



Enhancing Resilience

For People with Access and Functional Needs after a Disaster

Marjan Navab-Tehrani

MCRP Candidate

School of Community and Regional Planning

Greenest City Scholars

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Contents

1: Executive Summary

2: Introduction

- 2.1 Project Overview
- 2.2 Rationale for Further Work
- 2.3 Project Goals
- 2.4 Report Overview

3: Methodology

4: Review of Academic Literature

- 4.1: Impact of Disasters on Persons with Access and Functional Needs
- 4.2: Case Study, 2011 Great East Japan Earthquake
- 4.3: Identification, Information, and Feedback
- 4.4: Key Points from the Literature

5: Emergency Social Services

- 5.1 ESS Overview in Vancouver
- 5.2 Provincial Agreements
- 5.3: ESS Go-To Community Centres

6: C-MIST

- 7.1: C-MIST Definition
 - 7.1.1: Communication
 - 7.1.2: Medication
 - 7.1.3: Independence
 - 7.1.4: Supervision
 - 7.1.5: Transportation

7: Documentation & Monitoring

- 8.1: ESS Activation Statistics

8: Conclusion

9: References

Appendix A: Intake and Assessment Form

Appendix B: Communication and Information Board Guideline

Appendix C: Communication Boards

Appendix D: Accessible Signs and Symbols

Appendix E: Directional Signs

Appendix F: Group Lodging Accessible Sleeping Arrangements

Appendix G: Group Lodging Accessible General Set-Up Guideline



Section 1: Executive Summary

This project has worked to adapt the City of Vancouver's Emergency Social Services (ESS) program to better meet the needs of people with access and functional needs (PAFN) after a disaster. ESS is a provincially mandated program that is implemented on the municipal level, and it is activated post disaster to take care of displaced people by providing basic necessities and emergency sheltering.

PAFN face tremendous difficulties in times of disaster as their preexisting vulnerabilities are magnified. In order to adequately accommodate PAFN in times of disaster, an equity based mentality must be taken as opposed to one based in equality to allow for appropriate access to resources and services. To best facilitate this, PAFN must be involved in the planning process to ensure that significant considerations are not missed. As well, plans must be clearly detailed to avoid poor judgement calls made in regard to managing PAFN by those who do not have expertise on the subject.

The needs of PAFN must be mainstreamed into general emergency procedures and shelters to avoid segregation of PAFN from the rest of the population. This will allow families to stay together and provide essential care that cannot otherwise be replicated by shelter operators. In addition to this, needs of evacuees must be assessed as they are registered to ESS to ensure appropriate management.

One method of contextualizing the needs of PAFN is to use the C-MIST model. C-MIST is a functional needs framework, and stands for communication, medication, independence, supervision and transportation. This model breaks down needs into these five broad categories to cover a range of people and their needs.

To better meet communication needs, here guidelines are created to ensure that posted and announced information are accessible. As well, to allow for easier communication with those who have difficulties with English, a communication board has been created to assist with communication barriers. Here, it is recommended that a communication board be added to each ESS resource container. Lastly, the use of accessible signs and symbols are necessary to ensure that people of all genders feel welcome in emergency sheltering. Some examples have been created here.

To meet medical needs that are inappropriate for the hospital emergency room, it is recommended that further relationships be explored with VCH and ESS to have an on-call clinician act as the point of contact for ESS to assist with connecting evacuees to services.

To allow for independence, it is recommended that some basic supplies be incorporated into resource containers that are used by ESS. These items are mobility



aids (walkers, canes, wheelchairs), visual aids (magnifying glasses, general reading glasses), transfer-height cots, raised toilet seats (if access to universal toilets is limited), and dog beds for service animals. As well, room dividers should be utilized to create private rooms for individuals with different needs, such as those who require supervision or privacy. Then, a recommendation is provided here for how sleeping arrangements can be made to accommodate transfer-height cots, service animals, and a care attendant cot, as well as requirements to make walkways and other general areas accessible within group lodging (GL). Further, stronger relationships should be pursued with suppliers, and service providers that can bring support to PAFN in GL.

Redundancy needs to be created with accessible transportation options to ensure that PAFN are able to be evacuated from disaster sites and transported between reception centres (RC) and GL. It is recommended that stronger relationships be formed with existing services through Translink's HandDart program, while looking toward creating new relationships with other accessible forms of transportation in the future.

Lastly, a process for documentation and monitoring is necessary to allow for easier recognition of where gaps may exist in accommodating PAFN within ESS.



Section 2: Introduction

2.1: Project Overview

This project was completed in 270 hours over the summer months of 2017 for the City of Vancouver's Office of Emergency Management (OEM). This project is focused on enabling the City to better accommodate people with access and functional needs after a disaster and in emergency shelters. Here, people with access and functional needs (PAFN) is an umbrella phrase referring to individuals who have physical or cognitive disabilities, require aids for independence (such as visual, mobility, communication, or medical aids), have a temporary physical impairment, have a chronic or temporary mental illness, or have difficulties with accessing resources available to the general public.

In order to tangibly address needs of PAFN, a functional needs framework called C-MIST is utilized. This framework breaks up needs into five broad categories to cover a range of people; these categories are: communication, medical, independence, supervision, and transportation. Within the OEM, Emergency Social Services (ESS) is the primary focus for this work. ESS is a provincially mandated program that is implemented at the municipal level. ESS is activated post-disaster to take care of displaced people by providing basic necessities.

2.2: Rationale for further work

The structure of ESS allows for scalability and adaptability based on circumstance. Currently, and within a Vancouver context, ESS has not had any major issues inhibiting its ability to take care of people with access and functional needs (PAFN) after a disaster. However, the region has not yet faced a significant disaster, and tactics that have worked in previous years to address functional needs may not be scalable during a major disaster.

The methods currently taken to address access and functional needs have drawn from creative and on-the-spot problem solving tactics based on years of accumulated experience and collective knowledge. However, these methods have not been standardized or consistent, creating difficulty to address access and functional needs by those without such a wealth of experience.

2.3: Project Goals

This project aims to expand ESS' capacity to better meet the needs of individuals with access and functional needs after a disaster by: (1) auditing existing programs and plans; (2) reviewing academic literature and guiding documents; (3) consulting with relevant organizations and stakeholders; (4) compiling research and applying it to the



procedures of ESS; (5) expanding the contact list for service providers and suppliers; (6) creating a resource list to accommodate access and functional needs in ESS containers; (7) implementing first round of recommendations; (8) creating a system to monitor evacuee needs as they arise; and (9) making recommendations for future work.

2.4: Report Overview

The methodology taken for this project will be explained next. This is followed by a review of the academic literature with a case study of the 2011 Great East Japan earthquake. Next, an overview of ESS will be provided along with an introduction to various provincial partners. Then, the C-MIST model will be elaborated upon, with specific relevance to ESS procedures, resources, and suppliers, with reference to the ESS resource container at Kitsilano CC. A recommendation is provided for documenting and monitoring issues with accommodating PAFN within ESS, followed by final recommendations and concluding remarks. Finally, a series of appendices are provided that include guidelines and tools to be used by ESS.



Section 3: Methodology

A review of existing literature has been conducted: (1) provincial guiding documents and agreements, (2) internal guiding documents and plan implementation, and (3) peer-reviewed literature.

The bulk of the information used to contextualize this project was gained through informal interviews with the majority of the staff members at the Office of Emergency Management (OEM), as well as a point of contact within the Disability Alliance of BC, and two individuals within Vancouver Coastal Health.

In relation to accommodating PAFN during ESS activation, these interviews provided insight on the specific situations that have arisen during activation, the methods taken to provide support along with their successes and failures, tactics taken in other situations that could be drawn from here, potential solutions and avenues to further explore, and contacts to interview or make relationships with.

This information along with the review of academic literature and guiding documents were compiled and applied to the ESS program. To do this, a functional needs framework called C-MIST was utilized to organize research into categories where needs could be met within. C-MIST is an acronym for communication, medication, independence, supervision, and transportation.

Then, with this framework several ESS documents were audited. Through this audit it was recognized that the procedural changes to accommodate PAFN were a part of the provincial training manuals by Emergency Management BC (EMBC), whereas locally created documents for ESS provided general information on what ESS is and who could be contacted for support. As a result of this, the EMBC ESS Group Lodging Operational Guidelines was the primary document focused upon for the audit, with insertions to accommodate PAFN made throughout.

These changes were compiled into smaller documents provided as standalone pieces that could be added to the local ESS manuals. These are: Appendix A Intake and Assessment Form; Appendix B Communication and Information Board Guideline; Appendix F Group Lodging Facility Accessibility Sleeping Arrangements; and Appendix G Group Lodging Accessible General Set-Up Guideline.

In conjunction with the above, an audit was done of the ESS container located at Kitsilano Community Centre (CC). The C-MIST model was applied to the items in the ESS Container to create a list of recommended items for purchase.



As part of recommendations for ensuring communication needs are better met, several materials have been created for use by ESS. These are: Appendix C Communication Board, Appendix D Accessible Signs and Symbols; and, Appendix E Directional Signs. These items were created in Adobe Illustrator and Adobe InDesign. All icons were created as part of this project; some are based on existing icons that are free to use, share, and modify, for personal or commercial use, and the rest are made from scratch. The communication board is based on one created by the New York City Office of Emergency Management’s communication board.

Finally, a recommendations and concluding remarks are provided.



Section 4: Review of Academic Literature

4.1: Impact of Disasters on Persons with Access and Functional Needs

Many researchers suggest that disaster risk is disproportionately experienced by some as a result of pre-existing structural inequalities (Cannon 1994, Anderson and Woodrow 1998, Bolin et al. 1998, Cutter et al. 2003, McEntire 2003, and Wisner et al. 2004; cited in Brittingham and Wachtendorf 2013). In the case of people with access and functional needs (PAFN), preexisting vulnerabilities are magnified during disasters as usual support systems collapse.

For instance, in disasters such as the Kobe earthquake, the heatwaves in Chicago (1995) and Europe (2003), and Hurricane Katrina, the majority of casualties were amongst elderly populations who typically have greater functional needs (Hewitt 2007; Klinenberg 2002; Larson 2006; Sharkey 2007; quoted in Brittingham and Wachtendorf 2013). However, functional needs can be experienced by people of all ages.

A study conducted by Tatsuki and Comafay (2012) analyzing the effects of the Kobe earthquake compared the degree of vulnerability experienced by people based on the following five variables: demographic, physical disability (general), physical immobility, environmental factors (housing condition), and social isolation. The physical disability variable refers to the following: mental disability, motor dysfunction, visual impairment, hearing impairment, medical dependence, and requirement for long term care, home nursing, day care facility, or home helper (p. 43).

All individuals who had a physical disability were seen to have a higher degree of vulnerability than those without a physical disability (p. 42). Further, it was found that those with physical immobility who require assistance with movement, require mobility aids (such as canes, walkers, wheelchairs), have difficulty going up and down stairs, and have difficulty with toilets were the most vulnerable group after a disaster (p. 44).

Next, Stough (2015) summarizes many reports to conclude that individuals who have intellectual disabilities face greater burdens during disasters by experiencing more losses, and require additional support in areas of evacuation, and post-disaster recovery (Stough, et al. 2010, Valenti et al. 2012, Shields et al. 1999; referred to on p. 141-2).

Further, a 2006 report by the National Council on Disabilities focused on the effects of Hurricane Katrina and Hurricane Rita on individuals with disabilities. This report



found those who have visual and hearing disabilities faced tremendous challenges with communication during these disasters, and often were unable to receive emergency alerts. As well, this report identifies the difficulties PAFN had with acquiring transportation if they had assistive equipment with them as most of the buses used were not wheelchair accessible. Finally, this report explains that PAFN were not typically permitted in general shelters and as such could not access the same resources and services that were made available to the general public (NCD 2006 p. 2-3; Brittingham and Wachtendorf 2013, p. s434).

Several studies suggest that PAFN are not adequately accommodated in plans for during and after disasters (NCD 2006; Tasuki 2014, Tatsuki and Comafay 2012, Parsons and Fulmer 2007, Kailes and Enders 2007, Twiggs et al. 2011, Wisner 2002, and Brittingham and Wachtendorf 2013). These authors point to the following reasons as to why this is the case: (1) lack of involvement of PAFN during the planning process (and thus missing significant considerations); (2) difficulties accessing resources and services that the general public has access to; (3) difficulties with evacuations due to inaccessible vehicles; (4) not being permitted into general shelters; (5) inadequate or inaccessible communication methods; and, (5) lack of detail in plans made for PAFN, which can lead to inappropriate judgement calls by individuals who are unfamiliar with access and functional needs.

Next, a case study of the 2011 Great East Japan earthquake will be examined to demonstrate the intricacies of inadequate accommodation for PAFN during and after disasters.

4.2: 2011 Great East Japan Earthquake

Japan is relatively well prepared for earthquakes and disasters. Prior to the 2011 earthquake, Japan had taken two initiatives to better take care of PAFN during disasters. These were: (1) a guideline to accommodate PAFN after a disaster, and the necessity for local governments to create master plans based off of the guideline; and, (2) the Kobe mapping project, which located PAFN and evaluated overall vulnerability based on Geographic Information System (GIS) and survey data (Tatsuki and Comafay 2012 p. 38; 58). Regardless of these initiatives, many reports found that PAFN were inadequately planned for in the 2011 Great East Japan earthquake leaving many essential needs unmet and resulting in increased suffering and exacerbated health conditions (Tatsuki and Comafay 2012; Tatsuki 2012; Brittingham and Wachtendorf 2013).

After the 2011 Great East Japan earthquake, emergency shelters were divided into general public shelters and special needs shelters. Then, PAFN were divided up into four groups based on level of long-term care needs and different functional needs (i.e. either those who require supervision, or those who require greater medical



intervention) (Tatsuki 2014 p. 2). However, this division of PAFN and the general public proved to be problematic.

In one case, a family comprised of a mother with her child who required daily medical intervention as well as life sustaining assistive equipment, and her elderly father first went to a general shelter, but were unable to have their basic needs met. In particular, they were unable to keep the child warm with the blanket that was provided to them, and as well, were unable to charge the child's life sustaining equipment. As the child's health condition started to deteriorate, the family decided to travel to a special needs shelter. This led to the family members to be split up into multiple locations, and as the mother was the primary caregiver to her child and father, this only worked to further exacerbate existing challenges to meet their needs. Ultimately, this resulted in loss of life (Tatsuki 2014 p. 2-3). This case points to the imperative of keeping families together. Family members often provide necessary support to one another and so mainstreaming functional needs into general shelters is necessary, as to do otherwise can create unforeseen and tragic consequences.

Some general shelters did take in PAFN, however many issues arose due to inadequate planning. Tatsuki (2014) explains the most common barriers within general shelters for PAFN to be: (1) inaccessible toilets, (2) shortage of blankets and heating equipment, and (3) inability to create private areas for people with intellectual or mental disabilities. Although portable toilets, extra blankets, and room dividers could have been easy and inexpensive solutions, the shelter operators were not aware of these barriers for PAFN or their needs and how to meet them. As Brittingham and Wachtendorf (2013) explain, "making a public shelter available for all people does not inherently lead to equal service provision" (p. s451).

In addition to this, at best the mentality taken by the shelter operators was one of equal treatment between all shelter residents; each individual received an equal amount of relief support (p. 6-7). However, this is short sighted and disallows appropriate accommodation. For instance, someone with greater medical needs may require an extra blanket to keep warm. Or another person may require a raised toilet seat in order to avoid a potentially lethal fall. Some individuals require greater resources and services in order to be accommodated to the same degree as another person. This highlights the need for a shift in perspective toward an equity-based mentality in order to adequately meet the basic needs of PAFN.

Next, Tatsuki (2014) explains that PAFN did not ask for help in shelters as they did not feel shelters were barrier-free and accommodating to begin with, even though they desperately needed greater assistance. And as well, evacuees did not wish to appear ungrateful for the support they were already receiving (p. 7). This further stresses the need to mainstream the accommodation of PAFN to avoid creating a sense of apathy,



and to empower individuals to speak up when their health may be at stake.

Brittingham and Wachtendorf (2013) refer to the experience of PAFN after the Great East Japan earthquake in arguing that PAFN are more greatly affected by geographical constraints than are other people. They term this concept as situated access, defined as “the ability to acquire and utilize information, material resources, or services, based both on the physical location of the individual or group and the social standpoint or circumstances of the individual or group within that physical location” (p. s435).

The authors note several reasons as to why this is the case: (1) PAFN can have greater restrictions with transportation and so cannot always travel to where resources and services are located; (2) PAFN may have sensory disabilities and as such not be able to receive information that would direct them to other locations to more adequately meet their needs; (3) information about PAFN was not shared with advocacy and relief groups due to privacy concerns, which kept these organizations only available to those within geographical proximity; (4) expertise disparity of service providers existed between different locations; (5) resource disparity existed between general shelters and special needs shelters; (6) within general shelters, resources did not exist to accommodate PAFN; and, (7) inadequate follow-up post disaster disconnected PAFN from resources and services. As such, it may be necessary to create a system where resources and services can be taken to PAFN, instead of assuming that PAFN can travel to resources and services.

4.3: Identification, Information, and Feedback

One of the major issues identified in the literature and by advocacy groups for PAFN is the lack of an adequate identification of PAFN, tracking of PAFN upon discharge from shelters, and the sharing of appropriate information in regard to PAFN (Martin 2009; Kailes 2009; Tatsuki 2014; Stough 2015; and Brittingham and Wachtendorf 2013).

As can be seen in the Japan case explained above, PAFN are unlikely to volunteer information on their needs, and this can lead to mismanagement of evacuees (Tatsuki 2014). In this case, volunteers had come to the shelters to provide footbaths and so they were in direct interaction with the evacuees. Through informal conversations, the volunteers were able to discover the dire situation PAFN were facing in the shelter. The volunteers passed this information along to shelter operators, which then led to greater supply provision for PAFN (Tatsuki 2014, p. 7). In this situation, the supplies needed by PAFN were readily available, however formal procedures to determine need were lacking.

Further, if access or functional needs are not visually obvious, they can go undetected in emergency shelters and thus be left unaddressed and potentially lead to greater



problems down the line (Stough 2015 p. 139). Methods of determining needs are necessary.

Kailes (2009) recommends going through a process of needs identification by having evacuees fill out an intake and assessment form as they are registered to a shelter. Such a form could include questions designed to assess needs in areas of medical, communication, supervision, needs for equipment and animals that allow for independence, and transportation (p. 12). After the distribution of supplies, Brittingham and Wachtendorf (2013) argue that a follow-up and feedback process is necessary to ensure needs are met on a continuous basis (p.s443, s448)

Finally, as PAFN were not tracked upon discharge and their information was kept private, many relief and advocacy groups were unable to provide resources and services that were readily available (Brittingham and Wachtendorf 2013 p. s442). Tatsuki (2014) argues that “further elaboration and education was needed on the utilization rather than protection of personal information for [PAFN] ... [with] their families, community residents, [Non-Profit Organizations] and local government administrators” (p.1). Even when help existed, it could not be delivered due to bureaucratic constraints and failures. This highlights the need to clearly define how information on PAFN can be shared prior to a disaster.

4.4: Key Points from the Literature

In short, the literature suggests that involvement of PAFN during the planning process for disasters is necessary to avoid missing significant considerations. Plans to accommodate PAFN need to be created with great detail to avoid poor judgement calls by individuals who are unfamiliar with access and functional needs.

Families must be kept together as they provide essential support to one another that cannot be easily replicated by volunteers or professionals. In support of this, PAFN need to be kept in shelters for the general public and have their needs mainstreamed into general plans and procedures. In order to be equitable towards PAFN, consideration must be put toward appropriate resource and service provision for the needs of the individual, which may look different than what is provided to someone without access and functional needs. This accommodation is often easy and inexpensive, such as with extra blankets, access to an electrical outlet, accessible toilets, and room dividers.

To allow for proper recognition of needs, there must be a procedure in place for needs assessment of evacuees upon registration to a shelter. These needs must be evaluated on a frequent basis through a feedback procedure as needs and resource/service availabilities can change over time.



Geographical constraints exist to a higher degree for PAFN, and so it may be useful to explore avenues of bringing services and resources to PAFN as opposed to expecting PAFN to travel to these things.

Lastly, it would be useful to allow for information utilization for PAFN by officials in times of disaster so that they may be located by advocacy and relief organizations, and be tracked to ensure their needs are met upon leaving emergency shelters.



Section 5: Emergency Social Services

5.1: ESS Overview in Vancouver

Emergency Social Services (ESS) is a provincially mandated program in British Columbia (BC) under policies created by Emergency Management BC (EMBC), with plans created and implemented at a municipal level. It is activated after a disaster to take care of displaced individuals who are unable to take care of themselves through their friends, family, or insurance. These disasters could include home-fires, earthquakes, floods, chemical spills or other emergencies.

In the City of Vancouver, ESS is primarily volunteer-based with one staff member, the ESS Director (ESSD), overseeing the program. As of the last year and a half a program has been implemented, where another staff member is on call 24 hours a day and works in conjunction with ESS to respond to emergencies.

Over a short period of time, ESS provides assistance that could include food, lodging, clothing, medication, emotional support, family reunification, pet services, and basic transportation. ESS is able to provide these services through many local relationships with businesses and organizations such as hotels, motels, hostels, churches, restaurants, grocery stores, clothing stores, pharmacies, translators, taxi services, transit (Translink), animal shelters, and Community Services.

In Vancouver, all Community Centres (CC) have been identified as locations for Reception Centres (RC) and Group Lodging Centres (GL). A RC is a site where evacuees are first received, registered, and provided various services along with relevant information on the emergency. GL are sites where accommodations are provided to people if commercial lodging is unavailable or inappropriate.

ESS is designed to meet the basic and immediate needs of the average person, and it does this very well. However, in the case of PAFN, more work needs to be done to ensure that they are properly accommodated.

5.2: Provincial Agreements

In addition to these local relationships, there are several provincial agreements created with various organizations to provide assistance to ESS during activation. However, these relationships are not frequently relied upon for day-to-day disasters, and are only expected to be utilized in the case of a very large disaster, such as a major earthquake. These agreements are with the Salvation Army, the Canadian Red Cross, St. John's Ambulance, the Disaster Psychosocial Services, and BC Housing. The Salvation Army provides training to ESS volunteers in their capacity as Meet and Greeters (M&G). During this training, M&G volunteers become the first and last points



of contact for individuals who are entering and leaving RC. As well, these volunteers provide a ‘triage’ by assessing if there are access and functional needs present with evacuees. In some cases, the Salvation Army has provided food trucks, volunteers, and supplies.

The Canadian Red Cross provides hygiene kits, and currently has 5000 in storage for use by ESS. As well they are able to provide supplies and resources to ESS during activation, and support to evacuees after ESS duration has completed. First Aid is typically provided by St. John’s Ambulance to RC and GL. Next, Disaster Psychosocial Services (DPS) provides counselling and mental health support. DPS is made up of professional volunteers who are counsellors, doctors, psychologists, and other mental care workers. Finally, BC Housing assists in relocation of evacuees after the duration of ESS support runs out.

There may be an avenue for exploration between Vancouver Coastal Health (VCH) and ESS to better meet the needs of PAFN during and after disasters. Here, it is recommended that further agreements be made between these two entities to clarify roles and procedures. As part of this project, some conversations have been initiated between VCH and ESS, which will be further discussed as part of the C-MIST Actions section below.

5.3: ESS Go-To Community Centres

For each of the six zones of ESS in Vancouver, there is a Go-To Community Centre (CC) that holds a larger amount of supplies. These are: Coal Harbour (Zone A), Hastings (Zone B), Trout Lake (Zone C), Sunset (Zone D), Hillcrest (Zone E), and Kitsilano (Zone F).

Here, Kitsilano CC was chosen to be focused upon for this project based on the criteria that there is a strong relationship between ESS and the CC staff, and that it is a Go-To Centre.

Kitsilano CC was first built in 1950, with renovations done in 1993 and in 1999 to improve accessibility standards. For this project, the Kitsilano CC ESS resource container was audited to ensure accessibility needs are met, which will be further discussed in the recommendations provided in the C-MIST section below. As well, a walkthrough was done of the CC to assess its level of accessibility in relation to current standards. In short, the accessibility of Kitsilano CC could be improved with the addition of braille signage, and verbal floor indicators. As well, bathroom signage could be improved to include individuals who are trans*, non-binary, or genderqueer.



Section 6: C-MIST, A Functional Needs Framework

6.1: C-MIST Definition

The Functional Needs Framework (FNF) considers five broad categories that encompass PAFN. This framework allows for emergency planning from a functional perspective rather than a disability perspective, which eliminates the necessity of disability expertise while accounting for a wide-range of people who may have extra needs without visible physical disabilities.

These five categories are: (1) Communication; (2) Medical; (3) Independence; (4) Supervision; and, (5) Transportation.

Communication refers to “people who have limited ability to speak, see or hear; limited ability to speak, read or understand English; [or have] limitations in learning and understanding” (DABC CEG, p. 6).

Medical refers to “people who require assistance with managing medications, medical equipment or supplies; use dialysis or oxygen; [or] use power-dependent equipment to sustain life” (DABC CEG, p. 6).

Independence refers to “people who require equipment to maintain functional independence, such as wheelchairs, walkers, or scooters” (DABC CEG, p.6).

Supervision refers to “people who require supervision, such as people with dementia or unaccompanied children, [as] well as, people with intellectual disabilities that need the support of a caregiver or attendant” (DABC CEG, p. 6).

Transportation refers to “people who cannot drive or do not have access to a vehicle due to a disability, age, addictions, legal restrictions or low-income factors” (DABC CEG, p.6)

To allow for recognition of these needs, it is recommended that individuals be provided an opportunity to fill out an Intake and Assessment form as they are received in RC. An example form has been drafted and included in Appendix A Intake and Assessment Form. This particular form is as basic as possible to allow for easy use and integration into existing processes, while still accounting for the C-MIST model. Additionally, this form can act as a tool to allow ESS volunteers in locating individuals who are able to speak multiple languages and could potentially act as translators.



6.1.1: Communication

To support people with communication needs, the following recommendations and initiatives are pursued as part of this project: (1) accessible communication and information board guidelines; (2) communication board; (3) the addition of accessible signs and symbols added to the ESS Containers to be utilized during activation; (4) an audit of all communications materials currently in ESS Containers to evaluate their accessibility; and, (5) recommendations for further work in the next steps of planning.

Accessible information board posts refers to posts to be in multiple languages as needed; for posts to meet a criteria of basic, plain English; for fonts used to be in large, plain font (Arial, minimum 14 point in size); and, for the information board to be placed at wheelchair height. Information boards are typically set up wherever a bulletin board can be found. However these are often at eye level for the average adult and therefore not accessible to those in wheelchairs. Here, it is recommended to either add a bulletin board to the ESS container with specific guidelines on placement to allow for accessibility for all individuals, or to utilize a blank wall. A how-to guideline for communication and information board posts has been created to be added to the ESS materials. Please refer to Appendix B Communication and Information Board Guideline for reference.

Next, a communication board has been created with icons in categories of basic needs, logistics, communication, transportation, functional & medical, family & home, direction, and safety & utility. Please refer to Appendix C Communication Board for a visual of this communication board.

One ESS Container at Kitsilano CC was audited to assess the accessibility of its contents. In terms of communication, there are materials for internal use that could be made more accessible by increasing the font size to a minimum of 14 point. There were many blank papers with pens and pencils that could be utilized by the general public if the need were to arise.

There were no pre-made written materials for the general public; however there were items, such as information banners and signs that are meant to convey information to evacuees. These could be made more accessible in three different ways. Most of the banners (save for the one indicating food) conveyed information only in written English. These could be made more accessible by including pictographs or symbols, and eventually, other common languages.

The washroom banners only included either the female symbol or the male symbol with no written information. It would be useful to add the word washroom. As well, these banners must include trans*, non-binary, and genderqueer people with the addition of symbols or written information. The bathrooms at Kitsilano CC currently



only display the female and male symbols, which is problematic for individuals who do not fall within one of these binaries. Here, bathroom signs have been made that can be placed over top of the current bathroom signs during ESS activation. These can be viewed in Appendix D Accessible Signs and Symbols.

Further, as not all washrooms are accessible for wheelchair users, signs have been created to help direct individuals to accessible washrooms. It is recommended that these signs be placed throughout the GL centre to allow for easy navigation for those in wheelchairs.

Lastly, as some individuals may wish to smoke cigarettes, signs have been added to direct these individuals to an area where they may do so without bothering the other shelter residents. These directional signs for accessible washrooms and smoking areas are included in Appendix E Directional Signs.

Overall, this work serves as a first step, however much more needs to be done. Areas that remain inaccessible to various people are: (1) information for individuals who have a visual disability, including braille posted where signage currently exists; (2) in-depth information for individuals who do not speak or read English in any capacity; (3) detailed plans for how and when translators and sign language interpreters would be available during different sized evacuations; and, (4) specific locations in each CC where accessible information will be made available.

6.1.2: Medical

ESS Volunteers are not trained to provide medical services. Instead, medical professionals must be relied upon to provide such assistance in times of disaster. As a result of this, when an individual with a chronic medical condition comes into the care of ESS, they are often redirected to the emergency room at the local hospital. However, there is a distinction to be made between medical emergencies and chronic functional conditions. Individuals falling into the first category are appropriately sent to the hospital, whereas individuals in the second category do not belong in the hospital, and in the case of a large scale disaster, would only contribute toward overwhelming the medical system.

Currently, Healthy Emergency Management BC (HEMBC) may be able to provide healthcare support for evacuees if the evacuee is an existing client of the health authority. If evacuee is not an existing client, then accommodating their functional needs falls with the City, and if there are any immediate medical needs, then the emergency room in the local hospital will be the appropriate entity to meet such needs. The challenge remains for ESS to accommodate PAFN if they are outside of the health care system. As well, often ESS needs clinical expertise to determine what is most appropriate for an evacuee.



Through interviews with individuals from Vancouver Coastal Health, along with individuals at the OEM, one potential avenue of exploration have been discovered. This would be to have a clinician within the health authority that is on-call and available 24/7. This person would be the point of contact for ESS, and would provide support by connecting evacuees to services they are already utilizing, and if the evacuee is not in the health system, determining which services they require, and connecting them to these services. It is recommended that this avenue be further explored.

6.1.3: Independence

To allow for functional independence, a resource list of items to include in the ESS containers has been created, with a particular focus on Kitsilano CC. Many items could be rented or borrowed from businesses and organizations, however here it is recommended that some basic supplies be purchased and readily available in the ESS containers.

Currently, in the Kitsilano ESS container there is one manual wheelchair that could be used to provide mobility independence. To this, it is recommended that two canes and a walker be added as an initial step.

To allow for visual independence, it is recommended that a magnifying glass be purchased for Kitsilano CC, along with different strengths of general reading glasses. Service and emotional support animals require materials as well, especially as they must be housed beside their owners. Dog food is already available at each of the ESS containers. It is recommended that a dog bed be added to each ESS container to accommodate these animals.

There are wheelchair accessible toilets in Kitsilano CC that meet current accessibility standards. However, in times of heavy use such as in the case of a major disaster, it is recommended that accessible portable toilets be rented and brought to the site of RC and GL.

Many elderly individuals as well as those with physical disabilities require transfer-height cots. These cots are larger in length, width, and height than a standard cot. As well, these cots allow independence as individuals are able to get in and out of their cot without assistance, in most cases. Here, it is recommended that six cots be purchased right away and added to each of the Go-To centres. In the future, when cots are getting replaced, 10% of new cots should be transfer-height cots (Kailes 2009). Beyond that, demographic data can be analyzed to determine which percentage of the population are elderly and as such would be more likely to require transfer-height cots.



In Appendix F Group Lodging Accessible Sleeping Arrangements a guideline detailing sleeping arrangements for transfer-height cots is provided, as well as arrangements with a service animal, and care attendant.

To further allow independence, all routes and walkways must be accessible, and routinely checked to ensure there are no obstacles. Appendix G Group Lodging Accessible General Set-Up Guidelines provides further details on how to ensure this.

Further work can be done to connect ESS with service animal providers, and care-taking organizations that could be called upon to provide support to PAFN in GL or in commercial accommodations. As well, stronger relationships can be made with suppliers to discover exactly what they could provide, on which timeline, and at which cost.

6.1.4: Supervision

Some individuals may require supervision in the form of caretakers or attendants, private rooms, or quiet areas to calm down in. Recommendations will be made here to accommodate supervision needs.

Currently, ESS allows caretakers access to GL centres 24 hours a day, even if they are not registered to the centre. For PAFN that require their caretakers to be with them at all times, a cot should be placed for the attendant with the individual requiring care. Appendix F Group Lodging Accessible Sleeping Arrangements provides a guideline for such an arrangement.

Next, private rooms are often necessary for individuals requiring supervision, or those who need quiet and calm areas. As separate rooms may be difficult to acquire, it is recommended that several room dividers be purchased to create impromptu private rooms.

As well, for individuals who require calming areas, it is recommended that squeeze balls be purchased and provided as a method of releasing stress.

Areas to further look into are connecting with private care-taking organizations that could be called upon by ESS to provide support in GL or to PAFN who are to be housed in commercial lodging.

6.1.5: Transportation

In some cases, evacuations are conducted by the Vancouver Fire and Rescue Services (VFRS). In extreme weather and with large numbers of evacuees, VFRS requests buses from Translink that people can take shelter in. These buses can be used to transport people to RC or GL, along with taxi companies. Both Translink and taxi companies



have accessible vehicles available. However, to create redundancy, it is recommended that further work be done in locating accessible vehicle sources that could be called upon during and after disasters. For instance, HandyDart is Translink’s accessible mini bus fleet, and would be a useful ally after a disaster.



Section 7: Documentation and Monitoring

A part of the initial process for this project was compiling the experiences staff members at the OEM have had with accommodating PAFN. To streamline this process for future work, it is recommended that a system for documenting and monitoring of ESS activations be implemented.

To allow for easy integration with little added work, it is recommended that adequate statistics and documentation of PAFN challenges in emergencies are compiled, analyzed, and stored on an ongoing basis along with the general information currently collected.

7.1: ESS Activation Statistics

As indicated by the ESSD, over the last 13 years of her being in this role, GL was set up one time, and RC were set up four times. Most ESS activations are for apartment fires, and typically most evacuees have insurance which provides support to them, or they acquire support from friends and family. The remaining people are those who receive ESS support, and typically this involves being housed in commercial accommodations, such as in hotels.

Here, it is recommended to enhance the data collection techniques for ESS activations by adding the following categories: Difficulty with Accommodation and, an indication of which other agencies were present during ESS activation. These agencies are the provincial partners: The Canadian Red Cross, DPS, Salvation Army, St. John's Ambulance, and as well any other future partners or organizations that ESS has a relationship with that may be called upon to provide support. This could include transit services, care workers, resource providers, suppliers, or individuals from Vancouver Coastal Health.

Currently it does not seem that activations are large enough to frequently involve other partner agencies, however noting their absence is useful to provide insight as to whether those relationships require strengthening through other means, such as involvement in ESS exercises, or by way of annual meetings. As well, by indicating which other agencies are called upon without formalized partnerships in place can shed light on where stronger relationships could be pursued.

The Difficulty with Accommodations category will allow for an ongoing record of gaps that need to be addressed, and could be used to enhance response in an iterative fashion, or allow for easier recognition of which major projects should be pursued within ESS in the future.



Lastly, it is recommended that the on-call staff who was present for the activation be recorded in the ESS Activation Statistics. This will allow individuals using this data in the future to be able to go directly to the on-call responsible for the activation to further clarify inquiries in regard to the activation. In this vein, it may be useful to have the volunteer lead's name from ESS recorded as well.



Section 8: Conclusion

This project has strived to adapt the City of Vancouver's Emergency Social Services Program to better accommodate PAFN after a disaster. It has done this by applying academic literature, guiding documents, and information gained through consultation to existing ESS procedures, and implementing the first round of recommendations. Implementations have been standalone guidelines that can be added into ESS manuals, as well as communication materials such as a communication board. Additionally, a resource list, a list for suppliers, and a list for service providers have been created to refer to in bolstering ESS' accessibility. Lastly, a process for monitoring ESS' activations and any difficulty with accommodating PAFN has been recommended.

Several recommendations have been provided throughout this report. From the literature, these have been: (1) involving PAFN during the planning process for disasters; (2) ensure great detail in plans made to accommodate PAFN; (3) take an equity-based mentality in resource and service provision for PAFN; (4) create a needs assessment of evacuees; (5) explore mobile resource and service provision that can go to where PAFN are; and, (6) clarify how information on PAFN may be utilized during emergencies.

A walkthrough of Kitsilano CC resulted in recommendations to improve braille signage, and add verbal floor indicators so that individuals with sensory disabilities would have an easier time navigating the CC. As well, it is recommended that bathroom signs be changed to accommodate people of all genders, including those who are trans*, non-binary, or genderqueer.

The C-MIST model has been applied to ESS, and through this many recommendations have been provided. These are: (1) implement all guidelines for communication, sleeping arrangements, and general set up arrangements; (2) add accessible signs, directional signs, and a communication board to each ESS container; (3) pursue further work in ensuring communication is accessible to all people; (4) pursue a stronger relationship with VCH; (5) purchase all recommended items; (6) and, pursue relationships with suppliers and service providers.

Finally, as a means of evaluating the effectiveness of this project, it is recommended that any difficulties accommodating PAFN within ESS be documented and monitored.



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Appendix A: Intake and Assessment Form

Intake and Assessment Form

This form is to collect information on any needs you may have beyond food, shelter, clothing, and water. If you answer yes to any of these questions, please ensure to fill out the form and return to the shelter organizers.

1. Is it difficult for you to communicate in plain written English?

Please check: **YES** **NO**

If you checked yes, which language do you prefer? Check all that apply:

- | | | |
|---|---------------------------------------|----------------------------------|
| <input type="checkbox"/> Mandarin | <input type="checkbox"/> Cantonese | <input type="checkbox"/> Punjabi |
| <input type="checkbox"/> Korean | <input type="checkbox"/> Tagalog | <input type="checkbox"/> Farsi |
| <input type="checkbox"/> Spanish | <input type="checkbox"/> Hindi | <input type="checkbox"/> Arabic |
| <input type="checkbox"/> American Sign Language | <input type="checkbox"/> Other: _____ | |

2. Do you need any medication or medical devices?

Please check: **YES** **NO**

If you checked yes, please list your medications and medical devices:

If you use medical devices, do you need access to electricity to operate your medical equipment?

Please check: **YES** **NO**

3. Do you need any assistive equipment that will allow you to be independent? For example: a wheelchair, walker, seeing eye-glasses, pen and paper, or any other equipment.

Please check: **YES** **NO**

If you checked yes, please list all equipment that you need:

4. Do you have any mobility issues that cannot be solved with the above equipment?

Please check: **YES** **NO**

If yes, please provide details here:

5. Do you need support from another person or animal of any kind? This could be a nurse, care attendant, a service animal, or a helper.

Please check: **YES** **NO**

If yes, please provide details here:

6. Do you need any of the following types of care or services at this time? Please check all that apply:

- | | |
|---|---------------------------------------|
| <input type="checkbox"/> Counselling / psychologist | <input type="checkbox"/> Psychiatrist |
| <input type="checkbox"/> General doctor | <input type="checkbox"/> Eye doctor |
| <input type="checkbox"/> First-Aid | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> None / No | |

7. Do you have any other needs beyond food, water, clothing, and shelter that have not already been stated above?

Please check: **YES** **NO**

If yes, please provide details here:

If you answered yes to any of the above questions, please make sure that this form is received by the shelter operators.

Appendix B: Communication and Information Board Guideline

The information for the following section is based off of recommendations provided by the Disability Alliance, June Isaacson Kailes Disability Consultant, and the Universal Access Committee.

All information that is to be communicated at a Reception Centre (RC) or Group Lodging (GL) Centre must be made accessible to people who have different access and functional needs. Please follow this guideline to ensure that everyone is adequately informed while in your care.

Communication Guidelines

In order to communicate effectively with people who have English as an Additional Language (EAL), ensure that you use plain language to convey information. A checklist is provided below:

- Simplify information and only communicate what is necessary
- Use this word order: subject, verb, object, and avoid using sentences that start with a supporting clause
- Use everyday language that is accessible to most communities
- Use direct, literal language
- Avoid jargon, academic, or policy language and idioms
- Break down ideas, and do not present too many at once
- Use short sentences and paragraphs
- Use examples
- Avoid big words by using little words to simplify big ideas
- Be concise

Some examples of plain language are:

- Replace “if appropriate” with “if needed.”
- Replace “prescribing physician” with “your doctor.”
- Replace “assist” with “help”
- Replace “require” and “requirements” with “need” and “needs.”
- Replace “request” with “ask.”
- Replace “provide” with “give.”
- Replace “access” with “get.”

Whenever possible, provide translations of information into other major languages, such as Mandarin, Cantonese, Punjabi, Korean, Tagalog, Farsi, Spanish, and Hindi.

Information Board Guidelines

Information boards are a vital component of a RC or GL that is expected to remain open for an extended period of time.

Ensure information boards are accessible by:

- Placing them at a height visible to those who are in wheelchairs
- Information is written with black ink on white paper
- Font size is 14 point at a minimum, with preference for 16-18 point
- Use Arial font, or other sans serif or modern serif fonts
- Pay attention to letter and word spacing to ensure legibility

Other components to keep in mind are:

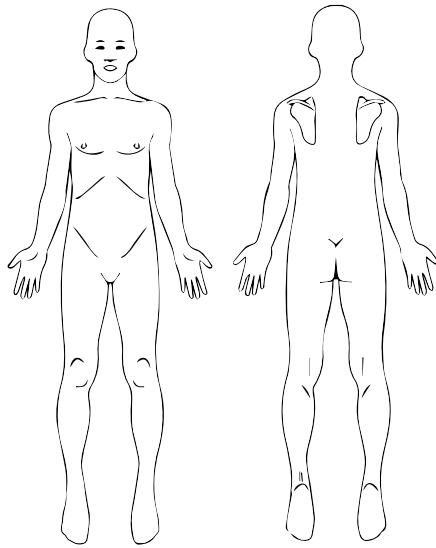
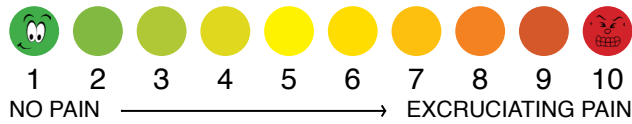
- Always use multiple ways to communicate (verbally, in writing, and in signs/symbols)
- Designate an area in the GL or RC where oral announcements are visually posted or projected
- Announce all posted information
- Ensure sign language interpreters and translators are available at designated times
- Turn on closed captioning for all televisions used by the public
- Ensure that computers are set up with appropriate software to allow for SMS and IM, and prioritize access for those who have hearing and speech disabilities.
- Utilize communication board by assign minding this to a volunteer as needed

Appendix C: Communication Board

Communication Board

Point to the pictures to describe your needs.

PAIN SCALE



This communication board is based off of the one created by New York City's Office of Emergency Management.

BASIC NEEDS



WATER



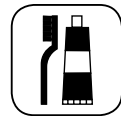
FOOD



TOILET



CLOTHING



TOOTHBRUSH

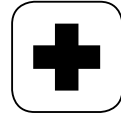


SHOWER



BED

FUNCTIONAL & MEDICAL



FIRST AID



MEDICATION



WHEELCHAIR



OXYGEN



HOT



SERVICE ANIMAL



HEARING AID



DOCTOR



AMBULANCE



CANE



EYEGASSES



COLD



SIGN LANGUAGE



BRAILLE

LOGISTICS



WAITING ROOM



IDENTIFICATION



SMOKING



NO SMOKING



NO ALCOHOL



MONEY



FAMILY & HOME



BABY



PETS



HOME



DIAPER



HALAL



KOSHER

COMMUNICATION



WHAT?



TELEPHONE



COMPUTER



RADIO



TRANSPORTATION



TAXI CAB



TRAIN

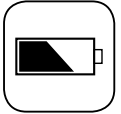
SAFETY & UTILITY



FIRE



DANGER



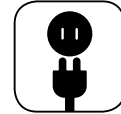
BATTERY



POLICE



GAS



POWER OUTLET



DIRECTION



DOWN



UP



LEFT



RIGHT

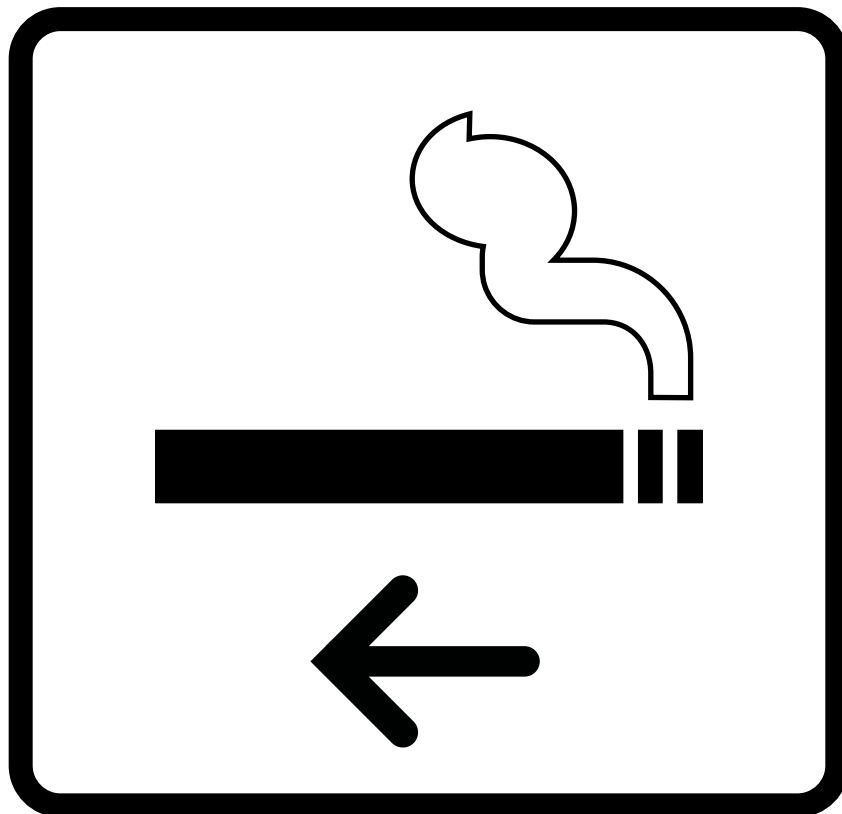
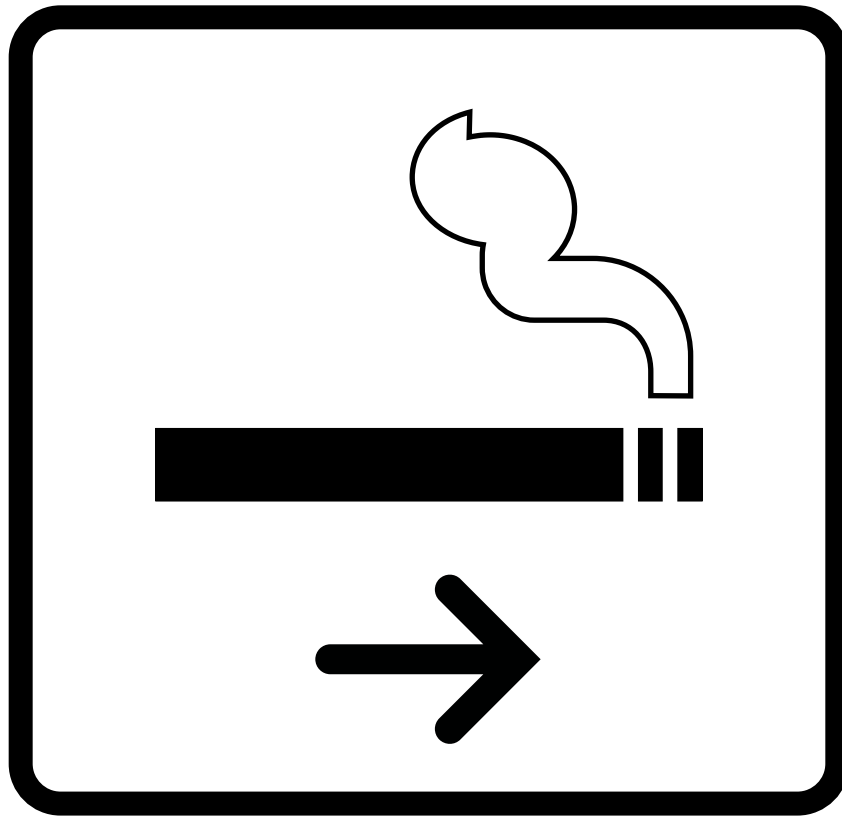


STOP

Appendix D: Accessible Signs and Symbols



Appendix E: Directional Signs







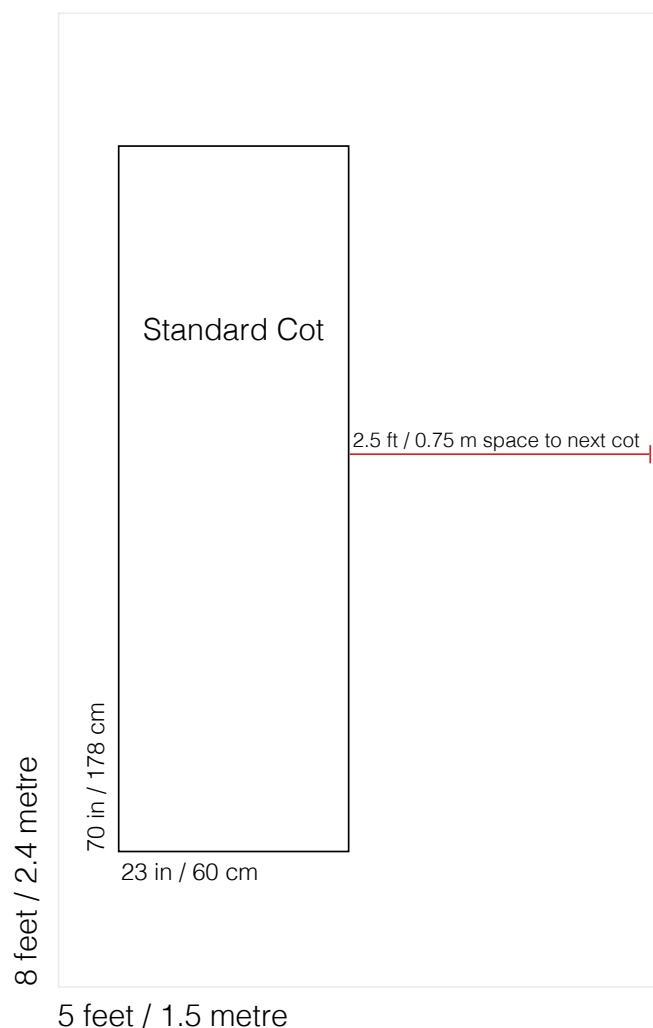
Appendix F: Group Lodging Facility Accessibility Sleeping Arrangements

The information for the following section is based off of recommendations provided by Emergency Management BC, the Disability Alliance, June Isaacson Kailes Disability Consultant, and the Universal Access Committee. Images are to scale.

Standard Space Allocation for Sleeping

The standard minimum sleeping area per person is 3.5 square metres (1.5 m x 2.5 m) or 40 square feet (5' x 8') when possible. A distance of 2'6" / 0.75 m is advised between beds, bunks, or sleeping bags to reduce the spread of respiratory infections. When there is pressure on the use of space, recourse may have to be head-to-tailing of beds.

Standard Space Allocation for Sleeping Area



Space Allocation for Sleeping for People with Access and Functional Needs

For individuals who have mobility functional needs, offer a sleeping location near unobstructed areas, and with accessible routes to bathrooms, dining areas, and exits. Allow for individuals to stay with their families as often this is their first source of support.

If individuals have a motorized wheelchair or other assistive equipment, ensure that they are located near an outlet. If there are multiple individuals requiring outlets to charge their assistive devices, spread them across multiple walls and circuits.

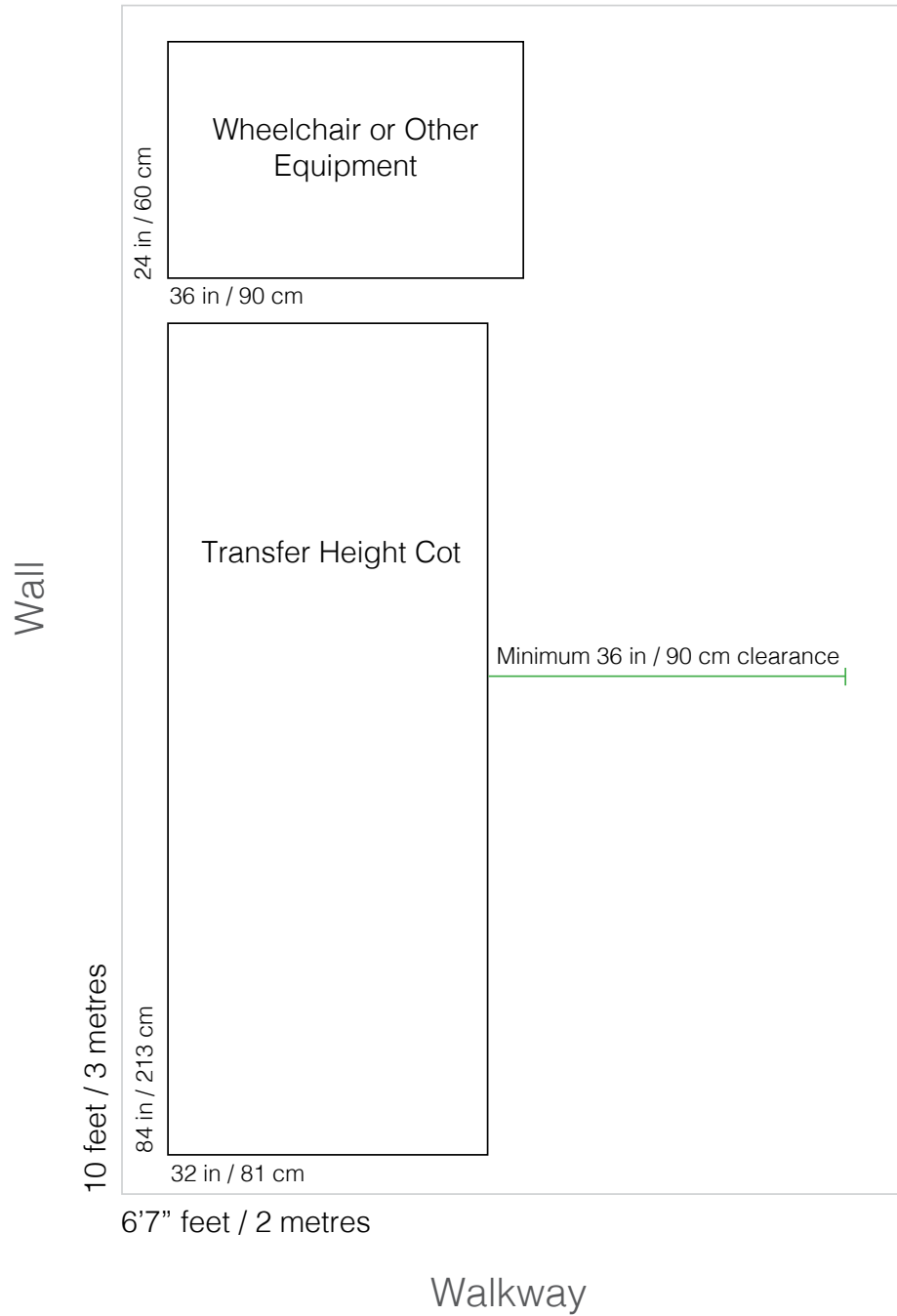
Below specification will be provided for sleeping arrangements to accommodate people with access and functional needs that may have assistive equipment, a service animal, or a care attendant.

Transfer Height Cot

Individuals who utilize mobility aids or have other physical restrictions may require a transfer height cot as opposed to a standard cot. These cots are larger in length, width, and height and thus require more space. If transfer height cots are available, set up a sleeping area of 10' x 6'7" or 3 m x 2 m space to accommodate one.

A space of 3' / 0.9 m of clearance must be maintained from the cot to allow for individuals to transfer themselves onto the cot. The preferred location is to have one side of the cot against a wall to provide stability when the individual transfers themselves onto the cot, and to allow the individual to lean when sitting up in the cot.

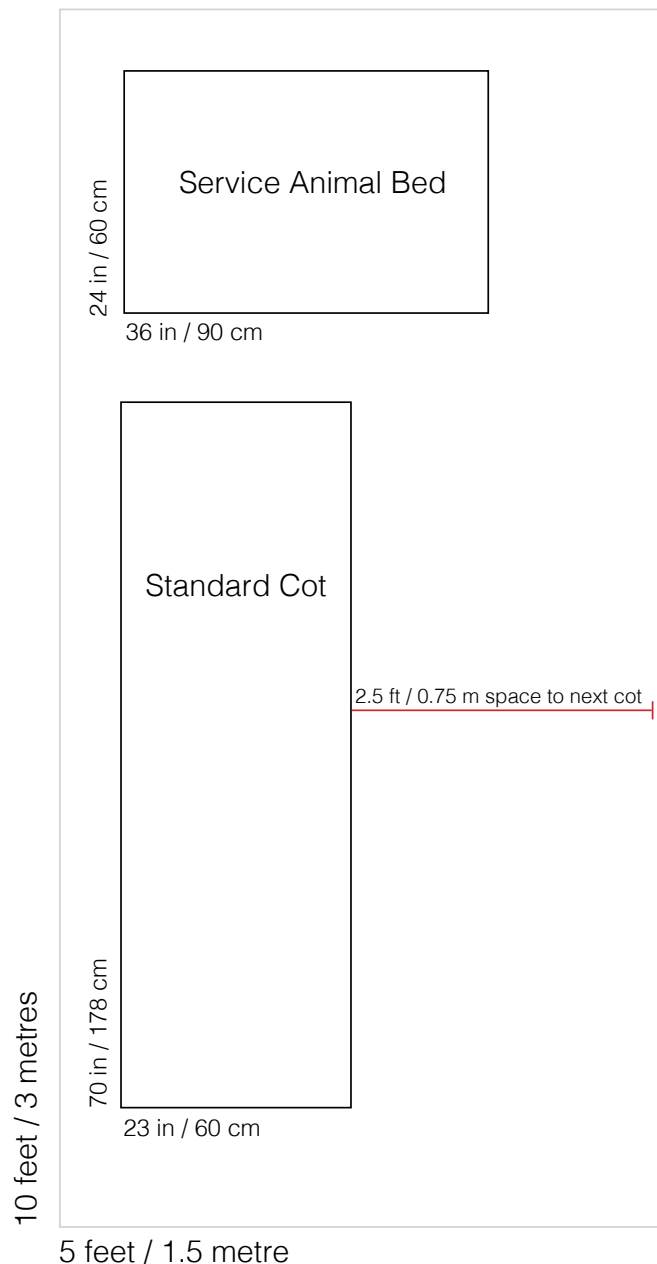
Transfer Height Cot with Equipment Area Sleeping Space Allocation



Service and Emotional Support Animals

Individuals who have a service animal or an emotional support animal must not be separated from them. Set up a sleeping area of 10' x 5' or 3 m x 1.5 m space, to allow for an animal bed to be placed at the end of the cot. Maintain 2.5' / 0.75 m space between this cot and its neighbouring cots. Offer space close to exits for residents who have a service or emotional support animal with them so that they can take their animal outside as needed.

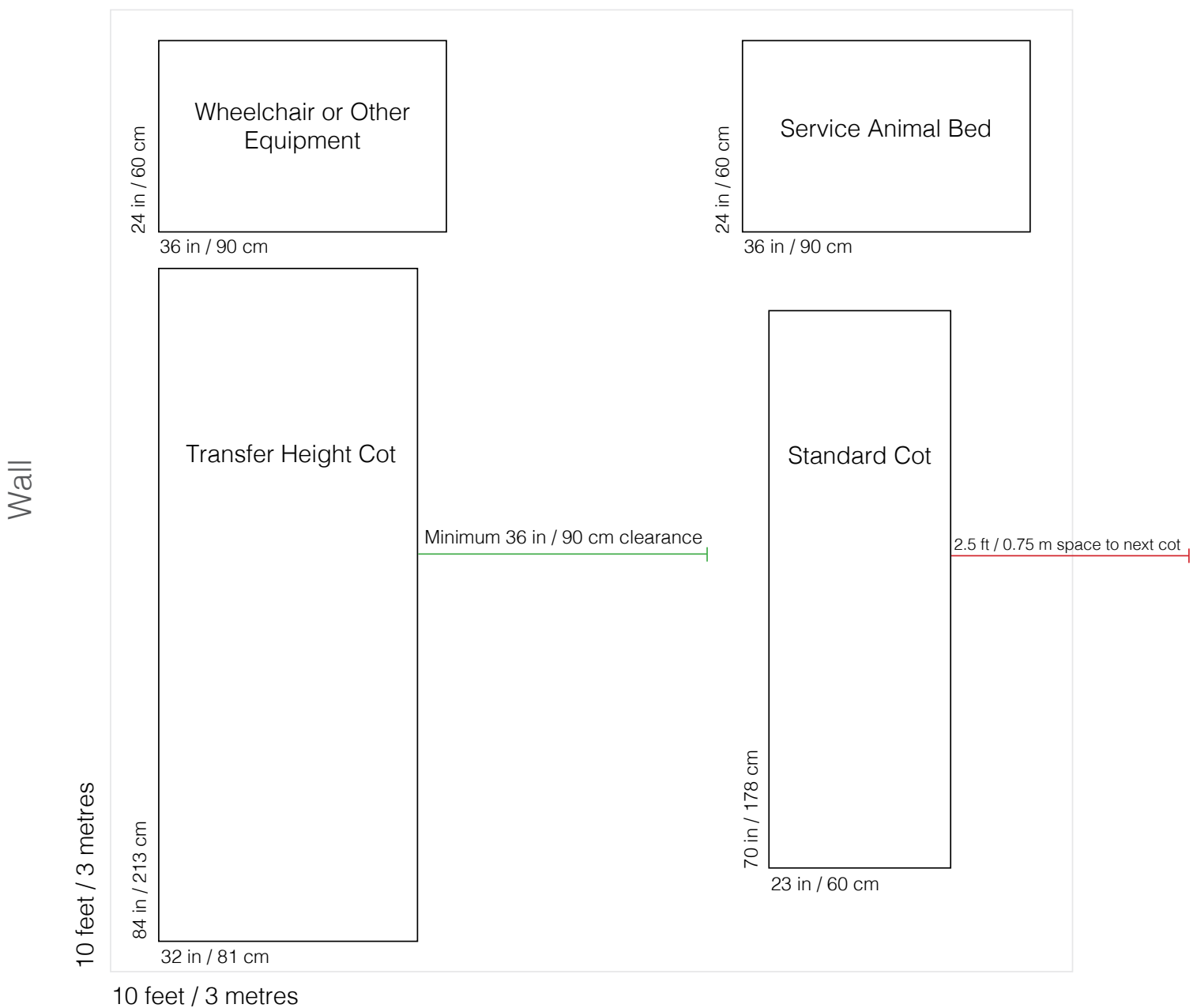
Cot with Service Animal Bed Sleeping Space Allocation



Care Attendant

Whenever possible, place care attendant with individual requiring care. A care attendant could be a family member or a professional. Set up a space of 10' x 10' or 3 m x 3 m for sleeping. Maintain a clear space of 3' or 0.9 m from the edge of the transfer height cot to allow for individuals to transfer themselves onto the cot. As well, ensure 2.5' or 0.75 m space between care attendant cot and other cots. A service animal bed could be set up, and as well a space could be provided for a wheelchair or other equipment.

Transfer Height Cot with Equipment Area and Care Attendant with Service Animal



Appendix G: Group Lodging Accessible General Set-Up Guidelines

The information for the following section is based off of recommendations provided by the Disability Alliance, June Isaacson Kailes Disability Consultant, and the Universal Access Committee.

Accessible Routes and Walkways

Ensure that all walkways and routes are accessible. If this is not possible, then ensure accessible routes to the necessary amenities exist (dining, water, bathrooms, showers, medical, exit to the outside, recreation/quiet spaces, et cetera) and that these routes are clearly marked as accessible.

An accessible route should be 36”/ 0.9 m wide, and can narrow to 32”/ 0.8 m at corners and turns. Accessible routes do not have high thresholds, abrupt level changes, steps, or steep running or cross slopes. If ramps are present, they cannot be steeper than a ratio of 1:12, and if vertical rise is greater than 6”, a handrail is required on both sides. Ramps must have an edge protection for those with wheelchairs. As well, ramps must have a level landing at both the top and bottom where direction is changing.

Private Rooms

Whenever possible, private rooms should be set up for the following needs: (1) personal hygiene (catheter, bowel, and bladder care); (2) people with asthma, chemical sensitivities or allergies, and weakened immune systems; (3) residents who cannot be near service animals for safety reasons (such as allergies, fears, or inability to leave animal alone); (4) residents who require close supervision or monitoring by a family member or care attendant (such as significant mental limitations, autism, confusion, or Alzheimer’s); and, (5) women who wish to have a private area for breastfeeding.

If rooms are unavailable, walls can be created with tenting, fabric, hospital dividers, or plastic sheets. Ensure individuals are able to move freely out of these rooms/areas, and that these areas have accessible routes to necessary amenities.

Meals Distribution

Ensure canteen and feeding area have accessible routes and are near an accessible doorway. As well, place a table with cups near any inaccessible water fountain.

