Evaluation and Program Planning 99 (2023) 102306

Contents lists available at ScienceDirect

Evaluation and Program Planning

journal homepage: www.elsevier.com/locate/evalprogplan

Transportation needs and mobility patterns of persons experiencing homelessness following shelter decentralization

Sarah L. Canham [a,b,*,1], Morrison Donovan [c], Jeff Rose [d,2], Shannon Jones [d], Ivis Garcia [e,3]

[a] College of Social Work, University of Utah, USA
[b] College of Architecture and Planning, University of Utah, USA
[c] College of Social and Behavioral Sciences, University of Utah, USA
[d] College of Health, University of Utah, USA
[e] Landscape Architecture & Urban Planning, Texas A&M, USA

ARTICLE INFO

Keywords:
Homelessness
Transportation
Mobility
Access to services
Homeless services

ABSTRACT

The provision and siting of homeless emergency shelters have community-wide implications for addressing the needs of people experiencing homelessness (PEH). In Utah, Salt Lake County's transition from a large, centralized emergency shelter sited in a free transit zone to a decentralized scattered-site model outside of a no-cost transit zone provided the context to evaluate how transportation access and mobility patterns of PEH were affected as they were displaced from a centralized service network in a downtown core. We conducted 19 in-depth, semi-structured interviews with PEH aged 18 + who were staying in one of three distributed resource centers who had also previously stayed at the former centralized shelter. Thematic analysis of the interviews resulted in three categories, each with distinct sub-categories: 1) Pre-decentralization transportation and mobility, 2) Post-decentralization transportation and mobility, and 3) Recommendations to improve transportation access for PEH, including lowering or eliminating financial barriers to transportation and expanding transit and shuttle van frequency and route radius. Study findings demonstrate that there is a significant need for community planners to collaborate on the siting of homeless shelters to provide more affordable, flexible, and equitable access to transportation networks.

Despite having previously experienced a decade of decline in rates of homelessness across the United States, recent years have witnessed a rise in in the numbers of persons experiencing homelessness (PEH) (U.S. Department of Housing and Urban Development, 2022). In Utah, the number of PEH increased from 2,876 in 2018 to 3,556 in 2022 (Workforce Services, Homeless Services, 2022). This rise in homelessness has been linked to the lack of available affordable housing, limited employment options, wage stagnation, and decreased household income, all which have been further exacerbated by the impacts of the COVID-19 pandemic (Workforce Services, Homeless Services, 2022). Addressing homelessness and providing PEH with the resources they need (e.g., emergency shelters, income, transportation, healthcare, food, case management), is an enduring challenge for policy makers and communities alike. Moreover, health and social service barriers are associated with negative outcomes for PEH, which have implications for individual and public health (Fazel et al., 2014).

A significant challenge to distributing homeless resources throughout a specific region is the identification of sites where services will be offered, including emergency shelters (Brinegar, 2003). Siting considerations face pressures from local interests and are often met with resistance from "Not in my Backyard" (NIMBY) advocates based on community safety concerns (Brinegar, 2003; Jocoy & Del Casino, 2010). As a result, homeless services are frequently concentrated in marginalized and undesirable areas (Brinegar, 2003; Gilderbloom et al., 2013), as well as isolated industrial areas that lack proximity and safe access to basic services, such as food establishments and grocery stores (Richards & Smith, 2006). Siting homeless shelters in disadvantaged areas can exacerbate the social and economic conditions that contribute to homelessness (Hennigan & Speer, 2019). For instance, adverse environmental conditions surrounding homeless shelters may hinder the

* Corresponding author at: College of Social Work, University of Utah, USA.
[1] 0000-0002-0421-2612
[2] 0000-0003-3171-7242
[3] 0000-0003-4184-2514

https://doi.org/10.1016/j.evalprogplan.2023.102306
Received 20 August 2022; Received in revised form 1 May 2023; Accepted 1 May 2023
Available online 3 May 2023

ability of PEH to connect with employment or permanent housing (Brinegar, 2003). In contrast, the decentralization of homelessness and other housing services has been proposed as a model to counteract the concentration of social services and exclusion of PEH from economic and social opportunities (Barnes, 2012; Palmer, 2016; Santiago et al., 2003). However, these models increase transportation demands following the dispersal of homeless resources to outlying areas (Brinegar, 2003; Lee & Price-Spratlen, 2004).

Given that access to affordable transportation is central to the ability of PEH to access necessary services and economic opportunities (Blumenberg & Ong, 2001), a key consideration when siting homeless services is proximity to affordable transportation (Canham et al., 2022). Jocoy and Del Casino (2010) identify how "spatial mismatch" (pp. 1945) occurs when PEH are isolated from community services and economic centers and the negative influence of this mismatch on mobility, travel behaviors, and needs of PEH. While expanding access to transportation expands opportunities for PEH (Hui & Habib, 2016), the spatial possibilities of PEH are often constrained by a heavy reliance on access to public transit and disjointed networks that may not effectively connect PEH to all of the services they need (Jocoy & Del Casino, 2010).

1. Research context

Located in north central Utah, Salt Lake Valley includes Salt Lake City and surrounding suburban towns. As the most populated municipality, Salt Lake County is also home to the majority of PEH in the state (Kim & García, 2019). In 2016, Salt Lake County began the planning process of transitioning from a 1,100-bed-capacity homeless shelter (i.e., The Road Home's Salt Lake Community Shelter and Resource Center [TRHSLC]) centrally located in downtown Salt Lake City, to a decentralized, scattered-site model of smaller, population-specific emergency shelter services called Homeless Resource Centers (HRCs). Aligning with the literature on the politically attuned nature of these transitions (i.e., Brinegar, 2003; Lee & Price-Spratlen, 2004), the decentralization process in Salt Lake County was pressured by business interests in the downtown area, effectively addressing the "co-locating of social services and intense gentrification and development (Brown & Rose, 2021, pp. 49)." Subsequently, the HRCs, operated by different providers, opened in 2019 outside of downtown Salt Lake City. These HRCs include one that serves women experiencing homelessness, one that serves men experiencing homelessness, and a co-ed HRC that serves both men and women experiencing homelessness. While the downtown TRHSLC shelter was located within the Utah Transit Authority's "Free Fare Zone, " where bus and light rail (TRAX) service is accessible without payment, the three HRCs are located outside the Free Fare Zone by distances ranging from a few blocks to nearly six miles.

Salt Lake County's transition from a large centralized homeless shelter sited in a free transit zone to a decentralized scattered-site model with no shelters in the free transit zone provided an opportunity to evaluate how transportation access and mobility patterns of PEH were affected as they were displaced from a centralized service network in a downtown core. Given the known connections between mobility and access to services, we prioritized understanding PEH experiences following the decentralization to inform how transportation needs and mobility patterns of PEH were affected following decentralization. Our research question was, 'How have transportation needs and mobility patterns of PEH changed following decentralization and impacted access to basic services for PEH?'.

2. Methods

We conducted in-depth, semi-structured qualitative interviews with PEH to address our research questions, followed by inductive thematic analysis to identify patterns in the data (Braun & Clarke, 2006). These methods offered a nuanced understanding of a relatively unexplored phenomenon—how decentralization affected PEH transportation needs, mobility patterns, and access to services. Based on our team's prior community-engaged work in Salt Lake Valley (García & Kim, 2020; Rose, 2019; Smith et al., 2021), we convened a project advisory committee including representatives from local government and homelessness-serving agencies. The advisory committee was consulted during bimonthly meetings to inform participant recruitment, data collection, and data interpretation. Ethics approval was obtained from a University Institutional Review Board, and participant names have been removed to protect identities.

2.1. Participants

Purposive sampling was used to recruit PEH participants who met the following inclusion criteria: 1) aged 18 + years; 2) having stayed at TRHSLC shelter before the decentralization process; and 3) were staying at one of the HRCs at the time of data collection (April and May 2021). HRC staff supported the identification of 19 participants, all of whom consented to an interview (Table 1). Seven interviews were conducted with clients of the HRC serving men experiencing homelessness, all who identified as male, aged 22–70 years. Six interviews were conducted with clients of the co-ed HRC aged 33–60 years; three of whom identified as female and three who identified as male. Six interviews were conducted with clients of the HRC serving women experiencing homelessness, all of whom identified as female, aged 37–64 years. Twelve participants self-identified as Caucasian, and eleven had achieved the educational equivalence of a high school diploma or higher. All participants were unemployed at the time of the interviews.

2.2. Data collection

In collaboration with the project's advisory committee, the research team developed a semi-structured interview guide (available upon request), which included open-ended questions about clients' pre- and post-decentralization experiences of transportation and mobility and access to services. Questions underwent multiple iterations of development, edits, and review to address potential literacy and comprehension concerns. Exemplar questions included: 'How adequate are transportation resources in Salt Lake County?' 'When you were staying at TRHSLC, where did you most often go?' 'How did you get to these places?' 'Since your move to this HRC, how have your transportation patterns changed?' 'How would you compare your use of transportation before and after the decentralization?' Interviews took place in-person by research team members who could assess comprehension and

Table 1
Participant demographics.

	Male-serving HRC (n = 7)	Co-ed HRC (n = 6)	Female-serving HRC (n = 6)
Participant Codes	P01-P07	P08-P13	P14-P19
Gender	-	3	6
Female	7	3	-
Male			
Race	5	4	3
Caucasian	1	-	-
Black or African American	-	-	2
Asian	-	1	1
Mixed	1	1	-
Prefer not to answer/ missing			
Ethnicity	1	0	1
Hispanic	6	1	1
Non-Hispanic	0	5	4
Missing			
Education	2	2	4
Less than HS diploma	5	4	2
HS diploma, GED, or higher			

clarify questions and concepts, if needed. Prior to the initiation of an interview, informed consent letters were reviewed with participants; consent letters detailed the study purpose, notified participants of their right to withdraw at any time, refuse to answer questions, and receive compensation ($20 gift cards to a local grocery or convenience store) irrespective of the completion of the interview. The length of interviews ranged from 10 to 100 min (*mean* = 41 min). All interviews were audio-recorded and then auto-transcribed in Sonix.ai before being reviewed and edited by members of the research team to ensure accurate transcription.

2.3. Data analysis

Guided by principles of thematic analysis (Braun & Clarke, 2006), the data were inductively analyzed in NVivo (QSR International, 2018). Analysis began as two researchers familiarized themselves with the full dataset and independently read the transcripts. The researchers then generated an initial set of low-level, descriptive codes by labeling text snippets with a word or phrase closely related to the data (Boyatzis, 1998). Patterns identified by the researchers were discussed during several team meetings, as well as with the project advisory committee, resulting in an initial set of codes. Next, the two researchers collaborated in an iterative process to label all data within each theme based on meanings in the data (Boyatzis, 1998), which transformed the initial code list by collating, re-arranging, and re-organizing the codes. The refined coding structure was again shared with the team, which led to further thematic refinement and reorganization by removing, separating, and collapsing themes. The researchers defined and named a final set of themes agreed upon by the project team and advisory committee.

3. Findings

Findings were organized into three broad categories, each with distinct sub-categories (Table 2): 1) Pre-decentralization transportation and mobility; 2) Post-decentralization transportation and mobility; and 3) Recommendations to improve transportation access for PEH.

3.1. Pre-decentralization transportation and mobility

Participants reported that prior to decentralization, transportation options were convenient, reliable, and affordable, and TRHSLC shelter was within proximity to services and entertainment. However, there were also transportation challenges prior to decentralization.

3.1.1. Pre-decentralization transportation and access to services and entertainment

Participants characterized pre-decentralization transportation services as convenient and having a relatively reliable schedule. As P13 (male) described, the TRAX and buses arrived "every 15 min, so you rarely ha[*d*] to wait…more than ten minutes." Given its proximity to TRHSLC shelter, the TRAX was a primary mode of transportation for PEH: "You walked a block at most to get to [the TRAX station] (P02, male)." P01 (male) agreed:

> [TRHSLC shelter] was a little more accessible for transportation… we had a train right out front; we had the buses coming by; everything coming out of the terminal [was] very close to us…It was so easy to walk right out on the street and catch the train into town.

In addition to the logistical ease, TRHSLC shelter was located within the boundary of the Utah Transit Authority's Free Fare Zone, where public transit is accessible at no cost for all users. P01 (male) stated, "You usually [took] the Free [Fare] Zone on the train and then, when you came into town, you [could] choose the bus you wanted…" Related, P08 (female) explained that access to the Free Fare Zone helped maintain a routine and a sense of normalcy:

Table 2
Thematic categories, sub-categories, and definitions.

Pre-decentralization transportation and mobility	
Pre-decentralization transportation and access to services and entertainment	Pre-decentralization, no-cost transit was convenient to TRHSLC shelter which was in the Free Fare Zone and near entertainment and shopping centers that gave PEH something to do.
Pre-decentralization challenges with transportation and mobility	Pre-decentralization challenges included the costs of transportation outside the Free Fare Zone, some limits to services available within the Free Fare Zone, the challenge of walking long distances, and the time investment required to use transit.
Post-decentralization transportation and mobility	
No-cost homeless-services shuttle van	Post-decentralization, participants described the availability of an agency shuttle to use as an alternative to public transit.
Daily or monthly transit passes	Post-decentralization, participants described the ability for the HRCs' case managers to provide transit passes or tokens to clients at no cost.
Relative proximity of the HRCs to public transit and increased time investment	Post-decentralization, participants described that the HRCs were relatively close to a transit stop, however the time investment required to access services in the downtown core from the further-away HRCs was greater than pre-decentralization.
Financial barriers to transit use outside the Free Fare Zone	Post-decentralization, participants described the financial barriers of using transit given that the HRCs are sited outside the Free Fare Zone.
Recommendations to improve transportation access for PEH	
Eliminate financial barriers to transportation for PEH	To eliminate financial barriers to transportation, participants made recommendations to provide HRC clients unlimited transit linked to their services card, to expand the capacity of HRCs to offer transit passes, to base the cost of transit on a person's income, and to expand the Free Fare Zone.
Expand public transit and shuttle van frequency and route radius	Recommendations for increasing access to transportation from the HRCs included expanding UTA transit and homeless-services van frequency and route radius.

> The Free Fare Zone was really nice because you could get a little bit farther and still have a little walk, so you could do more. I rode TRAX a lot because I could leave [TRHSLC shelter]. I could go from The Road Home right up to the library, so I could still have a little bit of normalcy.

PEH also reported on the proximity of TRHSLC shelter to services and entertainment, feeling that "everything [was] so close by (P03, male)." This proximity allowed PEH to get to necessary services and entertainment or to "just to get away from The Road Home (P12, female)." P08 (female) explained that mobility "was way easier at The Road Home… because there was more around, and it was easier to get to the places that I really like to go to. So, yeah, I would have to say that was way better." P13 (male) recalled being close to shopping centers and grocery stores, as well as local parks:

> Pioneer Park—we could walk there. And it's pleasant there, especially in the summertime, and they have farmer's market and stuff. It's a really nice place. Liberty Park is another one because of TRAX they have a Free Zone all the way to Fifth South or Second East… You don't have to have a pass, which is convenient. So, anywhere in those areas.

P01 (male) also describe the access to entertainment from TRHSLC shelter: "You had a movie theater across the street, you could kill time… That was very reachable. Yeah, they had a food court across the street,

and they had different things to do during the day." P17 (female) described their experience going to a nearby shopping center:

> [We] walked around, ate… There's lots of places to eat…they had stuff at night, festivals, and stuff [in the] summer…pretty much right across the street… It was easy to get to… [I went] every day. …It doesn't cost anything to go there and look, they have a big fountain, sit there and just to have a chessboard out there. People can sit as long as you buy a soda or something.

3.1.2. Pre-decentralization challenges with transportation and mobility

Despite many positive reports of pre-decentralization transit use and access to services and goods, participants also identified some challenges. For example, when PEH needed to travel outside of the Free Fare Zone, transportation costs were a significant barrier. P06 (male) explained that their cost for a monthly bus pass ($47) was a substantial barrier to using transit outside the Free Fare Zone. And as P15 (female) stated, "[Without] the fare for the transit, [I] couldn't get around." Moreover, P17 (female) explained that there was "only [one] grocery store in the Free Fare Zone," and otherwise, food options were limited.

Participants also reported that mobility challenges made navigating sidewalks and streets surrounding TRHSLC shelter difficult due to the presence of "enough tents, enough things to get rid of…and too much snow (P16, female)" or walking challenges for PEH with physical impairments. P16 (female) stated, "It hurts a lot to walk and not to do things when [I wanted] to get on the bus." P12 (female) described the physical challenge of walking:

> [It was] hard on me because I'm a diabetic. I have neurostasis [sic] in my feet, so I can't be on my feet too long… [After a] couple of hours, I come back in pain, and I just want to just sit there and cry.

Finally, PEH reported the time investment required of those reliant on public transit while staying at TRHSLC shelter was a challenge. P05 (male) stated, "Not having a vehicle and being on TRAX—it's probably a two-hour trip from wherever you're going." P12 (female) further described the time investment demanded by public transit and the unpredictability of the schedule while staying at TRHSLC shelter: "Not knowing what time [the bus will] come, not knowing when they're going to come on time, just [having] to wait—that drove me nuts."

3.2. Post-decentralization transportation and mobility

Participants reported on post-decentralization experiences with transportation and mobility; like pre-decentralization experiences, there were both positives and challenges. Positives included the availability of a no-cost homeless-services shuttle and transit passes, while challenges included the HRCs being further away from downtown, which increased the time investment required to travel, particularly for PEH with mobility limitations, and cost barriers to using public transit outside the Free Fare Zone.

3.2.1. No-cost homeless-services shuttle van

A transportation mode made available following decentralization was a no-cost homeless-specific shuttle van available to transport PEH to other select shelter sites across the city. P11 (male) explained, "They're going from the [men's HRC], to [the co-ed HRC], to the women's [HRC], to the Weigand Center [a day shelter that offers warm meals and social services]. If you need to go to Fourth Street [a homeless-specific medical clinic], they'll drop you off at Fourth Street." Participants also described how PEH used the shuttle to get to the Free Fare Zone, as P17 reported:

> The shuttle will come and take you to the Free Fare Zone… They'll take you to where the old Road Home [TRHSLC shelter] used to be… and [PEH] can get on the bus there. They really want you to [ride] for free… I think people use it for other things, to get to where they're going for free.

The shuttle was reported to be strategically used by PEH rather than public transit, as P11 (male) described:

> The shuttle system that they're utilizing now is a good system… When I went to the county health department to get my birth certificate, I had them drop me off at [HRC serving women], which is on the other side of the block…

Despite the many of benefits of the shuttle, as P16 (female) explained, the lack of flexibility in traveling to locations other than the specified stops was a shortcoming:

> They only take you to shelter addresses. They don't pick you up and take you to another address… I have to make my own arrangements, or I have to catch the shuttle bus and they have to drop me at the Weigand Center and then I have to walk.

3.2.2. Daily or monthly transit passes

Participants described another transportation support for PEH: no-cost transit passes that HRC case managers give some clients, primarily to get to medical appointments or work. As P02 (male) stated, "If you have a job, they'll give you a monthly bus pass to be able to go [to work]." While passes were reported to positively impact the mobility of PEH, getting a pass was considered unreliable or impossible. P08 (female) stated, "Sometimes they run out, or sometimes they [only] have a few, so you can't just get [a free pass] just to get out [for non-vital outings]." P02 (male) agreed, "Most of the time they're telling us they don't have anything for months. It's like, are you kidding me? …I've been trying to get them since late February." Passes were considered "limited, so they went fast. You'd have to get one early [in the month], otherwise you wouldn't get one (P13, male)."

3.2.3. Relative proximity of the HRCs to public transit and increased time investment

Despite being sited outside the UTA's Free Fare Zone post-decentralization, participants reported that all three HRCs were relatively close to a transit stop (TRAX or bus). Though this proximity supported PEH access to services and goods, there was clear variation across the three HRC sites. Some participants staying at the co-ed HRC reported the location to be relatively convenient to transit and not too different from TRHSLC shelter, as summarized by P11 (male):

> [My ability to get around] really hasn't [changed]… I've taken the train to a stop, got off to get on a bus and 90% of the time, that bus is waiting there… Or, if it's not there when I get there, within 10–15 min it arrives…works for me… I think the siting of this particular shelter is fairly nice.

In contrast, P08 (female) felt that the co-ed HRC was "worse than The Road Home…I could get around more, I could actually get out of it." And when asked if P13 (male) found it harder to get to places from the co-ed HRC, they responded: "A little bit, because TRAX is further away and the bus that used to go down Third West [a major area thoroughfare] discontinued."

Similar sentiments were offered by some participants staying at the female-serving HRC who indicated that public transportation networks were still accessible. P19 (female) stated, "I don't see [my ability to get around at the HRC] going any different [compared to TRHSLC shelter]." P17 (female) agreed: "Transportation, it's about the same between here and there." Nevertheless, since the female-serving HRC was sited farther from downtown services and the Free Fare Zone than TRHSLC shelter, other participants, including P15 (female), reported that getting around can be "a little harder, but not that bad; I still can get around." P16 agreed, describing how the Fourth Street Clinic was previously a few blocks' walk from TRHSLC shelter, but can now take over an hour to get to, since you now need to first walk to the Free Fare Zone to get to the clinic. When destinations are not accessible by walking, clients of the female-serving HRC reported being reliant on buses, which were

generally described as being reliable. P17 (female) stated, "I think the public transportation is pretty good, I really do. I don't have a car, so I take public transportation. It was easy to figure out. I think it's pretty good, even though it's not free here."

Participants staying at the male-serving HRC, the most distant of the sites, reported challenges with needing to travel further distances, which takes time. P03 (male) identified their main "challenge [to getting around] is pretty much just distance." Moreover, given that the male-serving HRC was sited six miles from TRHSLC shelter and further from many clients' desired destinations, participants reported needing transit because walking was no longer a feasible option. P05 (male) stated:

> I take the bus pretty much everywhere I go because it's too far to walk… Here, my destination is a lot more routed because I'm out of the way… my walking is actually shorter [because] I'm on the bus [more] or traveling more on TRAX.

Clients of the male-serving HRC described that a larger time investment was needed to access transportation services. P01 (male) explained:

> Instead of 5-minute service [at TRHSLC shelter], we got 35-minute service here; but we used the same type of transportation, bus and train, bus and train… It just takes a few minutes longer. You might have to wait for an extra bus to get where you're going, but you can still do that. Before the end of the day, you can take care of all your errands and come back.

P02 (male) expressed similar sentiments about the time investment, but also noted that at some point, the increased time investment led to an increased burden and a subsequent decrease in the ability to accomplish routine tasks:

> The transportation can be a burden; to get downtown, it's four stops on the TRAX. When you take the bus from here down to the TRAX, right at four stops and you're at a courthouse. So, it's really not that far off… I don't get out as much and do the things I need to do because we're way out here… It's a burden to try to get anywhere.

Though the time investment was greater given the need to travel further, public transit was described as reliable and efficient. P04 (male) reported, "I think it's good… they're pretty frequent." P05 (male) stated, "The most helpful thing is routing my route with the bus routing schedule. That way I know exactly what time I got to be there, what time I'm going to leave from the next destination."

The challenge in accessing transit and traveling to and from the further-away HRCs was especially problematic for PEH with mobility limitations and contributed to PEH staying in the HRCs, further reducing their mobility. P08 (female) stated:

> [Walking] takes me a very long time. I have blood clots in my legs, so walking is not that easy because my legs will swell up like crazy and that hurts. So, I don't do a lot of walking now. I just kind of hang out here. I don't get out and about as much as I used to because there's not a lot right around here… Any of the places that I would think about, they're so far, and I couldn't walk that far.

3.2.4. Financial barriers to transit use outside the free fare zone

The HRCs being sited outside the Free Fare Zone created financial barriers to PEH transit use and access to services. As P07 (male) stated, "I have to have more money here than I [did] downtown because [TRHSLC shelter was] in the Free Fare Zone and sometimes they won't take your ticket [here] because you don't have any money." While participants varied in their perceptions of the acceptability of riding transit without payment, some participants described having no choice when they cannot afford to purchase a ticket, which puts them at-risk of getting cited for fare infringement. P02 (male) explained: "You don't want to take that risk… If you don't pay to ride the TRAX, the UTA police catch you riding without a ticket, they'll give you a ticket."

A consequence of the perceived unaffordability of transit was that PEH were more reliant on walking, or they chose to travel less often, limiting PEH ability to fully access community resources. P08 (female) explained that they no longer travel to the public library, once a frequent destination, because of needing to pay for transit:

> I can't get to it [the library]. …I'd have to walk over to TRAX first, and that's a little bit far because I have medical issues, and then you'd have to pay because I don't want no ticket. So, I haven't been to the library for quite a while, actually.

Similarly, P16 (female) stated, "I walk everything because I can't afford a bus… I walk everywhere until I get to the Free Zone…and that's hectic." P16 emphasized that lacking access to proximate free transit affects their mobility: "It hurts a lot to walk and not to do things when you want to get on the bus." Despite the challenges some participants experienced, the location of TRHSLC shelter within the Free Fare Zone, and the relative ease of access to transit were reasons TRHSLC's downtown location was identified as more convenient than any of the three HRCs.

3.3. Recommendations to improve transportation access for PEH

This final category includes participants' recommendations on how to improve transportation access for PEH, including lowering or eliminating financial barriers to transportation and expanding UTA transit and shuttle van frequency and route radius.

3.3.1. Eliminate financial barriers to transportation for PEH

Participants suggested eliminating financial barriers to transportation, as summarized by P02 (male): "If they're going to move the shelters out to other places, then they need to…have free fare." Recommendations included linking transit access to a PEH services card, expanding the capacity of HRCs to offer transit passes, scaling transit costs to be proportional to riders' income, and expanding the boundaries of the Free Fare Zone. P05 (male) suggested that "making [transit] a free fare and a free pass instead of having to pay" would improve PEH mobility. P02 (male) agreed and noted associated justice concerns: "They already give us a little card, our services card. …As long as we show that card, we should be able to get on [public transit] for free… It's not right that we get limited." P07 (male) also suggested that the HRCs should be given more capacity to expand the number of passes they can provide to clients:

> More bus passes, more…bus tokens for the people, for the guys here… just give us more tokens or a bus pass for a day. …That's the only way I can [think of to improve transportation], because sometimes these guys don't have a way of getting around.

Participants also proposed "lower[ing] the standards of what you need to get a bus pass [so that the price of the pass is determined by a person's income using] a sliding scale instead of a set amount (P06, male)," and implementing a community service incentivization program through which HRC clients could exchange volunteer work for passes "so [clients] could volunteer for more bus tokens or bus passes (P16, female)." P02 (male) also suggested expanding the Free Fare Zone to include the HRC sites so that PEH would not need to pay for transit:

> The thing is that the Free Zone downtown is supposed to be for the people that live downtown and for the homeless people so that we can get around. Yeah, we can have transportation in the downtown area, sure. But if they're going to move the shelters out to other places, then they need to just to make it free at least from here.

3.3.2. Expand public transit and shuttle van frequency and route radius

Other recommendations for increasing transportation access for PEH included expanding UTA transit services, as well as those of the homeless services shuttle van. Transit expansion could include increasing the

frequency of buses to existing stops or creating new bus stops to serve HRC clients. Adding a bus stop on 300 West, the street on which the co-ed HRC is located, was a recurring recommendation from clients: "Have a bus go down to 3rd West. They need to have a bus there" (P13, male). A bus stop was considered a way to connect riders with to the TRAX system and shorten walking times, as P08 (female) explained:

> [If a bus from the co-ed HRC] went to TRAX, that would be a big help. because that would cut down the walk. It doesn't seem like it's very far…but when you start walking it, then you really find out it is a lot farther.

Clients of the male-serving HRC also recommended introducing a closer bus stop: "Put a closer bus stop… right now, it's about a 15-minute walk to the bus stop… about three or four blocks away (P06, male)." Clients also recommended expanding current transit routes to cover larger service areas and more destinations. "Expand the routes on the bus line (P05, male)" to service PEH in accessing "more of the suburb areas, because I feel like there's not a lot of stops… even [in the] downtown area, all corners of the county, there's little suburbs and they don't really have bus stops (P06, male)."

Participants also expressed the need for more shuttle vans and more flexible routes to access necessary services. P03 (male) recommended having "another shuttle that comes more frequently [because the] shuttle makes it convenient." When asked if it would be helpful for the shuttle bus to take PEH from the HRCs to the TRAX, P08 (female) explained: "It would be way helpful… just something to pick up here and go to the TRAX, that would be huge. Then pick up at TRAX and bring back."

4. Discussion

In this study we investigated how transportation needs and mobility patterns of PEH changed following the decentralization of homeless shelter services and how this change impacted access to basic needs and services. Participants identified both positives and challenges with transportation and mobility both before and after the decentralization. In addition, based on the new HRC sites being further from downtown services and outside the Free Fare Zone, participants provided several recommendations for improving transportation access and justice by removing financial barriers and expanding transit and shuttle frequency and route radius. As described by participants, if shelters are going to be moved away from services and basic daily needs, there should be concurrent planning for and implementation of shifts in transportation networks.

Pre-decentralization, the primary homeless shelter in the region (TRHSLC shelter) was in a centralized impoverished (albeit gentrifying) location, convenient to both local services and to affordable and reliable transit. The pre-decentralization experiences reported by participants reflect both the convenience of centralized transportation and service systems (Hoch, 1991), as well as the challenges of having homeless services concentrated in economically disadvantaged urban areas (Brinegar, 2003; Jocoy & Del Casino, 2010). Often relegated to industrial or impoverished urban neighborhoods, emergency shelters, such as TRHSLC shelter, offer only basic accommodations, and are characterized as being in poor physical condition and overcrowded, with concerns about crime and health, as well as negative impacts on neighborhood property values and businesses (Gilderbloom et al., 2013). Despite the challenges of TRHSLC's location in a less economically developed area, participants characterized the transportation system's proximity, reliability, and affordability as convenient for their mobility needs. Simultaneously, however, participants identified limited options for certain services, specifically food, which increased PEH transportation demands. However, the financial barriers of traveling outside the Free Fare Zone resulted in mobility challenges as more time investment was required and PEH had to walk long distances to access services, which was a challenge for PEH with physical limitations. In addition to these mobility challenges, when centralized emergency shelters are relegated to industrial areas, there are particularly isolating effects on PEH (Gilderbloom et al., 2013), challenging the capacity of PEH to integrate into communities, as well as meet their basic needs. Thus, locating shelters in residential and commercial areas near public transportation, employment and educational opportunities, and social services has been considered a best practice in transitioning PEH to independent living (Gilderbloom et al., 2013; Shier et al., 2007).

In the decentralized, scattered-site system, participants' reports were HRC site-specific, reflecting varied and dynamic transportation and mobility demands and experiences. Consistent across all HRC locations, however, participants described increased time and financial investment in using transit given the distance of the HRCs from the downtown core, and its associated infrastructure (e.g., the Free Fare Zone). Furthermore, participants discussed the benefit of the daily and monthly transit passes provided by HRC staff and the no-cost homeless services shuttle that was strategically used to provide transportation to the HRCs, the Free Fare Zone, and other basic services. Despite the positives of these no-cost transportation modes, the shuttle and transit passes were described as limited in capacity—from too few passes available to meet PEH need, to only select shuttle locations available to PEH. As prior research suggests, for transit and transportation programs to be equitable for marginalized groups (Nuworsoo et al., 2009) and to increase access to jobs and leisure time (Thakuriah (Vonu) et al., 2013), there is a need for flexible and affordable programs that are specifically designed by and for those marginalized groups (Canham et al., 2021; Smith et al., 2021).

Participants described the ways in which transportation access and mobility represented an escape from the shelter environment, as well as a way for PEH to retain a sense of normalcy, autonomy, and routine. Thus, the siting of homeless shelters has significant implications for PEH well-being, and their options for mobility and transportation (Hui & Habib, 2016; Walsh et al., 2010). While mobility and access to public transportation have been acknowledged as factors that can contribute to social isolation and exclusion, mobility has also been more broadly connected to one's well-being through its effect on people's ability to fulfill psychological needs, as travel indirectly influences well-being through its direct impact on social exclusion (Stanley et al., 2011). This finding was reflected in our study in participants' reports of their transportation challenges and barriers and reduced access to services and entertainment following decentralization.

To combat the economic and social marginalization of homeless populations that can be wrought by both centralized and decentralized models of homeless shelter service delivery, transportation access must be a key policy priority and component of siting decisions. Though there is evidence of transportation being linked to homeless shelters (Gilderbloom et al., 2013), participants offered several recommendations to improve transportation for PEH. First, eliminating financial barriers was identified as a key priority for participants by either expanding the Free Fare Zone, linking transit fares to a PEH services card, providing HRC case managers with more transit passes to allocate to clients, or scaling transit costs to one's income. With knowledge of some of the barriers to enacting these programs, such as PEH receiving or replacing a pass through strict qualification criteria (i.e., Ding et al., 2022; Scott et al., 2020), future research is needed to examine which of these transit fare programs would result in the best outcomes for PEH mobility and access to services. Participants also recommended expanding public transit and shuttle van frequency and route radius. Supporting PEH in accessing a variety of locations and services would increase the diversity of opportunities for employment, social connection, community reintegration, and meeting basic needs, which contribute to the rehousing and stabilization of PEH (Hui & Habib, 2016; Scott et al., 2020).

This study is not without limitations. First, participants included PEH who were staying at one of the HRCs during the two-month data collection window, which may limit the study sample. Future research could consider the transportation needs of PEH staying in other accommodations, those who are living unsheltered, and those who are no

longer facing homelessness. In addition, we were reliant on PEH who were willing to participate in a research study, which may influence the findings toward PEH who are more trusting of academic researchers or those that are seeking gift card support. There may have also been response bias, as we asked participants to recall information from their pre-decentralization (pre-2019) experiences at TRHSLC shelter. We were also limited in our geographic scope of Salt Lake County, and there are likely differences in transportation needs and mobility patterns for PEH living in other urban, suburban, or rural regions. Finally, the decentralization process described in this article is closely aligned with the onset and initial societal response to COVID-19, meaning that many of the changes associated with decentralization are difficult to separate from responses to a global pandemic. Despite these potential limitations, the data collected were rich and captured the opinions and experiences of a diverse sample of PEH in a single urban area, which was our aim.

Findings from this study contribute to the existing literature on the relationship between where and how homeless services are delivered, whether sites are connected to affordable transportation networks, and the impact of these sites on access to basic needs, as well as economic and social opportunities for PEH. Transportation and mobility are significant determinants of access to opportunities for employment, education, socialization, healthcare, nutrition, and other services. In addition, for communities and PEH with minimal or no income, there is a justice-oriented need for affordable, reliable, and convenient transportation networks. Intentional transit-oriented planning that addresses the financial barriers of using transit and limited geographic range has the potential to mitigate inequities in access to necessary goods and services. In conclusion, there is a significant need for community planners to collaborate on the siting of homeless shelters to provide more affordable, flexible, and equitable access to transportation networks.

Funding sources

This work was supported by the National Institute for Transportation and Communities (NITC2016-UU-32). The opinions and interpretations in this publication are those of the authors and do not necessarily reflect those of NITC.

CRediT authorship contribution statement

Study conceptualization and design: SLC, JR, SJ, and IG. Data acquisition, analysis, and/or interpretation: SLC, MD, JR, SJ, and IG. Writing manuscript draft: SLC and MD. Revising and reviewing manuscript for important intellectual content: SLC, MD, JR, SJ, and IG.

Acknowledgements

We acknowledge that the University of Utah is located on the traditional and ancestral homelands of the Shoshone, Paiute, Goshute, and Ute Tribes and would like to recognize the enduring relationship between many Indigenous peoples and their traditional homelands. We would also like to acknowledge each participant's time, interest, and insights. Finally, for contributions to this project, we would like to acknowledge Skye McBride, Piper Moore, and Samantha Pope.

Conflict of interest

None.

References

Barnes, S. (2012). Review of trends, policies, practices and implications of scattered site housing. Wellesley Institute.

Blumenberg, E., & Ong, P. (2001). Cars, buses, and jobs: Welfare participants and employment access in Los Angeles. *Transportation Research Record: Journal of the Transportation Research Board, 1756*(1), 22–31. https://doi.org/10.3141/1756-03

Boyatzis, R. E. (1998). *Transforming qualitative information: Thematic analysis and code development*. SAGE Publications,. https://doi.org/10.1177/102831539700100211

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*, 77–101. https://doi.org/10.1191/1478088706qp063oa

Brinegar, S. J. (2003). The social construction of homeless shelters in the Phoenix area. *Urban Geography, 24*(1), 61–74. https://doi.org/10.2747/0272-3638.24.1.61

Brown, L., & Rose, J. (2021). Slow violence and homelessness: Activating public space and amplifying displacement. *Lo Squaderno: Explorations in Space and Society, 59*, 47–51.

Canham, S. L., Bosma, H., Palepu, A., Small, S., & Danielsen, C. (2021). Prioritizing patient perspectives when designing intervention studies for homeless older adults. *Research on Social Work Practice, 31*(6), 610–620.

Canham, S. L., Rose, J., Jones, S., Clay, A., & Garcia, I. (2022). Community perspectives on how decentralising an emergency shelter influences transportation needs and use for persons experiencing homelessness. *Health & Social Care in the Community, 30*(6). https://doi.org/10.1111/hsc.13994

Ding, H., Loukaitou-Sideris, A., & Wasserman, J. L. (2022). Homelessness on public transit: A review of problems and responses. *Transport Reviews, 42*(2), 134–156. https://doi.org/10.1080/01441647.2021.1923583

Fazel, S., Geddes, J. R., & Kushel, M. (2014). The health of homeless people in high-income countries: Descriptive epidemiology, health consequences, and clinical and policy recommendations. *The Lancet, 384*(9953), 1529–1540. https://doi.org/10.1016/S0140-6736(14)61132-6

García, I., & Kim, K. (2020). "I felt safe": The role of the rapid rehousing program in supporting the security of families experiencing homelessness in Salt Lake County, Utah. *International Journal of Environmental Research and Public Health, 17*, 4840. https://doi.org/10.3390/ijerph17134840

Gilderbloom, J. I., Squires, G. D., & Wuerstle, M. (2013). Emergency homeless shelters in North America: An inventory and guide for future practice. *Housing and Society, 40*(1), 1–37. https://doi.org/10.1080/08882746.2013.11430607

Hennigan, B., & Speer, J. (2019). Compassionate revanchism: The blurry geography of homelessness in the USA. *Urban Studies, 56*(5), 906–921.

Hoch, C. (1991). The spatial organization of the urban homeless: A case study of Chicago. *Urban Geography, 12*(2), 137–154. https://doi.org/10.2747/0272-3638.12.2.137

Hui, V., & Habib, K. N. (2016). Transportation related social exclusions and homelessness: What does the role of transportation play in improving the circumstances of homeless individuals? *Transportation Research Record: Journal of the Transportation Research Board, 2664*, 1–19.

Jocoy, C. L., & Del Casino, V. J. (2010). Homelessness, travel behavior, and the politics of transportation mobilities in Long Beach, California. *Environment and Planning A, 42*(8), 1943–1963. https://doi.org/10.1068/a42341

Kim, K., & García, I. (2019). Why do homeless families exit and return the homeless shelter? Factors affecting the risk of family homelessness in Salt Lake County (Utah, United States) as a case study. *International Journal of Environmental Research and Public Health, 16*(22), 4328. https://doi.org/10.3390/ijerph16224328

Lee, B. A., & Price-Spratlen, T. (2004). The geography of homelessness in American communities: Concentration or dispersion? *City and Community, 3*(1), 3–27. https://doi.org/10.1111/j.1535-6841.2004.00064.x

Nuworsoo, C., Golub, A., & Deakin, E. (2009). Analyzing equity impacts of transit fare changes: Case study of Alameda-Contra Costa Transit, California. *Evaluation and Program Planning, 32*(4), 360–368. https://doi.org/10.1016/j.evalprogplan.2009.06.009

Palmer, G. L. (2016). Examining the effects of scattered site supportive housing on the social and economic integration of men who are formerly homeless and primarily Black/African American. *Journal of Black Studies, 47*(8), 846–868.

QSR International. (2018). NVivo Qualitative data analysis software (Version 12). In NVivo. ⟨http://www.qsrinternational.com⟩.

Richards, R., & Smith, C. (2006). Shelter environment and placement in community affects lifestyle factors among homeless families in Minnesota. *American Journal of Health Promotion, 21*(1), 36–44.

Rose, J. (2019). Unsheltered homelessness in urban parks: Perspectives on environment, health, and justice in Salt Lake City, Utah. *Environmental Justice, 12*(1), 12–16. https://doi.org/10.1089/env.2018.0023

Santiago, A. M., Galster, G. C., & Pettit, K. L. (2003). Neighbourhood crime and scattered-site public housing. *Urban Studies, 40*(11), 2147–2163.

Scott, H., Bryant, T., & Aquanno, S. (2020). The role of transportation in sustaining and reintegrating formerly homeless clients. *Journal of Poverty, 24*(7), 591–609. https://doi.org/10.1080/10875549.2020.1740375

Shier, M., Walsh, C., & Graham, J. R. (2007). Conceptualizing optimum homeless shelter service delivery: The interconnection between programming, community, and the built environment. *Canadian Journal of Urban Research, 16*(1), 58–75.

Smith, E. N., Moore, P. L., & Canham, S. L. (2021). Examining the needs of persons experiencing homelessness: Bringing the voice of lived experience to policy priorities. *International Journal on Homelessness, 1*(1), 14–31. https://doi.org/10.5206/ijoh.2021.1.13651

Stanley, J. K., Hensher, D. A., Stanley, J. R., & Vella-Brodrick, D. (2011). Mobility, social exclusion and well-being: Exploring the links. *Transportation Research Part A: Policy and Practice, 45*(8), 789–801. https://doi.org/10.1016/j.tra.2011.06.007

Thakuriah (Vonu), P., Persky, J., Soot, S., & Sriraj, P. S. (2013). Costs and benefits of employment transportation for low-wage workers: An assessment of job access

public transportation services. *Evaluation and Program Planning, 37*, 31–42. https://doi.org/10.1016/j.evalprogplan.2012.11.004

Walsh, C. A., Beamer, K., Alexander, C., Shier, M. L., Loates, M., & Graham, J. R. (2010). Listening to the silenced: Informing homeless shelter design for women through investigation of site, situation, and service. *Social Development Issues, 32*(3), 35–49.

(Workforce) Homeless Services Services Annual Data Report on Homelessness 2022 2022.⟨https://jobs.utah.gov/homelessness/homelessnessreport.pdf⟩.

Sarah L. Canham is an Associate Professor with a joint appointment in the College of Social Work and the College of Architecture and Planning at the University of Utah.

Morrison Donovan is an undergraduate student in the College of Social and Behavioral Sciences at the University of Utah.

Jeff Rose is an Assistant Professor in the College of Health at the University of Utah.

Shannon Jones is an Assistant Professor (Clinical) in the College of Health and Director of the Center for Community Nutrition at the University of Utah.

Ivis Garcia is an Associate Professor in the College of Architecture and Planning at the University of Utah.