Unhoused on the Move: Impact of COVID-19 on Homelessness in Transit Environments

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Abstract   More than half a million individuals experience homelessness every single night in the United States. The limited capacity of shelters to meet their needs is forcing many to turn to transit vehicles, bus stops, and transit stations for shelter. The pandemic only exacerbated the homelessness crisis. Fear of infection in shelters and reduced capacity due to physical distancing requirements drove more unhoused people to take shelter on the streets and also in transit settings. Although discussions in the popular media have raised awareness of homelessness in transit environments, the scale of the problem has not been well-documented in scholarly research. This chapter investigates the intersection of the pandemic, transit, and homelessness in U.S. cities, presenting the results of a survey of 115 transit operators on issues of homelessness on their systems, both before and during the coronavirus pandemic. We find that homelessness is broadly present across transit systems though mostly concentrated on larger transit systems and central hotspots, and it has worsened during the pandemic. The challenges of homelessness are deepening, and dedicated funding and staff are rare. Attempting to respond to the needs of homeless riders, some agencies have put forth innovative responses, including hubs of services, mobile outreach, discounted fares, and transportation to shelters.

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1 Introduction

With the Coronavirus Disease 2019 (COVID-19) pandemic generating major concerns about the spreading of infection in enclosed and densely occupied environments and forcing a shift to remote work for some employers, transit ridership plummeted in the United States (See Chap. 17). But while many riders with other mobility options sought to avoid the narrow confines of buses and trains, one group of riders, in particular, did not leave transit. Individuals experiencing homelessness have long been a frequent presence in U.S. cities. Since the 1980s and over the last decades, homelessness has continued to grow as a result of the deinstitutionalization of mental healthcare centers, the deregulation and financialization of housing markets, the gutting of many welfare programs, and the drug epidemic [28]. As of January 2020, before the pandemic, the U.S. Department of Housing and Urban Development estimated that over 500,000 people lacked a stable roof over their heads every night [9].

Even prior to the pandemic, transit environments provided common settings for homelessness [2], with people using buses and trains both as shelter and transportation to workplaces, shelters, and social service centers. But as the pandemic brought into sharp relief preexisting inequities and disparities in North American cities, it also made the plight of unhoused riders more visible. Indeed, the pandemic intensified the scale of the homeless crisis and its implications for transit. Anecdotal evidence suggests that the number of people using transit environments for shelter rose. Physical distancing mandates led some homeless shelters to lower their capacity [21], forcing more unhoused Americans to look for shelter in public spaces and transit environments. With affordable housing scarce in U.S. metropolitan areas and the scale of homelessness crisis often surpassing the capacities of existing safety nets, transit operators faced these pressing issues themselves and had to implement policy measures from realms beyond transportation to address them. Additionally, the fear of contagion created public health concerns for transit agencies about the safety of their staff and riders [8, 13, 16].

Although discussions in the popular media have raised awareness of homelessness in transit environments, potential responses have not been studied extensively. Because of the health and safety implications of the pandemic and the anticipated further rise in homelessness from the resulting economic downturn [4], understanding and responding to the needs of these vulnerable riders are critical. To that end, this chapter presents the findings from a survey of U.S. and Canadian public transit operators, conducted during the pandemic, and compares these findings to those of another survey on the same topic conducted by Daniel Boyle in 2016. The chapter also reports insights from a series of in-depth interviews with transit agency staff and their partnering organizations, conducted from November 2020 to April 2021, on particular strategies that some agencies have initiated in response to homelessness. Our survey and interviews occurred prior to the mass distribution of COVID-19 vaccines in the United States and therefore document conditions during the pandemic itself, not the recovery that is ongoing as of this writing.

In the sections that follow, we first give a brief overview of prior research on homelessness in transit environments. We then discuss our research methodology, followed by the findings from our survey and interviews. Drawing from this empirical research, we conclude by offering suggestions on how to address homelessness in transit environments.

2 Prior Research

Transit environments represent common settings for individuals experiencing homelessness because of their anonymity, relative publicness, and in the case of transit vehicles and transit stations, microclimate control. Nevertheless, the literature on the intersection of transit and homelessness is rather sparse and primarily concentrated in the United States, where the phenomenon is most acute.[1]

A number of surveys have indicated the frequency of the phenomenon. As early as 1991, a survey by the Port Authority of New York and New Jersey found that all surveyed transit operators and airports viewed homelessness as an issue in their facilities [23]. Twenty years later, Nichols and Cazáres [20] interviewed 49 people sleeping overnight on buses in Santa Clara County in the San Francisco Bay Area, finding that about two thirds of them used the bus as their only or most regular shelter to spend the night. Bassett et al. [1] surveyed 69 staff from departments of transportation in 24 U.S. states and British Columbia, Canada and found that 70 percent regularly encountered people experiencing homelessness in their rights-of-way. More recently, Boyle [5] surveyed staff from 55 transit operators about homelessness on their systems and conducted detailed case studies of six operators' responses. More than 9 out of 10 responding transit agencies characterized transit homelessness as a challenge. In Minnesota, a 2018 survey found that 33% of adults experiencing homelessness used a transit vehicle, bus stop, station, or highway rest area as nighttime shelter at least once in the past year [22].

Researchers have examined the travel patterns of people experiencing homelessness, documenting the important role of transit for their mobility. A systematic literature review found that the primary travel mode for unhoused individuals is public transit [19]—in stark contrast to the low rate of transit ridership among the U.S. general public. In a case study in Long Beach, California by Jocoy and Del Casino [14], over half of the surveyed people experiencing homelessness used transit daily.

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[1] Transit homelessness, while particularly common in North America, is also present in other countries of the Global North. In the United Kingdom, Heriot-Watt University researchers estimated that 11,950 people slept in vehicles, transit, or tents in 2017; unfortunately, the research as published does not separate out transit from these other settings [6]. In Berlin, a homeless census counted 154 people sleeping in transit stations—16% of the city's unsheltered individuals and 8% of all people experiencing homelessness [24]. For context, Berlin, with a population of 3.77 million, had 1,976 unhoused individuals just prior to the pandemic in 2020, while the similarly sized City of Los Angeles, with a pre-pandemic population of 3.98 million, had 41,290 unhoused individuals [3, 15, 24, 26].

Interviewing unhoused people in Toronto, Hui and Habib [12] found that healthcare, social service centers, food banks, and visits to friends and families were top travel destinations; most either walked or used transit for these trips. Some studies have sought to understand the obstacles unhoused people face when riding transit, finding that transit fare cost represents a common barrier [10, 14].

What are the characteristics of unhoused individuals riding transit? Two studies that compared unhoused people on transit to unhoused people in other spaces in the city found that the former were more chronically unhoused and structurally disadvantaged; they were more likely to be men, to be Black, and to have been incarcerated, to be addicted to drugs or alcohol, or to suffer from mental illness [20, 27].

A survey of 49 U.S. transit operators in 2018, prepared for the American Public Transportation Association (APTA), found that more than two thirds of these agencies believed they should play a role in addressing homelessness [2]. Nevertheless, transit agencies have often ignored or minimized their social service role[2] and often have conflicting or misdirected goals that "suggest a lack of focus on the needs of transit riders themselves, particularly the poor and transit dependent" [25, p. 347].

In sum, only a limited literature exists on transit homelessness and in particular on agencies' responses to this challenge. Additionally, the existing studies prior to the pandemic do not capture the new and potentially unique challenges of rising homelessness during a public health crisis and the possible adjustments and responses to it. To cast some light to these issues, we turn to our empirical research.

3 The Pandemic, Transit Operations, and Homelessness: Survey Findings

We undertook a study of transit operators in the United States to understand how the pandemic has affected homelessness on their systems and what they are doing about it. We sought to answer:

1. How has the pandemic impacted homelessness in transit environments?
2. What has been the response of transit agencies?
3. What strategies are promising for responding to transit homelessness during and after the pandemic?

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[2] Broadly, transit serves a social service role of providing mobility to those who lack other means of transportation, due to poverty, disability, etc. [25]. In the context of public transit and homelessness, this social role entails serving all transit riders, even those who lack the ability to pay a fare or those who use transit for both shelter and mobility, and "treating all individuals with dignity and respect" [2, p. 5].
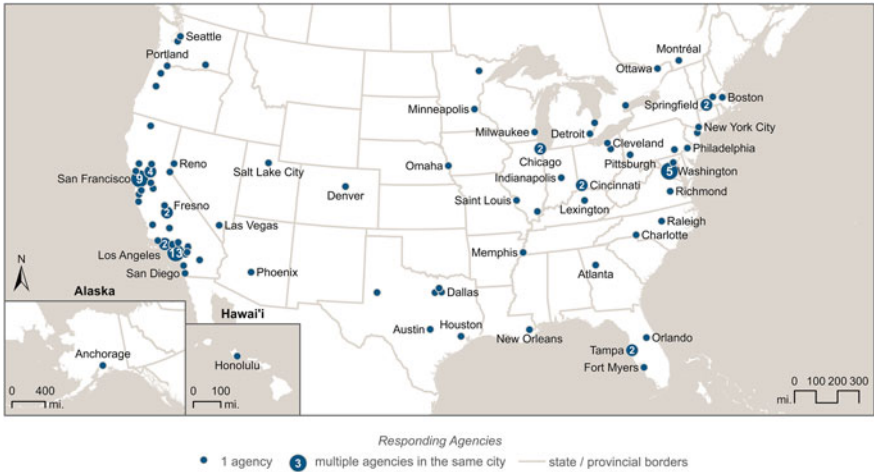
Fig. 1 Locations of responding transit agencies (n = 115 agencies). *Data source* Authors' survey; *supplemental data source* [11]

3.1 Research Design

To answer the first two questions, we deployed an online survey in late summer 2020 that was sent to 238 transit operators across the United States and Canada (Fig. 1) and yielded responses from 142 staff at 115 agencies (48.3% response) [17].[3] We e-mailed a link to this 37-question survey to all transit operators in the United States that operate 100 or more vehicles in maximum service [7] and all Canadian APTA members. Because California has the highest number of unsheltered individuals [9], we oversampled there, sending the survey to all operators in the California Transit Association. The survey asked about the extent and common settings of homelessness on transit systems, agency policies and procedures for interacting with unhoused riders, challenges and concerns faced by agencies, types or resources and partnerships employed, agency response strategies, and how all of these may have changed as a result of the pandemic. We repeated a number of questions that appeared in Boyle's survey [5] so that we could identify any differences in the responses. We also asked additional questions, many specifically related to the impact of the pandemic. Where appropriate, we calculated the statistical significance of select survey findings using Pearson's chi-squared tests.

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[3] For questions asking for perceptions, evaluations, and opinions, we analyzed responses by individual respondent, as employees at the same agency might reasonably differ. For factual questions, the agency instead served as our primary unit of analysis. Boyle's survey [5] only reported a single response per agency, so some comparisons (such as those in Figs. 2 and 3) compare individuals in 2020 to agencies in 2016.

To respond to the third research question, we identified through the survey ten agencies for a deeper study of their response strategies [18].[4] We interviewed relevant staff from these agencies and their partners to learn how each strategy was carried out, its impact, associated challenges (especially during the pandemic), and lessons learned from its implementation. In total, between November 2020 and April 2021, we conducted semi-structured interviews with 26 individuals, each of around 45 min. Our findings were only based on the responses of transit staff and their experiences and perceptions. Due to resource and time limitations, we could not directly collect views of people experiencing homelessness themselves.

3.2 Impact on Homelessness in Transit Settings

The survey revealed homelessness is present on transit systems across the United States and Canada, but its extent varies from one city and one system to another. The majority of agencies reported at least 100 unhoused riders daily. Expectedly, large operators (those operating 200 or more vehicles during maximum service), typically located in large metropolitan areas, reported more homelessness on their systems than small operators. West Coast and some Mountain West agencies reported the highest numbers of unhoused riders. Certain transit modes attracted homelessness more than others: among bus operators, 93% classified their buses as hotspots for homelessness, while light rail (83%), heavy rail (73%), and commuter rail (64%) were each less likely than buses to be cited as settings for homelessness. However, only a few operators indicated taking consistent counts (6%) (e.g., taking annual counts at stations and on transit vehicles); only 17% have access to counts or formal estimates, partial or full, from any source. Thus, many respondents reported perceived estimates.

Sixty-one percent of the responding agencies perceived rising numbers of unhoused individuals on their systems during the pandemic. Large agencies were more likely to report increases than small agencies, and this difference was statistically significant ($p < 0.05$). Multiple factors might have contributed to this rise in visible homelessness, including the pandemic-induced economic downturn and job losses, reduced capacity at some shelters, closure of public libraries (often frequented by unhoused people), and some agencies' suspension of fares and fare enforcement

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[4] These agencies were: Metropolitan Transportation Authority, New York City (MTA) in New York City, New York; Los Angeles County Metropolitan Transportation Authority (LA Metro) in Los Angeles, California; Southeastern Pennsylvania Transportation Authority (SEPTA) in Philadelphia, Pennsylvania; San Francisco Municipal Transportation Agency (SFMTA) in San Francisco, California; King County Department of Metro Transit (King County Metro) in Seattle, Washington; San Francisco Bay Area Transit District (BART) in the San Francisco Bay Area, California; Denver Regional Transportation District (Denver RTD) in Denver, Colorado; Tri-County Metropolitan Transportation District of Oregon (TriMet) in Portland, Oregon; Sacramento Regional Transit District (SacRT) in Sacramento, California; and City of Madison Metro Transit (Madison Metro Transit) in Madison, Wisconsin [18].

during the pandemic. Additionally, as overall transit ridership and service fell, and as many housed riders stopped using transit, unhoused riders became more visible as they made up a larger share of riders.

3.3   Increasing Challenges and Concerns

Homelessness in transit settings poses a variety of challenges to transit operators, which increased during the pandemic, including a lack of resources, support, and training to address it, and complaints from housed riders about visible homelessness. Among transit agency staff, 53% perceived the challenge of homelessness as worsening during the pandemic, and only 9% thought it had eased. The severity of the challenge seems to have worsened since 2016. As seen at the top of Fig. 2, which compares responses from our survey to questions of the same wording asked by Boyle [5], 38% regarded the extent of homelessness on their system as a major challenge, compared to 26.5% in 2016.[5]

Indeed, almost every concern listed in Fig. 2 was more pronounced in 2020, during the pandemic and after years of worsening homelessness in many areas, than in 2016. Significantly enhanced concerns included the negative perception of housed riders toward unhoused riders, the lack of internal resources to address homelessness, and the lack of government support. Large agencies were more likely than small agencies to characterize several of these issues as severe challenges, including unclear policy ($p < 0.05$), lack of funding ($p < 0.05$), and other riders' concerns ($p < 0.01$).

Homelessness generates concerns among housed riders, which may influence transit policy. The top bar of Fig. 3 shows that 86% of respondents indicated that their agency received complaints related to homelessness. While the prevalence of these concerns remained steady from 2016 to 2020, their perceived severity worsened, as compared to questions of the same wording. This is particularly true for concerns over aggressive behavior by unhoused people and discomfort among housed riders. The pandemic added a new concern: 89% of respondents noted that housed riders fear that unhoused riders may spread disease. Respondents at large operators were statistically significantly more likely to receive complaints about homelessness ($p < 0.01$) and to consider discomfort, fear, aggressive behavior, and personal hygiene as major concerns among housed riders than their peers at small operators. Meanwhile, six out of ten survey respondents perceived that the presence of unhoused riders in transit settings had a negative effect on general ridership, and this perception increased during the pandemic, when 17.3% of survey respondents attributed ridership decline to the larger visibility of homelessness on transit, compared to 6.7% of respondents who made a similar argument in 2016 [5]. We caution that our survey findings

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[5] This and similar comparisons are admittedly indicative rather than definitive, because, while there was a significant overlap in the responding agencies, our survey included 115 agencies, while the survey by Boyle [5] included 55.

speak only to perceptions of this effect among staff respondents, not necessarily homelessness' actual effect on ridership numbers.
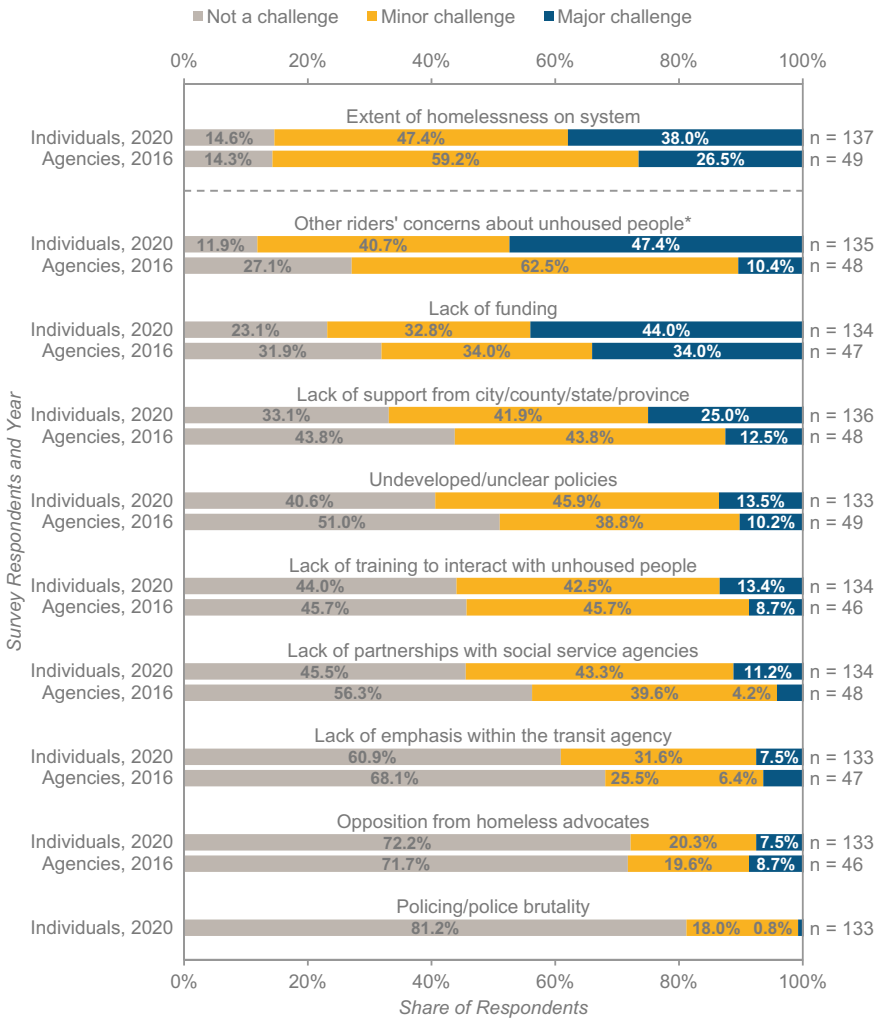

Fig. 2 Ratings of challenges. *Data source* Authors' survey; *supplemental data source* [5].   *Note* *
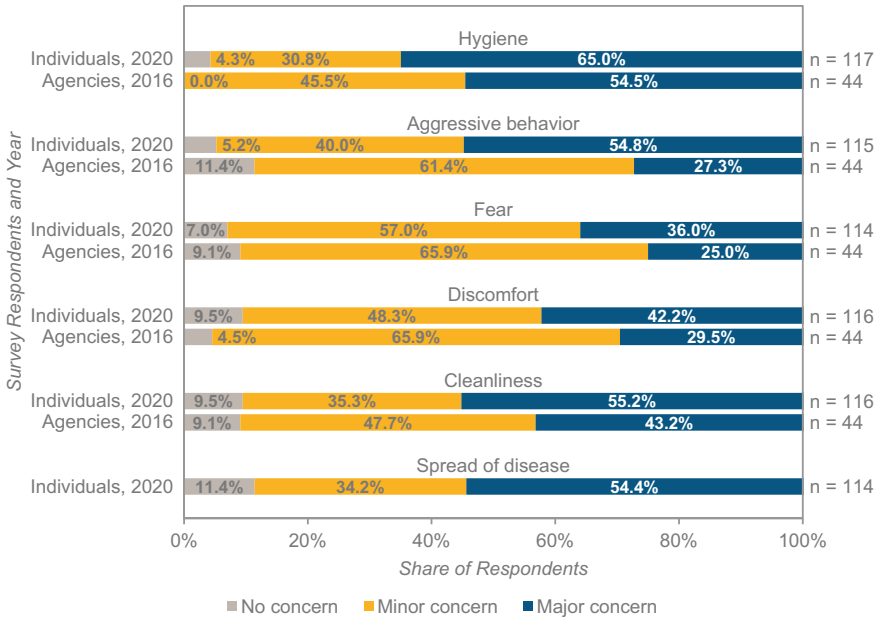The 2016 wording was "Balancing customer concerns with humane actions"

Fig. 3 Characterization by agency staff of housed riders' concerns about unhoused riders. *Data source* Authors' survey; *supplemental data source* [5]

3.4 Responses to Homelessness

The survey found that only 19% of agencies had formal policies or protocols on how to address homelessness on their systems prior to the pandemic. Additionally, only six agencies received outside funding to address homelessness, and 77 percent did not have dedicated staff or a budgetary line item for this purpose. Nevertheless, the pandemic led a number of agencies to change the way they respond to homelessness, with many increasing their overall efforts. Indeed, more agencies (29%) reported increasing their responses during the pandemic than those that decreased them (5%), underscoring the severity of the homelessness crisis on many transit systems since the onset of the pandemic. In addition to expanding existing efforts, the pandemic led many agencies to develop or rethink their policies on homelessness: 41% of agencies reported creating or altering policies and procedures on interacting with unhoused people because of the pandemic.

Table 1 shows the types of actions that some transit agencies take to respond to homelessness. We classify them into two major categories: (1) enforcement-related actions, which are often punitive toward unhoused individuals, as they seek to enforce anti-loitering laws and expel them from transit spaces, and (2) service- and outreach-related actions, which seek to provide unhoused riders with social services or connect them to housing resources.

Table 1 Common actions in response to homelessness

Category	Action	Agencies	
		# (out of 105)	Percentage
Enforcement	Requirement that riders exit the transit vehicle at the last stop or pay an additional fare to re-board	70	66.7
	Installation of structural elements or landscaping to discourage sleeping at stops or stations	52	49.5
	Enforcement of anti-loitering laws	51	48.6
	Clearance of encampments from transit settings	49	46.7
	Sweeps of areas where unhoused people are known to congregate	44	41.9
Services and outreach	Discounted or free fares for unhoused riders or distribution of free or discounted passes to homeless service providers	33	31.4
	Using vehicles or facilities as cooling/heating centers during extreme weather	25	23.8
	Additional service or modified routes connecting to shelters	23	21.9
	Allowing unhoused people to use transit facilities to spend the night	5	4.8
	Discounted or free bike share for unhoused people	1	1.0

Data source Authors' survey

The most common enforcement practice, undertaken by two-thirds of responding agencies during the pandemic and especially by larger operators, was requiring that all riders exit the transit vehicle at the end of the route, a protocol that disrupted unhoused riders from continually resting on transit vehicles throughout the day. Only 36% of agencies had such a policy in 2016. However, the use of other punitive measures, such as the enforcement of anti-loitering laws or the clearing of homeless encampments from transit settings declined since 2016.

The most common service/outreach-related action reported by agencies was the provision of free fares to unhoused riders. Large transit agencies were more likely to take one or more of the services and outreach actions shown in Table 1. The plurality of respondents (46%) believed that their agencies maintain a balance between outreach and enforcement actions, but more respondents said that their agencies have more enforcement actions (24%) than those who said they have more outreach actions (16%).

During the pandemic, many agencies stopped collecting fares to reduce the risk of virus transmission at fareboxes, often located close to drivers. Some operators

formally suspended transit fares for all riders; others paused fare inspection and enforcement checks (i.e., moved to an "honor system"). Agencies that adopted either strategy were more likely to report increased homelessness on their systems during the pandemic. However, differences in enforcement (the removal of fare checks), rather than changes in the listed fare price itself, likely explain the correlation. In other words, the broader issue of enforcement and policing of unhoused riders was more salient than the fare price on the books. As the pandemic subsided, many agencies restored fare collection and enforcement. Nevertheless, as we found from our interviews, some agencies hope to initiate or expand discounted-fare or fareless programs targeting unhoused riders.

3.5   Partnerships

Given that transit agencies have limited resources and that homelessness is a large societal problem, it is not surprising that most transit agencies (85%) enter into partnerships and collaborations with other entities to address it. Table 2 shows the types of partnerships reported, with large agencies statistically significantly more likely than small agencies to engage in partnerships ($p < 0.05$). Among these various partnerships, most survey respondents considered those with social service agencies as the most successful. We found that the pandemic led to an increase in collaborations with other entities seeking to address homelessness. Twenty-nine percent of agencies reported initiating new partnerships with social service agencies, shelters, city/county offices, and law enforcement agencies. This growth in partnerships compared to the findings of Boyle [5] indicates a shift toward a more holistic approach to addressing homelessness, but it may also be a reflection of agencies seeking to complement their inadequate resources in the face of increasing homelessness across U.S. cities.

Table 2   Transit agency partnerships

Partnerships	Agencies	
	# (out of 104)	Percentage
With local law enforcement agencies	72	69.2
With homeless shelters	49	47.1
With public social service agencies	60	57.7
With private or nonprofit social service organizations	53	51.0
With public health agencies	39	37.5
With other transit agencies	16	15.4
With other local governments	33	31.7
No partnerships	15	14.4
Don't know	1	1.0

Data source Authors' survey

4 Strategies for Responding to Transit Homelessness: Interview Findings

We interviewed relevant staff from ten transit agencies and their partnering organizations, which have enacted response strategies that are particularly developed, unique, or frequently cited by staff at other agencies. The identified programs vary in scope, impact, resource burden, and organizational complexity. We categorized them into four major strategies: hub of services, mobile outreach (both smaller clinician/social worker programs and larger, comprehensive strategies), discounted fares, and transportation to shelters. A detailed discussion of these strategies can be found at Loukaitou-Sideris et al. [18], below we give a brief discussion of each.

4.1 Hub of Services

This strategy concentrates a variety of outreach resources and services for unhoused riders in one or more central points in the city, at or near a major transit facility easily accessible via the transit network. The most successful, comprehensive example, the Hub of Hope in Philadelphia, Pennsylvania, is a partnership between the Southeastern Pennsylvania Transportation Authority (SEPTA), the City of Philadelphia, and Project HOME, a local nonprofit. Located at a downtown transit station, the Hub of Hope offers a variety of services to people experiencing homelessness, including case management, showers, laundry, snacks, primary medical care, and limited behavioral and dental health care. The Hub also provides transportation to shelters and outreach teams in surrounding areas through its many partnerships with service providers, government departments, law enforcement, and more. The Hub offers valuable lessons for other operators on its wide range of external partnerships, its emphasis on training and trauma-informed care, and its concentration of many important services for unhoused riders in one location.

4.2 Mobile Outreach: Smaller Clinician/Social Worker Programs

In contrast to the Hub of Hope's model of centralized services, a number of transit agencies have adopted various mobile outreach strategies across their systems. The make-up, size, budget, and other details of these teams vary across the agencies studied, but each involves staff moving throughout the transit system to meet unhoused riders where they are and provide them services or connections/referrals to services. At the Sacramento Regional Transit District (SacRT), an intern from a local Master of Social Work program rides with transit police officers to meet with unhoused riders when there is a call for assistance. She speaks with them

(including those identified on a list of "top ten" chronic offenders on transit), offers them services, and connects with their case manager, if possible. Similarly, at Denver Regional Transportation District (RTD), a full-time mental health clinician from a regional mental health center rides along with security staff on the transit system to de-escalate confrontations and link people with shelter services and counseling. Since the pandemic, the clinician has operated without accompanying police officers and has received more calls. In both cases, the new model of outreach teams is beginning to result in more referrals and improved outcomes.

4.3   Mobile Outreach: Comprehensive Outreach Programs

Three large transit agencies in California, the Los Angeles County Metropolitan Transportation Authority (LA Metro), Bay Area Rapid Transit (BART), and San Francisco Municipal Transportation Agency (SFMTA) have launched comprehensive outreach programs, following the same general model as those in the previous section but of a larger scale.

As a key part of its homelessness response program, LA Metro deploys four mobile outreach teams; three are run by law enforcement agencies and one by the social service agency People Assisting the Homeless (PATH). These teams include trained staff tasked with referring unhoused people to services, working with back-office staff to place them into housing, and de-escalating situations on the system. In April 2020, LA Metro also initiated "Operation Shelter the Unsheltered," in which police officers and PATH staff at key end-of-line stations ask unsheltered riders to disembark and offer to provide resources to those seeking shelter. Through its contract with PATH, LA Metro is able to provide temporary shelter in motels for its most vulnerable riders. Comparing the referral outcomes of LA Metro's different outreach teams, we found that the civilian PATH partnership was more effective and also less costly in placing unsheltered individuals in housing than the agency's partnerships with law enforcement teams [18].

The Bay Area's transit regional homeless outreach program also deploys outreach teams, in downtown San Francisco (as a partnership between BART and SFMTA) and into other parts of the Bay Area. Each Homeless Outreach Team consists of two civilian outreach workers with crisis intervention training, who respond to dispatch calls, assist and connect unhoused transit riders to shelters and other services. These teams are part of BART's broader efforts that also include "Pit Stop" restrooms, elevator attendants, and unarmed transit ambassadors.

4.4   Discounted Fares

While the prior strategies aim at the housing and health needs of unhoused riders, the discounted fares strategy specifically focuses on their *mobility*. Some transit

agencies provide reduced or free fares to enable people experiencing homelessness to travel on their systems. Three of the agencies whose staff we interviewed—King County Metro in Seattle, the Tri-County Metropolitan Transportation District (TriMet) in Portland, Oregon, and SFMTA in San Francisco—have such programs. King County Metro sells bus tickets at a 90% discount to local social service agencies addressing homelessness. TriMet provides free and reduced-cost transit tickets to over 90 organizations in its region to cover emergency transportation costs for people in crisis or with immediate need. Finally, SFMTA provides 2-year free transit passes to unhoused people who register with the City's Department of Homelessness and Supportive Housing, which in turn connects and provides those individuals with services and housing assistance. While discount fare programs do not diminish the number of people experiencing homelessness on transit systems, they nevertheless offer an important service to those unhoused individuals who participate.

4.5 Transportation to Shelters

Some operators also seek to expand the access of unhoused individuals to destinations particularly relevant for them, namely shelters, which may not be well connected with transit. Programs that offer free transportation to and from homeless shelters are one of the most direct ways that transit operators can aid those experiencing homelessness.

A smaller operator, Metro Transit in Madison, established a program during the pandemic to provide free transportation between daytime and nighttime shelters. Meanwhile, the largest transit operator in the United States, New York City's MTA and the City's Department of Social Services have partnered with the Bowery Residents' Committee to engage with people experiencing homelessness at the end of lines, transporting them to and from shelters and connecting them to resources. The program greatly expanded when the subway ceased operating 24/7 in May 2020. In Los Angeles, LA Metro's outreach teams provide transport to motels for those experiencing homelessness, where they can spend the night. Since the onset of the pandemic, LA Metro teams stationed at the ends of major lines offer free bus transportation in the evenings to open shelter beds. And under Denver's Support Team Assisted Response (STAR) pilot program, a mental health clinician and a paramedic dispatched by 911 ride around on a repurposed van, respond to low-level behavioral health crises situations in the downtown area and in transit settings, and offer transportation to shelters and hospitals and connections to community organizations and resources.

5   Recommendations and Conclusion

The COVID-19 pandemic exacerbated the U.S. homelessness crisis, forcing the most vulnerable onto streets and transit settings. Even before the pandemic, most transit agencies faced challenges in responding to the needs of unhoused people on their systems, including a lack of dedicated resources and formalized policies, lack of government support, and negative reactions from housed riders. The pandemic changed the way that many transit agencies responded to visible homelessness on their systems, forcing them to adopt a variety of strategies, some more helpful to their unhoused riders (e.g., suspension of transit fares), others more punitive (e.g., closure of transit center buildings and enforcement of disembarking at the end of routes).

But even after the pandemic completely subsides, homelessness will remain, in the absence of a larger social welfare policy and affordable housing for the poor. In line with transit's social service role, we believe that operators should focus on providing their core transportation services to both housed and unhoused riders. How can transit agencies best do so? In what follows, we discuss a number of recommendations.

Need for plans, policies, and evaluation metrics: The survey showed that most agencies do not have formal policies or protocols on how to address homelessness on their systems. But as homelessness is a widely present and persistent challenge in transit settings, it makes sense for agencies to develop plans for responding to it, both during ordinary times and during crises like pandemics. A regard for the well-being and mobility needs of unhoused riders must be built into these long-range and emergency planning documents. Such plans should take into account the specificity of the transit mode (rail or bus), the size and needs of different local unhoused populations, and the available agency resources. Our study also found that transit agencies do not measure the effectiveness of their strategies. Key performance indicators are important and should include metrics like the number of unhoused riders referred to and placed into short-term shelter beds and long-term housing or other needed resources such as access to mental and physical health care.

Need for outreach strategies: We noticed a shift among many agencies toward pursuing more outreach strategies during the pandemic and hope that this trend will continue. A number of interviewees emphasized that law enforcement alone cannot address the root problem, while outreach and support—especially done separately from policing—may be more effective. Removing people experiencing homelessness from transit environments would frequently result in their reappearance in the same or another transit setting later, as they have no other places to go. On the other hand, seeking to connect them to shelter opportunities, social services, and medical or mental health resources presents a more effective way to respond to the issue and even possibly help some individuals get out of homelessness.

Need for enhancing mobility for the unhoused: Prior literature indicates that public transit is a very important travel mode for those experiencing homelessness. Providing free fares to people experiencing homelessness and connecting shelters to other important destinations through transit allows them to access these needs more

easily. Since many unhoused people are already skirting around fare collection due to their inability to pay, agencies are not forfeiting much revenue by providing them free fares. Additionally, this would make it easier for bus drivers, who often find themselves having to resolve altercations over fares.

Need for public education and staff training: Operators often face complaints and pressure to simply sweep unsheltered individuals away from their system. Public information/education campaigns are important to educate housed riders about an agency's homeless outreach operations. Likewise, training bus drivers and other front-line personnel on how to best handle interactions with unhoused riders is critical.

Need for partnerships: During the pandemic, a number of transit agencies initiated partnerships with external entities to address the homelessness crisis. We hope this continues. As many transit agencies are not familiar with or well-equipped to handle homeless outreach themselves, joining forces with other municipal agencies, social service providers, and nonprofits can fill crucial knowledge and skill gaps and bring in additional financial and staff resources.

Need for external funding: The survey showed that the vast majority of agencies do not receive outside funding to address homelessness, and only a handful have dedicated staff or budgetary line items for this challenge. Transit operators and industry groups should lobby for grants and funds to respond to homelessness and hire and train the necessary personnel to do so. While it may seem unfair to transit agencies that they have to address a problem whose root causes they cannot solve, agencies can use that sense of unfairness as a powerful argument for greater funding and resources instead of a reason to ignore the problem.

In conclusion, homelessness represents a failure of our society to take care of and respond to the plight faced by its most unfortunate members. The pandemic exacerbated the crisis. One positive sign, however, is that some transit agencies rose to the challenge and initiated strategies and partnerships that will remain helpful in a post-pandemic world. Transit is a public service, and the transit industry should uphold its social purpose and contribute to the welfare and mobility of unhoused riders. It is clear, however, that the industry is dealing with the downstream effects of a structural problem. Ultimately, if we are serious in trying to help people experiencing homelessness, we need more housing and services for them.

Note This study was reviewed and approved by the University of California, Los Angeles Office of the Human Research Protection Program (IRB #20-001303, July 24 2020). Consent was given by all study subjects, and all data were anonymized.

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