

Equity in Resilience Hub Design and Transportation through Community Discussions

SUPPLEMENTARY MATERIAL

This section provides additional insights from the eight focus groups using respondents’ quotes. The transcription of the focus groups did not include filler words so the quotes have already been edited for clarity. The grammar of the quotes, beyond filler words and small researcher clarifications, has not been changed.

SM Table 1. Quotes about Mode of Transportation to Resilience Hubs

Focus Group Population	Key Quotes
Carless Residents	<p>“It depends on the location for me. I use the train and I use the bus, too. Most times, I prefer the train because, for me, I don't know, it's comfortable maybe because of the subway. It's just cool for me. It depends on the extent of the disaster, and the location of the resilience hub. If there's none, I'll walk. That's why I need it close by.”</p> <p>“I'll definitely walk, no matter how far. I think I'll just walk. I think it might be safer that way, so I'll just walk.”</p> <p>“Most of the time, I don't have bus fare available, so I'll walk [....]. In a disaster scenario, like I said, I would want to walk. Hopefully, I would walk. I would walk because I'd be interested in helping out my neighbors. I can't do anything to help myself, but I'll walk a mile to help somebody else.”</p>
Individuals with Disabilities	<p>“I would drive. Even though I'm close, I would drive around the block to get to it. Especially if I was going there in case of a disaster and having to haul back some water or something, so I would take my car.”</p> <p>“For me, it depends if I'm going alone or if you're going with maybe family. If I'm going alone, I'll obviously take a bus, but if I'm going with family, I'll definitely drive.”</p> <p>“If the natural disaster was too close to my place, knowing what it is, I would not be walking.” <i>Moderator: Why would that be the case?</i> “I am legally blind. Not knowing where it's at or what is happening would prevent me from walking.”</p>
Older Adults	<p>“To me, I think it's flexible. I might want it both, depending. I might still drive or take a walk. I think it all depends on the distance to the Resilience Hub. Also, the weather as of the time. I would not want to get stuck in wet weather in the bus. I will be uncomfortable. I would love to walk if everything was okay and the distance was not that far from my house.”</p>

	<p>“I think like I said it is very disaster dependent, for example a situation where it only affected the area I live and then without affecting the roads, in that case I prefer to use a bus where I can easily get to the destination as soon as possible.”</p> <p>“For me, my preference over my personal vehicle would be the fact that I will be taken care of in a bus. There will be maybe some trained professional to handle the situation, that way I feel more safer. If there were any crisis both health-wise or otherwise, they will know what to do and the bus has to be extremely comfortable because I wouldn't give up my car for anything less. I would actually want something that I cannot give myself or something I don't already have, which is taking good care of myself. At this age is really, really difficult to do other things for yourself, especially driving can be very hard or can be quite unsafe in situations like this.”</p>
<p>Lower-Income Households</p>	<p>“I do drive, so yes, if the car is available, I will, but if it's not, I will take a bus. If close by my house, like five minutes, ten minutes-ish walk, and it's summertime, I will prefer walk.</p> <p>“If it's evacuation, I know it's an emergency, I'll definitely want to move faster, so walking would definitely be not the option. Bus, it takes time because again, you have to stop. Driving will be better.”</p> <p>“As for me, I don't have an option other than the public transportation because I even don't have a driver license, I don't have a car. I'll stick with public transportation. This is the only choice I have.”</p>
<p>Racial and Ethnic Minorities</p>	<p>“I think that's why I would pick the bus over the train. At least with the bus, you have control over-- the driver has control over how to maneuver the bus, unlike a train that is programmed to go one way or another. That's why I pick the bus over a train or any other means.”</p> <p>“If it's closer, of course, I would prefer option of walking, but considering our weather conditions sometimes it is not possible. I would prefer train, ease of access, and being there faster. Otherwise, if it's summer, then would be walking definitely.”</p> <p>“For me, I'll go with anything that is available. If it's the fastest to drive, I'll go with the car. If it's not, I'll go with the fastest and best available option for me.”</p>
<p>Recent Immigrants</p>	<p>“For me, I think for the mode of transportation, it'll be walking, because I know the public transportation would be meant for the old, the aged, the disabled, and the children. I believe for the adults who are strong and have a lot of strength, the mode of transportation for us should be by walking.”</p> <p>“I'd actually like to say, it would still be my car. I would still prefer to drive if I can. Then it would depend on is it an emergency evacuation, am I able to pick a few things to come with? If I have to do that thing, I have more than one bag to carry, but at the most, what could also happen is if it's not exactly within my community where I can walk to, I can also carpool with maybe one or two neighbors. That way, we don't have three cars driving to the place, we have one car taking three families if possible.”</p>

	<p>“For me, it depends on the scenario. If the resilience center is very close to me, I think I would walk, but if it's somewhere very far from my community, I would drive, and possibly, just like the other lady said, I will drive and will have a shared drive with the neighbors. That will actually reduce the number of people struggling for the public transport and reduce the number of people having to walk.”</p>
Parents/ Guardians of Young Children	<p>“I'll drive, it's easier to drive with kids. Especially when you have multiple kids, thanks to cars, so I'll drive.”</p> <p>“Yes, I will drive too. It also depends on the location of this hub. If it's in a neighborhood really close to me, I would choose to ride a bicycle in the summertime, but if not in my neighborhood, I wouldn't feel safe riding a bicycle on the main roads, so I will probably drive.”</p> <p>“Everybody shouldn't be driving when there's an issue like that. There should be a shuttle for service or something like that. Driving will create panic or unnecessary traffic, but if a shuttle bus is able to take 10-20 people at once, it cuts down a lot of people wanting to drive. Yes, definitely people shouldn't drive. Buses.”</p>
Women	<p>“Walking distance or bicycles in a normal day, but if it's a winter day, drive, I guess, or not even go.”</p> <p>“This is just the worst-case scenario kind of thing, the whole getting on the bus thing.”</p> <p>“Actually, I am more in support of walking. For driving, because of the parking issues, I don't think it's a good option...I think recently there was a program where they provided free busing.”</p>

SM Table 2. Quotes about Resilience Hub Placement

Focus Group Population	Key Quotes
Carless Residents	<p>“I think somewhere that is accessible to everyone, because anything can happen. Any disaster can just happen, so I think somewhere that will be accessible to everyone, maybe like an evacuation shelter. We can have one in Downtown, have one in Southwest, have one in Northwest, just around Edmonton like that, so that for those that are living in Southwest will have access to the one in Southwest.”</p> <p>“I would say resilience hub [...] in my area anyway, probably make use of the university grounds just because it is large, well-serviced by transit. There's also the transit center itself, the LRT, that's close by, four blocks or so.”</p> <p>“I said sports, sporting facilities, maybe like a game room, lounge, maybe a community garden, things like that, just to make life comfortable for the people in the hub.”</p>

<p>Individuals with Disabilities</p>	<p>“For me, I think, we also have a community center but I think there's a nearby school that I feel a bit large to accommodate more people.”</p> <p>“Yes, it would depend on how long to get to the place whether you're taking a bus or if you're driving in a vehicle or even walking. For myself, I can walk to the community center but if it was further away, I have a vehicle so I wouldn't be in a situation where it would be taking a bus and having to change buses and that kind of stuff and it wouldn't make for a long trip.”</p> <p>“Well, I also drive so I could go somewhere that was further with my family, but I would prefer something local in the community so I could see what's going on in my neighborhood at the same time.”</p>
<p>Older Adults</p>	<p>“ I think I will love to recommend [...] trusted and well-utilized sites. For example, you'll need to identify site where community member are already good and trusted. Maybe for example, we have the community centers and the health centers, places of worship, or any recreation facilities.”</p> <p>“I think for me accessibility to flexibility for the transport system. Would I be able to get air, bus or a car whenever I want to? Would there be pickup stations? How far would they be from houses or from wherever I'm coming from? How long do I have to walk? I think all of this needs to be considered as well. I think for me accessibility to flexibility for the transport system.</p> <p>“My comments are based on the fact that I'm assuming that the locations that are near me are all within walking distance. There's probably lots of areas of the city where the city would probably have to put on additional buses right away and have them going around and picking people up. You can't just wait for the hourly bus that comes by.”</p>
<p>Lower-Income Households</p>	<p>“There are a lot of people going to food bank. It's not only for homeless, but those people who have a breakdown with financial issue, and it's just happen all of a sudden, that is a quick way for you to get food and accommodate yourself for the moment until you adjust yourself financially or you're stable. I feel like that is a quick way to help community around.”</p> <p>“Churches, like my church as well. Where my church is situated there are a lot of buildings there, offices, and we have a huge parking lot as well. The offices can be opened up for it to be a safe place when there's a disaster.”</p> <p>“Yes, it's like a community center. We go in there, there's a swimming pool, there's a place where you do exercise, like a gym. They have different things where you want to learn, exercising. I believe that place is big enough for people to stay and coordination if there's a disaster or emergency or something.”</p>
<p>Racial and Ethnic Minorities</p>	<p>“I'm thinking of community league centers. They are roofed and walled, and people have all sorts of occasions, meetings for residential associations in there as well. This can be converted into an emergency hub for attending to people if there's any need for such.”</p> <p>“I just wanted to quickly add the arenas, like Rogers Arena, like stadium where it's a huge space, can accommodate a lot of people. There's already washrooms, I'm assuming</p>

	<p>kitchens. It's accessible by LRT, bus stations. That's what comes to my mind as well. That kind of spaces.”</p> <p>“Something that majority of people will know right away, especially in terms of emergency, you don't have to Google, you don't have to find the address, so then you can directly go there. I like the idea of an awareness like advertisement, from get-go this has to be advertised everywhere that these are the major hubs, these are the resilient hubs that you need to go to.”</p>
<p>Recent Immigrants</p>	<p>“I would say maybe somewhere in or close to the firehouses because they are already first responders. I believe they're well-equipped with the training and tools necessary in situations where everybody needs to move to a location. Maybe there's flood in some area or there is power outage or something like that, so I believe in and around firehouses could be a good place to have a resilience hub.”</p> <p>“Then this is the place where you can stay for one, two nights, like that. I'm not sure if it's same here in Edmonton, because from back home, that's what I understood from this community centers.”</p> <p>“I've been racking my head to see if there's a place around Windermere and nothing comes to mind, but I think maybe building an underground bunker in an open space.”</p>
<p>Parents/ Guardians of Young Children</p>	<p>“I would say religious places like different churches or mosques because people go there to worship. Temples, people are always there. Everybody knows where they can find a church, where they can find a mosque, where they can find a temple in the community.”</p> <p>“Also a rec center, that's recreation centers. Lots of parents go there, children usually have stuff going on there, and it's usually large. It's very large, and I think it would be a good place to have something like that as it's easily accessible. You have a lot around Edmonton.”</p> <p>“I just wanted to add that we could use community schools too. I know in older areas, you find many schools. It's just that the newer areas in town have more...most schools they have halls and they have classrooms which are already originally designed to have kids in them.”</p>
<p>Women</p>	<p>“We already used the community school for a lot of things like when we do bottle drives or a picnic, or I don't know, the summer, skating this winter, and all that. Whether it's the school playground or the school environment itself. People are drawn there already, and it's diverse. That's why I thought maybe our community school might be a good place for that.”</p> <p>“Worship center in the sense that, for instance, in my area, we've got a very big mosque. In times of extreme weathers like this, they usually open the mosque 24/7. They allow people to come in there. They feed and clothe people.”</p>

SM Table 3. Quotes about Resilience Hub Features

Focus Group Population	Key Quotes
Carless Residents	<p>“I think I would suggest they have emergency vehicles, like ambulances, that could just come around to pick people in case of accidents, or make some way you can just easily pick up a wheelchair to probably pick a neighbor.”</p> <p>“Buses would be assigned districts. They wouldn't maintain their normal schedule. They would revert to basically going up and down the streets, stopping at a school. They would basically slip back in the good old days of DART buses where they'd come down your house and pick you up.”</p> <p>“You need to be able to process, perhaps depending on the area, a large amount of people in a very short amount of time. Some people, depending on the nature of the disaster, may be arriving there in vehicles.”</p>
Individuals with Disabilities	<p>“To follow up on that muster point, you could have areas where you collect people, put them on ETS bus or school bus and then take them to a resilience hub because you might have too many people at one hub and need to spread them out. You might need to use a bus to do that.”</p> <p>“They should also make sure everything is wheelchair accessible as well because you are going to have people who can't walk, who can't drive. They're in wheelchairs and there has to be something for them as well.”</p> <p>“Its impact is great because setting up a resilience hub, you have to think of everyone inclusive maybe from the community because of the accessibility for people with disabilities, everybody. Someone may choose not to board a bus, you have to make sure that them using a bike or maybe something of the sort can get there. Somebody may choose to walk there. People may choose to use other means of transport.”</p>
Older Adults	<p>“[We should have] safe public transport services to these hubs, parking for private vehicles, and easy access for folks with mobility issues and mental health stress.”</p> <p>“I wonder if there needs to be consideration for bus parking at a hub in the event that people are dropped off, but buses need to stand by in case of quick transfer to a safer location?”</p> <p>“Any other consideration I think is ability to transport handicapped or injured people. Someone mentioned childcare as well. I think you need to have some ability to be able to deal with large numbers of children where you're trying to control the rest of the crowd and provide information to adults.”</p>
Lower-Income Households	<p>“For me, I think the bus frequency, because sometimes there's some buses, if you lose a bus, you have to wait an hour, so they improve that, the waiting for the next bus. I think this one is for better accessibility.”</p> <p>“What I'm thinking of right now that just came to my mind is on days like that maybe when there's a disaster, I really hope that the buses won't be concerned</p>

	<p>about if you have a bus pass or not, that it will be waived, that just you guys can just come in.”</p> <p>“Transportation is an important thing. In a situation like this, we never can tell when things might happen or things might go wrong or something. If we actually come out all in groups and there is no bus available, it's just going to be a double bad situation. Like Fatmata said, it should be readily available 24/7. It should be available on standby.</p>
<p>Racial and Ethnic Minorities</p>	<p>“I like that idea of being together. I had that mind. I don't want to be alone when facing those kind of situation. I would prefer to be somewhere where there are others, or if something happens, I might be able to get help. An idea comes to my mind when in those cases, you said, what would encourage you to take public transportation? Maybe if the buses will be dispatched in neighborhoods to pick people up in those kind of scenarios, then I would definitely run and just go inside a bus, just going to take me to the closest resilience hub.”</p> <p>“For me, there's just a bus stop just in front of the park I mentioned earlier. It's really accessible to public transport. Then the religious center. I for one, my church, there's actually a bus stop close to it as well. In one minute, you are inside the church from the bus stop. I guess it is accessible.”</p> <p>“I'm thinking if those places are not wheelchair-accessible, they should be made wheelchair-accessible so that people who use those kind of aids can be able to get into those facilities.”</p>
<p>Recent Immigrants</p>	<p>“In addition, for the public transportation, I think warm stations during winter needs to be considered because not all the bus station or station for public transportation are very easy or comfortable to be in, especially during winter, because it's hard to be someone who's always taking public transportation.”</p> <p>“I think for the accessibility for everyone, just like the ramps, the open space or open doors. For example, during the evacuation, to be able to avoid more emergencies or more disaster that's coming, maybe more open space if it's possible.”</p> <p>“I think I'd like to add that the resilience hub itself should be a welcoming place where I feel others are safe, I feel safe going there, knowing that I am really going to be safe. A place I'm going to feel comfortable, regardless of who I am, race, age, ethnicity, and all that. It needs to really, really be a warm, welcoming, comforting place for me to stay.”</p>
<p>Parents/ Guardians of Young Children</p>	<p>“Yes, somewhere easily accessible because not everybody can afford a car, and not everybody drives. You also want to make it easily accessible for all, even if you drive or areas that have bus routes so that anybody coming from any part of town can easily access it.”</p> <p>“Well, if there's a bike lane, I would feel a lot safer to ride a bicycle. Also, for people who like to drive, a parking lot that's big enough to accommodate all the cars would be helpful.”</p>

	<p>“Also providing ramps where people on wheelchair or people with strollers for their kids actually double strollers and the rest.”</p>
Women	<p>“Convenience. It's like pick the reasonable location for people at least to-reachable. Not too far. I guess it cannot be close to everyone, but it's a reasonable distance for people to reach.”</p> <p>“Transportation should play, of course, a very major role because if the thought of getting out to the place is already discouraging, then purpose is certainly defeated in a way. I don't really know how to answer the question, but I feel like transportation should come to the forefront as well when you're thinking about design.”</p> <p>“I was just thinking of that hub provided information on what to do when faced with, "Oh, when you don't have heat, what do you do?" Or something like that.”</p>