



Homelessness on the Road: Reviewing Challenges of and Responses to Homelessness in State Transportation Environments

Anastasia Loukaitou-Sideris, Ph.D., Distinguished Professor of
Urban Planning, UCLA Luskin School of Public Affairs

Jacob L. Wasserman, Research Project Manager,
UCLA Institute of Transportation Studies

Hao Ding, Graduate Student Researcher,
UCLA Institute of Transportation Studies

Claire Nelischer, Graduate Student Researcher,
UCLA Institute of Transportation Studies

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7. Author(s) Anastasia Loukaitou-Sideris, Ph.D., https://orcid.org/0000-0003-0186-4751 ; Jacob L. Wasserman, https://orcid.org/0000-0003-2212-5798 ; Hao Ding, https://orcid.org/0000-0001-5286-3367 ; Claire Nelischer, https://orcid.org/0000-0001-9496-9178				8. Performing Organization Report No. UCLA ITS-LA2110	
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16. Abstract <p>In recent decades, homelessness has become an increasingly major challenge in the U.S. Of the half million unhoused people in the U.S., many seek shelter in settings under the auspices of state departments of transportation (DOTs), such as freeways, underpasses, and rest areas. DOTs are responsible for the health and safety of these settings and of their occupants, housed and unhoused.</p> <p>This study synthesizes existing literature and findings from interviews with staff from 13 state DOTs and eight service providers and organizations responding to homelessness. Homelessness represents a recognized and common challenge for DOTs, but the numbers and location of unhoused individuals in state transportation settings vary and fluctuate. As DOTs face jurisdictional, financial, and legal hurdles in responding, DOT staff employ both "push" and "pull" strategies, the most common of which is encampment removals. However, the effectiveness of such removals is limited. Other strategies include "defensive design" and, more proactively, establishing or partnering with low-barrier shelters, providing shelters and sanitation on DOT land, and coordinating rehousing and outreach efforts. Our findings suggest that DOTs should acquire better data on homelessness on their lands, create a homelessness coordinating office, establish formal partnerships with nonprofits/service providers, and evaluate the necessity of encampment removals, through the development and utilization of prioritization criteria. DOTs should coordinate with other bodies as they work towards broader housing solutions.</p>					
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The Pacific Southwest Region University Transportation Center (UTC) is the Region 9 University Transportation Center funded under the U.S. Department of Transportation's University Transportation Centers Program. Established in 2016, the Pacific Southwest Region UTC (PSR) is led by the University of Southern California and includes seven partners: Long Beach State University; University of California, Davis; University of California, Irvine; University of California, Los Angeles; University of Hawai'i; Northern Arizona University; and Pima Community College.

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Table

of

Contents

Table of Contents

Executive Summary	vii
Introduction	2
Literature Review	4
Living on DOT Land: Scope and Effects.....	4
DOT Issues and Responses.....	5
Local Government Responses.....	9
Empirical Methodology	12
Selection of Interviews.....	12
Data Collection.....	13
Analytical Methods.....	16
Findings	17
Available Information Online.....	17
Issues and Challenges.....	18
Responses: “Push” Strategies.....	21
Responses: “Pull” Strategies and Innovative Practices.....	24
Desirable Approaches: Views from the Service Providers.....	28
Conclusion	31
References	33
Appendices	40
Appendix A: Interview Questions for DOT Staff.....	41
Appendix B: Interview Questions for Homeless Service/Advocacy Organizations.....	42

List of Tables

Table 1. Strategies for Responding to Homelessness on DOT Land8

List of Figures

Figure 1. Tents Next to a Highway2

Executive

Summary

Introduction

In recent decades, homelessness has become an increasingly major challenge in the U.S. Over half a million people per night lacked a regular roof over their heads in 2022 (U.S. HUD, 2022). The human costs of homelessness have only become more urgent and more visible since the start of the pandemic. The limited capacity of shelters and social service agencies to meet the needs of a rapidly growing unhoused population has forced many individuals experiencing homelessness to look for shelter in various public spaces. Without other options, many turn to settings under the auspices of state departments of transportation (DOTs), including freeway and state route rights-of-way, under- and overpasses, rest areas, parking lots, maintenance facilities, and DOT-managed urban streets and sidewalks. Therefore, state DOTs must adapt and implement measures from policy realms outside of transportation to address homelessness. Some are already doing so. Their response is critical for the welfare of unhoused denizens but also for ensuring a safe, operational road network.

In our review of existing academic and professional literature, we find that most DOTs report frequent encampments on their land and encounter operational challenges as a result. On public transit, a comparable transportation setting, those taking shelter tend to be more likely to be chronically unhoused and disadvantaged along other axes than their unhoused peers elsewhere. Freeway environments may offer certain advantages for those seeking shelter, but proximity of encampments and debris to traffic and freeway infrastructure is dangerous to drivers, neighbors, and the unhoused individuals themselves. Encampment removal represents the most common DOT strategy, but DOTs also employ outreach, accommodation of encampments, and infrastructure and landscaping changes. In their responses, DOTs operate in a complex legal ecosystem and often face lawsuits over their enforcement strategies.

Beyond just transportation environments, the past three decades have witnessed increasing criminalization of homelessness in public spaces. Jurisdictions intensified policing, adopted ordinances restricting activities associated with the unhoused population, and employed defensive design in public spaces. However, scholars have long pointed out the ineffectiveness of law enforcement in addressing homelessness, only producing short-term effects and worsening relationships between police and unhoused individuals. According to studies, integrating outreach efforts is more effective in the long term in helping unhoused residents and addressing the negative effects of homeless encampments. Cities are also partnering with a broader array of agencies and organizations to respond to homelessness.

To investigate homelessness challenges and strategies in state DOT environments, we reviewed the websites of every state DOT, conducted interviews or received responses from staff at 13 DOTs that are responding to homelessness and/or particularly face it, and interviewed staff at eight relevant nonprofits, service providers, and external stakeholder organizations and partners involved in issues of homelessness.

Issues and Challenges

Encampments tend to be in spaces sheltered either by infrastructure or by vegetation and landscaping. They often lie in areas close to homeless services, and their presence varies by geography and time due to climate and weather. DOT interviewees noted safety concerns and crimes at encampments. However, hard counts and data are rare: most DOTs lack accurate information about the extent of homelessness on their lands and the sociodemographic composition of the unhoused individuals that occupy them.

As the Coronavirus Disease 2019 (COVID-19) pandemic reduced shelter capacity and disputed finances and housing for many, interviewees observed a greater visibility and possibly higher numbers of people sheltering on

DOT land. Following Centers for Disease Control and Prevention (CDC) guidance in 2020, many DOTs left encampments in place, though since then, encampment removals have generally resumed.

Most interviewees noted that encampments or individual shelters recurred in the same or nearby locations after their removal. Likewise, some people experiencing homelessness suffer from mental health issues and substance dependence, which, per interviewees, interfere with their ability to respond to outreach. However, staff from nonprofits and service providers dispelled the notion of a “service-resistant camper.” They pointed out that there is a pervasive mismatch between the “spectrum of needs” of people experiencing homelessness, as one interviewee put it, and the actually available, barrier-laden shelter, housing, and related resources. This mismatch is also compounded by the long and complicated path to secure housing.

As DOTs attempt to respond, they face a multitude of hurdles: jurisdictional, financial, legal, and resource- and experience-based. Many encampments are located in areas abutting multiple jurisdictions, and this patchwork of land ownership can make determining responsibility for encampment response difficult. Meanwhile, resources and expertise on homelessness within DOTs are scarce, funding is often restricted, and shelter space and housing, particularly low-barrier shelters, are not generally available at the needed scale.

Responses

Faced with these challenges, state DOTs have begun responding to homelessness through formal programs and informal practices. While efforts even among the set of relatively more engaged DOTs in our sample are often still nascent or scattered, interviewees described a variety of both “push” and “pull” strategies.

The discussion was dominated by one most prominent response: encampment removal (characterized by external organizations and advocates as “sweeps”). Once DOTs decide to clear an encampment (sometimes one about which there have been complaints or reports), they may notify outreach providers, to engage encampment residents and offer services and assistance. DOTs then post official removal notices. DOT staff and/or law enforcement officers then enforce the removal of people from the site, and next, DOT staff and/or contractors clean the site and collect trash, debris, and hazardous materials. Most DOTs request law enforcement to be present, at least on the day of the removal. Because of such specialized cleaning and enforcement costs, encampment removal can prove expensive.

Some DOTs, facing a large number of encampments with limited resources, have adopted informal or (in Minnesota and California) formal prioritization strategies. Under these tiered schemas, DOTs categorize encampments based on health and safety risks and disruption to infrastructure, clearing high-priority encampments and deprioritizing others or, in some cases for a time, even letting them remain. But in smaller states and states with lower rates of unsheltered homelessness, DOTs instead attempt to respond to and clear all encampments brought to their attention.

The extent to which DOTs employ external social service partners for outreach in the encampment removal process and what services they offer varies. Very few DOTs have formal partnerships. Informal or intermittent partnerships with service providers in a few states have placed unhoused individuals into shelter, though they also provide some homeless organizations a dilemma, asking them to balance cooperating with DOTs in order to minimize harm to encampment residents and actively engaging in potentially abrupt, forceful, or indiscriminate removal processes themselves.

Some state DOTs also employ preventive maintenance, defensive design (also referred to as “hostile architecture”), and infrastructure hardening at some sites, to prevent encampment occurrence or recurrence.

Many interviewees, including DOT staff, admitted that conducting encampment removals does not address the root causes of homelessness. Hence, they often merely result in moving encampments around rather than reducing the numbers of unhoused individuals on DOT properties—much less in helping those individuals. But a few DOTs offer case studies of innovative practices that have led to more positive outcomes. We do not necessarily recommend them as “best practices” per se, as they may have some flaws and limitations, but among DOT practices in effect today, the examples below offer definite promise.

DOTs in Hawai'i and California have established a special office within their agency that coordinates their homelessness response. Led by a homelessness coordinator/lead at the state or regional level, this office interacts with other agencies, standardizes protocols, and actively brings together diverse partners. Its staff may even undertake outreach to unhoused individuals themselves.

Another response employed, particularly during the emergency brought about by the pandemic, is the opening of low-barrier emergency shelters. Typically part of broader efforts of homelessness agencies and organizations unconnected to DOTs, in some cases, DOTs, in collaboration with other agencies, have been able to place encampment residents into these additional shelter/temporary housing spaces. Many interviewees from nonprofits and service providers noted an increased uptake amongst unsheltered individuals who might otherwise be unwilling or unable to access conventional shelter space, part of a “housing first” approach.

Some DOTs are exploring a proactive measure more within their own control: using their surplus or underused parcels for emergency shelter. However, its implementation has run into issues, including conflicts over the best use of parcels, logistical issues with access and security, and worries that available sites would be located too far from population centers, service providers, and unhoused individuals' existing communities. But with the right, central locations and by working with housing/shelter providers, at least some DOT surplus land may serve well as shelter or transitional housing.

On a smaller scale, DOTs and municipalities have provided sanitation services to unhoused people on DOT land, which helps avoid the higher expenses of cleaning up encampments after a full clearance. DOTs may receive support from municipalities, which collect needles, distribute Narcan kits, and set up trash containers, portable restrooms and hand-washing stations.

Two notable example initiatives highlight new models of DOT engagement on homelessness. Project Off-ramp in Fresno, California offered people living in encampments individual rooms in low-barrier shelters with intensive services, converted from motels. The City contracted frontline outreach workers to work with unhoused residents. The Highway Patrol later enforced no camping along freeways. The project had about an 80 percent shelter acceptance rate (about 500 people) and about a 50 to 60 percent exit rate into permanent housing. However, a long-term funding source for the program has not yet been identified as of writing, and it also faced pushback for not abiding by CDC guidance to leave encampments in place. Despite the reliance on enforcement strategies and blanket clearance, the initiative shows the importance of a path to longer-term housing, the use of trained, unarmed outreach, and a coalition of different agencies and organizations.

Indiana DOT (InDOT) has contracted with Horizon House, a homeless service provider, for outreach to unhoused people in the Indianapolis area. InDOT pays for some Horizon Houses employees' salaries. The contracting arrangement allowed InDOT to have a trained outreach worker effectively on call, while connecting to the broader resources and experience of the service provider.

Views from Service Providers

- *Homelessness is everybody's issue*

Though many DOT interviewees emphasized that they are a transportation agency, rather than a social service agency, all interviewees from service providers and nonprofits believed that DOTs have a role and responsibility in addressing homelessness on their properties. On a practical level, because people are taking shelter on DOT land, DOTs must respond in some way, regardless of their capacity. But on another level, despite DOTs' constraints, DOTs should consider how transportation and homelessness are intertwined and respond accordingly.

- *Get everyone to the table*

Interviewees viewed a coordinated approach between service providers, policymakers, and local authorities as important in addressing the existing fragmented landscape of homelessness and corresponding housing responses. While state DOTs tend not to play a central role today, service providers and advocates generally expressed support for DOTs to assume a stronger role as coordinators and collaborators in region- or statewide responses. Some interviewees also emphasized the need for DOTs to build particular partnerships with local service providers. The ability for DOTs to bring in external partners may rely on using or obtaining more flexible sources of funds—and on advocates, departments, and partners lobbying funding bodies to provide more (and more flexible) funds for DOT homelessness response.

- *Ensure safety while avoiding displacement*

DOTs' goal in this arena is usually to avoid having encampments on their properties because they raise safety concerns—from traffic and infrastructure, but also from crime—both for those traveling on freeways and for encampment residents. However, while several interviewees from service providers noted the very real safety risks present in many freeway environments, several also observed the safety risks of displacement, especially without housing or shelter available and accessible. Service providers emphasized the need to balance the safety of all freeway users, including those sleeping near freeway environments, with the goals of avoiding potentially traumatic or harmful displacement of encampment residents and providing housing alternatives.

- *The ultimate solution is housing*

Interviewees from service providers emphasized that encampment outreach services must be matched with temporary and permanent housing resources, supported by sustained funding. Many noted a need to invest in more permanent housing and longer-term services and support, rather than on enforcement and initial outreach.

Conclusion

DOTs employ both “push” and “pull” strategies to respond to homelessness, but the most common strategy employed by them is encampment removals, which they often undertake in conjunction with law enforcement agencies. However, the effectiveness of these removals is limited, as they merely push unhoused individuals from one setting to another, and often a camp reappears at the same spot from where it was cleared or close by. Indeed, scholarly work outside of transportation shows that law enforcement strategies used to address homelessness are ineffective at reducing homelessness and often harmful to those experiencing it.

Partnerships with service providers help towards more effective responses, as they can connect unhoused individuals with needed services and temporary or more long-term housing. Such entities often enjoy the trust of unhoused individuals and are typically better equipped than DOTs to do outreach and connect them to needed services and housing options.

In response to our findings, synthesizing existing literature and interviews, we make the following recommendations for DOTs:

- Acquire better data on the extent and composition of homelessness in DOT settings
- Create a homelessness coordinating office within the DOT
- Establish formal partnerships with homeless nonprofits/service providers
- Evaluate the necessity of encampment removals, through the development and utilization of prioritization criteria

Criteria based on legitimate safety concerns, developed in conversation with unhoused people themselves and advocates, should guide encampment policy, rather than complaints from the general public or blanket removal policies. DOTs undertaking encampment clearance should coordinate with social service agencies and nonprofit providers to identify alternative sites for the individuals to be displaced and only undertake such removals if their occupants are safely accommodated in such sites. Lastly, past research makes a strong case for reserving law enforcement for instances of crime against persons instead of trespassing alone by unhoused people seeking some form of shelter.

We hope future research can gather and amplify the voices of unhoused individuals themselves. This would fill significant gaps in policymakers' and researchers' understanding of why people choose to shelter on DOT land, what barriers they face to finding housing and other services, and what responses from DOTs would prove most helpful to them.

Addressing the challenge of homelessness in DOT environments is a larger social issue that requires attention and action on the part of DOTs but also support, collaboration, and coordination between DOTs and other public and nonprofit entities.

Contents

Introduction

In recent decades, homelessness has become an increasingly major challenge in the U.S. Over half a million people per night lacked a regular roof over their heads in the U.S. in 2022 (U.S. HUD, 2022). While eviction moratoria and rental assistance may have slowed the growth of homelessness since the onset of the Coronavirus Disease 2019 (COVID-19) pandemic, they have since expired or will soon do so (Capps, 2022; Cuellar Mejia, Herrera, and Johnson, 2022; and Vives and Smith, 2022). Thus, the human costs of homelessness have only become more urgent and more visible since the start of the pandemic.

The limited capacity of shelters and social service agencies to meet the needs of a rapidly growing unhoused population has forced many individuals experiencing homelessness to look for shelter in various public spaces. Without other options, many turn to settings under the auspices of state departments of transportation (DOTs),

Figure 1. Tents Next to a Highway



Source: Wonderlane, 2017 (CC BY 2.0)

including freeway and state route rights-of-way, under- and overpasses, rest areas, parking lots, maintenance facilities, and DOT-managed urban streets and sidewalks (See **Figure 1**). The COVID-19 pandemic exacerbated these problems. Fear of infection in shelters and reduced capacity due to physical distancing requirements drove unhoused people onto the streets and into transportation settings.

Homelessness is perhaps the most pressing issue facing California today. Governor Gavin Newsom has identified it as his top priority (White, Hart, and Colliver, 2020) and proposed to spend billions of dollars on responses (Wiley, 2021). As we found in our recent research on homelessness in transit environments (Loukaitou-Sideris et al., 2020, 2021), homelessness is a transportation issue as well. Given the severe scarcity of affordable housing in California and the inadequate scope of existing safety nets, the California Department of Transportation (Caltrans) and municipal transportation departments are also facing the many issues of homelessness. Despite their core mission being transportation, state DOTs should adapt and implement measures from policy realms outside of transportation to address homelessness. Some are already doing so. Their response is critical for the welfare of unhoused denizens but also for ensuring a safe, operational road network.

In the report that follows, we first synthesize the limited existing academic and professional literature on the extent of, challenges of, and responses to homelessness in DOT-managed rights-of-way. We then present the findings from our empirical work, which involved oral interviews with or written responses from representatives from 13 state DOTs and interviews with staff from eight nonprofits from seven different states who are also active in addressing homelessness near freeways. We synthesize the information gleaned from these interviews to describe the challenges faced in addressing homelessness, common responses, and opportunities for humane and effective actions. We conclude this report with a summary of our findings and reflections on paths forward.

Literature Review

Living on DOT Land: Scope and Effects

Driven to take shelter near freeways by broader forces, such as unaffordable housing and accentuated poverty, an uncounted number of people experience homelessness on DOT land. We could not find published studies nor reports that count the numbers of unsheltered people near freeways and on DOT property, disaggregated from other locations, in different cities and states at a given point in time. State DOTs across the country, however, have noticed people taking shelter on their land, with 20 of 24 DOTs surveyed by Kraus et al. (2022) reporting usual, unauthorized encampments on their rights-of-way.¹ And in a 2018 Minnesota survey, one third of adults experiencing homelessness had sheltered at a highway rest area or a transit vehicle, stop, or station in the past year (Pittman et al., 2020). Though some DOTs report that unauthorized sheltering on their land is less commonly observed in rural areas (potentially because avoiding notice is easier in rural areas, where social services may be less accessible), the majority of DOTs surveyed by Kraus et al. (2022) reported no differences in issues of homelessness (and responses to them) in urban, suburban, and rural areas.

Studies of homelessness on public transit systems, a comparable environment, reveal that the number of unhoused people sheltering in transportation settings is higher than might be expected—but also quite variable by region, climate, season, time of day, transit hours of operation, and other factors (Loukaitou-Sideris et al., 2021 and Ding, Loukaitou-Sideris, and Wasserman, 2022). From 2005 to 2020, New York City’s annual “point-in-time” (PIT) count found significant portions of the city’s unsheltered population on subways; these ranged from a high of 62 percent of the city’s unsheltered residents (8% of the overall unhoused population)—around 2,000 people—to a low of 19 percent of the city’s unsheltered residents (4% of the overall unhoused population) (NYC DHS, 2012, 2020; New York State Comptroller, 2020; U.S. HUD, 2022; and Loukaitou-Sideris et al., 2021). Hennepin County, Minnesota, home of Minneapolis, counted an astounding 72 percent of its unsheltered residents on transit vehicles or at transit stops (18% of the overall unhoused population) on one particularly cold night (Legler, 2019; Minnesota HMIS, 2020; U.S. HUD, 2022; and Loukaitou-Sideris et al., 2021). Warmer places without nearly as many shelter beds per unhoused person, such as San Francisco and Los Angeles (U.S. HUD, 2022 and Loukaitou-Sideris et al., 2021), observed much lower shares of unhoused individuals on transit, as measured before the pandemic, but they also had less comprehensive count data than in Minneapolis and New York City (Caplan, 2020; U.S. HUD, 2022; and Loukaitou-Sideris et al., 2021). During the COVID-19 pandemic, counts of unsheltered people rose on some transit systems like the Los Angeles County Metropolitan Transportation Authority (LA Metro) (LA Metro, 2021; Jones, Burrell Garcia, and Gordon, 2022; and Loukaitou-Sideris et al., 2021), but not on others like San Francisco Bay Area Rapid Transit (BART) (Chan, 2021 and Loukaitou-Sideris et al., 2021).

Surveys and counts show that those taking shelter on transit tend to be more likely to be chronically unhoused than their unhoused peers elsewhere. Likewise, those finding shelter on transit are more likely to be men, to be Black, to have low incomes, to have been incarcerated, or to have a mental illness (Loukaitou-Sideris et al., 2021; Ding, Loukaitou-Sideris, and Wasserman, 2022; Wilder Research, 2019; Nichols and Cázares, 2011; and Wiggins, 2017). As our interviewees in this study reported (discussed below), the same is likely true of freeway

1. Of the state DOTs both surveyed by Kraus et al. (2022) and contacted for this report (See **Table 2**), all of the overlapping DOTs answered “yes” to this question.

environments. DOTs thus face particular challenges in responding to an especially at-need population on their land.

Freeway environments might offer certain advantages to unhoused individuals compared to residential or commercial settings (e.g., shelter from the elements under bridges, isolation from displeased housed neighbors, etc.). Additionally, group encampments can offer comparative benefits to their occupants, including providing a sense of safety and security, developing community, maintaining autonomy, and ensuring stability (Junejo, 2016).

But freeway environments are also dangerous. Living close to freeways and major streets raises the chance of getting injured by an automobile (Bernhardt and Kockelman, 2021); for instance, seven in ten pedestrian deaths in Portland, Oregon in 2021 were of unhoused pedestrians (Portland Bureau of Transportation, 2022). Proximity to freeways also causes adverse health impacts from the air and noise pollution that freeways generate. Abundant public health research has documented the associations between proximity to freeways and rates of respiratory problems, autism, and premature birth (Mortimer et al., 2002; Wjst et al., 1993; Gauderman et al., 2007; Volk et al., 2011; Künzli et al., 2003; and Wilhelm and Ritz, 2003). Encampments near freeways can also create hazards for motorists and those in neighboring residences and businesses. Encampments likewise pose problems for DOTs, including threats to employee safety, damages to equipment and infrastructure, and unsafe debris, like needles, or refuse that may require specialized clean-up teams (Ricord, 2020).

DOT Issues and Responses

Despite the significance of this issue, only a few studies directly address the specific challenges posed by homelessness in DOT rights-of-way, and how DOTs can respond to them. A common theme identified in these studies is that DOTs may become more effective when they work with external partners in law enforcement, social services, and/or local government to respond to homelessness. In what follows, we present a brief review of these studies.

Bassett, Tremoulet, and Moe (2012, 2013) administered a survey and conducted interviews with DOT staff from 25 U.S. states and from British Columbia in Canada, seeking to find out whether homelessness was an issue for these DOTs, and how it was addressed. They found that 48 out of the total 69 staff respondents (70%) had themselves (or others at their agency) encountered homeless encampments as part of their work, and 27 (40%) said that their agency considered homelessness an operational challenge. A survey conducted by Washington State DOT of 18 other state DOTs found that only two reported not having any issue with homeless encampments in their right-of-way (Ricord, 2020).

With responses from 24 state DOTs, a recent survey by Kraus et al. (2022) found that DOT staff encountered three major issues around homelessness: managing encampments and the people sheltering there, crime and lack of safety, and liability and legal concerns. In particular, staff mentioned trash and sanitation at encampments as a particularly resource-intensive issue; additionally, confrontations, drug use and dealing, mental illness, and lack of training to address all of these were noted. Finally, despite the efforts some DOTs are taking, staff reported encampments recurring after clearance in the same areas or at another DOT-managed area nearby.

Faced with both operational challenges and the human toll of homelessness and encampments, some DOTs have implemented a number of strategies in response. One early study looked at how Florida DOT handled encampments along US-301 in Sarasota, which were in the path of a planned widening of the highway. Florida DOT formed a community impact assessment (CIA) team which discussed strategies with local law enforcement,

the county parks and recreation department, and social service agencies regularly serving encampment occupants. Social service agency staff helped the CIA team to deliver notices about the construction start date to encampment residents and asked them to relocate by themselves. Before construction started, the majority of encampment residents had moved away (Potier-Brown and Pipkin, 2005).

In their surveys of DOTs, Bassett, Tremoulet, and Moe (2013) and Kraus et al. (2022) found that contacting or relying on law enforcement agencies to remove encampments was the most common response. But DOTs that relied on law enforcement only to respond to homelessness and remove their encampments could only temporarily remove individuals experiencing homelessness, who tended to come back to their previous locations (Bassett, Tremoulet, and Moe, 2013). In contrast, they found that strategies that achieved a more long-term reduction in homelessness in DOT environments employed partnerships between DOTs and both social services and law enforcement agencies and combined both “push forces” and “pull forces” (Bassett, Tremoulet, and Moe, 2013, p. 5). Law enforcement, on one hand, “pushes” encampment residents by setting firm deadlines for moving, imposing sanctions if they do not move, and implementing continued surveillance to prevent encampments from re-establishing (though other literature discussed below examines the ways sworn law enforcement may harm unsheltered people in the process). Social service providers, on the other hand, “pull” encampment residents by conducting outreach and case management and offering a pathway to (temporary or permanent) housing, employment, and other needed opportunities and resources.

Ricord’s (2020) survey of 18 state DOTs identified two other common strategies, which are also spotlighted by Kraus et al. (2022). First, some DOTs have adopted a multi-agency approach partnering with local law enforcement and social service agencies to remove encampments and clean up the sites, as described above, and also coordinating with and meeting regularly with municipalities and other government departments. DOTs also apply preventive maintenance and “defensive” design strategies to prevent camps from forming or re-forming. Examples of the latter practices include modifying the landscape to eliminate natural cover for camps, installing deterrents such as fences, walls, and other structures to keep people experiencing homelessness away from DOT properties, and vegetation management such as pruning and mowing to keep areas visible and clear.

As shown by these studies, when they do have a formal response program, DOTs’ approach to addressing homeless encampments has the primary goal of removing and keeping away people and encampments from their rights-of-way. After removal, DOTs often upgrade their facilities with defensive designs and increase patrol to prevent new encampments from developing. While these practices could meet the DOTs’ goal of clearing rights-of-way in the short term, responses that have better outcomes for the encampment residents tend to involve partnerships with local governments that have more resources to offer encampment residents a safer and more secure location. Bassett, Tremoulet, and Moe (2012, 2013) propose six guiding principles for addressing homelessness on public rights-of-ways:

- “1. Homelessness is a societal issue...that affect[s] many different sectors, including transportation....
2. One of the most effective ways to address the issue is through...partner[ships with] both social service and law enforcement agencies ([a] push/pull approach).
3. Moving [unhoused] individuals from one site to the next through the use of law enforcement and physical barriers alone is costly, [does not] solve the problem, and tends to generate hostility and further desperation among those being moved.
4. Line DOT employees in the field should not be expected to deal with...camps and [unhoused] individuals unaided....
5. ...There is no one-size-fits-all strategy that works in every context....

6. *The problem did not arise overnight, and it will not disappear overnight. That is why building ongoing relationships with partners is so important*” (Bassett, Tremoulet, and Moe, 2013, pp. 16–17).

Based on these guiding principles, Bassett, Tremoulet, and Moe (2012, 2013) recommend three prototype strategies: “humane displacement,” “short-term accommodation,” and “long-term arrangement” (Bassett, Tremoulet, and Moe, 2013, p. 2), and use case studies to illustrate these strategies. For instance, Oregon DOT and Massachusetts DOT both adopted the “humane displacement” approach to remove encampments from their properties. The “pull” elements of this approach included intensive outreach and case management to offer assistance to encampment residents, usually conducted by social service agencies. The “push” elements included enforcing a deadline for moving, usually undertaken by local law enforcement agencies. Oregon DOT adopted a combined approach of “short-term accommodation” and “long-term arrangement” to relocate a homeless encampment called Dignity Village in Portland. Oregon DOT first allowed the encampment to stay for two additional months after the removal decision and then worked with the City of Portland, Dignity Village residents, and Street Roots, a local homeless advocacy organization, to find a permanent location for encampment residents. In all cases, after the encampments were removed, Oregon DOT made continuous efforts to prevent them from returning, using increased patrol and defensive designs at the sites.

Kraus et al. (2022) report that a few DOTs are considering a proactive approach, using their land for homeless shelters to stem the flow of unsheltered homelessness in the first place. However, none of the responding DOTs have begun their programs, citing sanitation, utility, security, and legal barriers. In the meantime, Washington DOT has turned a plot of its land into a sanctioned campsite for unsheltered individuals, and in 2022, Caltrans signed emergency shelter lease agreements across the state.

DOTs may already own homes on their land. In the 1950s through 1970s, Caltrans planned Interstate 710 through the largely Latino/a El Sereno neighborhood of Los Angeles and the largely white suburb of South Pasadena to its north. Though Caltrans purchased properties on the route (some through eminent domain), lawsuits and activism from residents along the interstate’s path stalled construction for decades, and the homes remained intact. Although state law required resale of homes seized for canceled freeways, the project was not officially scrapped until 2018. In 2020, a group of housing-insecure and unhoused “reclaimers” occupied the long-vacant homes in El Sereno. Protests began in their support as police threatened eviction. Finally, Caltrans entered an agreement with the Housing Authority of the City of Los Angeles, the nonprofit service provider People Assisting the Homeless, and the reclaimers, allowing the reclaimers to live in the homes for two years—soon to expire as of this writing. The City of Los Angeles is developing a plan to purchase them as subsidized affordable housing, while the reclaimers are pushing for a community land trust to buy them instead (Castle, 2021; Dillon, 2021; and Tso, 2022). While instances where DOTs own homes for long periods are rare, DOTs thus can work with community groups to house people—and face protests for leaving them vacant.

Table 1 lists “push” and “pull” strategies documented in the literature that DOTs, local governments, law enforcement agencies, and external partners adopt in response to homelessness on DOT-controlled land.

Table 1. Strategies for Responding to Homelessness on DOT Land

	DOT Strategies	Local Government and External Partner Strategies
“Push” Strategies	<ul style="list-style-type: none"> ● Clearance/displacement of encampments ● Removal and no-trespass notices ● Preventive maintenance ● “Defensive” architecture/hardscapes 	<ul style="list-style-type: none"> ● Clearance/displacement of encampments ● Ticketing/monetary fines ● Citations/arrests ● “Defensive” architecture/hardscapes
“Pull” Strategies	<ul style="list-style-type: none"> ● Accommodation of people/encampments in place ● Arrangement for short-term shelter elsewhere ● Arrangement for long-term housing elsewhere ● Partnerships with homeless service providers to conduct outreach ● Hiring a DOT staff coordinator or dedicated team for homelessness ● Use of DOT land for building shelters ● Sanctioned campsites on DOT land ● Housing individuals in DOT-owned homes 	<ul style="list-style-type: none"> ● Specialized staff/teams with outreach expertise ● Upkeeping encampments/providing amenities like toilets ● Resources for mental health and substance abuse ● Resource centers ● Low-barrier shelters ● Providing/connecting to housing opportunities ● Coordination among a diverse set of partners ● Temporary shelters/”tiny homes” on surplus/vacant land near freeways ● Sanctioned campsites near DOT land

In their responses, DOTs operate in a complex legal ecosystem. While states and jurisdictions tend to have laws empowering DOTs or other bodies to prevent trespassing and misuse of public lands, constitutional protections against illegal seizures; constitutional guarantees of assembly, travel, due process, and equal protection; and federal laws and orders on equity and environmental justice, among others, each affect the legality of DOT responses (Kraus et al., 2022). Of note, the 2019 *Martin v. Boise* decision by the U.S. Ninth Circuit Court of Appeals disallowed blanket anti-camping laws in Western states as unconstitutional cruel and unusual punishment, in the absence of available shelter beds (*Harvard Law Review*, 2019 and Kraus et al., 2022)—though Missouri, not covered by the decision, has recently banned sleeping on all public land, including highways (Oladipo, 2023). Likewise, the patchwork of land ownership, jurisdiction, and enforcement responsibilities between DOTs, municipalities and counties (which may have their own laws on homelessness), and other government agencies complicates responses (Kraus et al., 2022). For instance, after an anti-camping initiative passed in Austin, a Texas DOT spokesperson disclaimed responsibility for addressing encampments on DOT land in the city, specifically those under DOT bridges (Garnham, 2021 and Kraus et al., 2022). Finally, DOTs often face lawsuits over their enforcement and clearance strategies of unhoused individuals on their properties. In 2020, Caltrans reached a \$5.5 million settlement over discarding the belongings of people experiencing homelessness in their rights-of-way in Northern California; advocates sued Washington DOT in a comparable lawsuit in 2017. Caltrans also faced a lawsuit after a DOT worker operating construction equipment accidentally killed an unhoused woman after breaking various protocols (Gerike and Tracy, 2021; Kraus et al., 2022; and Venteicher and Tracy, 2020).

Local Government Responses

DOTs are not the only public land owners on whose land unhoused individuals find shelter, nor are they the only public agencies responding to homelessness. As DOTs adopt and adapt strategies from other public agencies, we likewise turn to a broader examination of studies of these strategies. The approaches of these entities, such as the police and local governments, to addressing homelessness may differ from those of DOTs in terms of the scope of their engagement, the resources that can be mobilized, and their objectives, not the least because they have different responsibilities, expertise, and funding. Nonetheless, DOTs can either learn from or be part of their strategies.

Chamard (2010) prepared guidelines for the Office of Community-oriented Policing Services at the U.S. Department of Justice on how the police should address homeless encampments. These guidelines recommend a variety of strategies, some of which are similar to those pursued by DOTs, such as modifying the physical environment through defensive architecture, closing encampments, and opening resource centers. The guidelines also recommend that police departments improve their interactions with unhoused people by developing policies to guide officers and by creating specialized units with the necessary expertise and training to engage effectively with a variety of unhoused individuals. Some state DOTs have already been following these guidelines (Caltrans Division of Maintenance, Office of Strategic Management, 2018). Another strategy discussed in the guidelines is regulating physical structures, installing public toilets, and upkeeping encampments. The guidelines also offer longer-term strategies that target more fundamental problems underlying homelessness, such as promoting a “housing first” model (which prioritizes unconditional housing for people experiencing homelessness, as opposed to requiring treatment programs, sobriety, etc. for access to housing), and lobbying for more resources to address mental health and substance abuse. According to the guide, relying on law enforcement alone tends to only produce short-term effects and worsen the relationships between police and unhoused individuals and their advocates (Chamard, 2010).

Indeed, scholars have long pointed out the ineffectiveness of law enforcement in addressing homelessness. The past three decades have witnessed increasing criminalization of homelessness in public spaces, including in many transportation environments and facilities. Jurisdictions intensified policing, adopted ordinances restricting activities associated with the unhoused population, and employed defensive design in public spaces. Policing of homelessness has been a common strategy employed by municipalities, business improvement districts, and transportation agencies. It has also intensified over time in more subtle ways: from dispersing homeless encampments, issuing citations, and making arrests in the 1980s and 1990s to relying more on “move along” orders, confiscating properties, making threats of arrests, and involuntarily committing unhoused individuals into psychiatric treatment in more recent years. Among others, scholars have long criticized these actions as ineffective because they only disperse or displace homelessness rather than reduce homelessness. More recent policing may involve simply “shuffling burdens” spatially and bureaucratically to other departments and areas, without addressing the root causes of homelessness (Berk and MacDonald, 2010; Hartmann McNamara, Crawford, and Burns, 2013; Goldfischer, 2019; Herring, 2019; and Ding, Loukaitou-Sideris, and Wasserman, 2022).

A 2020 study for the U.S. Department of Housing and Urban Development (HUD) examines how local governments and their partners in nine different U.S. cities are responding to encampments. In all, the mayor’s office or a relevant city department coordinates a diverse set of partner organizations. The most common and central partners include police departments for enforcement (sometimes accompanied by homeless outreach teams), departments of solid waste or sanitation for cleaning current or former encampments sites, and homeless

service providers for delivering outreach and case management services. Others include local/county homelessness departments, nonprofits, social service agencies, hazardous materials contractors, and advocates. The study indicates that cities still address homeless encampments with a primary goal of removing them, though they often also offer services to help encampment residents (Dunton et al., 2021).

In addition to enforcement actions alone, municipalities also engage in “clearance and closure with support,” which involves removing structures and personal belongings from encampments or requiring people to leave, accompanied by resource-intensive outreach, often with the stated aim of trying to ensure that every encampment resident has somewhere to go when the encampment is terminated (Dunton et al., 2021, p. 15). However, offers of shelter made to unhoused individuals under duress to facilitate the imminent police-led eviction of encampments, do not always turn out to be real or useful, with supposed shelter placements actually unavailable or very short-term. A major encampment clearance at Los Angeles’ Echo Park Lake in 2020 resulted in only 17 people placed in long-term housing one year later, of the 183 displaced in official statistics—with at least six deaths of displaced people (Roy et al., 2022). Other data from Los Angeles County show that under ten percent of unhoused people engaged by outreach staff as part of encampment removal operations ended up in temporary shelter, and under one percent reached permanent housing (Ray, 2022). Other strategies, such as creating low-barrier shelters and connecting unhoused people with permanent housing, are used by only a few cities (Dunton et al., 2021).

A local government strategy that has recently acquired attention in California is the erection of “villages” often adjacent to freeways and composed of “tiny homes,” buildings the size and appearance of a shed with a single bed (or, increasingly, two beds for two people), with shared restrooms and laundry. The idea behind this strategy is to provide a roof cheaply and quickly for people experiencing homelessness and also concentrate needed services for them in the vicinity (Stevens and Fassbender, 2021; Walker, 2021; and Plotnikova, 2022). Proponents praise this strategy because of the relative affordability of tiny homes, which can also give a sense of control to unhoused residents (Stevens and Fassbender, 2021). However, activists and urban designers have criticized this strategy for creating unhealthy, polluted living situations and for the heavy levels of surveillance and regulation (Plotnikova, 2022 and Walker, 2022). Additionally, tiny homes in at least four locations in California have burned down, raising fire hazard concerns (Cuniff, 2022; Ionescu, 2022; Slayton, 2022; and Walker, 2022). Since the onset of the pandemic, localities also have created sanctioned campsites, while traditional shelters have reduced their capacity due to physical distancing requirements (Kraus et al., 2022).

Contrary to most strategies taken by local governments, Junejo (2016) argues that homeless encampments could offer benefits to their occupants, which alternatives like shelter or living alone unsheltered cannot offer. These may include providing a sense of safety and security, developing community, maintaining autonomy, ensuring stability, and increasing visibility. He asserts that city governments should embrace encampments as a short-term solution to homelessness rather than deem them as problems and that their removal only disrupts encampments and may force some of their occupants to move to more remote locations, farther away from services and police presence. Encampment removals have detrimental impacts on encampment residents’ emotional and psychological health and personal property. Citing data from Honolulu, Seattle, and San Francisco, the author points out that removals of encampments have not been effective in reducing their numbers because their occupants often reopen or rebuild encampments. Moreover, removals are costly. Clearing 272 encampments cost San Francisco \$186,000 over the course of 10 months between 2014 and 2015, while Honolulu spent \$750,000 annually to remove camps on sidewalks and in parks. Though Junejo (2016) recommends that cities only remove encampments if they pose true threats to the public health and safety of their residents and the surrounding community, he also importantly concludes that encampments should only serve as a short-term solution: cities should aim in the long term to provide adequate and affordable permanent housing to their unhoused populations.

As demonstrated by the aforementioned studies, integrating outreach efforts is important and more effective in the long term in helping unhoused residents and addressing the negative effects of homeless encampments. For DOTs, this implies that they need to collaborate with social service agencies that provide outreach and case management services when they decide to remove a homeless encampment, making sure that encampment residents are offered alternative shelters after the encampment is cleared. In other circumstances where encampments do not pose threats to the safety and public health of encampment residents and the surrounding communities, the literature suggests that removal is not the only option. Instead, DOTs could collaborate with local sanitation departments to provide supporting services for encampment residents. Local governments can also help by offering temporary housing and social and health services in the near-vicinity of encampments. Admittedly, however, this option may be limited for DOTs, given that the locations of many of their properties may not be suitable for building encampments due to their proximity to freeways. Drawing on interviews and agency documentation, we discuss this and other issues in the findings below.

Empirical Methodology

To gather data for this study, we collected information available online on state DOT websites and conducted two types of interviews. We interviewed a set of relevant staff from thirteen different state DOTs (See **Table 2**) and a set of staff from eight external organizations involved in homelessness response on state DOT rights-of-way (See **Table 3**). These latter interviews included representatives of local, nonprofit homeless service providers, regional continua of care (the federally-mandated bodies that coordinate and fund homeless services and housing, often coordinated by municipal or county homelessness or housing departments), and advocacy organizations. A few of these nonprofits are formal partners of DOTs, while most do not have formal collaborations but nonetheless operate in the same areas and serve unhoused populations. A few disagree with DOT approaches or oppose them in court.

Selection of Interviews

To select DOTs for our interviews, we first did an online scan of the official websites of the Departments of Transportation of all 50 U.S. states and the District of Columbia to look for documents, policies, guidelines, news, and other information about how DOTs are addressing homelessness within their rights-of-way. Only 11 DOTs had relevant information on their websites, as of October 2021. Additionally, we estimated the numbers of unhoused populations per 10,000 residents for all 50 states and the District of Columbia, using data from the 2020 “point in time” count² (taken before the onset of the COVID-19 pandemic in the U.S.) (U.S. HUD, 2022) and the 2020 U.S. Census (See **Table 2**). From these data, we identified that the District of Columbia, New York, and Alaska had the highest numbers of unhoused individuals per capita among jurisdictions without relevant homelessness information on their DOT websites (placing first, second, and seventh among all states). We expected that DOTs in these states face—and should respond to—homelessness frequently, so we added them to our sample (See **Table 2**). Finally, other DOT staff mentioned that Minnesota DOT pioneered the formal prioritization of encampments and was engaging in various response efforts. Thus, in addition to the 11 DOTs identified originally through our website scan, we added four DOTs, for a total of 15 from which we requested interviews. This set captures those DOTs that are responding to homelessness and/or particularly face it, but excludes DOTs that face homelessness at relatively lower rates and/or take fewer actions to respond to it.

2. The annual count of people experiencing homelessness (both unsheltered and sheltered in temporary housing) in regions across the U.S., mandated by U.S. HUD (Loukaitou-Sideris et al., 2021)

Table 2. Characteristics of Contacted DOTs

State/Jurisdiction Contacted	Unhoused Population in Early 2020 (Pre-pandemic)	Unhoused Population per 10,000 Residents
Alaska	1,949	26.6
Arizona	10,979	15.4
California	161,548	40.9
Delaware	1,165	11.8
District of Columbia	6,380	92.5
Florida	27,487	12.8
Hawai'i	6,458	44.4
Indiana	5,625	8.3
Minnesota	7,940	13.9
Nevada	6,900	22.2
New Mexico	3,333	15.7
New York	91,271	45.2
North Carolina	9,280	8.9
Oregon	14,655	34.6
Washington	22,923	29.8

Data sources: U.S. HUD, 2022 and U.S. Census Bureau, 2020

For our interviews with nonprofits, service providers, and external stakeholders, we identified organizations in each of the 15 states that conduct work on homelessness in DOT-managed environments through a purposive sampling process that began with a web search and was followed by email outreach, conducted between January and February 2022. In some cases, we used snowball sampling from both DOT and external partner staff referrals to identify other relevant organizations to interview.

Data Collection

We contacted staff at the selected DOTs by searching their websites and online for contact information, asking for a referral to the staff person/people most involved in homelessness response. We conducted oral interviews with seven of these DOTs from December 2021 to May 2022 (including multiple interviews with different divisions at

DOTs and some follow-up questions thereafter), while six additional DOTs sent us written responses to our questions. We did not hear back from two DOTs.

We interviewed a total of eight external organizations, representing seven states (See **Table 3**). We conducted email outreach to organizations from five other states but were unable to secure interviews from them. In both cases, the pandemic made staff extremely and understandably busy.

Table 3. Characteristics of External Organizations Interviewed

Organization	Los Angeles Homeless Services Authority	Partners in Care O’ahu	Housing for New Hope	Union Shelter	Oregon Law Center	Coalition for Homelessness Intervention and Prevention	Alaska Coalition on Housing and Homelessness	Housing Alliance Delaware
Place	Los Angeles, California	Honolulu, Hawai’i	Durham, North Carolina	Monroe, North Carolina	Oregon	Indianapolis, Indiana	Juneau, Alaska	Delaware
Operate or support a continuum of care	×	×				×	×	×
Manage a Homeless Management Information System	×	×				×	×	×
Manage a coordinated entry system	×	×	×			×	×	×
Engage in direct outreach to encampments	×	×	×	×				×
Operate shelter spaces and/or supportive or affordable housing	×		×	×				
Engage in region- or statewide coordination and advocacy	×	×	×	×	×	×	×	×

The study team conducted semi-structured interviews with one or more representatives of each of the DOTs and service providers/nonprofit organizations, with the goal to understand their organizations' experiences with and approaches to homelessness in DOT-managed spaces. Interviews were held over Zoom video conferencing and lasted between 30 minutes and one hour. We asked interviewees a series of pre-established questions (See Appendices A and B), which focused on the nature and extent of unsheltered homelessness in DOT-managed spaces; organizational responses to encampments and their removal; relationships and collaboration between state DOTs, law enforcement, and social service agencies; challenges encountered; and desired approaches to homelessness. During the interviews, the study team asked additional, unstructured follow-up questions to clarify some responses. Interviews were recorded (with the permission of the respondent) and transcribed. In some cases, the study team followed up with respondents by email to clarify responses, request additional information or documents, or seek referrals to other organizations. Representatives from six DOTs requested that we submit our questions in writing and sent us back their written responses.

Analytical Methods

We analyzed interviews using a thematic analysis approach. The study team read and reviewed interview transcripts, noting down emergent themes. Following an initial review of the data, we summarized each transcript by applying to the data *a priori* codes from a standard summary template developed by the study team, which closely followed the structure and questions of the interview protocol. We then analyzed these summaries using an open coding process, in which codes were developed based on meaningful concepts emerging from the interview data, and then applied and refined over time. Coding was completed by a single coder and reviewed by the study team. Codes were classified into categories and finally reduced into themes that reflected similarities, patterns, and insights observed across interviews.

Findings

In the sections that follow, we summarize findings from our scan of DOT websites and our interviews on the challenges presented by homelessness in DOT environments and challenges to DOT responses, the “push” and “pull” responses that DOTs engage in, and the types of responses that service providers would like to see in the future.

Available Information Online

Our scan of the official websites of DOTs of all 50 U.S. states and the District of Columbia revealed the varied degrees of engagement of DOTs with the unhoused population. Our search showed that eleven DOTs published information about how they approached the issue of homelessness. Such information mostly acknowledges that there is a need to address the problem of homelessness and encampments on DOT rights-of-way in particular, which interfere with the daily operation of DOTs. Some DOTs published policies and protocols for addressing homeless encampments, the most common approach for which was encampment removal. For example, Washington DOT and Delaware DOT published their encampment cleanup/removal policy and procedures, while Indiana DOT mentioned in a report their homelessness and right-of-way policy pilot. We describe DOT encampment removal procedures in further detail below, from our interview findings. These policies, while intended to guide the removal of encampments, also emphasize the need to ensure the safety of DOT personnel and encampment residents, as well as the need to balance the rights of encampment residents and the function and maintenance of transportation infrastructure.

Some DOTs also mention partnerships or collaborations with other agencies and organizations. For example, Hawai'i DOT partners with the state Office of the Coordinator on Homelessness and Department of Public Safety for outreach and enforcement along highway corridors; Oregon DOT partners with local governments, law enforcement, and social services in their efforts to clear encampments along freeways; and Arizona DOT mentions enforcement officers collaborating with other agencies in outreach, with the DOT helping to make arrangements with service providers for encampment relocation.

Some DOTs also report on their efforts to reduce encampment numbers and recurrence: Caltrans notes the increased costs associated with encampment cleanups; Oregon DOT details a past effort to relocate an encampment to make way for construction, citing law enforcement as a “push” factor and outreach as a “pull” factor; Nevada DOT relates that the number of unhoused individuals living in their freeway rights-of-way has decreased due to weekly patrols; New Mexico and Washington DOTs report increased funding to address homelessness encampments; and Florida DOT mentions a data-sharing project with homeless services.

On the whole, though, little information on homelessness response among DOTs is publicly available across all states, with the posted information spotty even among those DOTs with available documentation. We turn next to our findings from interviews with staff at DOTs facing homelessness and/or implementing these policies.

Issues and Challenges

Characteristics of and Data about Encampments

The existence and, in some cases, proliferation of encampments poses a challenge for each of the DOTs interviewed. DOT interviewees noted safety concerns and crimes at encampments, including assaults, selling illicit drugs, prostitution, and even trafficking. With flammable refuse and makeshift shelters common, encampment fires also pose a particular danger to individuals and infrastructure there and nearby, especially in areas where fires can grow and spread quickly.

Our interviews revealed that encampment locations share some common characteristics. First, encampments tend to be in spaces sheltered either by physical infrastructure, such as bridges and freeway overpasses, or by vegetation and landscaping, such as in wooded areas. Second, encampments tend to be in locations proximate to services and opportunities needed or frequented by people experiencing homelessness. As a result, encampments are more common in urban areas, where those services and opportunities are more easily accessible. Given the variation in the conditions of these locations, the sizes of individual encampments vary considerably: those under freeway overpasses may be as small as a few tents, while those in large, vacant properties, often shielded by vegetation, can reportedly grow to as big as a hundred tents. Encampments tend to be less common in areas with harsh climatic conditions, like Alaska, where living unsheltered outdoors is not possible for several months of the year. For areas with milder climates, the total numbers of encampments and the sizes of individual encampments can still fluctuate significantly over the course of the year due to changing weather conditions. Encampments are usually fewer and smaller during the winter months.

Such fluctuations—and a lack of resources, staff, and priority—make it challenging to keep accurate data about encampments. Many DOT staff indicated that they were generally aware of where encampments were located within their right-of-way but did not keep track of their total numbers and did not have more detailed data about individual encampments' locations, size, etc. A few DOTs, such as Caltrans, the Indiana DOT and the Minnesota DOT, keep track of such data to monitor encampments, but the level of collected information and detail varies. Caltrans District 6, in California's San Joaquin Valley, performed a one-time count of encampments within their right-of-way for Project Off-ramp, described further below. Caltrans District 7, in the Los Angeles region, maintains a database of encampments, including the number of individuals per encampment and also partners on state rights-of-way with the Los Angeles Homeless Services Authority (LAHSA) and the Ventura County Continuum of Care in their point-in-time counts. Since our initial interviews, Caltrans in 2022 started performing its own count of people experiencing homelessness on state rights-of-way, which takes a little over a month to complete.

Such examples notwithstanding, many DOTs lack detailed counts, and most interviewees from both state DOTs and nonprofits and service providers could not accurately describe the characteristics or numbers of those living in encampments on DOT properties. But speaking anecdotally or in broad strokes based on recent PIT counts, many respondents referenced a high prevalence of mental health and substance use issues amongst those living in encampments and an overrepresentation of Black individuals, American Indian individuals, and other people of color among their occupants. Several respondents also noted an increase in family homelessness in recent years.

One trend most interviewees noted is the recurrence of encampments or individual shelters in the same or nearby locations after their removal. As DOT budgets are limited and cannot always secure areas through infrastructural improvements, many spaces for encampments remain accessible, including areas with relatively good shelter and proximity to resources where encampments may particularly recur.

Impact of the COVID-19 Pandemic

Interviewees noted many negative impacts of the COVID-19 pandemic on homelessness in DOT environments. The most mentioned effect was reduced capacity at shelters broadly and at particular partner shelters of DOTs, which created upward pressure on the number of people experiencing homelessness and living unsheltered on DOT rights-of-way. However, because of the lack of data, interviewees generally could not quantify these impacts. Encampments themselves became more visible, as many DOTs, at least for a time, followed Centers for Disease Control and Prevention (CDC) guidance to leave people in encampments who had no alternative individual housing options in place during the pandemic (CDC, 2020). DOTs reduced enforcement activities and paused encampment removals during the first months of the pandemic. According to an interviewee from the Oregon Law Center, “Because the CDC guidance has required that people remain in place, it’s less of a hidden problem than it has been before. It’s harder for people who are not immediately impacted to look away.”

A silver lining noted by many interviewees was that the heightened visibility of unsheltered homelessness during the pandemic contributed to an enhanced recognition of the housing and homelessness crisis—prompting more cooperative approaches to addressing homelessness and enhancing dialogue and coordination between service providers and other local government agencies. As the same interviewee from the Oregon Law Center reflected, “It’s brought us all to the table to think about better solutions.” Several respondents expressed optimism about these more collaborative and progressive approaches that emerged in the context of the pandemic, including interim and emergency shelters and reduction in encampment removals.

However, deeming the emergency conditions of the initial pandemic to have ended, most DOTs, according to our interviewees, have resumed enforcement efforts—although the CDC’s published guidance has not substantively changed since mid-2020, as of this writing (CDC, 2020, 2022). For example, in its new Maintenance Policy Directive, issued in October 2022, Caltrans classified all types of encampments as requiring removal (though some more urgently than others) and reduced the time given for posting notices about removals (Aceves, 2022).

The So-called “Service-resistant Camper”

Many interviewees from state DOTs noted that encampments often return after they are removed, because many individuals living in encampments are not absorbed into the shelter system. Short-term shelters may have restrictions, discussed further below (including not allowing children or pets, having a curfew, or requiring vaccination against COVID-19), that make them unpalatable or even unavailable to some individuals sheltering on DOT land. Additionally, some people experiencing homelessness suffer from mental health issues and substance dependence, which, per interviewees, interfere with their ability to respond to outreach. Moreover, rarely do offers of shelter include long-term housing or even a clear path to it. Thus, even with intensive outreach, some encampment residents do not accept offers of shelter and other services and instead move to a different encampment after a removal, either on DOT right-of-way or on other public lands. Intake systems and service providers often label these individuals as “service-resistant.” Some interviewees from state DOTs suggested that whether these people deemed service resistant accept service depends not on what a DOT does but what the social service agencies can offer. Likewise, poor past experiences of unhoused individuals with particular service providers can lead them to refuse to take services there, and poor past experiences of service providers with particular unhoused individuals can lead them to refuse requests to follow up with those individuals, as a DOT staffer with outreach experience recounted.

Indeed, many interviewees from nonprofits and service providers pointed out that there is a pervasive mismatch between the “spectrum of needs” of people experiencing homelessness, as one interviewee put it, and the actually available shelter, housing, and related resources. Mental health, trauma, and substance abuse issues

may make staying indoors and at congregate settings untenable for some. Others may be unable to access shelter options, given family composition (e.g., a couple or a parent and adult child), pet ownership, or sex offender status. Site-specific rules at shelters can result in a loss of autonomy for residents, and time-based entry requirements may exclude shift workers. For example, shelters may already be closed for the night, and individuals working night shifts may not be able to enter a shelter space following their shift.

This mismatch may have been overlooked because of the “common myth about the service-resistant camper,” as an interviewee at an external organization characterized it. The narratives that describe people experiencing homelessness as a result of self-choice and as being reluctant to accept help stigmatize unhoused individuals and mask the many complex reasons why they might be unwilling or unable to access available shelter options and other services. As one interviewee from the Alaska Coalition on Housing and Homelessness argued, “We really try to fight the narrative that is often put out there of, ‘These people just want to be homeless; they don’t want help.’ There might be folks who choose that lifestyle or living situation, but the vast majority are trying to identify safe and stable housing.”

Many interviewees emphasized that understanding the varied needs of people experiencing homelessness and the pervasive mismatch between these needs and the options and services available is important when thinking about appropriate responses to encampments. As the interviewee from the Oregon Law Center reflected:

“We fool ourselves into thinking that people have a choice in the matter, because we hold up a tent under a freeway bridge versus a cot in a congregate shelter as the options, but what we don’t take into account is that those options are not functionally accessible for a lot of people. There are a lot of reasons why someone might feel safer in the community of their campsite versus not only their physical safety [but also] their emotional or mental health safety and their public health in a pandemic safety...being in a congregate shelter.”

Similarly, an interviewee from LAHSA argued:

“Just because there may be a bed available, that might not be the right bed for them. And I think ultimately, what we need to remember in doing outreach and in providing resources is that everyone is the master of their own fate and knows what they want and knows what they need.”

This problem of mismatch is also compounded by the long and complicated path to secure housing. As explained by an interviewee from Hawai’i, “It’s really hard because [in] our system, there’s a very long process to connect people with housing. And many of the people encountered in rights-of-way may not be legal citizens; they may not have any form of ID at all, right? So, you have to kind of start from ground zero.”

Coordination across Multiple Jurisdictions

The most persistent encampments tend to be located in areas abutting multiple jurisdictions. According to an interviewee, this “confusing patchwork” of land ownership on and near DOT-owned properties has become a unique challenge to addressing encampments. It can be difficult for on-the-ground and even central staff to understand if land is owned by the DOT, a city, a private utility, a transit agency, or another owner, which can make determining responsibility for encampment response difficult. This is especially true as responsibility and ownership may be divided in complex ways at under- and overpasses and in areas with easements. In such circumstances, coordination among affected jurisdictions on responsibilities, field operations, and cost-sharing can become very complicated.

This need for coordination between nearby jurisdictions creates a “shell game of people,” according to one homelessness agency interviewee. When one agency removes an encampment, its residents can and do often simply move to a nearby spot in a different jurisdiction. Uncoordinated efforts by different agencies only manage to move people around within the same general area. During this process, resources are continuously spent on clearing encampment sites rather than investing in a more cohesive strategy to meaningfully address homelessness. Many interviewees attributed this problem to a lack of regional and inter-agency coordination regarding approaches to enforcement, as well as to the lack of appropriate shelter and housing services.

Instances of DOTs taking action in response to encampments thus usually involve jurisdictional or inter-agency coordination. For one recent encampment removal operation in Los Angeles, Caltrans led eleven partnership meetings with federal, state, and local agencies, utilities, and nonprofits and delayed a planned fencing project to enable additional outreach efforts.

Funding and Resources

In circumstances where service providers are able to conduct outreach to encampment residents in advance of an encampment removal, interviewees from these organizations emphasized the importance of ensuring that appropriate funding and resources are available to address the needs of encampment residents. Without available, accessible, low-barrier shelter spaces and long-term investments in affordable housing to meet demand, interviewees at external and partner organizations tended to view any short-term expenditures of time and financial resources for encampment outreach as a waste of scarce resources. As one interviewee from LAHSA commented, “Outreach is only as good as the resources on the back end.”

Even as funding became available in many areas during the pandemic for purchasing or renting hotels/motels to expand the shelter/temporary housing capacity, concerns remained about the stability and longevity of such resources. Some interviewees were worried about what will happen after such programs end, because such funding is time-limited and hotel shelter programs can be expensive.

Likewise, DOT funding sources often have restrictions on how they can be spent, and many non-infrastructure responses to homelessness have political or legal difficulty securing funding eligibility (discussed further below in the context of external partnerships). DOT interviewees reported generally working with limited resources in all of their work and in their homelessness work in particular, creatively finding funding sources where they can. As one staff interviewee noted, generally, “DOTs do not have a statute, guidance, or policy” on homelessness response, and they often “largely rely on...local partners to do this job.”

Freeway Construction

One interviewee from the Indiana DOT (InDOT) pointed out that many freeways are coming to the end of their life cycles, which means they are currently undergoing or will require in the near future some major maintenance, repair, and reconstruction activities. This puts more encampments into conflict with DOT operations. Resulting, time-sensitive clearance actions add more pressure for unhoused individuals but also for public agencies hoping to offer viable and humane responses.

Responses: “Push” Strategies

Faced with these challenges, state DOTs have begun responding to homelessness through formal programs and informal practices. While efforts even among the set of relatively more engaged DOTs in our sample are often still

nascent or scattered, interviewees described a variety of responses, in various stages of development and deployment. Interviewees discussed both “push” and “pull” strategies in response to homelessness in state DOT-owned land.

Encampment Removal

The discussion was dominated by one most prominent response: encampment removal (characterized by external organizations and advocates as “sweeps”), the expulsion of unhoused people from DOT property under legal or physical force or the threat thereof. According to interviewees, removals follow the following steps:

- An encampment is usually identified from one of three sources: police reports, public complaints, and DOT staff reports during maintenance or inspection operations.
- Once DOTs decide to clear an encampment, they usually notify outreach providers first, directly or through police or local municipalities, and give them some time to engage encampment residents and offer services and assistance.
- DOTs then post official notifications about eviction or encampment removal prior to the actual removal day.
- On the actual day of removal, DOT staff and/or law enforcement officers enforce the removal of people from the site, and then DOT staff and/or contractors clean the site and collect trash, debris, and hazardous materials.
- After the removal of the encampment, DOTs secure the sites using fences, locks, etc. or larger defensive designs to prevent encampments from returning, if it is technically and financially feasible.

Most DOTs request law enforcement to be present, at least on the day of the removal, to engage with anyone still at the site. According to most interviewees, though, this is rarely the case: whether due to earlier social service engagement, police interactions, or simply the notices themselves, staff report that encampment residents tend to have left by the actual removal date—though the same individuals or others may end up returning to the same spot later. Most DOTs also offer to store personal belongings for a period of time for free, though a staffer at InDOT did not recall anyone actually retrieving their belongings after a removal. The cleaning process can extend longer and often involves DOTs bringing in hazardous materials contractors to remove human waste, needles, or other potentially hazardous materials. Because of specialized costs like these, law enforcement time, etc., encampment removal can prove expensive: in Southern California, the largest encampments can cost \$300,000 to \$400,000 to clear, according to interviewees. Pre-pandemic data from Caltrans also shows the costliness of removal operations: expenses for clearing encampments reached \$10.04 million in Fiscal Year 2017, 34.2 percent higher than the previous year (Caltrans Division of Maintenance, Office of Strategic Management, 2018).

However, the above process varies among DOTs in two aspects: presence or absence of prioritization criteria and level of engagement. Some DOTs, often facing the challenge of addressing a large number of encampments using limited resources, adopt a prioritization strategy for encampment removal. While there are differences in these DOTs’ exact strategies, the prioritization is often based on a similar set of factors including health and safety risks for encampment residents, interference with traffic flow and risks of traffic accidents, damages to transportation infrastructure, and interference with scheduled construction and maintenance work. A total of seven interviewed DOTs prioritize encampment removals in some way; two of these DOTs have a formal policy with a tiered prioritization scheme, pioneered by Minnesota DOT and adapted by Caltrans. As characterized by staff, Minnesota DOT’s prioritization scheme was driven by a need for both DOT and outreach teams to understand

where it is most appropriate to focus time, effort, and resources. The scheme categorizes encampments into high-, medium-, and low-priority sites based on the size of the encampment and its impacts on important infrastructure and the surrounding community, as well as the safety and health risks associated with the encampment, as assessed by DOT staff.

Caltrans initially adapted this scheme and categorized encampments into four levels of priority based on a similar set of factors. Under these criteria, encampments in the highest level were prioritized for removal and those in the lowest were deprioritized or even informally allowed to remain. In October 2022, however, Caltrans issued new guidance, classifying encampments into only two priority categories: “Critical Priority for Expeditious/Urgent Removal” for encampments representing “an imminent threat to life, health, safety, or infrastructure” and “Removal Needed” for all other encampments (Aceves, 2022, p. 2).

Five other interviewed DOTs, in Oregon, Indiana, Delaware, Washington, and Alaska, lack a formal tiered policy but informally prioritize encampment clearance, mostly based on safety and health risks. When asked about whether they prioritize encampments for removal, an Oregon DOT staffer responded, “in reality, yes, but formally, no, because they are all illegal.” This demonstrates that the underlying impetus for prioritization plans is in large part a lack of resources to address all encampments, rather than a concerted policy to accommodate unhoused people in place on DOT land. These plans, if executed as intended, serve to move DOTs away from complaint-driven responses, but again, they likely derive as much from a need to prioritize limited DOT and partner resources. Especially in smaller states and states with lower rates of unsheltered homelessness, DOTs instead attempt to respond to and clear any encampment that is brought to their attention.

Second, the extent to which DOTs employ external social service partners in pre-removal outreach and what services and housing they offer varies. Likewise, while most DOTs refrain from having their own staff engaging with encampment residents directly, in person, Hawai'i DOT staff are actively involved in the outreach part of the process (discussed further below).

Indeed, our interviews with service providers revealed that their level of coordination with DOTs varies from place to place. In most cases, there is no formal partnership between DOT and service providers, so most service providers are typically instead contacted by the local municipality or police in advance of a removal. Moreover, the amount of notice time and the form of notice given to encampment residents varies significantly: some are comparable to an eviction notice required to evict a resident of an actual housing unit, while others are less stringent. Often, no notice is required for a subsequent removal action on the same site, especially if “no trespassing” signs have been posted. Three interviewees from service providers in Indiana, Oregon, and North Carolina referenced municipal or county protocols that set out timelines and notice requirements for encampment clearance, which require service providers to be contacted. In other cases, service providers told us that they may learn about a removal only during or after it has occurred, if notified by residents or advocates. We should note that the last statement contradicts what we heard from interviews with staff from these DOTs, who insisted that they notify outreach agencies and service providers as part of the encampment removal process.

When it comes to encampment removals on DOT land, homeless service providers with a mission-driven opposition to carceral, enforcement, and displacement responses to homelessness face a dilemma. To refuse to participate would close off an important, sanctioned avenue for providing encampment residents their supportive services and housing connections. On the other hand, participating in sweeps, according to some interviewees, would make service provider organizations a part of the system that compulsorily displaces the encampment residents they seek to aid. Staff at all organizations interviewed expressed a desire to provide services and resources to encampment residents, and some collaborate with state DOTs to do so. Notably, LAHSA, the only

organization interviewed with a formalized, ongoing partnership with a state DOT (Caltrans), receives a weekly list of from Caltrans about priority encampment locations on Caltrans properties and sends outreach teams to offer services and resources to residents in advance of the encampment removal. Partners in Care O’ahu, the only other organization interviewed with a collaborative but informal relationship with a state DOT, has frequent and ongoing communication with the Hawai’i DOT regarding issues or needs at encampment sites. However, the fine balance between cooperating with DOTs in order to minimize harm to encampment residents and actively engaging in removals was raised as an issue by some interviewees. An interviewee at the Oregon Law Center, which does not collaborate with Oregon DOT, stated:

“There are very few circumstances where sweep and removal of a camp is warranted. And yet we are in a legal landscape where they happen all the time, and there is no plan for them to stop. And so how much can we advocate about tweaking a system that we believe to be inherently harmful?...Do we nibble around the edges of sweeps protocol, when really what we want is no sweeps?”

Infrastructure “Hardening” and “Defensive” Design

A few interviewees from state DOTs also mentioned that they employ preventive maintenance, defensive design (also referred to as “hostile architecture”) strategies, and hardscaping at some sites, once these are cleaned from encampments. While post-removal cleaning may also include projects to restore streams or wetlands, reverse or prevent erosion, add plants for beautification purposes, etc., these particular infrastructural strategies aim to block off areas from access and/or make it uncomfortable to shelter there. Defensive design, including fencing, walls, rocks, bushes, etc, discourages people without shelter from coming back and re-occupying former encampment sites. These longer-term infrastructural strategies are not as common as encampment removals. Some DOT interviewees noted that their department pursues such strategies only for spaces that can be effectively secured (e.g., fully fenced off) and only if resources are available.

Responses: “Pull” Strategies and Innovative Practices

Many interviewees, including DOT staff, admitted that conducting encampment removals does not address the root causes of homelessness and hence often just results in moving encampments around rather than reducing the numbers of unhoused individuals on DOT properties—much less in helping those individuals. But a few DOTs offer case studies of innovative practices that have led to more positive outcomes. We discuss some of these practices below. We do not necessarily recommend them as “best practices” per se, as they may have some flaws and limitations, but among DOT practices in effect today, the examples below offer definite promise.

DOT Office/Dedicated Staff for Homelessness Coordination

Only two DOTs of those interviewed, in Hawai’i and California, have established a special office within their agency that coordinates their homelessness response. Led by a homelessness coordinator/lead, this office interacts with other public agencies and nonprofits involved in homelessness response; its staff may even undertake outreach to unhoused individuals themselves.

The homelessness coordinator at Hawai’i DOT works closely with a homelessness coordinator at the governor’s office and is part of an Interagency Council on Homelessness with other state agencies like the Department of Land and Natural Resources. Together, they have developed consistent strategies and written documentation on homelessness response on all public land; organize outreach, shelter, and other homeless services (with external

partners); and conduct cleanup of sites and storage of belongings. Hawai'i DOT's coordinator personally actively engages with individuals living in encampments and over time has developed strong relationships with them. This has proven to be an important factor for some individuals classified by other service providers as service resistant to accept help and move into shelter and housing.

Similarly, Caltrans has established a homelessness coordinator program, which assigns a coordinator in each of the agency's districts, as well as having statewide coordination staff. According to the agency's recently published guidance, district coordinators organize all aspects of encampment response and reach out to serve as the primary contact for external partners and internal staff in various departments (Caltrans Division of Maintenance, 2023). Interviewees from Caltrans noted that by having statewide and district coordination staff, they are trying to be more proactive in connecting with local partners. In Southern California, the region's coordinator's office partners with LAHSA to offer street medicine and case management to unhoused individuals camping on DOT properties. In such a large state as California, the effectiveness of such collaborations varies in different regions, as some service providers are overwhelmed or unresponsive. Staff in Hawai'i noted that working in a small state, where DOT staff and even leadership can conduct personal outreach and become familiar with both particular people and locations, lies behind their success. Nonetheless, while the same ground-level model may not work in a larger state, having a coordinator's office is important for the opposite reason: establishing consistency across a complex and subdivided bureaucracy and promulgating guidelines like encampment response prioritization schemes, discussed above. Finally, even if maintenance staff end up conducting most of the initial or unplanned interactions with unhoused individuals, having a dedicated, trained staff to call in to follow up can lead to more targeted and sensitive responses.

In addition to state and district homelessness coordinators, Caltrans launched its Housing and Homelessness Solutions Program in March 2022. The initiative's planners will develop ways that Caltrans can work with other bodies to prevent homelessness in the first place, through upstream interventions such as displacement protection around transportation projects and coordinated community investments.

Low-barrier Emergency Shelters

Another response employed, particularly during the emergency brought about by the pandemic, is the opening of low-barrier emergency shelters. Many interviewees either stated that public agencies or external partners in their state had opened low-barrier shelters or that they wished more were available. In part, these shelters opened due to the need to reduce capacity at congregate shelters to adhere to physical distancing requirements to reduce the spread of COVID-19. Often converted motel and hotel rooms, as in California's Project Roomkey, some of these shelter spaces that were opened in many communities during the pandemic are still operating at the time of this writing. Though state law restricts Caltrans from providing housing directly itself, the agency has set up leases at a number of emergency shelters. While these emergency shelters are typically part of broader efforts of homelessness agencies and organizations unconnected to DOTs, in some cases, DOTs, in collaboration with other agencies, have been able to place encampment residents into these additional shelter/temporary housing spaces. And while one DOT interviewee noted the expense of these projects, federal pandemic relief funding has covered or reimbursed much of their cost.

Many interviewees from nonprofits and service providers emphasized the importance of these spaces in providing much-needed, low-barrier shelter space. They noted an increased uptake amongst unsheltered individuals who might otherwise be unwilling or unable to access conventional shelter space, particularly at some religiously affiliated, drug-free, or other more restrictive shelters. Some saw this as evidence of the ongoing need for and impact of low-barrier shelter space and other "housing first" approaches that can accommodate people of various

needs, identities, and family configurations. As one interviewee from LAHSA observed, “We can get them in quicker—it’s more appropriate. And we have less barriers and boundaries to getting them in. It’s absolutely helpful.”

Shelters and Sanitation on DOT Land

In California in 2020, Governor Newsom directed state land-owning agencies, including Caltrans, to identify surplus or underused parcels that could be used for emergency shelter (Mizes-Tan, 2020), by leasing them to or otherwise arranging their use by a housing agency or organization. Unlike the examples above, this strategy represents a more proactive measure. However, its implementation may run into issues. In Delaware, for instance, a proposal to use a publicly owned parcel next to a highway for shelter and/or longer-term supportive housing was not approved by the legislature, due, according to a partner interviewee, to dispute over whether to use it for mental health treatment instead (It is currently still vacant.). In Minnesota, the DOT rejected the idea, because the potentially available parcels would be located too far from population centers, service providers, and unhoused individuals’ existing communities and support networks and because the logistics of security, disability access, etc. for the sites were daunting. On the other hand, as the interviewee from Delaware noted, these potential locations had fewer neighbors who might object to or obstruct their use as shelters. All told—with the right, central locations and working with housing/shelter providers with far more experience in the field than DOTs themselves—at least some DOT surplus land may have promise for sheltering unhoused people.

On a smaller scale, DOTs and municipalities have provided sanitation services to unhoused people on DOT land. Minnesota DOT, for instance, removes trash from encampments on their land, on a growing basis and not as part of an encampment removal. Our interviewee at Minnesota DOT reported that doing so, while requiring resources, helps avoid the much more expensive costs of cleaning up a long-term, previously uncleaned encampment after a full clearance. The DOT receives support in this effort from municipalities, which collect needles, distribute Narcan kits at encampments to reverse the effects of opioid overdoses, and set up containers for needle disposal, portable restrooms and hand-washing stations, especially during the pandemic.

Project Off-ramp

Project Off-ramp was a partnership between the City of Fresno in central California, Caltrans, and California Highway Patrol to address homeless encampments along freeways during the pandemic. Prior to the initiative, homelessness along freeway rights-of-way was common and dangerous to encampment residents, with three traffic fatalities in a two-week period and 618 fires in 2020 (Miller, 2021). At the same time, acceptance rates for shelter among unhoused Fresno residents were low.

Through this project, individuals living in encampments were offered individual rooms in triage centers (temporary, low-barrier shelters adapted from a model from San Francisco, with pets, partners, and possessions allowed; no curfews; and intensive services), converted from motels and purchased by the City using federal pandemic relief money. Those placed in the motels can stay there up to two years, with a typical duration of 90 days, while receiving on-site housing-focused services. These services and referrals are aimed at placing people in permanent housing, which, while still constrained and unaffordable in California, is being aided in Fresno by the conversion of hotel rooms to permanent affordable housing through California’s sister federal stimulus Project Homekey program (Juarez, 2021). Through this program, the City of Fresno is converting some triage centers to affordable housing units to increase the local affordable housing stock and ensure that there is sufficient stock for individuals experiencing homelessness to transition into.

The initiative began with a geospatial survey by Caltrans, mapping encampments along all freeway rights-of-way. The City then partnered with the Fresno Housing Authority (which previously had not done much work in temporary shelters and homelessness) and two nonprofit shelter operators, along with Caltrans and the Highway Patrol. The City contracted with the organization Poverello House for 18 frontline outreach workers, some themselves formerly unhoused, to work with unhoused residents. After outreach was conducted in different sectors, residents were referred to housing, and a notice of at least a week was given (longer than the previous typical Highway Patrol notice of three days), Highway Patrol cleared the section and thereafter enforced no camping along it, under an “enhanced enforcement agreement” with Caltrans. Caltrans then conducted repairs and construction in the section. The process repeated along each freeway.

According to city staff interviewed, the project had about an 80 percent acceptance rate (individuals living in freeway encampments accepting to be placed into the triage centers/temporary housing when encampments were cleared), a marked increase from before, and about a 50 to 60 percent safe exit rate (individuals exiting the triage centers into permanent housing). However, staff noted that a few individuals who did not transfer into Project Off-ramp shelters would move from one freeway section to another, as each encampment was cleared. Others moved elsewhere in Fresno, which, while not necessarily a success, at least meant they were away from the dangers of the freeway, as staff characterized the situation. Through this project, all encampments on Caltrans’ right-of-way were cleared, about 500 individuals were relocated and placed into temporary housing, and the right-of-way has since been patrolled by the California Highway Patrol to prevent encampments from returning. Since Project Off-ramp’s initiation, the City has expanded it beyond freeways to irrigation canal and railway rights-of-way.

This success comes with a few caveats. For one, as staff mentioned, the motel conversions and services are funded by one-time federal pandemic relief funds. A long-term funding source has not yet been identified as of writing. While staff characterized the situation along freeways as much improved compared to before the pandemic, the flow of homelessness means that this may not last, without additional funding and repeat outreach efforts. Likewise, the role of Caltrans was somewhat limited. Caltrans was only responsible for the initial assessment and mapping of the encampments, the pre-relocation removal of non-personal property, and post-relocation restoration of embankments, landscaping, and right-of-way security. These tasks are different in degree perhaps, but not in kind, from what other DOTs have been doing. The key to the successful outcome was the ability of the City of Fresno to provide the triage centers and a working path to the housing system. Moreover, complaints, calls, and social media posts about homelessness from housed residents prompted Project Off-ramp, according to staff and media reports (Price, 2021), and it apparently also faced pushback from state public health officials who wanted to abide by CDC guidance and leave encampments in place. Indeed, the program represented a blanket clearing of the whole right-of-way, not the four-level prioritized operations Caltrans had otherwise established at the time. Though the much improved numbers of people sheltered, the path to longer-term housing, the use of trained, unarmed outreach, and the coalition of different agencies and organizations all represent significant improvements, the reliance on enforcement strategies and blanket clearance merits some pause.

InDOT’s Partnership with Horizon House

InDOT in Indiana has contracted with Horizon House, a homeless service provider, for outreach in the Indianapolis area. Under the contract, Horizon House is responsible for conducting outreach and coordinating efforts among different service agencies on behalf of InDOT, when InDOT determines the need to clear an encampment in their right-of-way. InDOT pays for one full-time Horizon House employee working on this task and part of this employee’s manager’s salary. This partnership has achieved some modest positive outcomes:

between ten and 50 percent of individuals living in encampments that were engaged during outreach accepted help and were placed into temporary housing.

In contrast, Minnesota DOT had a pilot program that established a similar partnership with a nonprofit outreach agency, but the program was not continued because “it didn’t really significantly change response times and benefits,” according to our interviewee. Thus, it is unclear how much more effective this approach is compared to other arrangements. Nonetheless, the contracting arrangement allowed InDOT to have a trained outreach worker effectively on call, while also still connecting to the broader resources and experience of the service provider.

Desirable Approaches: Views from the Service Providers

While we highlighted several innovative practices that some state DOTs have employed, we also note that the role of DOTs is often limited, given their resources, expertise, and responsibilities and that collaboration and coordination with other organizations are critical to better outcomes. While echoing the need for a more coordinated and comprehensive approach to homelessness, interviewees from nonprofits and service providers also urged DOTs to play a bigger role. Below, we relay and analyze some of these perspectives.

- *Homelessness is everybody’s issue*

Many DOT interviewees emphasized that they are a transportation agency, rather than a social service agency, so dealing with homelessness is beyond their responsibility, expertise, and resource constraints. In contrast, all interviewees from service providers and nonprofits believed that DOTs have a role and responsibility in addressing homelessness on their properties. On a practical level, because people are taking shelter on DOT land, DOTs must respond in some way, regardless of their capacity. But on another level, some external interviewees emphasized that, despite DOTs’ constraints, DOTs should consider how transportation and homelessness are intertwined and respond accordingly. An interviewee from Partners in Care O’ahu encapsulated this sentiment: “That’s the...role that any government entity can have: not that they become social workers, but that they understand how they don’t just address transportation; they address what comes with that, and that oftentimes is going to somehow intersect with homelessness.”

Along similar lines, others emphasized that DOTs should not continue to view transportation as siloed from other social issues, but should embrace their role in responding to homelessness. As the interviewee from the Oregon Law Center asserted:

“Disappointedly, we hear repeatedly from ODOT that they are not a social service agency and they have no interest in becoming a social service agency. And the harsh reality is that they need to engage in the work of social service and empathy for the people who are trying to survive in places that happen to be owned by them. So, I think the most important thing for ODOT to be doing is to embrace that role, rather than thinking about how to sweep encampments while meeting all the legal restrictions.”

An interviewee from LAHSA similarly emphasized that “homelessness is everybody’s issue. We are all accountable and responsible for it.” Accordingly, DOTs should take responsibility for addressing homelessness on their properties, particularly given that many end up living on DOT-owned properties because they have already been pushed out of other locations. As an interviewee from the Alaska Coalition on Housing and Homelessness stated, “there’s a humanity aspect to this.”

- *Get everyone to the table*

Exactly because the presence of homelessness, intersecting policy realms with homelessness, and responsibility for addressing homelessness are each incredibly widespread, it is important to get all relevant parties involved and invested for responses to be effective. As an interviewee from the Alaska Coalition on Housing and Homelessness argued, “we really just need that top-level coordination to get everyone to the table.” Interviewees viewed such a coordinated approach as important in addressing the existing fragmented landscape of homelessness and corresponding housing responses. As we have discussed, state DOTs tend not to play a central role in coordination, even in cases where they are actively engaged in a coordinated effort to address homelessness, such as in Project Off-ramp and in Hawai‘i’s statewide effort. Yet, service providers and advocates generally expressed support for DOTs to assume a stronger role as coordinators and collaborators in region- or statewide responses to addressing encampments on their properties, including by bringing together service providers, policymakers, and local authorities to develop standard protocols and plans. Some interviewees emphasized the potential for DOTs to effectively coordinate with staff from other state agencies and levels of government to harness ideas and energy, build internal and external partnerships, and support local-level engagement. Others argued, given that both health and human service agencies and DOTs are supported by federal and state funds, that they need to develop coordinated processes and protocols to address encampments and provide services to inhabitants.

Some interviewees also emphasized the need for DOTs to build partnerships with local service providers in particular, given that nonprofit organizations are already, in the words of a nonprofit interviewee from North Carolina, “engaged and doing this work. We know the resources on the ground; we’ve been watching the patterns over the years.” While previous research and our interviews found many partnerships between homeless service providers and other service agencies, local government, and local law enforcement, partnerships with state DOTs appear uncommon. Of the eight service providers interviewed, only LAHSA has a formal partnership (letter of consent) with the state’s DOT, while Partners in Care O’ahu has an informal, collaborative relationship, often working closely with their state’s DOT but without a contractual agreement.

As discussed above, one obstacle to forming stronger ties and more formal partnerships is the sentiment among many service providers that they should resist becoming part of a system that focuses on encampment removals. Several interviewees from service providers suggested that maintaining organizational independence was important to them, so as to not be perceived as supporters or facilitators of encampment clearance. This dilemma was captured in a statement from a representative of Partners in Care O’ahu: “We’re not supporters of sweeps, but at the same time, if they’re going to happen, we want to be there to help whenever we can. But we don’t want to be too close and be seen as true partners.”

Finally, as DOT interviewees noted, funding restrictions raise difficulties. Encampment clearance, external outreach partnerships, efforts to use DOT land for shelters, and a variety of other homelessness response strategies of many stripes often are not eligible expenses for the typical federal and state funding sources on which DOTs rely. In California, for instance, the state’s “Clean California” program can be used for beautification and restoration of encampments after clearance but not for any outreach or enforcement actions beforehand. Only infrastructural strategies, such as fencing, tend to be commonly eligible. The ability for DOTs to bring in other external partners and service providers thus may rely on using or obtaining more flexible sources of funds—and on advocates, departments, and partners lobbying funding bodies to provide more (and more flexible) funds for DOT homelessness response.

- *Ensure safety while avoiding displacement*

The above observation reflects a fundamental problem—the goal of DOTs may conflict with the goal of service providers. For DOTs, the goal is usually to avoid having encampments on their properties because they raise safety concerns—from traffic and infrastructure, but also from crime—both for those traveling on freeways and for encampment residents. However, several interviewees from service providers argued that while responses to encampments on DOT properties are clearly linked to safety, which is a DOT priority, state-owned rights-of-way should be safe for all users, including those sleeping outdoors near freeway environments. While many interviewees noted the very real safety risks present in many freeway environments, several also observed the safety risks of displacement, especially without housing or shelter available and accessible. External interviewees emphasized the need to balance the safety of all freeway users, including those sleeping near freeway environments, with the goals of avoiding potentially traumatic or harmful displacement of encampment residents and providing housing alternatives. This was referenced clearly by one representative from the Indiana Coalition for Homelessness Intervention and Prevention: “Ideally the goal is to not displace people and especially to not displace people while people are working through a housing process....You also don’t want to have people in harm’s way and their safety be put at risk.” Especially when conducted without a prioritization strategy, displacement and encampment removals can, intentionally or not, cause losses of property, medicines, documents, etc.; disrupt informal support networks; and push people to new areas no safer or less safe than before.

- *The ultimate solution is housing*

Interviewees from service providers emphasized that encampment outreach services must be matched with temporary and permanent housing resources, supported by sustained funding. As one interviewee from Housing Alliance Delaware stated:

“We certainly believe that housing is the answer to homelessness....If DOT is trying to move encampments, if they’re trying to do sweeps, if they’re thinking about the safety of folks who are living outdoors,...temporary shelter in our state is not a solution; permanent housing is. And we know that folks who are chronically homeless, who have been living outside for long periods of time in these encampments might need increased levels of support and low-barrier access to housing, like a true ‘housing-first’ model.”

Other interviewees echoed this need to not only provide shelter options to people living in encampments but to also offer an “exit strategy...to permanent housing.” Many noted a need to invest in more permanent housing and longer-term services and support, rather than on enforcement and initial outreach.

The lack of access to longer-term housing was noted by many DOT interviewees as well, who observed that encampments kept reappearing. As one interviewee from Minnesota DOT commented, “what has been very clear to me from the conversation at the policy level and what we hear from people in our encampments is that the existing model of shelter and path to housing doesn’t work. That has to be fixed. We don’t have homelessness because folks can’t camp on DOT land. That’s just not the issue.”

Conclusion

In recent years, the numbers of individuals living without shelter have multiplied in many U.S. cities. The COVID-19 pandemic intensified this phenomenon, making homelessness even more pronounced in public spaces and transportation environments (Loukaitou-Sideris et al., 2023). Some of these environments, such as freeway embankments, on- and off-ramps, rest areas, parking lots, and interchanges are under the auspices of state departments of transportation. Thus, DOTs are responsible for the health and safety of these settings and of their occupants (housed and unhoused; drivers, workers, and other road system users) and have to devise strategies to respond to homelessness.

This study synthesized existing literature and findings from interviews with staff from 13 state DOTs and eight service providers and organizations who are involved in responding to homelessness in state transportation settings. We found that homelessness represents a recognized challenge for DOTs, but the numbers and location of unhoused individuals in state transportation settings vary and fluctuate. One common problem is that most DOTs lack accurate information about the extent of homelessness on their lands and the sociodemographic composition of the unhoused individuals that occupy them. This often creates hurdles in designing effective responses.

We found that DOTs employ both “push” and “pull” strategies to respond to homelessness, but the most common strategy employed by them is encampment removals, which they often undertake in conjunction with law enforcement agencies. However, the effectiveness of these removals is limited, as they merely push unhoused individuals from one setting to another, and often a camp reappears at the same spot from where it was cleared or close by. Indeed, scholarly work outside of transportation shows that law enforcement strategies used to address homelessness are ineffective at reducing homelessness and often harmful to those experiencing it. Some scholars argue that, in the absence of a better housing solution, these encampments provide shelter to unhoused individuals and should not be dispersed, unless they are dangerous for their or others’ safety.

We also found that DOTs are increasingly partnering with law enforcement agencies but also with other local government agencies and service providers to respond to homelessness. Partnerships with service providers help towards more effective responses, as they can connect unhoused individuals with needed services and temporary or more long-term housing. Nevertheless, with the exception of a few DOTs, these partnerships are not formal but mostly ad hoc and informal. They require interagency coordination, but only a handful of DOTs have established dedicated coordinating offices.

In response to these findings, we make the following recommendations for DOTs:

- *Acquire better data on the extent and composition of homelessness in DOT settings:* Such data are necessary to initiate responses that are better tailored to the needs of the particular contexts and individuals. DOTs should coordinate with local governments or regional housing agencies and request that the latter take note of and report to them the numbers of unhoused individuals they find in DOT settings during their annual point-in-time counts. DOTs should also collect geospatial data on encampments and should work with community groups and nonprofits to take targeted, more intensive counts and surveys that remedy some of the problems faced by one-night PIT counts (Swenson, 2022).

- *Create a homelessness coordinating office within the DOT:* Staff from this office should meet regularly and coordinate with other public sector and nonprofit agencies and organizations involved in homelessness responses. A few DOTs have already established such offices. If proper training and hiring is in place, staff from these offices might conduct on-the-ground work themselves. These offices might also work with other departments on coordinated efforts and investments to stem the upstream flow of homelessness in the first place.
- *Establish formal partnerships with homeless nonprofits/service providers:* Such entities often enjoy the trust of unhoused individuals and are typically better equipped than DOTs to do outreach and connect them to needed services and housing options. This could involve formal memoranda of understanding or contracts with external partners that outline the responsibilities of each partner, assuage potential partner concerns, and establish funding levels and cost-sharing.
- *Evaluate the necessity of encampment removals, through the development and utilization of prioritization criteria:* Criteria based on legitimate safety concerns, developed in conversation with unhoused people themselves and advocates, should guide encampment policy, rather than complaints from the general public or blanket removal policies. Regardless of the prioritization method used, DOTs undertaking encampment clearance should coordinate with social service agencies and nonprofit providers to identify alternative sites for the individuals to be displaced and only undertake such removals if their occupants are safely accommodated in such sites. Lastly, past research makes a strong case for reserving law enforcement for instances of crime against persons instead of trespassing alone by unhoused people seeking some form of shelter.

This study has examined the perspectives of DOT staff and partner organizations, along with prior studies thereof. However, we hope future research can gather and amplify the voices of unhoused individuals themselves. This would fill significant gaps in policymakers' and researchers' understanding of why people choose to shelter on DOT land, what barriers they face to finding housing and other services, and what responses from DOTs would prove most helpful to them.

In the end, this study has shown that addressing the challenge of homelessness in DOT environments is a larger social issue that requires attention and action on the part of DOTs but also support, collaboration, and coordination between DOTs and other public and nonprofit entities.

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Appendices

Appendix A: Interview Questions for DOT Staff

1. Where do homeless encampments typically occur in your jurisdiction, near freeways or other state property?
2. Does your department collect any data on homelessness? If so, how often? What kind of data? Counts? Reports/complaints?
3. Does your department have policies or guidelines for addressing homelessness? Do you train your staff on how to do so?
4. Does your organization partner with any outside agency or unit to respond to homelessness? Local governments? Law enforcement agencies? Nonprofits? Other public agencies?
5. Does your department conduct sweeps or enforcement actions or work with other agencies to do so on your property?
 - a. If your department conducts sweeps, how do you prioritize the sites where they take place?
 - b. Does your department modify physical structures to discourage encampments?
6. Does your department conduct outreach efforts to the unhoused population? What staff and/or partners do you employ or collaborate with for these efforts?
 - a. Are you interacting with or partnering with advocates, nonprofits, or other groups? If so, could you provide their contact information?
7. How does your department interact with city governments' homelessness initiatives and ordinances? Does your department follow the lead of localities or do you lead efforts yourself? Do local ordinances on homelessness apply on your rights-of-way?
8. How much does your department spend annually on issues relating to homelessness? For what type of actions/responses do you use these funds?
9. In your view, has the pandemic changed the numbers of people seeking shelter on DOT rights-of-way or other DOT properties? If yes, in what ways?
 - a. Did you have to alter your responses to homelessness during the pandemic? If so, in what ways and for how long?
10. Is there anything that your department can do better to address the challenge of homelessness in your jurisdiction?

Appendix B: Interview Questions for Homeless Service/Advocacy Organizations

1. About how many homeless encampments exist in your jurisdiction? Where are most of these encampments located? What percentage is located along major highways or at DOT properties?
2. About how many people live in those encampments? Who are they (gender, race, age, etc.)?
3. In your estimation, what percentages are chronically homeless, mentally ill, or have drug abuse issues?
4. What percentage choose encampment over shelter? Has the pandemic impacted the number of encampments, and in what ways?
5. Has the pandemic impacted response to the encampments, and in what ways?
6. Does your organization engage with encampment residents? If so, what does your organization do for them? What are some of the challenges that you encounter when you engage with them?
7. Does your organization collaborate with/have partnerships with the state DOT? If so, for what purposes, and what role does your organization play? How did the relationship develop? Is it formal or ad hoc?
8. If/when DOT clears a homeless encampment, would your organization be involved? If yes, how? What would be your organization's objective in such cases? What other organizations/agencies are usually involved? How do their objectives and roles differ from yours?
9. Can you think of a recent case of an encampment sweep from DOT right-of-way? Was your organization involved? What were the outcomes (for DOT and the encampment residents)?
10. What, in your opinion, is the most appropriate approach for DOT to address homeless encampments on their properties?

