistant Raleigh McCoy.
Sampling: Users	• Intercept on strategically chosen transit stations (reflect a variety of neighborhoods and socio-economic status of respondents) • Seek diversity in gender, income, place of residence

Source 2: Individual Sit-down Interviews

Participants:	Planners, Policymakers, and Transit Users (separately)
Purposes:	• Capture "Emic" perspectives of users AND planners • Allow participants to comment on each other's perspectives while avoiding complicating factors of group dynamics • Length ranged from 30-90 minutes; some key participants were interviewed multiple times.

Format:	• Part I: open-ended module about the "main problems with public transportation"
	    • Loosely-structured
	    • Open-ended, non-directive questions
	    • Analogous to on-street interviews, but in greater depth
	• Part II: Focused discussion of interview prompt cards (see appendix B).
	    • Prompt cards contained a mix of statistics, interview excerpts, images, graphs, and other information about public transportation.
	    • Guides were customized to each country, and were amended over time as more information became available.
	    • The guides included various types of information on each topic, allowing for subsequent analysis of interviewees' views on the subject and also reactions to different formats of information.
	    • In an introductory explanation, participants were told they would be looking at information I had found over the course of my investigation, and I was interested in their opinions on it.
	    • After commenting on cards, respondents discussed which information they would find most helpful to explain the problems with transportation to someone else.

Sampling: Professionals	• Purposive chain ("snowball") sampling • Focus on identifying central actors in relevant planning functions
Sampling: Users	• Purposive chain, from multiple entry-points (NGOs, on-street interviews, surveys) • Seek diversity in gender, income, place of residence

Source 3: Transit User Intercept Survey

Participants:	Transit Users
Purposes:	• Provide data that can be analyzed statistically and qualitatively • Collect data about travel behavior • Re-evaluate interview results • Provide material for focus group interview guides • Provide timely data to local planners
Format:	• Structured, with mix of question types • Open and closed questions • Critical Incidents Methodology (centering on concrete experiences rather than abstract judgments) • Additional questions tailored to local data needs
Methodology Notes:	• In Bolivia, the survey was conducted in collaboration with the Municipal Secretary of Transportation of El Alto, who donated staff, office space, and other resources in exchange for the inclusion of some questions specific to Bus Sariri. This survey was only conducted in El Alto. • In Colombia, a survey team was hired. This survey was conducted in both Bogotá and Soacha.
Sampling Strategy:	• Random Stratified Cluster Sampling • Random sampling at level of individual not possible • Evening(and afternoo) peak intercepts at transit stops • Exception: due to travel patterns, interviews in Soacha were conducted during morning rush hours.

Source 4: Focus Groups

Participants:	Transit Users and Transport Professionals (combined)
Purposes:	• Examine needs of vulnerable subpopulations. Each group focused on a different subpopulation: Elderly/disabled, victims of sexual assault, residents of an informal settlement • Observe interactions between planners and users • Provide learning opportunity for participants
Format:	• Facilitated dialogues between transit users and planners • Transit users spoke first. • Open-ended questions • Tailored to needs of specific user population in attendance. • Where possible, brief follow-up interviews to assess participants' impressions of the experience
Sampling Strategy	• Professionals: resample interview participants and snowball sampling • Transit users: Purposive sampling. Resample interview participants, snowball sampling, NGOs.

Source 5: Participant and non-participant observation (on transit)

Participants:	Transit Users
Purposes:	• Provide background to generate additional interview and survey questions • Provide comparison point for verbal statements from interviews
Format:	• Supplementary method – usually conducted during interviews or while in transit • Keep notes of experiences and observed incidents • Informal interviewing of other passengers to find out how common observed conditions are
Sampling Strategy	• Systematic: travel to a variety of segments of the city at various times of day • Opportunistic: whenever taking transit

Source 6: Participant Observation (in meetings and with planning organizations)

Participants:	Transport Professionals and transit users (combined)
Purposes:	• Supplementary to interviews and focus groups • Understand local institutional conditions and constraints faced by planners • Tailor recommendations to local reality
Format:	• Participating in meetings, informal interviews, neighborhood tours • Keep notes during interactions where possible, and detailed notes afterwards.
Methodology Notes	• Participant-observation was most intensive in El Alto, beginning with collaboration on the transit user survey. • Key observations in Bogotá occurred on visit two, where I shared findings from visit one with planners and then organized a joint focus group with transit sexual assault victims

APPENDIX B. SELECTED RESEARCH INSTRUMENTS

IN-TRANSIT INTERVIEW GUIDE

Italics denote instructions and potential follow-up questions.

Section A: Uninfluenced Attitudes
What are the main problems with public transportation today?

What is the worst experience you've had taking public transportation?
What made it so bad? Is that typical?
Note: this question can also be asked about the "best experience." In the cases studied, it was found that people were more responsive to being asked about the worst.

Section B: Specific questioning
I'm going to mention some issues that have come up in other conversations I've had. I'd like to know what you think of them. *Only ask about issues that did not come up in Part A.*

- Cost
- Travel Times
- Crowding
- Crime
- Sexual Assault
- Road Safety
- Vendors
- Fare Evasion (Colombia)
- Insufficient Coverage (Bolivia)

Which of these issues is most important to you? Why?

Do you think that the people (in the government/at *[transit agency]*) understand the problems users face?

If you were in charge, what's the first thing you would do to make transportation better?

Section C. Demographics and other information

Frequency of transit and other mode use, age, gender, education, work, place of residence, poverty, etc. Only ask about topics that were not covered in previous sections

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TRANSMILENIO USER SURVEY (2015)

TEXTO PARA RECLUTAMIENTO Y CONSENTIMIENTO:

Buenos Días. Estamos haciendo una encuesta sobre el transporte público para la Universidad de Carolina de Norte, en EEUU. **La información será utilizada para identificar y recomendar mejoras de servicio. Duraría entre 7 y 10 minutos, pero nos ayuda si puede contestar una parte. ¿Puedo hacerle algunas preguntas [mientras espera]?**

Gracias por ayudarnos. Su participación es voluntaria, cualquier cosa que me diga es confidencial. Si no quiere contestar alguna pregunta podemos pasar a la próxima.

0) ¿Vive usted en __ Bogotá o __ Soacha? *En caso de otro, agradézcales y acabe con la entrevista.*

SECCIÓN A: PERCEPCIONES DEL TRANSPORTE PÚBLICO

1) ¿En escala de 1 a 5, siendo 5 muy bueno y 1 muy malo, cómo calificaría el servicio de TransMilenio actualmente?

　　　__ 1　　　___ 2　　　___ 3　　　___ 4　　　___ 5

2S (*Soacheños***) En sus propias palabras, ¿Cuáles son dos problemas que Ud. Ve con el transporte público de Soacha y Bogotá actualmente?**
2B *(Bogotanos)* **En sus propias palabras, ¿Cuáles son dos problemas que Ud. ve con el transporte público de Bogotá y Soacha actualmente?**
Si incluye palabras exactos del entrevistado, ponerlos
"entre comillas" para distinguirlos de un resumen.

Temas y Códigos: TransMilenio	
1. Accessibilidad para personas en estado de discapacidad, embarazada, etc	*11. Mal planificado/caos*
2. Costo - dificultad económica	*12. Tiempos de espera*
3. Costo a comparación con calidad de servicio	*13. Tiempos de viaje*
4. Cultura de los usuarios	*14. Trancón (de TransMilenio)*
5. Delincuencia	*15. Trancón (fuera de TransMilenio)*
6. Estado físico de estaciones	*16. Vendedores*
7. Estado físico de vehiculos	
8. Falta de buses (¡pedir clarificación!)	*99. Otra (TransMilenio)*
8A. Filas para entrar en vehículos/estaciones	*20. Transporte Público Colectivo (especifique)*
8B. Tiempos de espera (buses no pasan)	*21. SITP (especifique)*
9. Llenas - Estaciones	
10. Llenos - Buses	

Entonces, si entiendo correctamente, lo que me dijo es… *[lee tus notas; haz correcciones si es necesario.]*
PIDE CLARIFICACIÓN *si dicen que faltan buses (tiempos de espera o filas) o es caro (afecta al bolsillo o en relación a calidad de servicio), o el código es ambiguo de otra forma.*

3) ¿De los siguientes aspectos del servicio TransMilenio, qué es lo <u>más importante</u> para mejorar?

        ___ Los tiempos de espera y viaje

        ___ La comodidad, por ejemplo el nivel de ocupación de los buses

        ___ La saturación de gente en las estaciones

        ___ La inseguridad o delincuencia

        ___ Mejorar la cultura ciudadana

Escribe "1" junto al tema seleccionado, y repite: **¿Cuál es el <u>segundo</u> más importante? Las opciones son**…. *[lee]*

4) ¿Qué es lo mejor del servicio TransMilenio?

        ___ La velocidad   ___ La comodidad   ___ La seguridad   ___ El costo

        ___ *ningún (marque aquí si lo dice espontáneamente, pero pregúntales una vez más "pero si tuviera que escoger")*

5) <u>*Soacheños:*</u> Si la ciudad de Soacha hace cambios al sistema de transporte público, ¿cual de esos piensa Ud. Que debe ser la <u>primera</u> prioridad?

        ___ Expandir al troncal TransMilenio

        ___ Mejorar el servicio TransMilenio en las estaciones existentes

        ___ Introducir alimentadoras para TransMilenio

        ___ Mejorar el servicio del Transporte Colectivo

        ___ Reducir el costo de transporte

        ___ Introducir un servicio parecido al SITP de Bogotá

        ___ Mejorar la conectividad entre los colectivos y TransMilenio

6S) *Soacheños:* **En que comuna vive?** __ Compartir __ Soacha Central __ La Despensa __ Cazucá __ San Mateo __ San Humberto Otro en Soacha, ¿Cuál?:_____

6B) <u>*Bogotanos:*</u> **En que localidad vive? (***Marque con círculo*)   *1. Usaquén   2. Chapinero   3. Santa Fe   4. San Cristobal   5. Usme   6. Tunjuelito   7. Bosa   8. Ciudad Kennedy*

        9. Fontibón   10. Engativá   11. Suba   12. Barrios Unidos   13. Teusaquillo

        14. Los Mártires   15. Antonio Nariño   16. Puente Aranda   17. Candelaria

        18. Rafael Uribe   19. Ciudad Bolívar   20. Sumapáz

7) Cuál es el estrato en su recibo de la luz? __

8) En una semana típica,

    Soacheños: **¿Cuántas veces viaja usted a Bogotá?**   ___ *0* __ *1-2* __ *3-4* ___ *5* ___ *6-7*

    Bogotanos: **¿Cuántas veces viaja usted a Soacha?**   ___ *0*   __ *1-2* __ *3-4* ___ *5* ___ *6-7*

9) En los <u>últimos siete días,</u> en cuantos <u>días</u> ha utilizado:

    A. TransMilenio: ____ *Días (0-7)*   *B.* Alimentadores TransMilenio: ____ *Días (0-7)*

    C. SITP: ____ *Días (0-7)*   *D.* Transporte Público Normal: ____ *Días (0-7)*

    E. Taxí o Radiotaxi: ____ *Días (0-7)* *F.* Auto privado o motocicleta: ____ *Días (0-7)*

10) ¿En escala de 1 a 5, siendo 5 muy bueno y 1 muy malo, cómo calificaría el servicio de SITP actualmente?

___ 1   ___ 2   ___ 3   ___ 4   ___ 5   ___ *No Contesta*

11) Y ¿Cómo calificaría el servicio de transporte público normal actualmente?

___ 1   ___ 2   ___ 3   ___ 4   ___ 5   ___ *No Contesta*

12) ¿Cuál es su género? ___ H ___ M   **13) ¿Qué edad tiene?** _____

14) ¿Está usted en estado de discapacidad, o tiene alguna condición medica que le impide movilizarse? ___ *Sí* ___ *No*

15) *(Sólo personas con discapacidad)* **¿En los últimos 30 días, ha utilizado usted**:

___ muletas, ___ bastón, o ___ silla de ruedas? *Marque todos que aplican o: __ningún   __ no vidente/ciego*

16) ¿Hace cuántos años utilizó TransMilenio por primera vez? |___|___| *(0-15.* TM **empezó en Dic 2000)**

17) A comparación con el servicio de TransMilenio hace *(número)* años, **¿está el servicio actual de TransMilenio** ___ Mejor, ___ Peor, ___ o Igual?

En caso de "peor": **¿Hace cuántos años empezó a empeorar el servicio?** |___|___|

SECCION B: SEGURIDAD CIUDADANA

LEA: Para los siguientes incidentes, me gustaría saber si le han pasado alguna vez en TransMilenio, SITP, o en Transporte Público en Bogotá o Soacha.

1. INCIDENTES. *Instrucciones: (1) Lea cada incidente. (2) Pregúntales "¿Esto le ha pasado alguna vez? (3) Caso afirmativo, pregunta "¿Cuántas veces?" (3b) Caso negativo, escriba 0)*	Cuantas Veces
Alguien l@ robó o intentó robarl@ dentro de un bus o mientras estaba esperando el bus En cuales tipos de transporte? __ TransMilenio __ SITP ___ Bus normal*?*	*Intentos:* *Logro:*
Vio a otro pasajero siendo robado.	
Un amigo, pariente, u otra persona conocida le dijo que alguien lo robó en un bus.	
Sólo para Mujeres: Alguien la tocó indebidamente o la acosó dentro de un bus o estación. En que tipos de transporte? __ TransMilenio __ SITP ___ Bus normal*?* Lo siento mucho que esto le haya pasado. Vamos a estar realizando entrevistas más a profundidad con usuarios de transporte luego, y queremos asegurar que hablemos con mujeres que han sido víctimas del acosó. Estaría dispuesto para hablar más con nosotros otro día en sitio y hora que le conviene? *Agradezca a todas. Caso afirmativo, obtenga información de contacto*	
Mujeres: Alguien la tocó de manera que la hizo sentir incómoda, pero Ud no supo si fue a propósito. En que tipos de transporte? __ TransMilenio __ SITP ___ Bus normal*?*	
Vio a alguien tocando a una mujer indebidamente *(de manera sexual)* dentro de un bus o estación. En que tipos de transporte? __ TransMilenio __ SITP ___ Bus normal*?*	
Un amigo pariente u otra persona conocida le dijo que alguien le tocó indebidamente dentro de un bus o estación.	

2) Si alguien está intentando robarl@ a usted, ¿cree que los demás pasajeros l@ ayudarían?

    __ Sí __ No

3) En esa situación, ¿cree que el policía u otro empleado de TransMilenio l@ ayudaría?

    __ Sí __ No

4) Si una mujer está siendo tocada indebidamente dentro de un bus o estación, ¿cree que los demás pasajeros la ayudarían?

    __ Sí __ No

5) En esa situación, ¿cree que el policía, u otro empleado de TransMilenio la ayudaría?

    __ Sí __ No

6) Durante los últimos 30 días, a causa del riesgo de delincuencia, ¿ha tomado algunas de las siguientes acciones? *(Después de leer cada opción, confirmar si han hecho esta acción. Marque todas que aplican.)*

        A. evitó viajar de noche o madrugada.   __ *Si*   __ *No*

        B. pidió que alguien le acompañara en el bus   __ *Si*   __ *No*

        C. acompañó a otra persona en el bus   __ *Si*   __ *No*

        D. Utilizó una forma de transporte más cara   __ *Si*   __ *No*

        E. No hizo un recorrido que quería hacer.   __ *Si*   __ *No*

         E1: Caso afirmativo: ¿Cuáles habrían sido los propósitos de estos viajes? __ trabajo   __ educación
         __ salud   __ compras __ compromiso familiar __ diversión __otro: _____

7) ¿Cómo llegó Ud a TransMilenio hoy?   __ a pié,   __ en transporte público normal,

    Bogotanos: __ Alimentadores TransMilenio,   *Bogotanos:* __ SITP,

    Todos: __ moto,   __ auto privado,   __ taxí   __ o en bicicleta?   __ *otra, especifique:* _____

        7A) *Si caminó:* **¿Cuántos minutos caminó?** ___

8) En escala de 1 a 5, siendo 1 muy inseguro y 5 muy seguro, ¿Qué tan seguro se siente usted en: *(escriba "NC" si no contesta)*

        Las estaciones TransMilenio? _____   Los Buses Transmilenio? ____

        Transporte público Normal? _____   *Solo Bogotanos:* Los Buses SITP? _____

        Solo Soacheños que caminaron: Su caminata hacía la estación? ____

9) ¿En los últimos 12 meses, le parece que el riesgo de delincuencia en Transmilenio se ha
      ____ incrementado,   ____ bajado, o   ____ está igual?

SECCION C: EXPERIENCIAS, TRANSMILENIO

1) Durante los últimos 30 días, ¿ha tomado algunos de las siguientes acciones?

  A. Para ahorrar dinero, caminó en vez de utilizar transporte público.   __ *Si*   __ *No*

        Afirmativo: La última vez que esto pasó, ¿cuántos minutos caminó? _____

  B. Para ahorrar dinero, anduvo en bicicleta en vez de utilizar transporte público.   __ *Si*   __ *No*
        Afirmativo: La última vez que esto pasó, ¿cuántos minutos anduvo en bici? _____

  C. Por pagar el transporte, no pudo pagar otro gasto.   __ *Si*   __ *No*
        Cuáles? __Salud   __ educación   __ alimentación   __ servicios básicos (agua, luz)
        __ otro servicio, por ejemplo servicio celular   __ vestimenta   __ diversión

  D. No hizo un recorrido porque no tenía dinero.   __ *Si*   __ *No*
        Afirmativo: ¿Para qué habrían sido estos viajes? __ trabajo   __ educación   __ salud
        __ compras   __ compromiso familiar   __ diversión   __otro: _____

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2) Gracias. Voy a describir algunas experiencias que han pasado a otros usuarios de TransMilenio. Me gustaría saber si le ha pasado lo mismo en los últimos siete días.

INSTRUCCIONES: *A. Lea el incidente. Pregunta, "**En los últimos siete días, en cuantos días esto le ha pasado?**" Si dicen "todos los días," confirma por decir "Entonces, siete de siete?" B. Si un incidente les ha pasado y hay preguntas sangradas, hazlas. C. Pregunta:* **"¿Cuánto le molesta(ría) este tipo de incidente? Diría que no le molesta, le molesta poco, o le molesta mucho?"**	Cuantos Dias (0-7) o NC (no contesta)	Cuanto Molesta 1 = no, 2 = poco, 3 = mucho
Viajó de pie todo el camino		
Alguien le cedió el asiento		XXX
Alguien le empujó		
Había un vendedor dentro de la estación o bus		
Alguien estaba tocando un instrumento o cantando dentro del bus		
El bus estaba excesivamente lleno		
Tuvo que hacer fila para entrar en la estación La última vez que esto pasó, ¿Cuántos minutos tuvo que esperar? ____		
A causa de la congestión o los tiempos de espera, su viaje duró más tiempo de lo normal. La última vez que esto pasó, ¿cuantos minutos duró el viaje? ____ minutos Y en día normal, ¿cuántos minutos habría durado? ____ minutos		
Dejó pasar dos o mas buses que iban a su destino porque no había espacio para		
Esperó más de 15 minutos por el bus. *La última vez, cuantos minutos?* _____		
El chofer condujo de manera imprudente.		
Viajó con un niño de brazos		XXX
Vio a alguien saliéndose por las puertas de la estación y sobre el carril		
Vio a alguien colándose		

3) Gracias. ¿Recordando que sus respuestas son confidenciales y que el verdad nos ayuda a entender los problemas con TransMilenio, se ha colado usted alguna vez?

     __ Sí   __ No *(Pase a 3)*

4) *Si se han colado:* **¿Cuál diría es la razón** underline **principal por la que usted se coló?** *(solo uno)*

     ___ A. Razones económicas,   ___ B. Porque no quiere pagar por un servicio de mala calidad

     ___ C. Por diversión   ___ D. Como forma de protesta

     ___ E. Otra: _____

5) *Si se han colado:* **¿Se cola ___ solo, ___ con amigos, o ___ ambos?**

6) *(Si* underline *no se han colado)* **Por lo general, ¿Cuál piensa es la razón** underline **principal por la que las personas se colan?**

       ___ Necesidad económica   ___ Falta de cultura   ___ Diversión ___ Protesta

SECCION D: DATOS PERSONALES. Gracias. Ahora, le voy a pedir unos datos personales.

1) En una semana típica, cuanto gasta usted en transporte, incluso taxis? _____

2) Hace dos años en 2013, ¿cuanto gastaba en una semana típica? _____

3) ¿Es estudiante? ___ Sí ___ No *Caso afirmativo:* ¿Qué nivel?
___ Primaria ___ Secundaria___ Bachillerato ___ Técnico ___ Universitario
___ Posgrado

4) *[Si no es estudiante]*: **¿Cuál es el nivel de escolaridad más alto que se ha cumplido?**
___ Primaria ___ Secundaria___ Bachillerato ___ Técnico ___ Universitario
___ Posgrado

5) ¿Trabaja Ud. en el ___ sector formal, ___ sector informal, ___ o no trabaja?

[Si no trabaja ni estudia] **6) ¿Está buscando trabajo?** ___ Sí *(acaba con la entrevista)* ___ No *(Continua a 7)*

7) ¿Cuál de los siguientes describe mejor la razón de que no busca trabajo?
___ Se ha jubilado ___ Está cuidando niños u otros parientes
___ No piensa que podría encontrar trabajo ___ Tiene una discapacidad que le impide trabajar
___ *Otra:* _____

¿Tiene alguna pregunta para nosotros? ¡Gracias por su tiempo!

SECCION E: ANOTACIONES *[Llena después de terminar la entrevista]*

Iniciales del entrevistador: |___|___|___|___| **N° de identidad del entrevistado:** |___|___|___|

Fecha: _____   **Estación:** _____

Hora de Inicio: |___|___|:|___|___| **Hora de Fin:** |___|___|:|___|___|

Última Pregunta <u>Completa</u>: __ Todos   o Sección ___ **A** ___ **B** ___ **C** __ **D, Número:** ___
¡¡¡NO SE OLVIDAN A ANOTAR LOS CÓDIGOS EN LA PREGUNTA 2!!!
Notas para el/la entrevistador(a): Cualquier texto escrito en letra cursiva no se lee en alto.

TEXTO PARA RECLUTAMIENTO Y CONSENTIMIENTO:

Buenos Días. Estamos haciendo una encuesta sobre el transporte público para la Universidad de Carolina de Norte, en EEUU. **La información será utilizada para identificar y recomendar mejoras de servicio. Duraría entre 7 y 10 minutos, pero nos ayuda si puede contestar una parte. ¿Puedo hacerle algunas preguntas [mientras espera]?**

Gracias por ayudarnos. Su participación es voluntaria, cualquier cosa que me diga es confidencial. Si no quiere contestar alguna pregunta podemos pasar a la próxima.

0) ¿Vive usted en __ Bogotá o __ Soacha? *En caso de otro, agradézcales y acabe con la entrevista.*

SECCIÓN A: PERCEPCIONES DEL TRANSPORTE PÚBLICO

1) ¿En escala de 1 a 5, siendo 5 muy bueno y 1 muy malo, cómo calificaría el servicio de TransMilenio actualmente?

     __ 1   ___ 2   ___ 3   ___ 4   ___ 5

2S (*Soacheños***) En sus propias palabras, ¿Cuáles son dos problemas que Ud. Ve con el transporte público de Soacha y Bogotá actualmente?**
2B *(Bogotanos)* **En sus propias palabras, ¿Cuáles son dos problemas que Ud. ve con el transporte público de Bogotá y Soacha actualmente?**
Si incluye palabras exactos del entrevistado, ponerlos "entre comillas" para distinguirlos de un resumen.

Temas y Códigos: TransMilenio	*11. Mal planificado/caos*
1. Accessibilidad para personas en estado de discapacidad, embarazada, etc	*12. Tiempos de espera*
2. Costo - dificultad económica	*13. Tiempos de viaje*
3. Costo a comparación con calidad de servicio	*14. Trancón (de TransMilenio)*
4. Cultura de los usuarios	*15. Trancón (fuera de TransMilenio)*
5. Delincuencia	*16. Vendedores*
6. Estado físico de estaciones	
7. Estado físico de vehículos	
8. Falta de buses (¡pedir clarificación!)	*99. Otra (TransMilenio)*
8A. Filas para entrar en vehículos/estaciones	*20. Transporte Público Colectivo (especifique)*
8B. Tiempos de espera (buses no pasan)	*21. SITP (especifique)*
9. Llenas - Estaciones	
10. Llenos - Buses	

Entonces, si entiendo correctamente, lo que me dijo es… *[lee tus notas; haz correcciones si es necesario.]*
PIDE CLARIFICACIÓN *si dicen que faltan buses (tiempos de espera o filas) o es caro (afecta al bolsillo o en relación a calidad de servicio), o el código es ambiguo de otra forma.*

3) ¿De los siguientes aspectos del servicio TransMilenio, qué es lo <u>más importante</u> para mejorar?
     ____ Los tiempos de espera y viaje
     ____ La comodidad, por ejemplo el nivel de ocupación de los buses
     ____ La saturación de gente en las estaciones
     ____ La inseguridad o delincuencia
     ____ Mejorar la cultura ciudadana

Escribe "1" junto al tema seleccionado, y repite: **¿Cuál es el segundo más importante? Las opciones son**…. *[lee]*

4) ¿Qué es lo mejor del servicio TransMilenio?
    ___ La velocidad   ___ La comodidad   ___ La seguridad   ___ El costo
    ___ *ningún (marque aquí si lo dice espontáneamente, pero pregúntales una vez más "pero si tuviera que escoger")*

5) *Soacheños:* **Si la ciudad de Soacha hace cambios al sistema de transporte público, ¿cual de esos piensa Ud. Que debe ser la primera prioridad?**

    ___ Expandir al troncal TransMilenio
    ___ Mejorar el servicio TransMilenio en las estaciones existentes
    ___ Introducir alimentadoras para TransMilenio
    ___ Mejorar el servicio del Transporte Colectivo
    ___ Reducir el costo de transporte
    ___ Introducir un servicio parecido al SITP de Bogotá
    ___ Mejorar la conectividad entre los colectivos y TransMilenio

6S) *Soacheños:* **En que comuna vive?** __ Compartir __ Soacha Central __ La Despensa __ Cazucá
    __ San Mateo __ San Humberto   Otro en Soacha, ¿Cuál?:_____
6B) *Bogotanos:* **En que localidad vive? (***Marque con círculo)*   *1. Usaquén   2. Chapinero   3. Santa Fe*
    4. San Cristobal   5. Usme   6. Tunjuelito   7. Bosa   8. Ciudad Kennedy
    9. Fontibón   10. Engativá   11. Suba   12. Barrios Unidos   13. Teusaquillo
    14. Los Mártires   15. Antonio Nariño   16. Puente Aranda   17. Candelaria
    18. Rafael Uribe   19. Ciudad Bolívar   20. Sumapáz

7) Cuál es el estrato en su recibo de la luz? __

8) En una semana típica,
    Soacheños: **¿Cuántas veces viaja usted a Bogotá?**   ___ *0* __ *1-2* __ *3-4* ___ *5* ___ *6-7*
    Bogotanos: **¿Cuántas veces viaja usted a Soacha?**   ___ *0* __ *1-2* __ *3-4* ___ *5* ___ *6-7*

9) En los últimos siete días, en cuantos días ha utilizado:
    A. TransMilenio: ____ *Días (0-7)*   B. Alimentadores TransMilenio: ____ *Días (0-7)*
    C. SITP: ____ *Días (0-7)*   D. Transporte Público Normal: ____ *Días (0-7)*
    E. Taxí o Radiotaxi: ____ *Días (0-7)*   F. Auto privado o motocicleta: ____ *Días (0-7)*

10) ¿En escala de 1 a 5, siendo 5 muy bueno y 1 muy malo, cómo calificaría el servicio de SITP actualmente?
    __ 1   ___ 2   ___ 3   ___ 4   ___ 5   ___ *No Contesta*

11) Y ¿Cómo calificaría el servicio de transporte público normal actualmente?
    __ 1   ___ 2   ___ 3   ___ 4   ___ 5   ___ *No Contesta*

12) ¿Cuál es su género? ___ H ___ M   **13) ¿Qué edad tiene?** _____

14) ¿Está usted en estado de discapacidad, o tiene alguna condición medica que le impide movilizarse? ___ *Sí* ___ *No*

15) *(Sólo personas con discapacidad)* **¿En los últimos 30 días, ha utilizado usted**:
__ muletas, ___ bastón, o __ silla de ruedas? *Marque todos que aplican o:* __*ningún*   __ *no vidente/ciego*

16) ¿Hace cuántos años utilizó TransMilenio por primera vez? |___|___| *(0-15. TM empezó en Dic 2000)*

17) A comparación con el servicio de TransMilenio hace *(número)* **años***, ***¿está el servicio actual de TransMilenio** __ Mejor, ___ Peor, ___ o Igual?
   En caso de "peor": **¿Hace cuántos años empezó a empeorar el servicio?** |___|___|

SECCION B: SEGURIDAD CIUDADANA

LEA: Para los siguientes incidentes, me gustaría saber si le han pasado alguna vez en TransMilenio, SITP, o en Transporte Público en Bogotá o Soacha.

1. INCIDENTES. *Instrucciones: (1) Lea cada incidente. (2) Pregúntales "¿Esto le ha pasado alguna vez? (3) Caso afirmativo, pregunta "¿Cuántas veces?" (3b) Caso negativo, escriba 0)*	**Cuantas Veces**
Alguien l@ robó o intentó robarl@ dentro de un bus o mientras estaba esperando el bus En cuales tipos de transporte? __ TransMilenio __ SITP ___ Bus normal*?*	*Intentos:* *Logro:*
Vio a otro pasajero siendo robado.	
Un amigo, pariente, u otra persona conocida le dijo que alguien lo robó en un bus.	

Sólo para Mujeres: Alguien la tocó indebidamente o la acosó dentro de un bus o estación.
   En que tipos de transporte? __ TransMilenio __ SITP ___ Bus normal*?*
 	
   Lo siento mucho que esto le haya pasado. Vamos a estar realizando entrevistas más a profundidad con usuarios de transporte luego, y queremos asegurar que hablemos con mujeres que han sido víctimas del acosó. Estaría dispuesto para hablar más con nosotros otro día en sitio y hora que le conviene? *Agradezca a todas. Caso afirmativo, obtenga información de contacto*	

Mujeres: Alguien la tocó de manera que la hizo sentir incómoda, pero Ud no supo si fue a propósito. En que tipos de transporte? __ TransMilenio __ SITP ___ Bus normal*?*	
Vio a alguien tocando a una mujer indebidamente *(de manera sexual)* dentro de un bus o estación. En que tipos de transporte? __ TransMilenio __ SITP ___ Bus normal*?*	
Un amigo pariente u otra persona conocida le dijo que alguien le tocó indebidamente dentro de un bus o estación.	

2) Si alguien está intentando robarl@ a usted, ¿cree que los demás pasajeros l@ ayudarían? __ Sí __ No

3) En esa situación, ¿cree que el policía u otro empleado de TransMilenio l@ ayudaría? __ Sí __ No

4) Si una mujer está siendo tocada indebidamente dentro de un bus o estación, ¿cree que los demás pasajeros la ayudarían? __ Sí __ No

5) En esa situación, ¿cree que el policía, u otro empleado de TransMilenio la ayudaría? __ Sí __ No

6) Durante los últimos 30 días, a causa del riesgo de delincuencia, ¿ha tomado algunas de las siguientes acciones? *(Después de leer cada opción, confirmar si han hecho esta acción. Marque todas que aplican.)*

   A. evitó viajar de noche o madrugada.   __ *Si*   __ *No*
   B. pidió que alguien le acompañara en el bus   __ *Si*   __ *No*
   C. acompañó a otra persona en el bus   __ *Si*   __ *No*
   D. Utilizó una forma de transporte más cara   __ *Si*   __ *No*
   E. No hizo un recorrido que quería hacer.   __ *Si*   __ *No*
      E1: Caso afirmativo: ¿Cuáles habrían sido los propósitos de estos viajes? __ trabajo   __ educación __ salud   __ compras __ compromiso familiar __ diversión __otro: _____

7) ¿Cómo llegó Ud a TransMilenio hoy?   __ a pié,   __ en transporte público normal,
   Bogotanos: __ Alimentadores TransMilenio,   *Bogotanos:* __ SITP,
   Todos: __ moto,   __ auto privado,   __ taxí   __ o en bicicleta?   __ *otra, especifique:* _____

161

7A) *Si caminó:* **¿Cuántos minutos caminó?** _____

8) En escala de 1 a 5, siendo 1 muy inseguro y 5 muy seguro, ¿Qué tan seguro se siente usted en:
(escriba "NC" si no contesta)

<div style="text-align:center">

Las estaciones TransMilenio? _____   Los Buses Transmilenio? ___

Transporte público Normal? _____   *Solo Bogotanos:* Los Buses SITP? _____

Solo Soacheños que caminaron: Su caminata hacía la estación? _____

</div>

9) ¿En los últimos 12 meses, le parece que el riesgo de delincuencia en Transmilenio se ha
   ___ incrementado,   ___ bajado, o   ___ está igual?

SECCION C: EXPERIENCIAS, TRANSMILENIO

1) Durante los últimos 30 días, ¿ha tomado algunos de las siguientes acciones?

   A. Para ahorrar dinero, caminó en vez de utilizar transporte público.   __ *Si*   __ *No*

   Afirmativo: La última vez que esto pasó, ¿cuántos minutos caminó? _____

   B. Para ahorrar dinero, anduvo en bicicleta en vez de utilizar transporte público.   __ *Si*   __ *No*

   Afirmativo: La última vez que esto pasó, ¿cuántos minutos anduvo en bici? _____

   C. Por pagar el transporte, no pudo pagar otro gasto.   __ *Si*   __ *No*

   Cuáles? __Salud   __ educación   __ alimentación   __ servicios básicos (agua, luz)

   __ otro servicio, por ejemplo servicio celular   __ vestimenta   __ diversión

   D. No hizo un recorrido porque no tenía dinero.   __ *Si*   __ *No*

   Afirmativo: ¿Para qué habrían sido estos viajes? __ trabajo   __ educación   __ salud

   __ compras   __ compromiso familiar   __ diversión   __otro: _____

2) Gracias. Voy a describir algunas experiencias que han pasado a otros usuarios de TransMilenio. Me gustaría saber si le ha pasado lo mismo en los últimos siete días.

INSTRUCCIONES: A. Lea el incidente. Pregunta, **"En los últimos siete días, en cuantos días esto le ha pasado?"** *Si dicen "todos los días," confirma por decir "Entonces, siete de siete?" B. Si un incidente les ha pasado y hay preguntas sangradas, hazlas. C. Pregunta:* **"¿Cuánto le molesta(ría) este tipo de incidente? Diría que no le molesta, le molesta poco, o le molesta mucho?"**	Cuantos Dias **(0-7)** o NC (no contesta)	Cuanto Molesta **1 = no, 2 = poco, 3 = mucho**
Viajó de pie todo el camino		
Alguien le cedió el asiento		XXX
Alguien le empujó		
Había un vendedor dentro de la estación o bus		
Alguien estaba tocando un instrumento o cantando dentro del bus		
El bus estaba excesivamente lleno		
Tuvo que hacer fila para entrar en la estación La última vez que esto pasó, ¿Cuántos minutos tuvo que esperar? ___		
A causa de la congestión o los tiempos de espera, su viaje duró más tiempo de lo normal. La última vez que esto pasó, ¿cuantos minutos duró el viaje? _____ minutos Y en día normal, ¿cuántos minutos habría durado? _____ minutos		
Dejó pasar dos o mas buses que iban a su destino porque no había espacio para entrar		
Esperó más de 15 minutos por el bus. *La última vez, cuantos minutos?* _____		
El chofer condujo de manera imprudente.		
Viajó con un niño de brazos		XXX
Vio a alguien saliéndose por las puertas de la estación y sobre el carril		

Vio a alguien colándose		

3) Gracias. ¿Recordando que sus respuestas son confidenciales y que el verdad nos ayuda a entender los problemas con TransMilenio, se ha colado usted alguna vez?

___ Sí   ___ No *(Pase a 3)*

4) *Si se han colado:* **¿Cuál diría es la razón <u>principal</u> por la que usted se coló?** *(solo uno)*

___ A. Razones económicas,   ___ B. Porque no quiere pagar por un servicio de mala calidad

___ C. Por diversión   ___ D. Como forma de protesta

___ E. Otra: _____

5) *Si se han colado:* **¿Se cola ___ solo, ___ con amigos, o ___ ambos?**

6) *(Si <u>no</u> se han colado)* **Por lo general, ¿Cuál piensa es la razón <u>principal</u> por la que las personas se colan?**

___ Necesidad económica   ___ Falta de cultura   ___ Diversión   ___ Protesta

<u>SECCION D: DATOS PERSONALES.</u> Gracias. Ahora, le voy a pedir unos datos personales.

1) En una semana típica, cuanto gasta usted en transporte, incluso taxis? _____

2) Hace dos años en 2013, ¿cuanto gastaba en una semana típica? _____

3) ¿Es estudiante? ___ Sí   ___ No   *Caso afirmativo:* ¿Qué nivel?

___ Primaria   ___ Secundaria___ Bachillerato ___ Técnico ___ Universitario ___ Posgrado

4) *[Si no es estudiante]*: **¿Cuál es el nivel de escolaridad más alto que se ha cumplido?**

___ Primaria   ___ Secundaria___ Bachillerato ___ Técnico ___ Universitario ___ Posgrado

5) ¿Trabaja Ud. en el ___ sector formal, ___ sector informal, ___ o no trabaja?

[Si no trabaja ni estudia] **6) ¿Está buscando trabajo?**   ___ Sí *(acaba con la entrevista)* ___ No *(Continua a 7)*

7) ¿Cuál de los siguientes describe mejor la razón de que no busca trabajo?

___ Se ha jubilado   ___ Está cuidando niños u otros parientes

___ No piensa que podría encontrar trabajo ___ Tiene una discapacidad que le impide trabajar
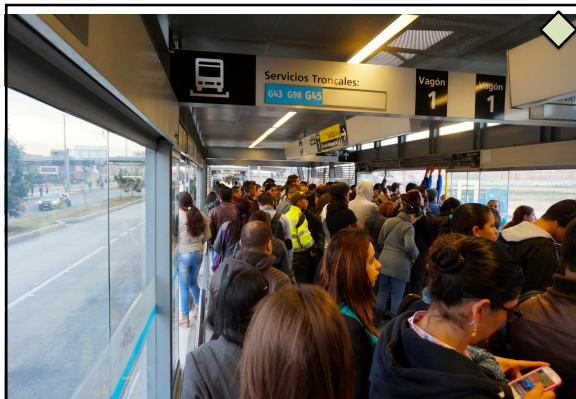
___ *Otra:* _____

¿Tiene alguna pregunta para nosotros? ¡Gracias por su tiempo!
Darles la <u>hoja de información</u>, que tiene la información de contacto si tienen preguntas luego.

<u>¡NO SE OLVIDE LLENAR SECCION E, EN PAGINA 1!</u>

Colombia Showcards 2016: Sección A

0

A
B
C

1

2

"Siempre Transmilenio ha sido muy terrible porque **casi no hay buses** y se aglomera mucha gente."

-Usuario de Transporte Público

3

Mi peor experiencia en TransMilenio es la congestión [de gente], los empujones. **Yo soy muy bajita, entonces a veces no puedo respirar bien**.

-Usuario de Transporte Público

4

"**a pesar del mal servicio**, uno por llegar temprano **prefiere irse en la montonera de TransMilenio**. Sería bueno que mejorara, pero por el momento, nos toca en esto porque ¿**qué más hacemos**?"

-Usuario de Transporte Público

5

Sección B

6

Me tocan indebidamente y me roban.

-Usuario de Transporte Público

7

38% de mujeres usuarias de TransMilenio entre 18 y 50 años de edad dicen que **han sido acosadas sexualmente en el transporte público.**

8

Si yo fuera mujer y sé que me van a tocar, no me subo… Sé que es más complicado, pero siempre tienes que tomar tus precauciones.

¡Ponte una chaqueta gruesa! Ponte los pantalones anchos, andar despeinado…. **Pero si te vas con unos jeans súper apretados** levanta colas, **te van a ver, te van a tocar.**

-Usuario de Transporte Público, La Paz

9

"Sentí que el tipo que iba al lado mío me iba tocando, pero **yo creí que me quería robar el bolso**. Cuando yo puse las manos en el bolso **el tipo puso su miembro en mis manos.** Tenía el miembro por fuera y **me estaba manoseando desde que me subí al Transmilenio**"

-Usuario de Transporte Público

Fuente: http://www.noticiasrcn.com/nacional-bogota/nadie-el-transmilenio-me-ayudo-mujer-acosada

10

Un chico me agarró la pierna. Dijo **"Ay, perdón amiga,** el bus está muy lleno, no me he dado cuenta," **pero lo ha hecho con intención.**

-Usuario de Transporte Público

11

"Hace seis años, estaba esperando el TransMilenio, y **un tipo se se ubicó detrás mi y me refregó sus partes.** Como estaba tan lleno, pensé que era por la congestión de gente. Pero cuando me entré al TM, el tipo se quedó allí. **Estaba mirando a las otras señoras** por detrás, **seguramente por hacerles lo mismo.**

Uno toda la vida **vive a la defensiva**, mirando **que no le toquen**, que no le miren, pendiente de adelante, de atrás, de todos los lados."

-Usuaria de Transporte Público, La Paz

12

Cuando suban a un sitio donde hay mucha gente, **siempre va a haber tocados.** Pero tanto mujeres como hombres sienten deseo sexual, entonces **a un 15-20 por ciento de las mujeres, les gusta que les pase eso.** Pero desde que aparece el movimiento feminista, **las mujeres se quejan de todo.**
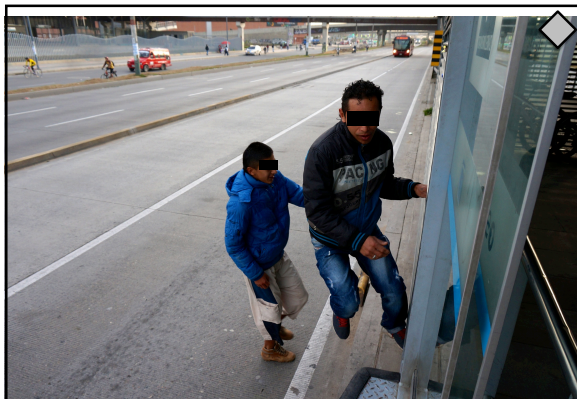
-Planeador de Transporte Público

13

"Los Transmilenio, como salen así de llenos, **aunque no lo quiera, es imposible no tocar a la otra persona.**"

-Usuario de Transporte Público
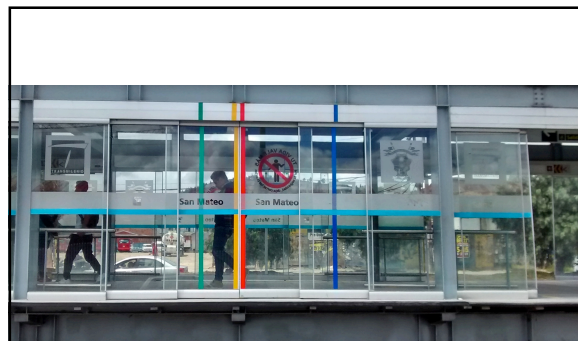
14

Sección C

15

16

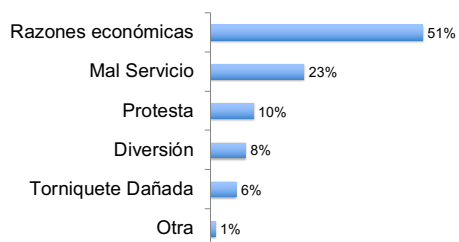

17

18

19

20

¿Por qué se cuelan tus amigos?

- "Desde porque **no tiene dinero**, hasta por **simple diversión**."

- "**El 50% de mis amistades se cuelan**, sobre todo porque **es un mal servicio**. Hay unos que lo hacen **por vagos**, porque ya es a cogerlo **de costumbre**."

- "Primero, **las filas** que se forman en las entradas y segundo porque **no les gusta pagar por algo que está mal**."

-Usuarios de Transporte Público

21

25% de usuarios dicen que se han colado. ¿Por qué dicen que se Cola?

Razones económicas	51%
Mal Servicio	23%
Protesta	10%
Diversión	8%
Torniquete Dañada	6%
Otra	1%

22

Sección D

23

24

25

Orig: 28

26 Orig: 2

"**Que hayan colocado Transmilenio acá en Soacha es la mejor experiencia que he tenido**, porque antes gastaba como 4 buses y ahora es solo uno."

-Usuario de Transporte Público

27

Sección E

28

Los de TransMilenio pueden solucionar los problemas, pero quieren solo la ganancia para ellos. Entonces, no invierten, y nunca va a mejorar. **Como ellos nunca lo van a usar, no les importa nada.**"

-Usuario de Transporte Público

29

"Los del gobierno **no tienen que subirse a transporte público.**

Entonces **es muy difícil que entiendan** nuestros problemas."

-Usuario de Transporte Público

30

"No entienden nuestros problemas, porque **si lo entendieran, mandarían más transporte**."

-Usuario de Transporte Público

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Tomo transporte público para estar en contacto con las personas. Lo hago porque yo soy autoridad, soy parte del cuerpo municipal... y **a veces la autoridad usamos nuestra movilidad propia y no sentimos lo que siente el usuario** todos los días.

-Especialista en Transporte

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TRANSMILENIO sabe los problemas. **No sé por qué no lo toman en cuenta. Tal vez por parte económica.** Tal vez porque no tienen la plata, o no tendrán los buses.

-Usuario de Transporte Público

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"Tantas cosas que ha hecho la gente, han dañado las estaciones, han hecho de todo y no nos escuchan. **Yo creo que si no escuchan a las malas no creo que a las buenas tampoco**."

-Usuario de Transporte Público

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