

Exploration of a culturally appropriate design for a Retirement Community for Muslims of South Asian origin

By Masooma Naqvi

Submitted to OCAD University in partial fulfillment of the requirements for the degree of Master of Design in Inclusive Design

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Abstract

This research is an exploration of suitable environmental design elements for a retirement community for seniors of South Asian origin. Most geriatric, social and health sciences literature discusses the services needed and the problems of loneliness and social isolation faced by older adult immigrants. Currently, the existing models of living arrangements available for seniors in Canada are very generic and lack cultural accommodation. This research was the result of personal experiences with my parents' situation as they arrived in Canada in the post-retirement stage of life. My family searched for suitable residential options and found a lack of them and scarcity of appropriate solutions for Muslim seniors of South Asian origin. Through my literature review I found four major problems faced by South Asian seniors which were: Loneliness and isolation, loss of independence and autonomy, lack of transportation, and lack of options to maintain health and wellness especially in the winter. The South Asian community is a very large and diverse community, although there are many features common between them all, I had to narrow down the scope of my research to discuss the problems faced by Muslim seniors of the community due to the restrictions of time and resources. I used three methods: a case study, discussion with a focus group, interviews/meetings with other consultants/experts/stakeholders and family members. I found that as architectural design has become globalized in the past few decades, there are certain nuances that make spaces culturally suitable for the seniors. Seniors of ethnic populations are the most powerless, least influential, and the most forgotten segment. There is a lack of environmental design research on the needs of South Asian seniors in North America and this paper lays the groundwork to build on future research.

Acknowledgements

I would like to express my immense gratitude and appreciation to my Principal Advisor (PA) Charles Reeve, who was always supportive, patient, and provided a wealth of information and knowledge throughout the different aspects of my MRP. I also want to thank Maya Desai for her advice and assistance in reviewing this study.

As well as my advisory committee, I want to thank the Inclusive Design (INCD) program faculty Michelle Wyndham-West and Jutta Treviranus; I'm grateful to have met you and learnt from you. I want to thank all of my classmates; it was an honor learning from you and sharing all these moments and memories with you.

Last but certainly not the least, my wonderful husband and amazing children: without your support, love, and understanding through all the stages of this program I would not have been able to make it through.

Dedication

To all the Immigrants in Canada: Being an immigrant can be a trying and challenging choice, especially when you venture into the unknown. You leave precious parts of you behind and you take on this brave journey to find a better future for your children. There are so many challenges that you take on and you weather all the difficulties when you are young and raising a family, but when you are old and you need to rest after a life of sacrifice and hard work, you need a place to put up your feet and enjoy the love of your family around you. This is for all of you courageous adventurers who take on these hardships and deserve all the best in your days of retirement.

This work is dedicated to my parents, my husband's parents, and my grandparents who laid the example of dedication, sacrifice, hard work, and never-ending love. The people who showed how to build your life from nothing and how to celebrate successes and achievements.

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Chapter 1

Introduction and Background

There is a lack of research and understanding on the housing and community needs of Muslim older adults of South Asian origin particularly in the context of independent living facilities. According to Census Canada, South Asians are now the largest ethnic minority in the country (Thobani & Butt, 2022) and the population of older adults is also growing. Most seniors of South Asian origin live with their adult children as it is traditionally the responsibility of the eldest son to look after aging parents, both in terms of culture and religion. But the current North American residential designs, changing values, and economic difficulties faced by immigrants are not supportive of the multigenerational home. There is a need for a culturally sensitive design of a residential community that can address the issues of loneliness and social isolation, provide independence and autonomy, and support healthy aging. The design and architecture of the built environment has been shown to have a variety of cognitive-emotional effects on people and can contribute towards the healthy aging of occupants (Higuera-Trujillo, Llinares, & Macagno, 2021). This paper explores the architectural and urban design features of a residential community from the perspective of South Asian seniors.

Research Questions

The emerging research questions are:

1. What are the **architectural and urban design features** of a residential community suitable for seniors of South Asian origin?
2. How can we build a **community** rather than just a place to live i.e., create housing vs. warehousing for seniors?
3. How can the **architecture and the interior design** of a residential facility support healthy aging?

Background

The happiness on my parents' faces as they prepared to board their flight to Pakistan hid a sad truth: even though their three children and five grandchildren all live in Toronto, the difficulties associated with being South Asian seniors in the GTA were too much for them to bear for more than a few months at a time. So much so that they decided returning to Pakistan, even in the midst of a global health crisis, was their best option.

My mother's first visit to Toronto was in 2009 when I had my second child. Since then, she and my father have visited us every couple of years in the summer. When my younger brother RA immigrated to Canada in 2013, he had three small children and needed our parents' support with childcare. The support of the older populations is a powerful resource for future development. The skills, experience and wisdom of older people, and the contributions they make is invaluable to survival of the family (WHO, 2015). Traditionally, South Asian homes are multigenerational homes (Ng & Northcott, 2015), and it is not unusual for the paternal grandparents to live in the same home. When my parents' sponsorship was finally processed and they arrived in October 2019, it was very sudden and amid a global pandemic. None of us were prepared for the addition of two older adults to our living arrangements. RA already had his in-laws staying with him at that time to help with the childcare, they were on a visit from Pakistan, so our parents couldn't live with him. They lived with me for a few months while my youngest brother AA arranged for a place so they could live with him. As is tradition in the South Asian culture parents live with a son and not with a daughter as her home is the son-in-law's home.

This combination of cultural expectations not aligning with North American housing norms prompted me to look into the issues surrounding the housing options for South Asian seniors, particularly Muslims of South Asian origin as they have certain requirements because of their religion that are slightly different from other groups. Also, there was a need to narrow down the group of participants and the scope of the research due to the limited time and resources available for the work.

Key terms and definitions

TERM	DEFINITION/ MEANING
Chaat	A salad, it can be either savory (boiled chickpeas) or sweet (fruits)
Dars	Religious lecture
Desi	Colloquial term in Urdu/Hindi meaning a South Asian person
Double loaded	A corridor which has suites opening into it from both sides
Jali/Jaali	a perforated stone or latticed screen, usually with an ornamental pattern common in Indo-Islamic architecture
Milad	A celebration of the birthday of the Prophet (PBUH)
Musalla	Prayer room
Nimco	savory snacks made from the flour of various lentils and beans
Pakora	Deep fried chopped vegetables dipped in a savory batter of chickpea flour
Qibla	The direction of the prayer, Muslims pray in the direction of the Holy Kaaba in Mecca, Saudi Arabia.
Rasoi	Hindi word for kitchen
Rishta	Literally, it means ‘relationship’. Contextually, it is used to mean a match, as in matchmaking for a potential spouse
Salah (Arabic) Namaz (Urdu & Hindi)	Daily prayers offered by Muslims
Samosa	triangular shaped pastry with savoury filling, can be fried or baked
Single loaded	A corridor which has suites only on one side
Sujood or Sajda	the act of low bowing or prostration to Allah facing the qibla It is usually done in standardized prayers (salah)
Wudu	The ritual washing of hands and face before the daily prayers, for most Muslims it also involves washing the feet as well.

Chapter 2

Literature Review

Beginning the research

My first conversation was with my father, I think even before I began the research. He was talking about how difficult it was for him and my mother to live in the apartments here and how lonely they felt all day. I asked him what he meant by that, he opened the entrance door, and we stepped out into the corridor. Pointing down the hallway he asked, “What do you see?” I replied that it was an empty corridor (*it is a standard 5-foot-wide double loaded corridor for nine suites*). Then he asked again, “What does it say to you?”, I thought for a minute and said that it tells me to keep moving, to go where I need to get to. “Exactly. Does it invite you to stand and chat with your neighbour?”, and that’s when I understood the problem he was talking about; the way buildings are designed does not encourage interaction with your neighbours. He explained how he felt that the current designs create buildings that face ‘outward’: you can sit in your balcony and take in the view around. But what is needed is a design that focuses ‘inward’ as well. It should help create a sense of community and support social interaction among neighbours. My father is a retired civil engineer who is a big fan of Frank Lloyd Wright, so he is quite expressive about his thoughts and ideas regarding cities and buildings as compared to people who have not worked in design and construction-related professions. He described how he envisions a retirement community that has an internal atrium which fills the building’s interior with daylight, and in the harsh winters of Canada the seniors can spend time in that courtyard without the dangers of slipping and falling on ice. It would be a place where people can socialize and spend time with each other, and it would reduce loneliness for the seniors. He said that it was important to help seniors maintain their independence by locating essential services like grocery and medical services in the building. He drew up conceptual plans of his thoughts and noted his ideas in a set of hand sketched plans attached in Appendix 5.

I kept thinking about what he had said and started to look for writings that discussed the problem of ‘outward’ facing buildings versus ‘inward’ facing buildings until I came across an essay called ‘Chicago’s Mecca Flat Blues’ by Daniel Bluestone (1998). Bluestone traces the history of apartment designs while telling the story of a huge project called the Mecca Flats which was

built in 1891 and demolished in 1952. In that essay he describes how the early developers used to build skyscrapers with central atria to flood the interiors with daylight. The Mecca also had two atria that reflected ‘aspects of a broader European and American tradition of central-courtyard apartment buildings. Central courtyards provided a semipublic space with possibilities for weaving the fabric of community’ (Bluestone, *Chicago's Mecca Flat Blues*, 1998, p. 387) The description of the gregarious social life provided by these internal courtyards and atria was protected in some models in Chicago at the time, where the need to provide light to interior rooms was ‘a cultivated virtue’ (Bluestone, *Chicago's Mecca Flat Blues*, 1998, p. 387), and some developers planned elaborate courtyard gardens, lawns, and carriage driveways. Then the building boom of 1894 gave way to a deep depression, and the apartment construction that resumed after the depression did not build skylit, galleried atria and the interior skylights stopped being built. The elevator lobbies became grand, spacious, and quite ornate. These buildings started to be clustered in the narrow strip along Lake Michigan’s shore and the effort to take advantage of the lake’s scenic view drove the land prices higher. Designers began to orient the apartments towards the prime views of the lakeshore and were less willing to allocate space to internal light courts.

This essay explained the shift towards ‘outward’ facing buildings which I had been trying to find, which seems to be applicable to the design and construction of apartment buildings everywhere else as land values rose and the views around became a priority.

Challenges faced by new immigrant seniors.

The challenges faced by my parents of being new immigrants to Canada in their seventies were compounded by being completely socially isolated due to the pandemic. At that age it becomes very tough to feel at home in a new country where the language, culture, and customs are unfamiliar, which has been the experience of other older immigrants as well (Mahmood, Chaudhury, Kobayashi, & Valente, 2008) (Hossen, 2012). It is important for non-English speaking immigrants to be in an area where there are other people who speak their language and understand the culture and customs. This assertion is supported by Tseng et al. (Tseng, Walton, Handorf, & Fang, 2021) who found in the context of Chinese immigrants, that it reduces loneliness and feelings of isolation.

Living through their first Canadian winter added to my parents' problems; the coldest temperature they had ever seen while living in Karachi, Pakistan and in Dubai, UAE was 10 degrees Celsius. They experienced extreme isolation and a loss of social connections due to the cold weather which has also been reported by other researchers (Garvin, Nykiforuk, & Johnson, 2012). This is one of the key issues to be addressed by this MRP (Major Research Project). The isolation had severe effects on my mother's health as her hearing and other cognitive functions began to decline rapidly. During the past decade or so, researchers have found that people who were lonely experience cognitive decline at a 20 percent faster rate than people who were not lonely (Barclay, 2015).

My parents soon faced many more difficulties and issues which became more obvious with time. My father could not drive as his license was not valid in Canada, and because of not being vaccinated at the time, they couldn't use public transit of any kind. Living in a suburban area added to the reduced accessibility to public transit and other services like ethnic grocery shops. Facing life in an unknown country during the pandemic forced them to ask their youngest son for his opinion and his judgement on everything. They found the loss of independence and autonomy to be debilitating. It has been found by Johnson et al. (2019) that co-residing with adult children results in a decline of decision-making power over daily affairs and reduces their social standing. However, even though the period of adjustment can be a challenging one for all family members, researchers have found higher psychological well-being among seniors who reside with their children and grandchildren which is the traditional norm among these communities as compared with the elderly who live separately (Hossen, 2012, p. 8).

One thing both my parents found to be a grounding influence on their mental health was the ability to take daily walks outside when the weather permitted. When winter arrived, and their physical activity stopped, they began to feel very frustrated and had difficulties adjusting to indoor life. In the South Asian region, a large part of our lives is spent sitting outside the home, walking and interacting with the people in the neighborhood. People walk to the grocery store, the local doctor's clinic, and the pharmacy right around the corner, and there are affordable taxi and rickshaw services available (Salma & Salami, 2020). It seems that there is a need to find a way for older adults to maintain their physical activities even in the winter in a safe and tolerable environment.

Available residential options and alternatives

Currently there are a few models of living arrangements available for seniors in Canada. A report by University of Waterloo (Benzie A. , et al., 2020) explains that there are five different options based on three main approaches to housing and care for the aging: aging in care, aging in place, and aging in community. However, the models generated by these approaches are very generic and do not address a particular community. There is a lack of research on the needs of South Asian immigrant elders in North America (Cheuk Fan Ng, Northcott, & Abu-Laban, 2007). Other than the existing facilities having long waiting lists and being too expensive, there were no facilities in Toronto and GTA that catered to their age, cultural, and religious needs (Thakur, 2022). The only option they found was for ethnic long term care homes which they do not need, and even those have long wait times (Kwong, Buchanan, & Smith, 2018).

According to Statistics Canada, by 2011 South Asians were the largest ethnic minority group (Statistics Canada, 2011) and as such the number of older adults of that group is also growing. It is important to understand they are not a homogenous group. It raises the need for better development of health and social care services which are appropriate to the specific needs of the members of various ethnic communities. It is also important to understand the family, care, and support networks of Muslim older adults of South Asian origin as their needs and requirements are different from others of the same ethnic origin.

Reporting on the housing experiences of South Asians in Canada, Statistics Canada's website defined the term 'adequate housing' as:

Adequate housing is understood in international law as housing that provides secure tenure; is affordable; is habitable; provides access to basic infrastructure; is located close to employment, services and amenities; is accessible for people of all abilities; and is culturally appropriate. (Randle, Hu, & Thurston, 2021)

The definition and description of 'culturally appropriate' housing for South Asian adults remains a largely unknown subject. The existing literature that discusses these issues reveals a lack of research for the South Asian community (Mahmood, Chaudhury, Kobayashi, & Valente, 2008).

Most geriatric, social and health sciences literature discusses the services needed and the problems of loneliness and social isolation faced by older adult immigrants. A scoping review on

the subject (Johnson, Bacsu, McIntosh, Jeffery, & Novik, 2019) found that in general there is limited research on understanding social isolation and loneliness among different ethnic and cultural groups. The authors found that majority of these studies focused on Chinese seniors, and only four studies focused on South Asian seniors in Canada.

Muslims of South Asian origin have cultural and religious needs which are different from other communities of the same ethnic origin. No facility for independent living for Muslim South Asian older adults is available in Toronto and GTA and there has not been any research on the subject. There have been a few discussions conducted on the needs of South Asian older adults and Muslims in general, but there is a lack of research on the specific population in North America. A non-profit organization in the US, the Institute for Social Policy and Understanding (ISPU), has found that current existing options for aging adults are not always culturally sensitive to their needs (Ajrouch, 2016). The religious requirement of the food to be halal and separate prayer areas for men and women were the top priorities. These are also identified by other researchers like Salma and Salami who published similar findings (Salma, Salami 2020).

The area of housing, neighborhood planning, urban space planning, and services needs to be addressed (Chaudhury & Mahmood, 2008). There is a need for in-depth qualitative inquiries in understanding the housing and community experiences for South Asian older adults. This can lead to the directions for urban policy and planning studies towards balanced and culturally diverse architectural design of residential, community, and urban spaces. Aging in an unfamiliar landscape, as is the case for most immigrant older adults, poses challenges that differ from retirement challenges of those who grow up in Canada. Elderly migrants are a very heterogeneous group including different migrant life trajectories meaning that Immigrants and minority populations experience constant change, yet the descriptions of their needs are often presumptuous and overlook the changes taking place in their lives, family structure, society as well as differences in attitudes and behaviors (Kumar, et al., 2017).

Changing values creating rising needs

Traditionally, South Asian elders live with their adult children and grandchildren in their home countries. As new immigrants are usually on a lower income scale and must work longer hours, this living arrangement becomes a need in Canada as childcare is very expensive (Collardeau,

Bin Aftab, Jibeen, & Woodin, 2021). But social work documents show rising instances of elder abuse (Social Services Network, 2021). The cultural and religious values of filial piety are being changed due to living in a western culture. They don't treat their elders with the respect they are expected to (Hossen, 2012). South Asians immigrants living in economic difficulties have more instances of elder abuse. The stresses of couples working longer hours and multiple jobs to support their families creates the need for childcare and home maintenance. The expectations from the elders to fulfil the childcare and domestic maintenance needs creates new problems. Most of the research conducted about filial piety among Asian cultures is conducted with the Chinese communities. There is little research available which studies South Asian families in a similar context. But the issues created by changing values due to living in the West is shared across the different Asian cultures (Choy, 2018). There seems to be the need for a living situation that would allow the elders to be economically independent from their adult children at a reasonable cost.

A major contributing factor could be the changing traditional roles of the care giving women in the multigenerational family system. Traditionally, in South Asian regions, the daughter-in-law does not work after marriage as the main expectation by the society is that they will look after the family and the home (Hossen, 2012). However, when they arrive in Canada they are faced with economic difficulties and the need to work to support the family. This changes the relationship dynamics at home as well and they experience the stresses and difficulties of trying to maintain the traditional roles at home of the native culture while negotiating with new roles outside of the home in the host culture (Khan M. M., 2014). The elders dread living in a retirement home as they have heard many horror stories and they feel that it is better to die than to live in a care home (Arora, Rechel, Bergland, Straiton, & Debesay, 2020), and the community shames the family if they place their parents in a care home. So, the situation becomes a very difficult one for all parties involved.

The economic difficulties experienced by new immigrants are quite unexpected, they do not expect the low levels of income and find it hard to secure employment in their original industries (Alexander, n.d.). And when the elders of the family are sponsored, the economic and logistic challenges of their settlement in Canada are unforeseen as well. Although the older adults would prefer to live with their families, adult children and grandchildren, but they don't want to be a burden either as found by Khan (Khan M. M., 2014) and Khan *et al* (2021).

For the male elder of the family, the unexpected transition from being the leader of the family to a passive member in decision making, coupled with the inability to contribute financially, often leads to decreased self-esteem and psychological distress in the elders (Cassum, 2021). Usually, the home is a multigenerational place, the adult son/s don't typically move out and continue living with their parents. When they get married, they bring the wife into the family home and the grandchildren grow up in the same home with the paternal grandparents as the heads of the family. But in Canada the elders of the family experience the loss of that status and financial security of being the owners of the home. These situations have resulted in many elders opting to return to their countries of origin like my parents did, as their needs can be met easily and at a significantly lower cost back in their country of origin than in Canada (Khan M. M., 2014).

To add another dimension to the problems, as I have experienced first-hand, the stresses of leaving elderly parents alone in their home country can make immigrants question their choice to stay in Canada; this concern has been expressed by other South Asian immigrant women as well (Khan M. M., 2014). If there are no culturally appropriate solutions to the housing situation of older adult South Asians, then as they age towards the need for long-term care, I might have to leave my family to take care of my parents, becoming a cautionary tale among others against immigration to Canada. It becomes the choice between letting go of your cultural values or the decision to live in the west.

Implications for the future

The unstable political and economic conditions in the South Asian region will likely continue to push the migration of people to countries like Canada, which rely on highly educated and skilled immigrants. This will require an increase in the sponsorship of older parents under the Family Class category and a high likelihood that South Asian parents will co-reside with their children. Further, with longer life expectancies, these older adults are likely to cohabit with or continue to be dependent on their children for extended periods of time, thereby increasing the burden of physical, emotional and economic hardship on the younger generation (Gulati & Rajan, 1999). And as Khan has noted in her thesis, as multigenerational living in Canada continue to increase (Khan M. M., 2014), the questions are raised as to what constitutes the ideal setting: Would it be one that includes a range of housing options, from two-person dwellings to multi-generational?

Or is it more about the independent living facility being embedded in community, so that even if the elders do not live with their grandchildren, they can visit them at least weekly? The answers would need to come from community members during the research process.

These are cultural and socio-economic shifts that Canadian policymakers may have to accept, given the fact that Canada needs highly qualified, professional immigrants. Immigrants should not be thought of like parts of a machinery that can fit into the Canadian economy to help it grow. They are people with histories, cultures, entire social networks, with religious and filial responsibilities. Sponsorship and immigration policies, therefore, need to acknowledge the changing socio-economic realities of the ‘developing’ world. Further, if economic and social outcomes are poorer in Canada as compared to other major immigrant-receiving countries such as the USA, UK, Australia and New Zealand, this could adversely affect the willingness of highly skilled workers to move to Canada (Statistics Canada, n.d.).

A review of a few existing projects

The search for design and architectural features of a facility for older adults of South Asian adults showed a few projects that have been built in US and Canada specifically for the South Asian community. There is one such community called ‘Priya Living’ in the San Francisco Bay Area (Dirks, 2018). This community is in the Silicon Valley suburbs where there is a large South Asian population of seniors who are highly educated and have healthy savings. The Google images show the design to be culturally relevant and very much familiar for people from a South Asian country of origin. The low-rise residential units are built around a central courtyard which is an important feature of South Asian homes.

Another project is India Home in New York (Mathew, 2021), which provides South Asian seniors ‘a place they can call home’. They provide culturally sensitive services to the residents and make sure the food is prepared according to religious guidelines, the staff speak the languages of the residents and observe the proper mannerisms that are associated with showing respect to elders. The descriptions and images do not provide enough information to understand the Interior Design and Architectural features of the facility.

In Canada there is a Centre in Surrey, BC called Guru Nanak Niwas, which provides culturally sensitive services to seniors. An important paper (Mahmood, Chaudhury, Kobayashi, & Valente, 2008) written about Housing and Community Characteristics of South Asian immigrant older adults in Vancouver, BC is based on that facility. It is a post-occupancy evaluation of the centre that ‘examines the suitability and effectiveness of South Asian older adults’ current housing options and support services. The study concludes that they did not discover any defining features of what the architectural design of a South Asian residential community would require but they found that social connections and an ethnic support system helps overcome many problems. The authors found that there is a need in the architecture and planning research to involve the visible minority immigrants in dialogue and debates to find solutions that take into consideration how architectural design can support their social and cultural lives. They detail several relevant issues and directions for urban policy and planning that can support the goal of an ‘urban and residential life that finds a balance between culturally diverse lifestyles, residential design, community, and urban spaces’ (Chaudhury & Mahmood, 2008).

This study is one of two scholarly works found to even mention environmental design needs for South Asian older adults. Although they do not provide any solutions or any suggestions from participants, they do express the need for research on the subject.

One other seniors’ care facility called ‘Generations’ in Calgary, has been constructed and supported by the Ismaili Muslim Aga Khan community (Generations, 2023). The images of the exterior and interior show Islamic influences which have been incorporated in a North American design. The attention to design for aging and accessibility can be seen in the pictures through the selection of colours, finishes, furniture, placement, etc. A further exploration of the design is presented in the Case Study which is included in Chapter 3.

There are several papers which have researched the importance of culturally suitable environmental design and the need for appropriate services like language, meals, and religious practices. Looking at what current neuroscience research is discovering, it seems that the two factors of environmental design and culturally sensitive services are inseparable. Recent research has found that ‘Nostalgia is known to reduce individuals’ perception of physical pain’ (Zhang, et al., 2022). They found that ‘viewing nostalgic images of items and scenes associated with childhood can help to reduce pain perception’ and may be a drug-free way to alleviate mild

headaches and low levels of clinical pain (McMurray, 2022). This points to the incorporation of architectural and interior design elements of a particular culture to provide those references of nostalgia relevant to the generation residing in that building, along with the appropriate services as mentioned in the paragraphs above.

Current architectural knowledge and approaches

There is some academic work and grey literature that discusses the general features of design for the elderly that can be used to build upon and which describes the various typologies currently known (Benzie A. , et al., 2020). There are guidelines on how to plan healthy communities for aging (Ritley, et al., 2021) and the accessibility needs of the ageing are well served by the existing research (Boydell, 2007). The design of the built environment can contribute towards better support of a healthy aging process. The architectural features of Canadian elder housing follow a medicalized approach, “which prioritizes care over built environment, without an appreciation that a balance of both can enrich the lived experience of aging. This is reflected in institutions which resemble traditional hospital architecture. Generic spaces and double-loaded “horridors” are commonplace features” (Leung, 2018, p. 11). Inclusive Design principles advocate a culture-sensitive design, which also incorporates the religious needs of the community.

Research on design for the aging population is being conducted by architecture and urban design firms all over the world as a recognition of the rising needs in near future. One such report published by BDP Quadrangle’s human-centered design department Human Space quoted Dr. Mark Lachmann, a geriatric psychiatrist, on their website pointing out that “approximately 70% of residents presently living in long-term care facilities are people assessed with low or mild-to-moderate needs, which means that they do not actually need to be housed in a long-term care setting” (Human Space, 2021). The website highlighted the problems in current housing models such as “lack of affordable, attractive, and practical living spaces for people in the middle-income bracket”. They discuss the need of the location to be within urban areas to reduce isolation and disconnect from their communities. They mention certain key aspects to keep in mind for the design of such communities such as: design of high-quality, age-friendly homes; urban intensification strategies; and the creation of multi-generational communities. Factors such

as later retirement, longer lifespans, loneliness, poor quality housing, chronic health conditions, and the changing role of women in society have been mentioned in generic terms, not with respect to a particular culture. As they review regional perspectives of North America, UK, and Asia, they discuss the rising number of seniors in those regions. They do discuss some important opportunities to optimize costs of land, building construction, and building operation through design (Human Space, 2021, p. 10):

- Land costs: under-utilized sites, opportunities for adaptive reuse, and co-location opportunities
- Building construction costs: by using prefabricated and modular construction solutions, Circular material cycles to optimise quantities.
- Building Operational costs to be offset by utilizing design strategies for: passive design, durable buildings, and resilient buildings.

The interconnectivity of the age-friendly home and an age-friendly neighborhood presented in the report picks up on the lack of better urban planning and design which is also discussed in similar corporate whitepaper reports by global architectural firms like US based Gensler (Jernigan, Johnston, McAlister, & Lin, 2015) and UK based ARUP (ARUP, 2019). Gensler's report claims that they "read and summarized research findings from 170 documents produced by government organizations, professional associations, academia, corporations, and the popular press," but their bibliography lists 26 sources. They have attempted to describe a specific type of an aging group, the 'actively aging boomer' as a homogenous group in the US "with discerning tastes and a hunger for good design" that look for connectivity, choice, independence, and wellness. The description of a 'vibrant' community is not provided anywhere as to what makes a community vibrant or what do they mean by a 'holistic approach to design'. Some of these reports have a certain marketing aspect to them that only serves to indicate their willingness to build such projects and not a real understanding of the issues specific to the individual communities. However, ARUP's report does show the sensitivity towards the need for inclusive design and community specific design. They provided information to help "city mayors, policy makers, planners, architects and engineers" understand and make decisions regarding the design and construction of communities for the aging. There is an understanding of the need to contextualize the impacts of ageing. They recognize that the "exact patterns of ageing are

different from one city to another, coupled with more complex variations in culture and lifestyles, existing infrastructure, associated policy and regulation, and economic prosperity” (ARUP, 2019, p. 5). ARUP’s report identifies four key needs of older people and then proposes 14 strategies and 28 actions to meet these needs. Also, forty case studies are provided to inspire and inform readers on how to include this work in their practice. The four key needs that they identify are: Autonomy and independence, health and wellbeing, social connectedness, and security and resilience.

The documents from Human Space and ARUP discussed above do identify certain design strategies that can be used when designing for the ageing population. However, they are not contextualized for a South Asian population and that research area remains severely underserved. The usefulness of design moves such as building a mixed-use structure has been touched upon in the report by ARUP, but strategies such as building a seniors’ home above or near an existing shopping mall or locating the site near or above a religious centre/mosque is not discussed either in academic literature or the whitepapers published by architectural and design firms. However, a research by Angus Reid has found that “Faith-based activities, such as praying, church attendance and community outreach, are correlated with less isolation for individuals who partake in them” (Angus Reid Institute, 2019). This shows the importance of locating a religious centre near the seniors’ residence to reduce their isolation and loneliness, and a need for further research on the subject.

An unusual design precedent

As mentioned earlier, the City of Chicago has a unique project in its history called The Mecca Flats, one of the largest apartment complexes built in that time, demolished in 1952. This project has no precedents in the way it was constructed and the design features it incorporated. Designed in 1891, the innovative design incorporated an exterior landscaped courtyard and two large internal atria. It was built in a U shape with the external courtyard in the U and two internal atria in the arms of the U-shape. In his essay about the history of the Mecca, Daniel Bluestone writes: “The exterior courtyards appropriated aspects of the single-family residential form and domestic ideology. The interior atria relied on Chicago skyscraper models and their cosmopolitan approach to the possibilities of density” (Bluestone, *Chicago's Mecca Flat Blues*, 1998). He

writes about the news reporters of the time being “struck” by the fact “that each floor covered nearly one and a half acres. The Mecca's density contrasted sharply with the more familiar patterns of organizing domestic space in the growing city. The Chicago Tribune reported that the anticipated population of nearly five hundred residents would approach that of a "fair- sized village. Ninety-eight cottages would cover each lot in two five-acre blocks, and with twelve stores [the Mecca] would outrank many a rising suburb." (Bluestone, *Chicago's Mecca Flat Blues*, 1998, p. 383). The external and internal courtyard provided social spaces and privacy for the residents. The glass covered internal atria created a daylit space which gave the apartments “the spectacle of the comings and goings of residents, of the concourse of daily human life.” (Ibid, p. 384).

The design of the courtyards and the addition of the stores gave the building a rich cultural and social life. The covered internal courtyard would provide a space protected by the weather extremes to young children and older adults for their daily physical activities. Each floor overlooking the atrium had promenade balconies and developed the atria as public places where “people would see and be seen”. This project seems to be a very relevant historical precedent on creating spaces that support social interaction, help older residents maintain independence by having stores in the building, and provide them with a safe sheltered space even in winter for physical activity.

Human Health and the Environment

Research has shown that our health is influenced by where we live, work and play. Physical features of our communities, such as sidewalks, availability of parks and the location which affects access to amenities, influence how we lead our life and impact our health and community connectedness (Fraser Health Authority, 2015). The link between the areas of urban planning and public health needs to be reinvigorated. As we celebrate longer lifespans and increasing diversity in world populations, the need for culturally appropriate solutions rises for the aging as well.

There is a further discussion on this subject in the concluding Chapter 6.

Identification of the main problems

The four main issues identified by the literature review are:

- Elders feel lonely and isolated in a country where they don't speak the language or know anyone.
- They experience loss of independence and autonomy.
- Limited access to transportation
- They need healthy and active living to maintain physical and cognitive functions even in the winter.

It seems that many of the problems can be supported by the idea of a housing facility that would incorporate a “town square” on the lower levels, which grocery, pharmacy, mosque, cafe, a daycare, etc., that the residents would have easy access to, but additionally it would also attract people from the surrounding community as well. Contemporary architectural and urban design practices lay great value on mixed use buildings and the diversification of land use (Boisseau, 2022). They also propose building affordable housing on top of community spaces which can provide solutions to the problems faced by older adults.

Chapter 3

Research Methodologies

Compared to many other disciplines and professions, architectural research involves a relatively wider diversity of subjects and methodological choices. There is a multiplicity of research processes and standards that underlie research in architecture and associated fields as discussed by Groat and Wang (Groat & Wang, 2013). As a discipline, architecture draws from a broad base of academic traditions: the natural sciences, the social sciences, the arts, and humanities. As a result, the sheer breadth of knowledge that relates to architecture and interior design can present a significant challenge for researchers and those who would apply research in architectural practice. Groat and Wang trace the development of architectural research from the 1950s from being focused on climate, product development, and building systems to a broader range of topics such as socio-behavioural issues, design methods, and energy conservation in the 1960s and the 1970s (Groat & Wang, 2013). Then just in the past two decades there has been an incorporation of research from neuroscience and cognitive sciences into architecture, leading to the creation of the Academy of Neuroscience for Architecture (ANFA) in 2002 by Architect John Paul Eberhard.

The research questions aim to find the design features of a residential community that would be suitable for an Independent Living facility for South Asian seniors. The four main issues identified by the literature review would incorporate knowledge from different disciplines as Figure 1 below shows.

Four Main Problems for Seniors



Figure 1: Summary of problems and potential solutions for ageing South Asians in Canada

Research Design: Data Collection Methods

Researching a relatively new topic and entering a field of analysis where very little prior work exists will require a mixed methods approach to gathering information as reflected in the diagram shown in Figure 1. Prof. Ajla Aksamija provides a clear breakdown of research methods typically used in architectural research in a couple of diagrams in her book. For qualitative studies she draws up the methods as below here (Aksamija, 2021, p. 62):

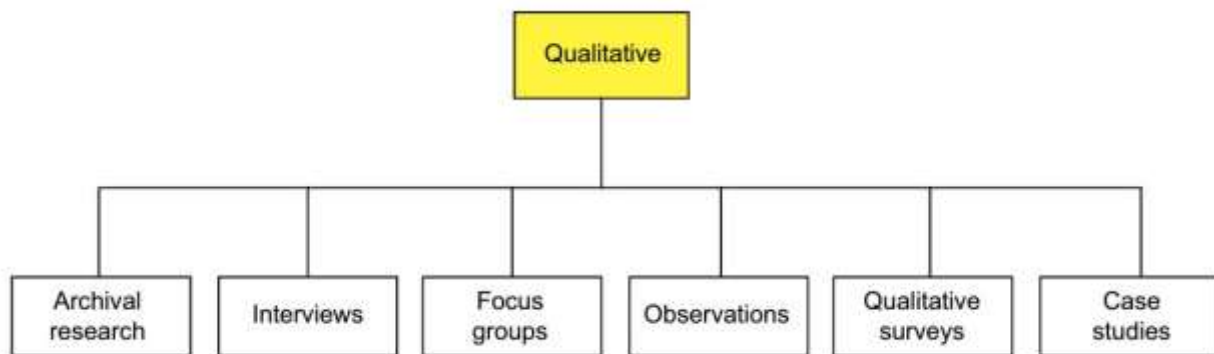


Figure 2: Qualitative research methods as shown by Prof. Aksamija (2021)

Case Study

Traditionally, architecture and interior design students are taught to begin their research with case studies of the target design problem. The data source is a distinct environment, group, building or a building type withing a real-life context. It could either be a single in-depth study or multiple case studies, purposely chosen based on the research objectives and questions.

Information about the characteristics, physical properties, utilization, or practices relating to the investigated case studies is recorded (Aksamija, 2021, p. 77). A recent project of a long-term care home and adjoining independent living facility in Calgary called Generations, built by the Aga Khan community, will be used for a case study of a design for an ethnic community of a particular religious origin.

Data collected from a case study can be easily integrated with other research methods in a mixed-mode study. The drawbacks are that this case study cannot be generalized, it will be an outlier. which offer a more personalized care and environment. Inclusive Design principles

advocate a culturally sensitive design that also incorporates the religious needs of the community. This has been incorporated in the Generations project making it unique as the design takes into consideration the needs of not only the Ismaili community but has also created spaces that can be comfortable for people of other ethnicities as well.

As mentioned earlier when discussing the current architectural knowledge, the architectural features of Canadian elder housing follows a medicalized approach, “which prioritizes care over built environment, without an appreciation that a balance of both can enrich the lived experience of aging” (Leung, 2018) . There is a need for innovative spaces such as the Hogeweyk Village, Netherlands for people with dementia, and the smaller scale Green House Project-style homes (Mancini, 2021)

Focus group

Architectural research always involves imagery and diagrams as it is a strongly visual area of work. In Interior Design and Architecture, co-design is carried out in the form of charrettes. “A charrette is an intensive planning session where citizens, designers and others collaborate on a vision for development. It provides a forum for ideas and offers the unique advantage of giving immediate feedback to the designers. More importantly, it allows everyone who participates to be a mutual author of the plan” (The Town Paper, n.d.). A charette can even be carried out among students or among designers themselves as well.

Several studies have been conducted by researchers using images, and the main objective is to elicit responses from participants to determine preferences and to allow participants to express their opinions. In their book, *Architectural Research Methods*, Groat and Wang (2013) quote several of these studies and one of them that has relevance is the ‘multi-tactic’ study conducted by Karen Keddy to observe the experience of a hospital’s surgical unit from the perspective of the nursing staff. Keddy used a wide variety of tactics, including structured, in-depth interviews, location mapping, photo-documentation, architectural inventories, place-centered behavioral mapping, and focused observations, and an image-based visual exercise called an “experiential collage.” The intention of the collage, conducted after the initial interview, was to elicit “insights into how a nurse actually feels about what she thinks and what she does as well as what it means

to her..., a means of making different perspectives about the socio-spatial nature of nursing work visible.” (Groat & Wang, 2013, p. 220).

I contacted a community leader in the Thorncliffe Park area to request access to a group of people so I could listen to their thoughts and understand the challenges they faced. This contact was provided to me by a fellow OCADU (OCAD University) student, Japjot Singh, who had previously worked with a group of people in that area for his research.

Initially the research was meant to be an in-person interaction but as the cases of covid-19 had started rising again and there was an additional threat of monkey-pox spreading, the community leader S. P. requested to move the interviews online. Initially, we had managed to find 6 participants but two people had to travel so we had four people left for the focus group. Then later in March 2023, my parents decided to come back to Canada to try again to live here, I included them as part of my study towards the end of the research.

Name	Age	Role	Time in Canada	Residence
SP (focus group)	65-70	Female Participant & Community leader	15 years	Thorncliffe Park, Toronto, ON
AR (focus group)	70+ (of father)	Female Care giver	40 years	Thorncliffe Park, Toronto, ON
MI (focus group)	70+	Male Participant	48 years	Morningside Heights Scarborough, ON
RI (focus group)	65-70	Female Participant	48 years	Morningside Heights Scarborough, ON
RF (family)	70-75	Female Participant	2 years	Beverley Acres Richmond Hill, ON
FHN (family)	75-80	Male Participant	2 years	Beverley Acres Richmond Hill, ON
AA (family)	35-40	Male Care giver	4+ years	Beverley Acres Richmond Hill, ON

Table 1: The participants of the research (source: author)

Method

This was image-based research where I had provided the participants with pictures of buildings, retail services, healthcare services, transportation, leisure and fitness related activities, housing preferences, courtyards and corridors, and various interior areas to elicit their thoughts. There were 4-6 images of each category and there were some illustrations from different design and planning firms as well to help them talk about their preferences and difficulties in using spaces.

In the first meeting I had organized the images into a presentation to help them understand what I expected from them and the questions I had for them (Appendix 1). I had sent the presentation a couple of days before the meeting so they can take their time and go over it. During the meeting, they talked about their problems as we went through the presentation and discussed their ideal living situations as seniors.

Then for the second meeting I asked them to select and sort images evocative of their experiences and their needs of a residential community and create their ‘experiential collages’ as in Keddy’s research to gain insights into how they feel and think about what they want in a home. Just in case there was someone who was not clear about what I wanted them to do with the images, I also created a guide on how to make a collage and emailed that as well (Appendix 2).

After the first meeting I dropped off the printed images and collage-making supplies to their homes and gave them a week to work on them. The second meeting was organized after they had completed the collages so they could talk more about design features. They took pictures of their boards and sent them to me before the meeting so I could see what they were referring to during the conversation.

Challenges with the research design

I had images representing different retail services, buildings that were constructed as senior residences from North America and Europe, some just buildings of different sizes and configurations, images of interiors, various services and amenities. I understand that architects and designers think very differently from other people and in order to get the participants to talk specifically about design I had to show them images to direct the conversation to elements of the built environment that I was researching.

One unexpected challenge working with a marginalized community is the question of being adequately compensated for their time. I discovered that over time certain members of the community develop a sophistication working with researchers and begin to see this as an income stream. I recognize that as researchers we are asking a favour from our participants, and they need to feel that they have received a reasonable remuneration for their time and knowledge. I had been approved by the Research Ethics Board (REB) to pay the participants \$25/hour and the community leader \$50/hour. The community leader was looking to raise the amount being paid citing the inflation and the higher amounts they were being paid by other researchers. To appease her I added \$10 per meeting for refreshments for the members of the focus group. This restricted the time I could spend with them, and the leisurely conversations I had naively envisioned could not happen. It is important to note that the participants themselves were less concerned about the amount being paid than the community leader and they were all just happy to help.

Working with the challenges of time, availability of participants, access to resources, and uncertainty of funding, I made certain decisions based on instinct, personal experience with the community, my previous design education, and professional experience. I hoped that I would eventually find out some fragments of insight to provide inspiration and a starting point for future research. I acknowledge the possibility that my choices of images might have influenced their thoughts, and that the images may have been selected too broadly to be able to narrow down to a specific element in the images. As my quest was initiated by my conversations with my parents and personal experiences as a family, there was some bias involved based on my own life experience which I discovered as I chatted with the participants.

Interviews

Consultants/ Stakeholders

There are various people and government policy makers that might have an interest in the study and its results. Some of them are: the general Architecture and Engineering (A&E) community, developers, Housing policy makers and advocates, healthcare professionals, retail business owners who serve the South Asian community, service providers, and the general members of the community. The consultants for this MRP are from the disciplines that would be

representative of some of the stakeholders in the project. I have summarised my conversations with them in the third section of this chapter.

Contribution to the knowledge base

Typically, research on the needs and problems faced by the South Asian community are addressed from the social sciences and health sciences. There have been problems with the seniors of the South Asian population for quite some time but there has been little progress on the solutions for them. Hossen quotes Disman from 1984 describing the seniors of ethnic populations as “the most powerless, least influential, and the most forgotten segment” (2012, p. 2). There is hardly any literature that discusses design from the point of view of South Asian seniors. This paper hopes to lay a foundation for the work and for further research to build upon.

When co-designing closely with a selected segment of the population as designers, we are “making knowledge about, for, or with” (Groat & Wang, 2013, p. 52) the participants and this suggests situated and contextual outcomes that do not provide universal applicability, but rather fixed relevance in particular socio-cultural venues. However, even as designers engage in a new mode of research if the process is kept ‘coherent’ with ‘purposeful sequence of activities’, and it contributes to the public good, the quality of the research can be established and it can answer to the well-known measures of validity, verifiability, and perhaps even the elusive quality of robustness. To address this issue, Groat and Wang quote Ellison and Eatman to explain that even in their ‘unlikeness’, any new forms of research must be “judged by common principles, standards to which all academic and scholarly work is held” (Groat & Wang, 2013, p. 52).

The process and outcome of this MRP seems to be similar to what social scientist Egon Guba has termed as a ‘naturalistic’ inquiry. The key characteristics of such an inquiry are: “the recognition of multiple realities, as opposed to a single reality; the assumption that generalizations are not necessarily possible in all instances; the understanding that a research design may emerge as the research proceeds; and the belief that the researcher and the respondent influence and are influenced by each other.” (Groat & Wang, 2013, p. 84).

Chapter 3A: Case Study – MGH Calgary, Alberta

I visited Generations Calgary, Multi Generational Housing & Community Centre (MGH), in late September 2021 to understand how they had incorporated culturally appropriate design features in their long-term care facility. I was shown around very kindly by Mr. Karim Kaba who spent an entire day explaining all the planning and design that went into the construction of the project.

As a designer I work with visual representation which is part of the discussion and a form of inquiry for my research. Hence the images, which are threaded throughout this case study and this paper are not listed as separate images but are considered part of the exploration, observation, and text in their own right.

It is unlike any building I have read or seen regarding the care of the aged members of a Muslim community. I had only heard stories of sadness and pain about the state of care of the elderly in the Canadian context, but this was a different story. It was a very pleasant visit and I was surprised at the incredible care taken to think about all the details, from the largest to the smallest. The main driving philosophy was that this not a place where you come to wait out the last years of your life. As human life is becoming longer and longer, the aged must be able to live in honour and in dignity, so that, as they become older, they have a life of quality.

The site is located in the northeastern part of Calgary in Skyview Ranch. It is a suburban area, close to the Calgary International Airport with public transit fairly close. There are two buildings currently on the approximately 2.58-hectare (or 6.4 acre) site, one is the more recent building which is the assisted living facility that I visited and the other is an older project which is a seniors housing for independent living. There is a third building for affordable housing planned for families in the remaining quadrant.

The guiding principles and vision were explained in a presentation by MGH:

Vision and Guiding principles

– “...Since all that we see and do resonates on the faith, the aesthetics of the environment we build, and the quality of the social interactions that take place within these environments, reverberate on our spiritual life.”–

- Dignified Aging in Place
- High-quality of life
 - Residents live in comfort, dignity, safety, security, respect, love and care.
- Ability to practice faith.
- Meaningful and productive use of time
- Companionship to avoid loneliness.
- By extending the concept of ‘needing a village to raise a child’ to the elderly
 - the community will seek to create mutually dependent relationships between generations.
- Contact with family and loved ones.
- Respite for caregivers
- Inter-generational interaction
- Best-in-class practices –an aging in place model
- Enable seniors to offer their experience, wisdom, talent and knowledge for the enhancement of the community.
- Volunteerism - a pioneer
 - Volunteers - a critical anchor in all activities around project
- Use of natural elements such as light, landscaping with trees & flowers, and water
 - An interplay of light and shade
 - the site will represent life and vibrancy for all ages encouraging intergenerational engagement and activity.
- Creating a sense of peace
- Sharing of public spaces
 - Communal gatherings
 - Vibrant place, full of life

- Pedestrian paths that will connect to the surrounding Skyview Ranch
- Community public spaces
- Delineation between privacy and communal spaces
 - Living floors to have places of retreat from the noise and movement of public life and a sense of peace.
- Serene and peaceful spaces for social interaction and personal reflection
 - Quiet contemplation
- Access to all required amenities
- Interconnectivity
 - The buildings and spaces are to be interconnected with access provided to MGH Phase 1 residents and surrounding community.
- Environment that is engaging and supportive of mental health and wellness for the Elderly
- Designed to invoke a sense of curiosity.
- An inviting atmosphere for residents, users, staff and the community at large
- Through formal and informal courtyards, gardens and outdoor spaces, all users will be treated to a kinesthetic experience that touches all of the senses.
 - landscaping colorfully with flowers and trees will appeal to the eyes,
 - the sound of birds,
 - children playing,
 - sense of sight and hearing.
 - natural elements such as the smell of water and feel of the wind.
- Commercial spaces – include bistro and hair salon.

Not a place for end of life...a place to Live out your life!

The research conducted by MGH

According to their presentation, MGH conducted extensive research and looked into existing models of care and seniors' living in Canada and found that the system is not very robust—not because of lack of trying or funding but because:

- the system was designed 70 years ago.
- Health Care system was designed for treating Diseases and NOT People
- Some of the buildings are treatment / staff driven models and not Elder / Care driven models.
- Some of the existing nursing homes are dated and they look like hospitals / where patients are in the hallways on their wheelchairs – Generally a depressing place.

They engaged local and international experts and had many conversations with Owner Operators. They visited most of the assisted living facilities in Calgary and surrounding areas and conducted online research on international centres as well. They held discussions with multiple architects, interior designers, and other consultants. They had design reviews with industry experts such as:

- Sandra Harris – Boston MA – World renowned designer
- Joyce Simard - Prof. at Western Sydney, Australia (dementia care)
- Dr. Colleen – UofA (Dementia care)
- Dr. Mohammed UofA (Construction)

Best in Class

After their research, MGH put together a list of features in a building that would be best in class. The features were:

- | | |
|---------------------------|--------------------------------------|
| • Variety of room options | • Craft room |
| • Main Dining Room | • Physiotherapy room / Exercise Room |
| • Chapel / JK Space | • Assisted shower/bathing rooms |
| • Living rooms | • Resident storage room |
| • Library | • Billiards room |

- Large Senior's Centre
- Large Auditorium
- Wheelchair accessible
- Resident laundry rooms
- Coffee bar/bistro
- Common Kitchenettes
- The Gate (entrance)
- The Theatre
- The restaurant
- The Lively Court (community center)
- Public restroom
- Hogeweyk supermarket
- Grand Café
- Hardware store
- Snoezelruimte (or Snoezelen)/ Dozing room
- Mozart Hall
- Activity center
- Physical therapy
- Hair salon
- Outpatient care unit
- Large meeting room
- Small meeting room
- Intergenerational Model
- Knowledge transfer

Of course, no project has unlimited funding, so they were not able to include all of the features they found but they did manage to incorporate majority of these. Although this paper focuses on residential design for independent living, these features are similar to many of the needs of seniors I found through my research as well.

The issues that I found had similarity with what MGH found as well. They listed three of them as the three biggest plagues that kill the elderly:

- Helplessness
- Boredom
- Loneliness

In the South Asian culture, similar to other Asian cultures, there is a great emphasis on interaction between the different generations. The presence of grandparents and elders of the community helps with advice and support when raising a family or just going through life.

The location is perfect for the residential projects as there are two Jamatkhana (Community Centres) at 10-12 minutes' drive. The life of seniors revolves around family, religion and community and the way it is all planned at MGH supports that lifestyle for the seniors. There is

transportation available by the community and there is also public transit at a short distance. There are halls and lounges for daily prayers in the long-term care centre but for bigger events like Eid prayers and other events they are taken to the community centres.

The Exterior

The Thought process that went in the planning

Everything has been planned from the perspective of what the seniors would need and how it can be best provided to them and the people who take care of them.

It starts from the outside, right from the street and the approach to the long-term care facility. Knowing that it would be important to for emergency vehicles have a smooth access and the work of emergency personnel to have as much space as they can give, the width of the lane leading up to the building, the planning of the roundabout, and the design of the entrance were all designed to accommodate those functions. The curb of the roundabout is kept flat at street level so if emergency vehicles need more room they can drive over it easily.

The unusual angles of the building's layout are designed to take maximum advantage of daylight. A less angular design would be less expensive to build but the aim of this project was to utilize as much sunlight for the interiors as possible. The design has incorporated geometric elements of Islamic patterns and the materials used on the façade ground the project on its location in Calgary.



Image 2: Exterior view of the long-term care facility at Generations (Generations, 2023)

In order to facilitate socialization and easy connection between the seniors in the independent living building and the ones in the long-term care, they designed the connecting pathways for wheelchairs and walkers in mind. The sidewalk is kept wider so for wheelchair and pedestrian use, the ramps are designed for all kinds of assisted devices and wheelchairs, and the path from the independent living to the long-term care is covered to protect from the weather.

As some residents of the independent/assisted living facility are still able to drive, they have their own parking lot and the building is a secure building as well. These apartments are like regular apartments where they can cook their own meals according to my guide Karim Kaba. If they don't want to cook, they also have the option to eat at the long-term care, for a small fee.

In the independent living facility there are a total of 40 units. Twenty-three are one-bedroom apartments and they have seventeen two-bedroom apartments. The same number of apartments are planned for the future family living apartments with two- and three-bedroom options.



Image 3: The covered walkway (credit Author)



Image 4: The walkway connects with the street (credit Author)

The entrance of the long-term care facility opens into a massive rotunda which is double height and octagonal in shape. The reception desk with the coat check is across the entrance on the opposite side of the rotunda. The entrances to a bistro, an Early Childhood Development centre (ECD), the main concourse, and a multipurpose room open into the rotunda as in the image below:



Image 5: Ground floor plan (Generations Calgary, 2022)

As we were walking near the ECD area, which was closed at the time of my visit, Karim told me that that when the children are playing outside the residents are able to see them and hear them when they have their windows open. It gives them comfort to hear those sounds of children's activity around them.

For grandparents, one of the greatest joys is to be able to be more involved with the lives of their grandchildren. There is research that shows that both families and grandparents benefit from living close to and interacting with each other on a regular basis (Cartusciello, 2021). There have been many seniors projects in the United States (Butts & Jarrott, 2021) and Europe (CNA Insider, 2018) that combine children's school or daycare facilities with the seniors' facilities.

There are four parks around the facility designed for different purposes. These are the formal gardens, the informal gardens, the Multi Activity Courtyard, and the Memory care park which is a secure enclosure as it was designed for dementia patients.

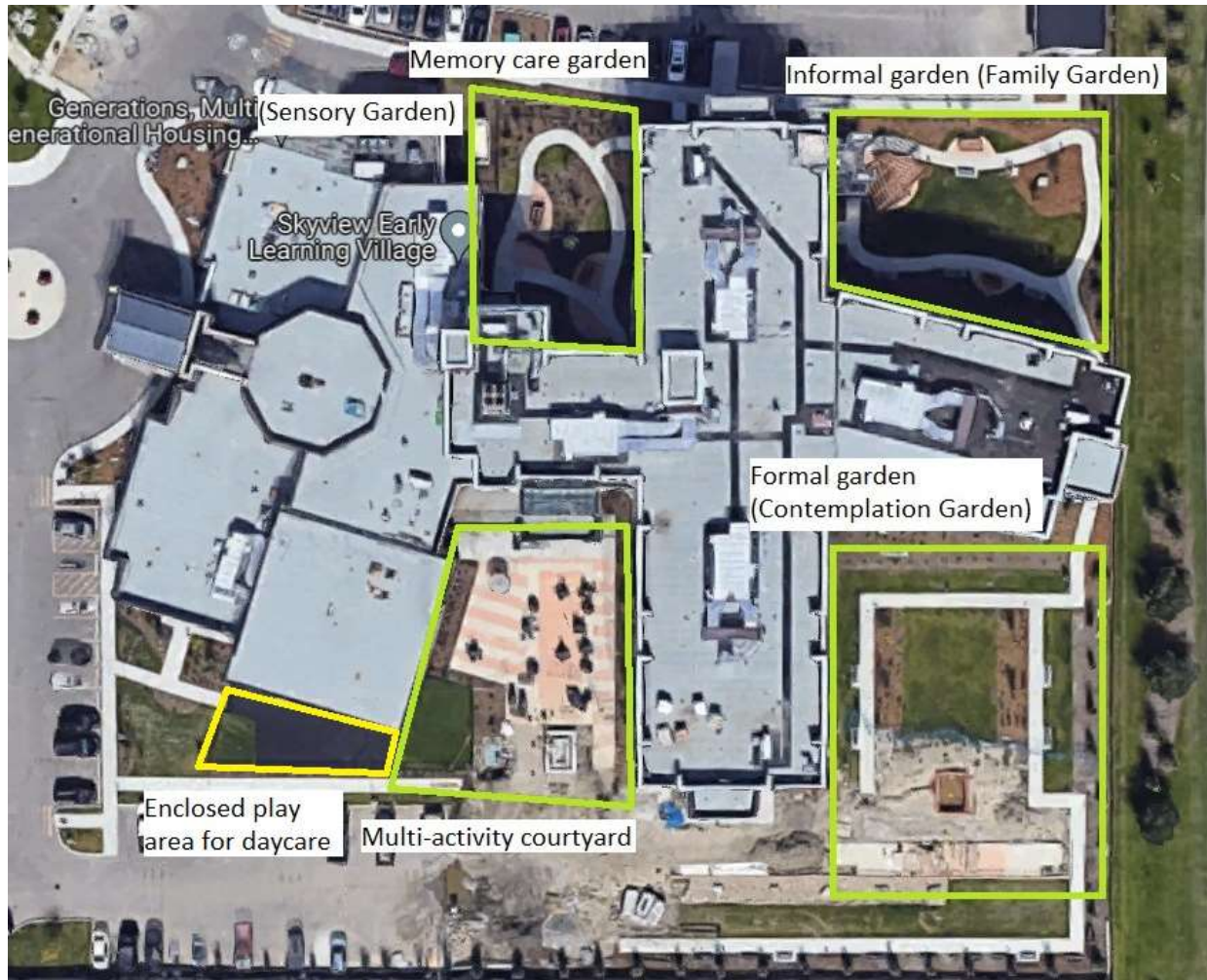


Image 6: Google Image showing the location of the four outdoor areas

The Multi-activity courtyard is where they are set up to host events and other activities. That courtyard and the Contemplation Garden have fountains as water features are part of garden design traditions from the Mughal era. The presence of water features to create soothing and calming environments has been well-documented by researchers and is well-understood in the design industry.

The wayfinding features throughout the exterior areas have been very well incorporated into the design. There are turquoise pillars with signs placed at short distances as seniors need frequent references to them. The colour is distinctive and identifiable from a distance, the placement and size of the text is legible, and the directional arrows are logical and easy to follow.



Image 7



Image 8



Image 9

Images 7-9 of the turquoise wayfinding columns in the exterior areas (by author)

The Multi-activity Courtyard

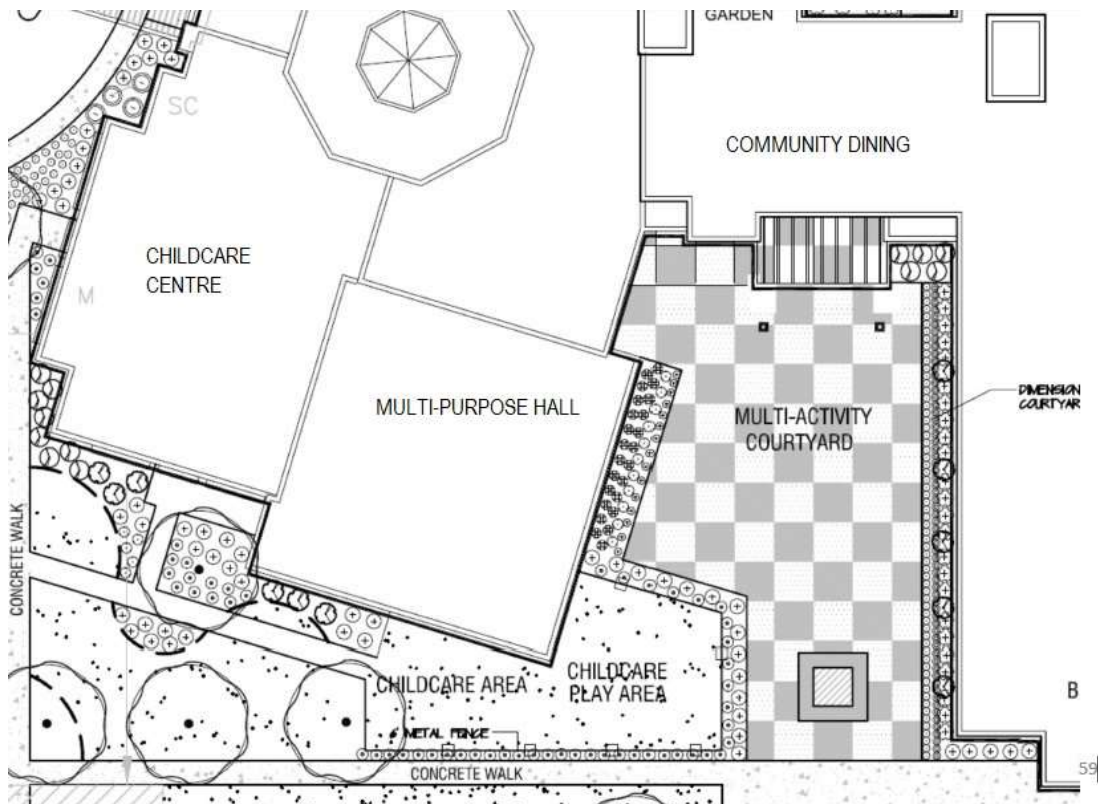


Image 10 Multi-activity Courtyard (Generations Calgary, 2022)

The Multi-activity Courtyard is next to the Multi-Purpose Hall (MPH). The MPH is for many different events and activities which not only the seniors but also their visiting families can engage in together. The capacity of the hall is envisioned for those different activities which require different kinds of seating arrangements. It can accommodate 200+ people with Tables and Chairs, 300+ with Theatre-style seating (chairs only), and 400+ capacity for on the floor seating. Keeping the comfort of people in mind when they are seated on the ground, the room has in-floor heating and the flooring planks have a cushioned backing to absorb any impact. The room is also equipped with projectors, multiple lighting and sound options, and the floor is also designed to be set up for two badminton courts. When visiting grandparents, kids need some kind of activities to stay engaged and this allows an indoor activity area to be set up when their parents are sitting and talking to their grandparents. This way the seniors can have the hustle bustle of the family around them on weekends and other occasions as well.

The events range from religious occasions, parties, birthdays, weddings, book launches, and musical evenings to group exercise classes, daycare events, community events, barbeques, and TED talks. The connected indoor and outdoor spaces give the ability to the spaces to expand during the warmer weather.



Image 11 Multi-Activity Courtyard (credit Author)

The second-floor solarium opens out to this courtyard where the residents can also observe activities going on from above.

The Contemplation Garden

The Contemplation Garden is more of a formal garden placed on the South-East corner of the building. The description on the wayfinding column reads that it is: ‘designed to underscore the interplay of wind, light, sound, and texture. This garden invites you to sit and contemplate quietly, meditate, read or engage in light exercise.’ There are benches around the perimeter with screens behind them to mitigate any noise and according to Karim you are able to hear the birds singing here in the warmer weather.

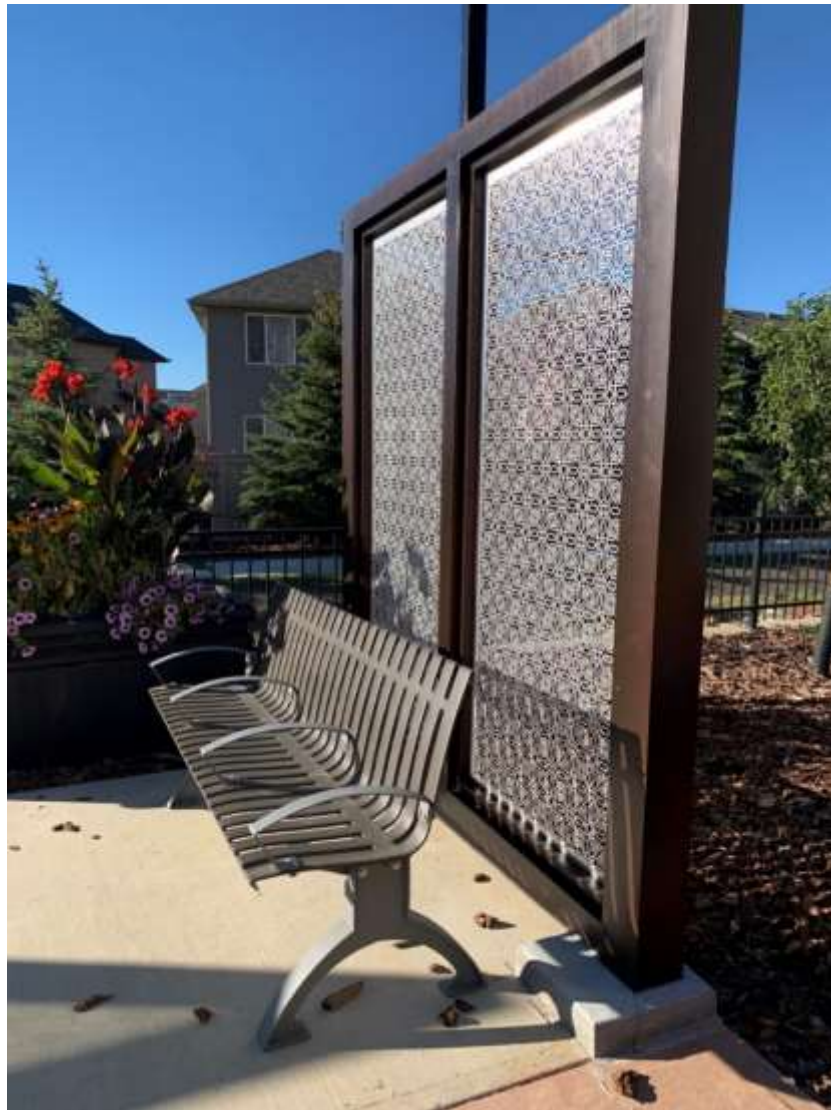


Image 12 Contemplation Garden (credit Author)



Image 13 The design of the seating, screen, and planting creates a quiet calm space (credit Author)



Image 14 Benches at the perimeter of the Contemplation Garden (credit Author)



Image 15 The view of the Contemplation Garden from the seating area. (credit Author)

After research on the current available designs, the seating has been selected to provide support for both hands of the seniors as they sit down and get up. The armrests also prevent people from lying down and falling asleep.

There is a walking path as well if you want to move around rather than just sit. As the trees in the garden mature, they will add to the shade and quiet of the place. Karim mentioned that the tall grasses are very resilient and you can see them survive through the winters.



Image 16 The rabbits around the grounds that keep the landscapers busy (credit Author)

The Family Garden

The Family Garden is placed on the Northeast corner of the centre. The idea behind the family garden was to promote gardening activities with the family. They have provided double tiered planters so that the seniors in wheelchairs can also access them. The residents can also engage in planting and gardening activities with their therapist as well. They look forward to their work and the growing herbs, vegetables, and flowers and it gives them an incentive to get outdoors and engage in physical activities. When I asked if the rabbits steal the vegetables Karim assured me that they don't usually jump up on the planters.

The description on the wayfinding column reads: 'From Urban gardening to picnics, the Family Garden program supports an abundance of activities and experiences to share with family and friends. The Family Garden is designed to enhance the quality of life for each resident by bringing them close to nature and providing a space for the community to engage with one another.'

Nature is a very grounding influence as I have also seen with my parents who struggled to form an attachment to a new place. I found the integration of outdoor spaces very thoughtful and

supportive of various cognitive functions which rely on the availability of spaces for outdoor activities.

Stronger and livelier becomes my conviction that nature is the great antecedent to all of our satisfactions. This has been so for many thousands of years.

Richard Neutra (Ruggles, 2017)



Image 17 The Family Garden (credit Author)



Image 18 The double tiered planter (credit Author)

As we were on our way back to see the fourth garden, we passed by an entrance door which was connected to a path that had a ramp out to the parking area. When I asked where it leads Karim explained that the original intent of this door was to provide a path for the end-of-life transit of

the resident who has passed away. They had thought that with the Early Childhood Development Centre (ECD), the bistro, the Multi Purpose Hall, and the dining rooms on the ground floor this side door will be able to provide a discreet pathway to the hearse.



Image 19 (credit Author)



Image 20 (credit Author)

Images 19-20 Originally planned End of Life exit door and ramp leading to the parking area.

The Sensory Garden

We reached the Sensory Garden that was planned for the residents who have dementia, which occupies the Northwest space between the building wings. Although they do not have any residents from dementia, they are equipped to manage them if needed. The garden is all fenced off so they can't wander outside. The park has a continuous, winding path that does not end and the walker can keep going around. I saw some of the tiered planters in that garden as well and Karim told me that the idea was that the people with dementia can engage in planting flowers, herbs and vegetables as well. So it doesn't make them feel as if they are stuck in a purposeless space and feel that they have their own outdoor space as well. There are future plans

to add more shrubs and grasses to camouflage the fence in natural barriers making it feel less like a confined space.



Image 21 View of The Sensory Garden from the parking lot (credit Author)



Image 22 View of the Sensory Garden from the second floor (credit Author)

The Independent Living/ Assisted Living facility.

We made our way back to the front of the building and went over to the Independent living facility to take a closer look at the exterior. We didn't go inside as they are private residences. Having never seen the garbage disposal the way they had there, I asked Karim about it and he explained that they wanted the garbage disposal to be easy for the seniors to manage.

They looked up designs which would be more ergonomically suitable at a lower height and for the reduced strength of the seniors. They installed these containers which we see only a quarter

of it above ground and the rest of it is under the ground. They had three separate ones for garbage, recycling and organics. I must admit, I had never thought of making this aspect of the lives of seniors easier. He also told me that because it requires a different kind of garbage collection vehicle for these, they pay an extra premium for the private service, and because it is not used in mainstream design that makes it is an expensive feature to put in.

The balconies of the building are of a good size and I could see some chairs out there.



Image 23 The parking lot and exterior of the Independent/ Assisted living apartments. (credit Author)



Image 23 Garbage



Image 24 Recycling



Image 25 Compost

Images 23-25 The garbage disposal system for the Independent living apartments (credit Author)

Throughout the exterior the grades of the sidewalk and the grounds were done in a way that it would be easier for seniors to walk and for the staff to push wheelchairs comfortably as well. The ramps have been kept to one and a half meter so they are wider and easier for people with walkers as well.

The Interior

The Rotunda, a central connecting space

When you go through the large glass double door, you enter a spacious vestibule. This large vestibule was designed to provide enough space to seniors as they wait for their ride while also giving space to the usual traffic flow. It proved to be very useful when the pandemic hit and the long-term care centre implemented social distancing and had to have safety equipment like masks and sanitizers in there as well.

As you enter the building you come into a large central rotunda mentioned earlier as well, it is 46 feet across the octagonal shape and has a height of 21 feet. This rotunda is the central connection to all the main areas of the building, and the reception has an easy view of all of them. Karim had earlier explained to me that the intent was to create a village square where the seniors can watch people coming and going, children arriving to the daycare, be involved with people meeting for coffee and snacks, getting their hair done, visiting the small library in the bistro area, the activities happening in and around the Multi-Purpose Hall (MPH). An enlarged floor plan of the area (Image 28) will show how that has been incorporated in the design.



Image 26 Main Entrance (credit Author)



Image 27 The main rotunda as you enter with the reception desk visible on the left, the door to the concourse in the centre, and the doorway to the pre-function area of the Multi-Purpose Hall on the right. (Generations, 2023)

The Geometric patterns

There are machine carved, hand sanded wooden panels with geometric patterns on the walls. I asked Karim why they didn't use decals or cheaper options rather than wood panels and he explained that the feel of the real wood is different from plastic or decals and they wanted to make sure they used local materials and natural products as it is more sustainable. They wanted to limit introducing foreign materials. The same geometric pattern is carried throughout the facility. Karim explained that they place great importance on the geometric shapes. He said it can be seen in the artwork and the calligraphy as well as it is repeatable and never ending, just like life. The thought is that life is never ending and it just keeps going on. I was curious as to how they landed on the colours and textures for the facility and he said that originally the designers had more red, orange, and yellow hues but MGH felt that for the community it would be better if they had colours like blues, greens, rusts and brown to keep it to a palette as close to nature as possible. Also, that the cooler colours related better to the Canadian landscape. They have integrated artwork not only from local artists but also from Pakistan, India, Afghanistan, and other parts of the world as well.

The Lighting

I noted that the lighting also seemed very well designed. It was bright enough for seniors and seemed to be the right colour temperature as well. According to Karim, the lighting was selected to be 6000 Kelvin. They had spent a lot of time on the lighting plan just to make sure that it was suitable for the residents. It is designed to reduce at night and the number of lights that are on goes down and they are motion activated in all areas.

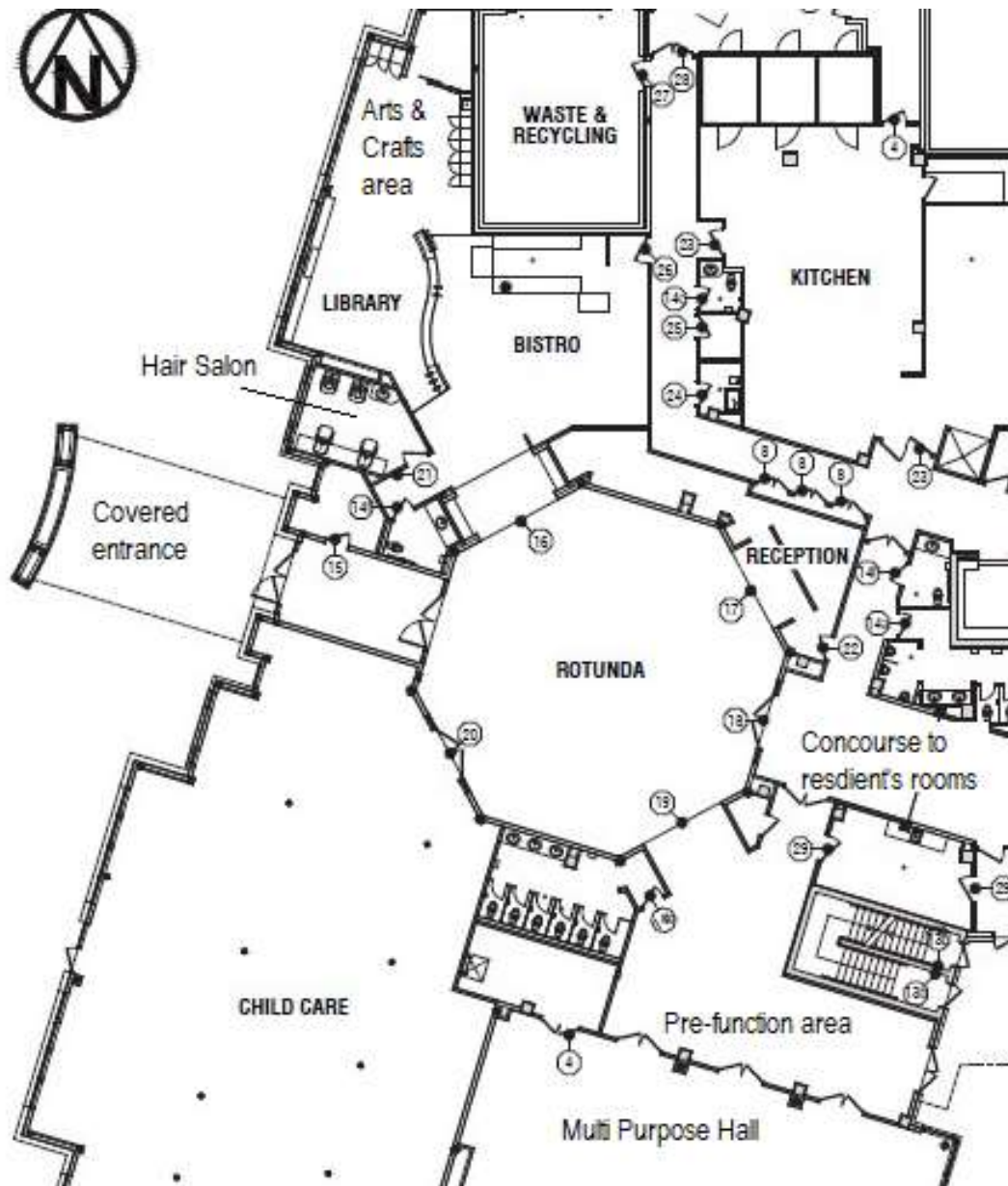


Image 28 Floor plan showing the connected areas to the main central Rotunda (Generations Calgary, 2022)

Wayfinding

One other important aspect I saw was the incorporation of clear wayfinding in the interiors similar to the exterior areas. There are dark coloured columns that indicate the names and direction of the different areas. A noteworthy feature is that they have incorporated the use of Muslim names and culturally familiar terms on the signage of the ground floor areas. But another important feature is that the names of the residential wings were kept as North South and East to enable the emergency responders to find their way around quickly and easily.

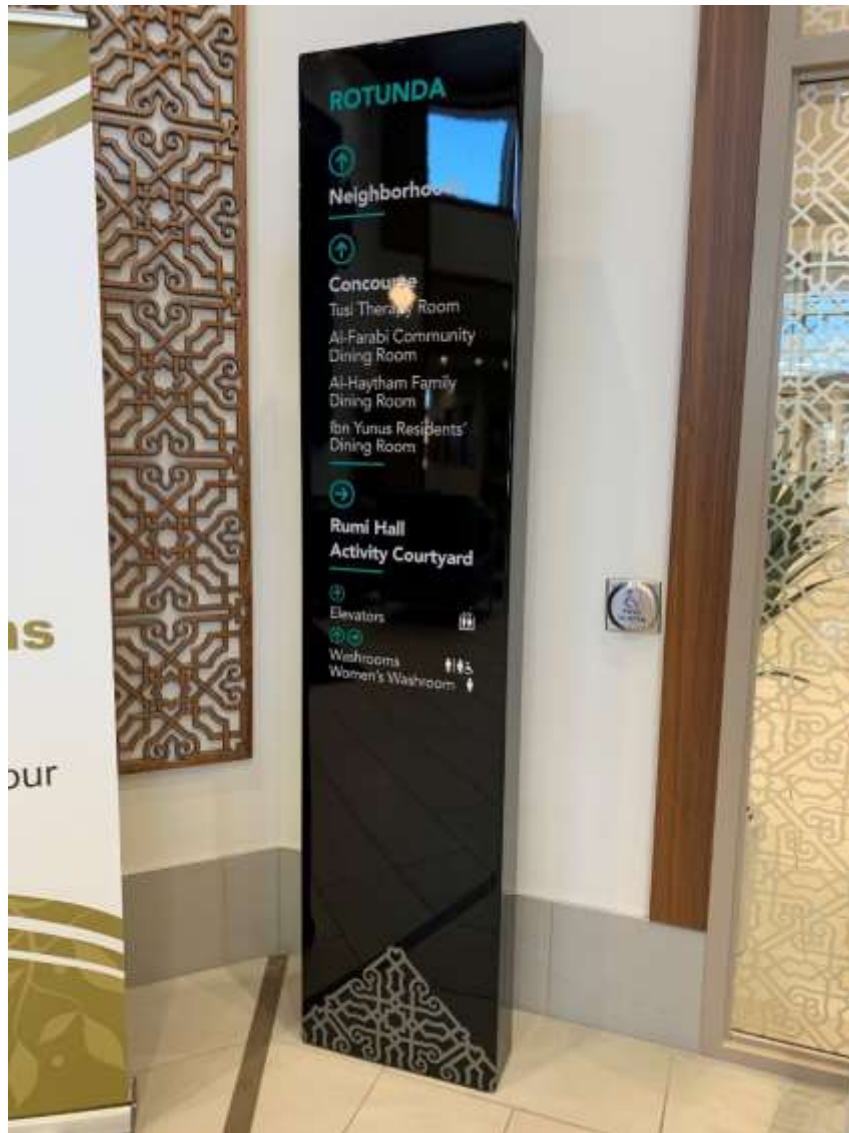


Image 29 (A) A wayfinding signage column in the central Rotunda (credit Author)



Image 29 (B)

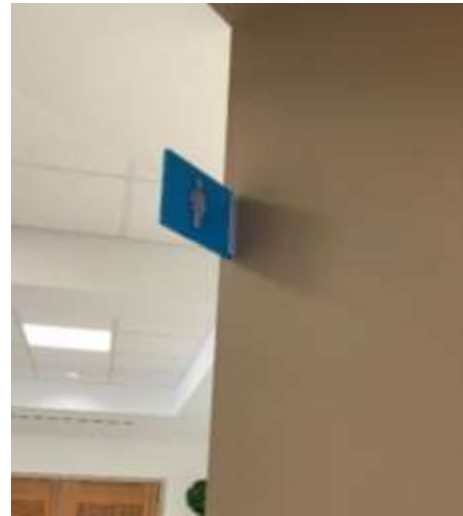


Image 29 (C)



Image 29 (D)



Image 29 (E)

Images 29 B-E show the consistency of the turquoise colour in the wall signage (credit author)

The Bistro – or the Ibn Rushd Chai Place



Image 30 Floor plan of the Bistro area with the hair salon, library, craft area, and therapist's office shown. (Generations Calgary, 2022)

The bistro area is a multitude of activities where people can just hang out and socialize. The bistro, or the Ibn Rushd chai place, is meant to be an area where when families come to visit mum and dad they can sit together and have lunch here and the food is the same as what is served to the residents. They have very reasonable prices for the food. There is a hair salon as well and you can wait in any of the seating areas outside for your turn. Even though this floor has

washrooms for men and women, the MGH team was thinking of how a senior with colour in their hair will walk all the way to the main washrooms. Having to walk around with hair colour can get quite uncomfortable and can make people very self-conscious especially if they have to cross a very public area, like the rotunda is, to get to the washrooms and then back again. So they asked the design team to place a small washroom close to the salon. It is quite an experience seeing a place that has been designed with such care and sensitivity to the needs of the seniors.

The library and craft area are there as well. There is an aquarium in the library and Karim was telling me how they discovered through their research that an aquarium can help to soothe and calm down the residents quite a bit. He said the residents actually keep track of the fish and they sometimes even name them. The idea of the library was to also provide a lounge like setting where a therapist or an advisor can visit them in small groups and talk with them in a living room setting. The residents can discuss issues related to personal health or religion in a cheerful, relaxed environment. There is an office for a therapist in the back.

Art and craft making activities have proven to be very helpful in maintaining the cognitive health of seniors. It is not only therapeutic but also helps support socialization. The residents also grow potted plants and this is another area where they can have some plants and maintain them.



Image 31 Entering the bistro area (credit author)



Image 32 The bistro with the side door connecting to the kitchen area (credit author)



Image 33 Banquette wall with metal jali work (credit author)



Image 34 View from the Craft area across the library towards the bistro entrance. The aquarium can be seen on the end wall (Generations, 2023)



Image 35 The Craft area and entrance to the therapist's office (credit Author)



Image 36 Sink and storage area for the arts and crafts area (credit Author)

On-site Early Childhood Development Centre (ECD)

This ECD provides the residents with the opportunity to see and hear children. There has been evidence and research for a long time that ‘intergenerational shared sites increase the health and well-being of both young and older participants, reduce social isolation, and create cost efficiencies.’ (Butts & Jarrott, 2021). The problem with how the living and care of the very young and the elderly is set up in North America is the segregation of these populations (Jones, 2017). For people in many Eastern cultures the multigenerational living is a common way of life and seniors don’t experience the isolation and loneliness which the elderly in North America have to go through. Locating a daycare onsite can create the connection with life which the elderly miss after moving to care facilities (Jansen, 2016).

There is a large glass doorway in the rotunda that leads to the Early Childcare Development Centre (ECD) and the residents can see the children getting dropped off and picked up in that space as well.



Image 37 View of the main entrance from the second floor. The entrance to the daycare is on the left and the doorway to the bistro is on the right. (Generations, 2023)



Image 38



Image 39



Image 40

Images 38-40 Images of the daycare (ECD) (Generations, 2023)

The Multi Purpose Hall

The reception has been designed to be spacious enough to contain the guests for events being held in the Multi Purpose Hall (MPH). The hall is 4000 square feet and can have up to 400 people as permitted by the building code. The capacity of the hall is adjusted according to the type of event. If there is a need for tables and chairs then the hall can hold 200 people. If there is a lecture style event or a presentation and theatre style seating is needed then it can hold 300 people, and if the event is one where people will sit on the floor then the capacity is for 400 people. As mentioned earlier, the flooring material and under-floor heating have been designed to provide maximum comfort for when people sit on the floor.

Upon arrival people can check in their coats and jackets, and then move on the pre-function area for registration before they go into the MPH (Images 27 and 28). This flow not only keeps the traffic in check so the seniors can move at their own pace, it also keeps the noise levels down when crowds are distributed over the spaces. Then the pre-function area also connects to the outdoor hard-surface area which is the Multi Activity Courtyard, enabling the outdoor and indoor events to work together. The MPH has large glass windows so there is also visual connection with the outdoor areas and the activities happening there. There are two sets of washrooms for men and women. The washrooms, the pre-function area, and the MPH are designed to be contained within an emergency barrier which can separate it from the concourse leading to the residents' rooms so that if needed the front area where the events area happening can cordoned off.

The community holds all their religious and social events in the MPH like parties, weddings, musical evenings, some sport events, community events, meetings, etc. They also plan to hold TED Talks there as well. There are also other events planned once they open up again to larger events as it had all been closed down during the pandemic.



Image 41 The Multi-Purpose Hall MPH (credit Author)



Image 42 MPH (credit Author)

The Residents' Areas

Ground Floor Concourse

As we made our way back to the Rotunda, we went through the double doors to the concourse leading to residents' areas. This concourse is a hundred feet long and fifteen feet wide. The idea was to create a place where they could also display art. As the Aga Khan museum is in Toronto and not easily accessible to the residents here at Calgary, this concourse was designed to be a pop-up gallery as well when the museum goes travelling. The walls are designed to mount artwork, there are tracks in the ceiling and they can install wiring and hanging cables. There is seating placed for the seniors to be able to sit down and view the art comfortably. I also noted the handrails along the walls to provide support when needed.

This concourse gives access to the Exercise room (The Tulsi therapy room), the Al-Haytham Family Dining room, the Al-Farabi dining room (Community dining room), the elevators, and the entrance to the residents' wing on that floor. I asked Karim about the darker lines across the floor and he told me that the design intent was to visually break up the long length of the corridor which would otherwise make the seniors feel that it is a very long way to walk.

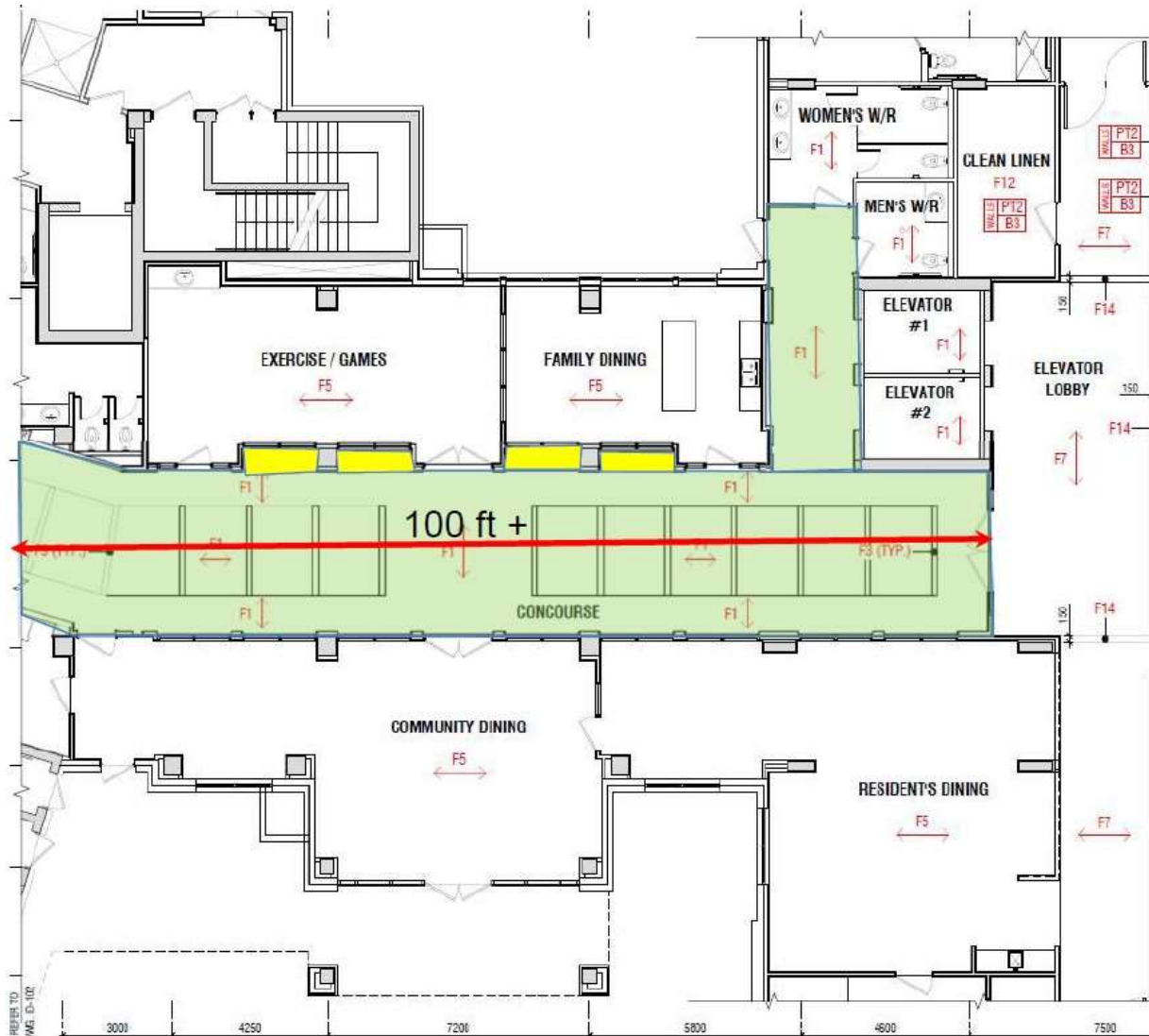


Image 43 A floor plan showing the concourse with the other amenities which are accessed through it. (Generations Calgary, 2022)



Image 44 The Concourse. The long length of the floor is visually broken up by the darker strips. The floor pattern is different outside the exercise room and the Community dining room. The door to the residents' rooms can be seen at the end of this hallway. (credit Author)



Image 45



Image 46

Images 45-46 Artwork hanging in the concourse (credit Author)



Image 47 Benches outside the Tulsi Therapy room for residents to take a break or to view any artwork on the walls. (credit Author)

The Exercise Room (The Tulsi Therapy Room)

The exercise/ therapy room is equipped with all the machines the seniors can comfortably use with or without a therapist. The residents of the Independent Living facility can also make use of the exercise room if needed, but they would need a therapist or someone to help them manage the equipment. So they can't just walk in; they need to book a time to have assistance available.



Image 48 The Exercise Room. The flooring is selected to absorb any falls, to reduce tripping and risk of injury to the seniors. (credit Author)



Image 49 The Community dining room, or the Al-Farabi Dining Room, this opens up on the other side to the Multi Activity courtyard connecting it with the Multi-Purpose Room. (credit Author)



Image 50 Another view of the Community dining room which seats 32 people (credit Generations)

The Al-Haytham Family Dining Room

This is another one of the very valuable features of this facility. This family dining room comes with a fully equipped kitchen and a dining space for 6-8 people. It is more than a place where a family can cook together, it is a place to facilitate the knowledge transfer from the older generation to the younger ones about cooking techniques, food choices, and the socialization that revolves around food at special occasions. Grandparents can teach their children and grandchildren how to make the best samosas and the perfect basmati rice. The cooking range is in the centre of the island with bar stools around it so their grandchildren can sit around and watch the process. During holidays like Christmas and Eid the kids can come in and bake cookies with their grandparents. Special occasions like birthdays are also celebrated here with the family.

Care was taken to install a hood above the stove which is powerful enough to remove all smells from strong South Asian spices. There are large windows with the clerestory windows that had a beautiful metal jali on them to reduce the glare of the sunlight. The geometric pattern on the CNC cut aluminum jali is also seen on the film on all the interior glass. The pattern has been consistently used throughout the facility, and it reverses to become more opaque to provide more privacy to the adjoining exercise room.



Image 51 A family having a meal together. The window film can be seen in the background. On the right we can see it is reversed to create an opaquer pattern to provide a bit more privacy for the adjoining exercise room. (Generations, 2023)



Image 52 The Family dining room (credit Author)



Image 53 The large windows overlooking the Sensory garden flood the room with daylight. The metal jali work shades the clerestory windows. (credit Author)



Image 54 The kitchen is fully equipped with all appliances and tools needed. (credit Author)

The Residents' area

Close to the family dining area is the elevator block which has the residents' area behind it. We went through the glass double doors into the residents' area and came to the nursing station. I saw how it was located to have a view of the three wings. There are three wings of the residents' suites, North, South, and East on all the floors. Each wing has an end lounge for the residents and central lounges on the floor for people of the different wings to be able to meet. Like the concept of a street, the neighbours and close friends have their own place to get together and then all the three 'neighbourhoods' can get together in the larger central lounges on each floor. Many different celebrations are held. There are people of different cultural and religious backgrounds, and they all celebrate their major events and families get together for Eid, Norouz, Christmas, and other celebrations as well. They have food from all areas of South Asia, mainly Indian, then they also have non-South Asian options as well.

The service rooms were close to the nursing station like the rooms for clean and soiled linen, the residents' laundry, the spa, a meeting room, and the residents' lounge. The room for the soiled linen had an area for washing wheelchairs and other equipment if it gets soiled.

The hallways are eight feet wide and they deepen to sixteen feet where the residents' doorways are which are set back to keep the passages clear of obstructions. The main aim was to keep the residential spaces feeling bright and open as the hallways provide the interior walking path as well to keep residents active. There is artwork depicting themes from nature and Islamic geometric patterns all along the corridors. There were no medical carts or equipment left in the hallways and the design did not feel like a medicalized approach to caregiving as opposed to how traditional designs create the feeling of being in a hospital.

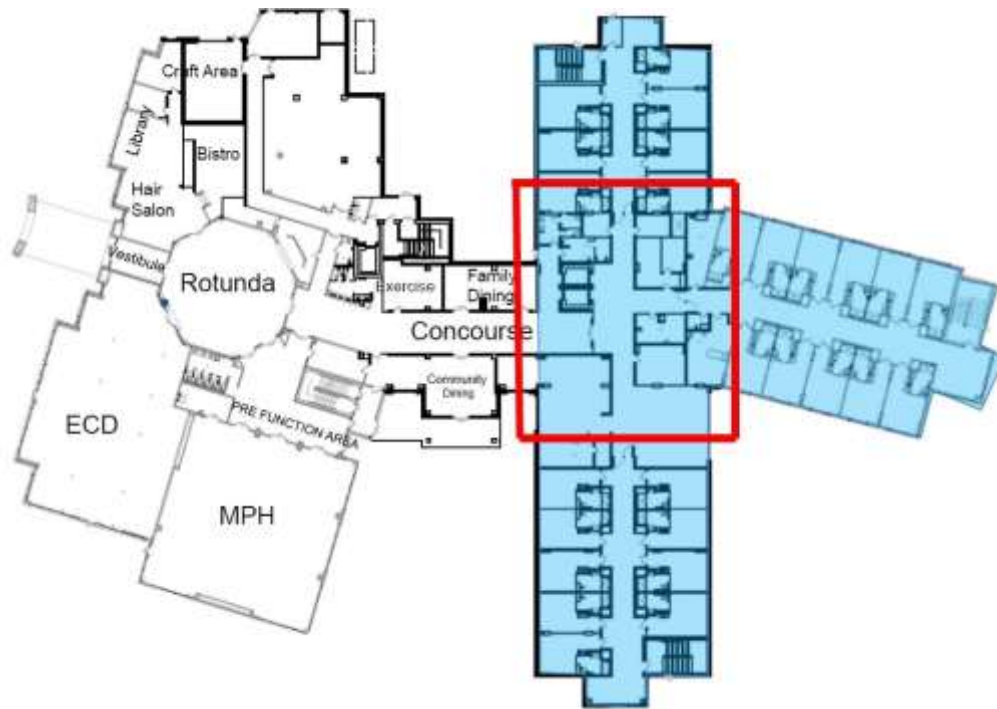


Image 55 The residents' area in blue, with the elevator lobby & nursing station area in the red square (Generations Calgary, 2022)

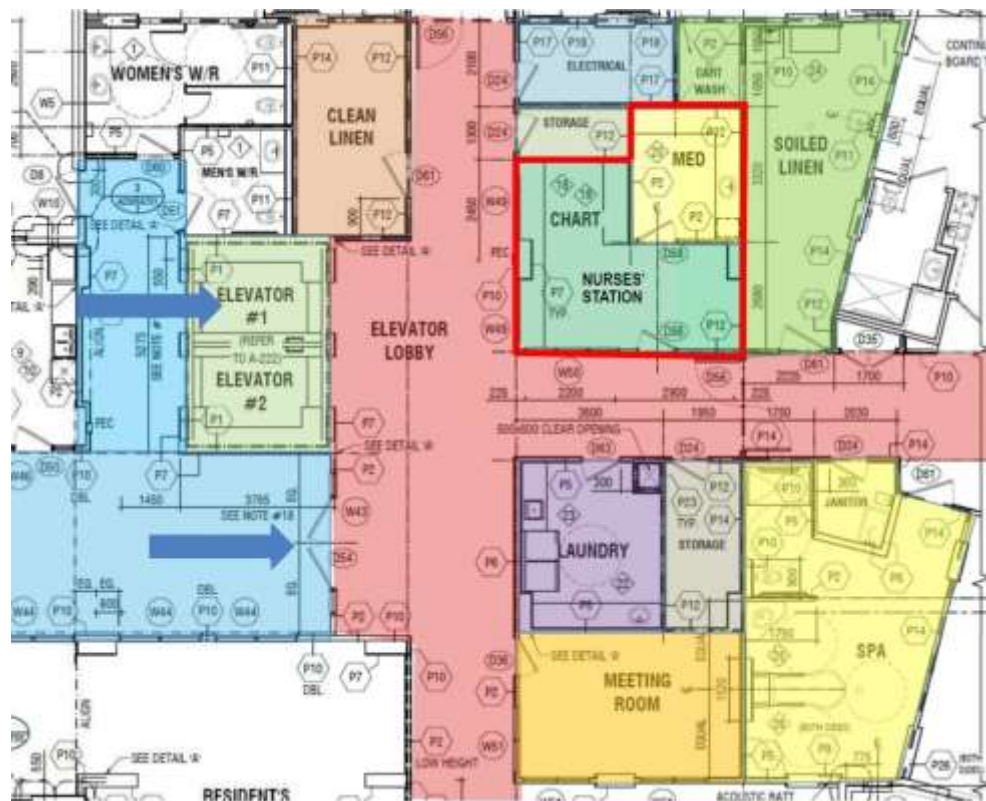


Image 56 The enlarged view of the Elevator Lobby on the main floor (ground floor) with the areas around. (Generations Calgary, 2022)

Next to the meeting room was the central lounge for all the residents of that floor where they can watch movies and hold prayers as well. They have provided a large screen TV and comfortable chairs on gliders for the residents. Karim explained that they found through their research that the rocking motion of chairs tends to confuse people with Alzheimer's or dementia and they get dizzy, but if they can glide back and forth the motion calms them down.

The TV can be used for either entertainment or for religious programmes. Some prayers are live on the internet and the residents can participate in them from this lounge if they are unable to travel to the centres. I have seen elderly people in mosques and in their home do their daily prayers in chairs or sofas as they are unable to sit on the floor.

When I was visiting there was a Punjabi film playing on the TV. Karim told me that there are specific days for movies and programmes of different languages and cultures.



Image 57 The central lounge on the main floor (Generations, 2023)

Each wing has an end lounge to provide a place for the residents of that 'neighbourhood' with a place where they can come out in the morning in their pajamas and have a cup of tea while enjoying the views and some company of their close neighbours.



*Image 58 The view outside an end lounge
(credit Author)*



*Image 59 The sun-filled end lounge (credit
Author)*

Images 58-59 showing the end lounge on the main floor.

The Spa

The residents' rooms have roll-in showers but they are also offered baths once a week in the spa. There is a spa on each floor that is well equipped for helping the residents with their bath, and also has many features to make the work of the caregivers easier as well to prevent injury or strain. There is a lift that helps lift the resident in the bathtub. The bathtub itself is height adjustable which can be raised or lowered as the caregiver needs. On the ceiling above the bathtub there is a beautiful backlit image of the sky, there is a TV that can play music or the fireplace channel so they can relax and enjoy their bath. The spa is also equipped with a weighing machine, a toilet, and a roll-in shower.



Image 60 The spa (credit Author)

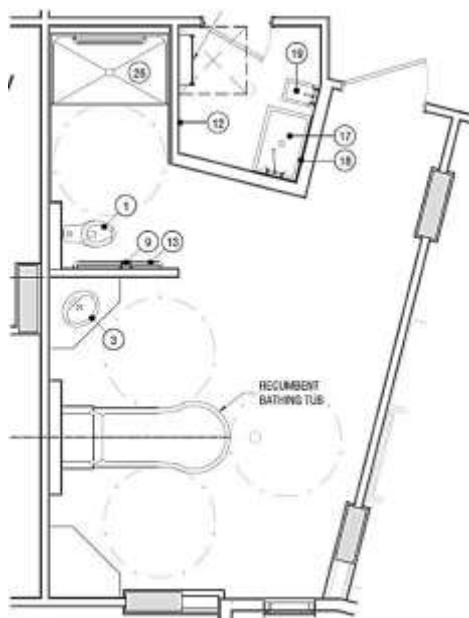


Image 61 Floor plan of the spa (Generations Calgary, 2022)

Image 60-61 A typical spa in the building

The Second Floor

As we went up the elevator to the second floor, it opened up to the nursing station of the floor. I noticed the subtle change in the colours of the walls from the ground floor. The nursing station is, again, in a location where they have the view of all three wings of the residents' halls. The volunteers' room, a movie theatre, and administrative offices are also located on the second floor. The second floor was originally designed to be for residents with dementia so it is a secure floor. Because the demand was low for dementia units it was added to the supported living units. The seniors are of different abilities, some are able to do most of their daily routines themselves and others may need more help like remembering medications and changing clothes.

The same amenities as the ground floor are here, except that the residents' central lounge does not have a carpet. As this floor was originally designed for people who have dementia, the floor is kept carpet-free to enable easy cleaning.

There is a solarium on the second floor as they wanted to create an outdoor space for people with dementia. To prevent them from feeling that they were in a confined place, they wanted to give

them a feeling of openness as well. In order to achieve that, the solarium has high glass barriers so they can safely enjoy the view from above. They can hear the fountain and sounds of the children playing and view any activity going on in the Multi Activity courtyard. Residents are also able to grow plants in the solarium and there is also a glass-enclosed area for them to enjoy the sunlight in the winter.



Image 62 Floor plan of the second floor (Generations Calgary, 2022)



Image 63 View of the East Neighborhood on the 2nd floor from the elevator lobby with the nursing station visible on the left. (credit Author)



Image 64 View of the South Neighborhood on the 2nd floor from the elevator lobby. (credit Author)



Image 65 Central Lounge (credit Author)



Image 66 Central Lounge (credit Author)



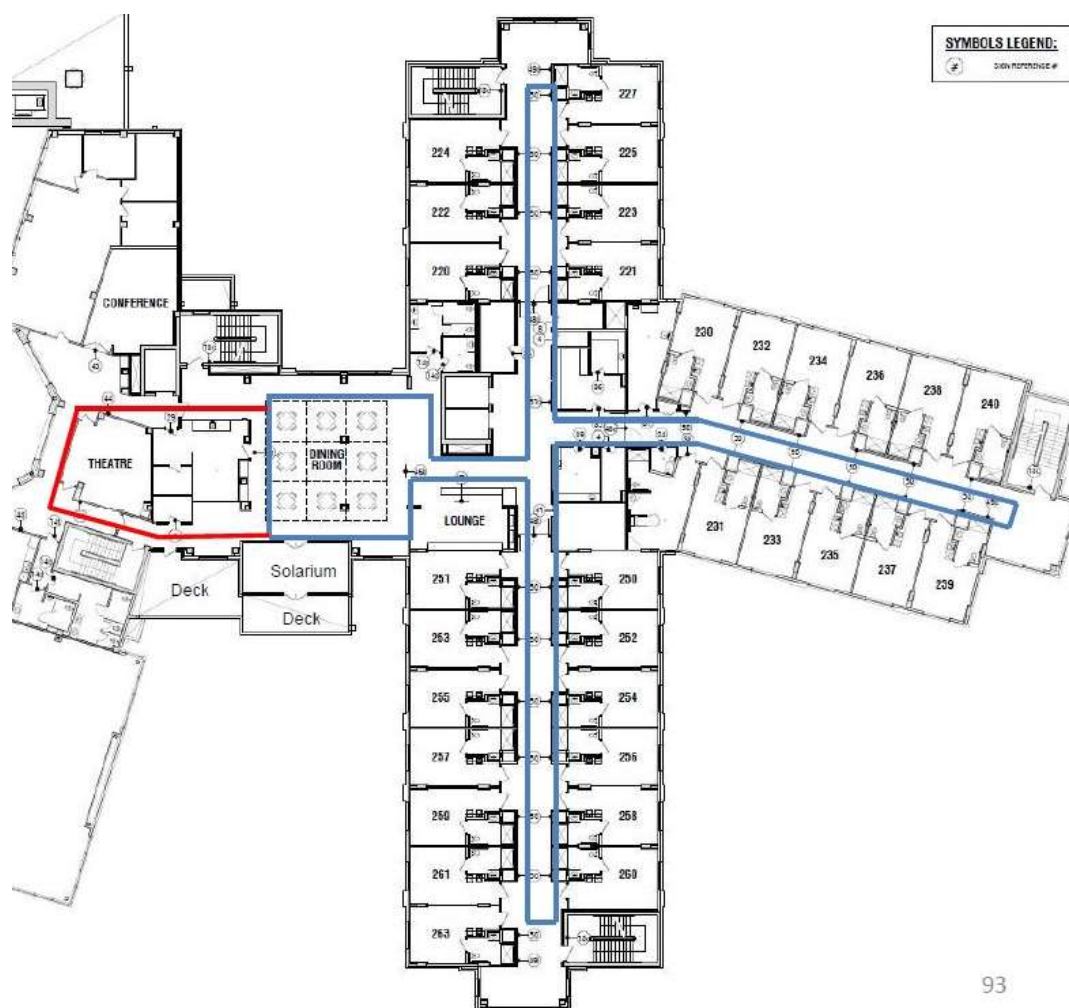
Image 67 (credit Author)



Image 68 (credit Author)

Images 60-61 An end lounge on the second floor (credit Author)

Another interesting feature of the second floor is that it is designed to allow the residents to walk around without being able to leave. One of the problems that people with dementia face is the need to wander, and it is more humane and respectful to design a space that allows for that wandering rather than forcibly locking them up. They can walk around unsupervised on the second-floor area and then there is a small area where they need to be supervised. In the image below, the area where they can walk unsupervised is traced in a blue line and the area where they need to be supervised is marked with a red line. This is what my parents were talking about when they said that there isn't a suitable indoor walking area for winter. Here the seniors can walk comfortably and safely all year round.



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Image 69 The second-floor plan showing the unsupervised walking path in blue line and the supervised area in the red line. The floor was initially meant for dementia patients. (Generations Calgary, 2022)



Image 70 Lounge seating with plants in the Solarium (credit Author)



Image 71 The open deck and glass barrier at the solarium (credit Author)

Images 70-71 The Solarium and open deck with glass barriers on the second floor

The Dining room

The residents' dining room is placed on the west side of the elevators (Image 69) and is a great place not only to eat but also to socialize and play cards or board games. The furniture had been selected with great care for all stages of the seniors' lives. The dining chairs all have a wheel under the front legs so that it is easy for the residents to pull up their chairs at the table or for a caregiver to push the chair under the table when someone is sitting in it. The tables have been selected to allow for wheelchairs to easily go underneath them. There is another interesting feature of some of the tables: they have a piece along the edge that can be raised up to a higher eating surface so that if someone is unable to eat over a regular height table the higher height can let them eat more easily or for a caregiver to feed them easily.

On every floor around the dining area, at least one wall is painted in a green colour. As seniors age their appetite tends to reduce, so MGH found through their research that painting a green colour in the dining areas can help stimulate the appetite.

Also, as shown in Image 69, the walking path goes all around the dining areas from the second floor upwards.



Image 72 A wall near the dining area that is painted green (credit Author)



Image 73 A raised side of the table which makes it easier for seniors to eat (credit Author)



Image 74 Wheelchairs can easily pull under the dining tables and the green wall can be seen in the background. (Generations, 2023)

The Residents' Rooms

The residents' suites are designed mainly for a single person as many of their residents have lost their spouses/partners. They have a few larger suites just in case they need those for couples. The standard furniture they come equipped with is a recliner, a bed, a wardrobe, a dresser, a night table/storage cabinet, a TV and a notice board. There is a small kitchenette in each room on the main floor, and every room has its own full bathroom. There is a lift track in certain rooms above the bed and in the washrooms to help the staff lift people off the bed and wheelchair if needed. The bed can be raised and lowered to any height needed by the staff or the resident. I know from experience that as my parents have grown older their bodies have shrunk and the bed height which is considered a normal height in North America is high for my mom who now stands at 4'-10" (four feet and ten inches). With her declining health and dizziness issues, getting out of

bed can become a struggle. The beds are fully adjustable for different positions as well, it can go from a recliner to a sitting position too.

In order to avoid up-mention concerns and to create a more egalitarian environment, MGH decided to provide all residents with the same furniture. The residents are allowed to bring one piece of furniture with them if they have something like a favourite chair. The rooms have been furnished with furniture in two varieties of colour, a dark scheme and a light scheme. It is based on the availability of the rooms which one they get allocated at the time of application.

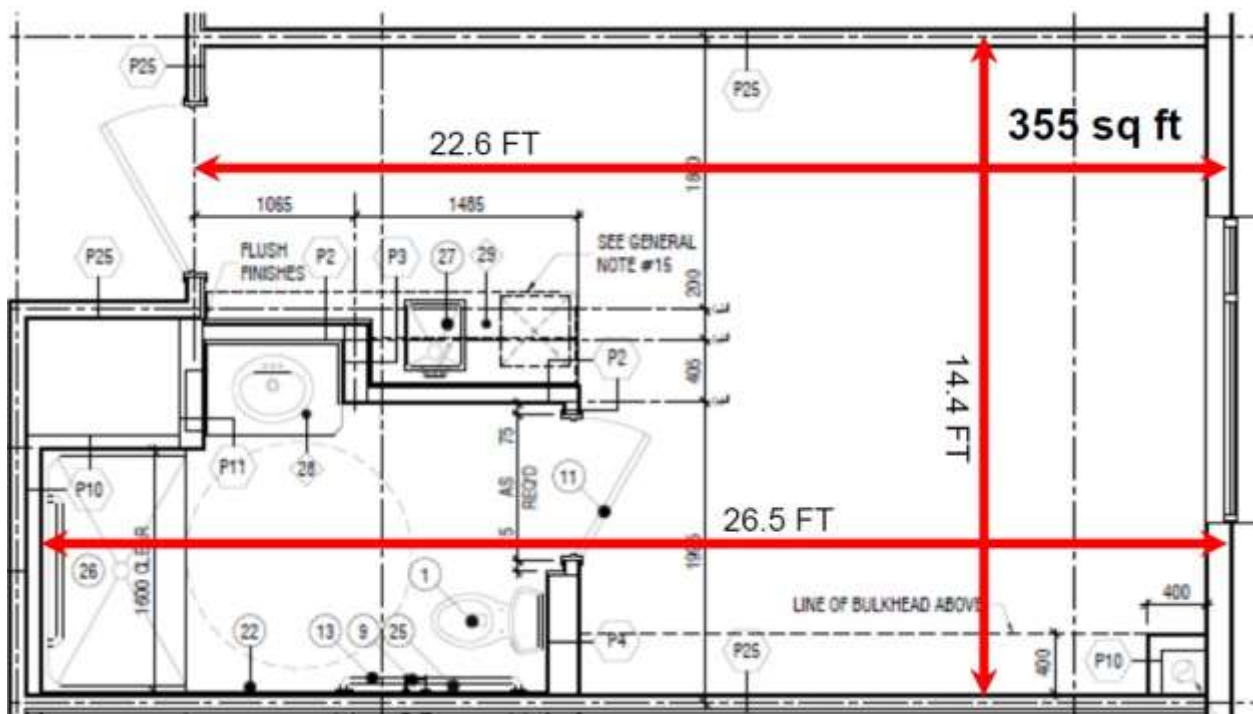


Image 75 Floor plan of a typical suite (Generations Calgary, 2022)



Image 76 A resident's room (Generations, 2023)



Image 77 The typical dresser and wardrobe (credit Author)



Image 78 A typical washroom (Generations, 2023)



Image 79 Low height



Image 80 Reclining position



Image 81 Sitting position

Images 79-81 Adjustability of the bed shown in different settings (credit Author)

Discussion

Many Asian cultures have the values of filial piety and look after their elderly. In Muslim cultures as well we are instructed to 'look after your parents as they looked after you in infancy'. Therefore, both culture and religion require that we find the best possible care for our elders, whether they stay with their children or in a separate residential facility. Grandchildren are the greatest joy for seniors and their first preference would always be to live with their families, but if it is not possible then the best arrangements would be to have them as close by as possible.

Funding for seniors' residences is a major concern. One of the reasons MGH have been able to go far beyond the design of other seniors' projects is because it is a non-profit community project and not a commercial one. This building for 120 residents is run not only by the 120 staff but also has the support of 200 volunteers. Volunteers are such a large part of running the centre that without them, according to Karim, they would have trouble running the place.

Chapter 3B: Interviews with the Focus Group

The first meeting was an orientation chat and I showed them a presentation to help the participants understand the information I was looking for. I started by telling them about the challenges I saw my parents face and what I hoped to gain from the time with them. When the meeting started, I wanted them to have the opportunity of unstructured, free expression. So, I asked an open-ended question:

Me: How has been your experience living in Canada and how have you coped with the difficulties you've faced as seniors?

SP responded in Urdu:

SP: As seniors, no doubt the challenges are what you have mentioned, because when we are young we can drive our car ourselves. But then there are sometimes issues with eyesight and other health problems that we can't drive by ourselves anymore, then we have to depend on others. And then we get knocked around in public transit (buson mein dhakkay khanay partay hain). When we get on the bus the driver doesn't see if the person is a senior or anyone else, they just start driving. He doesn't even see that this senior will reach a seat stumbling around somehow, but sometimes I get hurt quite a bit (kisi kisi waqat bohat lag jati hai). Sometimes I get hurt on my leg and sometimes on my arm, so these people don't consider these things.

The second thing is that as we live in Thorncliffe, it is a very congested area, there is transit and it does run on the inside streets, but sometimes seniors get tired. If they can find one stop from the other they consider it a blessing. Now what would we pay to go from one stop to a second one, I have spoken to the City people when they do surveys and when they do focus groups we do raise this issue. There are women with strollers, sometimes it starts snowing all of a sudden, and there can also be such winds that can blow you from one place to another. Then for that we pay \$3 or \$4 for a ticket just to go from one stop to the other? So some consideration for that is needed, especially for seniors. So these are the problems, the other problem is that there are many medical appointments at this age and we have to wake up our kids from their sleep to take us. My husband has no issues taking me if he has the time, because he wakes up early anyway so that's not a problem, but waking up the kids and asking them for transportation and then going to the doctors...

Me: The everyday needs, how are they in your area? Do you have any difficulties, and do you think there could be improvements?

SP: Thorncliffe is an area where there is a blessing that we can find everything halal, within a walking distance. It's maybe a 10 minutes' walk to Iqbal foods on foot and 2-3 minutes by car, so we can go there and get what we need easily. Food Basics is very close by as well, the mall is close within walking distance, but what we really need is an emergency room. There was a huge store in mall which is not there now and now they have made a hub there. They said it was for people with kidney issues and people with covid issues also used to come here from far way for vaccinations. But what we want, in all the other meetings like with Michal Garron and their people come here and as a grassroots leader I'm also part of those groups, so what we want for us is an emergency room. Because for seniors you never know in the middle of the night or any other time any thing can happen. The other thing is that there are many small children in many households here, these are high rise buildings and it is called a horseshoe. It is in a round shape and there are a lot of buildings in there and there are many families in the area, and in every apartment there are 10-12 people, so there are several issues for seniors.

This, and secondly, that I want to mention a very big issue that the rents are too high. If there are seniors in the household, as seniors prefer to live with their children. So here in a two-bedroom apartment you'll find one washroom, and in a one-bedroom there is one anyway. The apartments that have one and a half washroom have very high rents, and then in three-bedroom apartment you'll find two washrooms. So this is a big problem.

Me: Yes, you're right there aren't enough washrooms and as compared to Pakistan there is a big difference in how these things are over here.

SP: Absolutely, in Pakistan every bedroom has an attached washroom. And this is a big problem, because sometimes you just can't control. If in one washroom someone is taking a shower, then you have to tell them to draw their curtain because I can't control and I have to use the toilet.

We had used a quarter of the hour at this point and I needed to steer the conversation to discussions about design and the input of other participants was also needed, so I decided to move the conversation to the images and shared my screen to talk about them. I explained to them that as South Asians are currently the largest minority in Canada, so in proportion the number of our seniors is also rising. Problems of space, affordability, lifestyle, health and

wellness, and loneliness are increasing as well. I asked them, if they were to consider living in a residential community for seniors of South Asian origin, what would they consider essential features of that design.

There was quite a bit of overlap in both meetings and a lot of the information from the first meeting was repeated in the second meeting. I will present the findings as the different themes I found running through the conversations.

The themes of the conversations

I have organized the information from both meetings into preferred living arrangements and cultural norms, the areas of Exterior areas and building forms (which includes discussions on location and transportation), Retail services, healthcare services, social connections, and Interiors. Some of the items can be placed within two or even three categories which just goes to show how inter-dependent they all are on each other. For example, an on-site children's daycare can be classified as a childcare service and as a place to provide social connections; the gym and the green areas for walking can be a part of a healthcare amenity and a social activity as well.



Figure 3 Areas of Urban and Architectural design that affect the participants (source Author)

Multigenerational living

The first priority of all participants was to live with their children and grandchildren in a multigenerational housing arrangement. This was stressed repeatedly by them that, if given a choice, they would not want to live separately from their families as is tradition in their culture.

If they had to live separately from their families, they described their ideal living arrangements as below:

Location matters

Location should be within the city so they can see their family frequently and access services easily. They would prefer not to live downtown as it can get noisy and crowded but they do not want to be far from the city in an isolated area either. Public transit should be easily accessible and located close to the seniors' community.

Low density areas in the suburbs tend to be quiet and lonely and the everyday needs like grocery and pharmacy are usually not within a walking distance. Everything they need should be within a short 5–10-minute walk. They stressed that this neighbourhood should be located in a multigenerational neighbourhood, and it would be good to have it multiethnic as well. They would love to see and interact with people of different age groups and learn about the food and customs of different cultures, but they should be able to interact with people who speak their language like Urdu, Hindi, and Punjabi. AA's views as a caregiver were similar to the focus group. He pointed out that if they are located within an existing 'desi' (South Asian) community then it will be less work to build that community around them. The area's facilities and amenities will already be geared to serving South Asians. For example, if it's a South Asian old couple it will help them to be located in areas like Mississauga and Brampton, you don't have to build a city around them, the city will already be there around them.

Size of the building and exteriors

The participants all preferred living in mid-rise buildings as both high rises and low-density areas have too many problems. Although they expressed their preference for mid-rise buildings, for convenience they mentioned that they would prefer to live on the ground floor because of mobility issues. They didn't seem to be too keen on using elevators. The participants from Thorncliffe Park described their challenges of living in high rises. The elevators were frequently

out of order and in the afternoon when children return from school, the line ups in the elevator lobby are so long that it takes children over an hour to get to their apartments. This was contrasted by the location of the school itself, which is very close and is within a few minutes' walk.

The image of Generations, Calgary (38-B) was unanimously appreciated by all participants. They loved the design, the shapes (massing), and the colours. Most of them also liked image no. 31 of Habitat 67, Montreal and said that although it is higher than they would prefer but because of the way the shapes were arranged it did not feel like a large dense building. Images 36 and 38 of buildings with brick exteriors were also said to be 'nice'. They did not like no. 32 because, according to RF, it looked like rail cars. Even though they liked no. 33, RF said the building felt too big. I noted that it was important to them that the scale should not get too large. It seemed that there was a universal distrust regarding elevators, and that if they broke down and the building was higher than 4-5 floors then it would be hard for seniors to use the stairs from the higher floors.

Participants selected the picture with the balcony (no. 43) showing seating outside in the balcony as well as inside next to the balcony door and they said that this would be an ideal arrangement for shared areas to spend time in the sun and indoors in the winter where they can get some light and also be able to watch the snow fall. Balconies for individual suites were also mentioned as important features to watch the surrounding area, get some fresh air, and grow some plants.

They preferred open air courtyards with greenery (images 42 and 44) to covered atriums for the warmer weather days. They said that after spending the entire winter indoors they wanted to be able to spend as much time as possible in an outdoor area. AA explained further that it is a social aspect of design and a central courtyard brings people together, and that it would be better to have walkways and green spaces in the middle.

Exits

There was some concern about the exits as AR mentioned that just one exit door for the ground level apartments is not enough. The apartments on the ground floor should have exits from them to the outside area.

Accessibility

People who use walkers and wheelchairs find it difficult to go outside to get essentials during winter. The exterior areas and the neighbourhood should be fully accessible and well-maintained during the winter.

The entrance doors should be touch operated as they are too heavy for seniors to manage, especially if they are carrying bags or something else in their hands.

Retail services and amenities

All essential services like grocery, banking, Canada Post, and hair salon should be in the building because there is a lot of snow and ice in the winter and cold winds make it difficult to get outside. There should also be a laundry with mending services, and a library on site.

A café which serves chai with samosas, pakoras, chaat, Nimco (savory snacks), and other South Asian snacks and people can spend \$5-\$10 to sit and spend a couple of hours with their friends. RF cautioned against too many fried foods and said that healthier options can be developed. There can be a restaurant serving halal South Asian food to eat out as cooking everyday can get tiring and it would be a great place to socialize as well.

It would be nice to have a daycare on site. If their grandchildren go to it then they can see them regularly, if not then just watching other kids makes them happy. Particularly the women liked the idea while the men agreed with them and one of them expressed his concern with the potential noise to which I explained that such a facility would be designed to be connected to the residence and not actually in the residence and appropriate acoustic design would surely be part of the design strategies. The women also discussed the possibility of volunteering in the daycare and I mentioned that while visiting the long-term residential facility in Calgary I met someone who was a retired day-care teacher and that she helped out with reading stories to the children and other activities.

MI suggested that these services can be either within the building or as a small commercial area that is part of the residential complex. He had previously lived in Saudi Arabia in a residential complex which had the commercial services for the residents in a small area near the building.

The participants said that clothing and shoes can be made available, especially for people who need custom-made shoes and clothes. A tailoring service to make alterations can be provided as

well. The bodies of seniors shrink and change with time, and they are not able to wear ready-made clothes or their own clothes without adjustments and alterations. They develop issues with feet as well over time. So the participants said that these services would be very much appreciated.

They would very much like to have newspapers and magazines from their countries of origin in their own languages. They said that they need to keep up with the news happening in those regions and also local news in their language. South Asian TV channels that are both local and international would be highly appreciated.

Healthcare services

A 24/7 medical clinic in the building because seniors can need that at any time. Similar needs of children as well. There should be an emergency button in the suites that connects to this clinic. There should be a pharmacy inside the building. There should be a system to remind the seniors when their medication is running out at least a few days before they actually need to get their refills. On the question of having a lab on-site for prescribed tests, AA (like SP) had a very interesting point that doctor's appointments can also be done on the phone or online as well: it is going to a lab for tests that requires more time and resources. So in his view having a lab closer is very important.

Exercise rooms for yoga and other group exercises should be provided along with a gym. Depending on the space and budget, these could either be separate rooms for men and women or could have separate timings for women-only and men-only sessions. The participants said that exercising with friends can be fun as it can be really boring to do it by yourself. They said that they might try to learn to swim although South Asian Muslim women typically are not used to swimming but a women's only area with a female instructor will encourage them to try it as a low-impact exercise that many healthcare professionals recommend.

Social connections

There should be a play area outside so they can see children playing and be able to spend time with their grandchildren when their families visit. For outdoor activities they would like green areas for taking a walk, and a field to play cricket and other games versus the images of golf I had in the presentation.

There should be a larger masjid (mosque) nearby within a 10-minute walk for the bigger occasions like Eid, Ramadan, and Friday prayers.

There should be a large room/hall for socialization so people can sit and chat with their friends and to spend time when families visit. An area in that social hall for indoor games like pool/billiards, table tennis, and carom. There should be board games like ludo, chess/checkers, and connect 4. There can be vending machines for snacks and drinks.

The café can feature a large screen TV to watch cricket matches and enjoy time with other people who love cricket.

There should be a special room to gather the family for occasions like an iftar in Ramadan. My mind went to the family kitchen at Generations which has been provided for such occasions as birthdays, iftars, and other family occasions which would be private as well.

Interiors



Figure 4 Some of the areas where seniors have problems with the design (source Author)

Privacy issues

They mentioned that they did not like the way the main entrance opens directly to the living room. Anyone standing at the door can have a direct view inside the apartment. I noticed AR's entrance door when I dropped off the collage-making supplies, they had a curtain hanging at the other end of the foyer. When I asked her she replied that there is no privacy from outsiders and strangers when we open the door, so that's why we've hung the curtain there. Please see image 11 in Appendix 4.

Inadequate storage

They pointed out the inadequate storage in the closets in apartments in Canada. They said that not having shelving at proper heights and lack of stable storage makes it hard to use the closets. The entrance closets should have proper shelving for shoes and hanging rods at a comfortable height. The top shelf above the hanging rods was too high. The bedroom closets have no built-in configuration which is very inconvenient.

Inside the suites and the interiors in general should have large windows throughout.

Decorative Elements

The participants said that they would like calm neutral colours in the suites, of course the individual preferences would be there, and people can change it to whatever they like. But neutral colours keep it feeling light and bright.

There should be art, jali work, woodwork, carvings, and calligraphy on the walls from South Asian and Muslim cultures to bring that sense of familiarity. Doorways should have arches and other decorative elements.

Flooring

The floors in the bathrooms and kitchens should be non-slip, and this is an important aspect for all of them.

They preferred carpeting everywhere, which would make the floors less dangerous, but MI and RF pointed out that carpet would increase allergens and make it hard to clean in case of spills and accidents.

Furniture

Furniture should not be too high or too large. The tables should have rounded corners and softened edges to minimize injuries from bumps.

Kitchens

Kitchens should be well-ventilated with strong and quiet extractors that vent to the outside. South Asian cooking has very strong spices that can make the entire apartment smell for a long time and it can settle in clothing and furniture. It is essential to have adequate ventilation; a door or window in the kitchen that can open directly outside would be very helpful. Loud extractors can cause a lot of discomfort for people who wear hearing aids as RF describes how the hearing aids magnify mechanical sounds more than people's voices.

The storage in the kitchens was described as inadequate and poorly planned. South Asian food requires quite a few ingredients and cooking utensils, and the cooking process tends to be more elaborate than western food. The participants commented on the lack of pantries in apartment design and their frustration with small kitchens. Designers need to study how South Asians prepare their meals to plan better kitchens.

Generally, the participants were satisfied with the appliances in the kitchens and said that dishwashers are a necessity as some apartments don't have them. They said that even though baking is not a large part of South Asian cooking, they have adapted their methods to the ovens and find them useful. But they did say that small cooktops are problematic as they use larger pots and pans. They also said that electrical heat is hard for them to understand as they are used to gas stoves and they burn food frequently.

Countertops and upper cabinets should be a little lower as the women said they get aching shoulders and it causes back strain.

Living and Dining areas

Acoustic design should be part of the considerations. RF has hearing issues and tends to have the volume of the TV higher, which can disturb neighbours if the walls are not built with acoustic insulation between the rooms and between the suites.

There was a consensus on the separation of sitting areas for men and women, the participants said that there must be separate spaces after entering the home. But there was some debate over

the kitchen and dining area about whether they should be combined or kept separate. There was a comment to have visual connection between the three areas of living, dining, and kitchen but they also pointed out that women who observe hijab find it uncomfortable to work in the kitchen if there are men in the living room. Muslim women observe hijab in the presence of men who are not immediate family members.

Lighting—Natural and Artificial

All the rooms and living spaces should have large windows and the interiors must be bright, but glare-free. The participants stressed on having as much natural light as possible.

The lighting should be selected to make the spaces bright and cheerful on dull days and during the winter months. One of the participants mentioned that they wake up quite a bit at night as they have diabetes and it makes them thirsty. At night, it is difficult to stumble around in the darkness to make their way to the washroom or kitchen. Low light levels on the walking pathways will reduce accidents.

Washrooms

The image of the universal washroom in Generations, Calgary, which featured a roll-in shower was highly appreciated not just for being barrier-free but also because it had cultural and religious relevance as well. Most Muslims wash their feet as part of the wudu for prayers and they find it exceedingly difficult, and dangerous at times, to wash their feet in sinks. The ability to sit and wash feet in the roll-in shower can solve that problem. They liked the multiple grab bars and options for shower which had an additional hand-held shower head as well. They said that although the option to put a seat or chair in the shower is a good one but the best design would be to provide a stable solution like a built-in shower seat. Traditionally, bathing areas in Pakistan and India as well don't have bathtubs, although some contemporary homes may have them now. They are usually open areas with floor drains and the entire washroom can be washed clean.

There needs to be an emergency button in the washroom and kitchen areas which would be connected to the 24/7 emergency clinic in the building.

The insufficiency of toilets was commented on by SP as mentioned earlier. Every bedroom must have an attached washroom, even if it is just a small toilet.

The toilets must have hand showers with them for cleansing. An interesting point was mentioned by RF that the location of the toilets must be away from the sink and shower areas. RF used image no. 83 to explain that she didn't like the toilet between the sink and the shower area, so the 'clean' areas must be away from the 'dirty' area.

Musalla (Prayer room)

There needs to be a musalla (prayer room) for daily prayers, mainly for men as women generally pray at home. A separate room, or a separation in the prayer room, for women can be provided and in that case the entrances for men and women should be separate. They may not require separate entrances for other services and amenities but in this context it would be important. The shoe storage needs to be well-considered for the musalla. There should be seating for prayers for people who cannot sit on the floor, they would need a surface at table height (approx. 27-28 inches high) for sujood to bend forward and place the forehead on it directly in front of the chair.

The musalla in the building should have a special sink which would have seating with it to wash feet as part of the wudu for prayers.

Daily chores

When it comes to washing machines, they all said they preferred top-loading machines to front-loading ones and that the functions should be simple and easy for them to understand. Bending down and trying to peer into front-loading machines is hard for them. In the kitchens although they prefer to wash a couple of dishes by hand but they said that they would like to have a dishwasher just in case they have a visitor or if their hands are aching due to arthritis.

Technology

As today's seniors are very comfortable with technology, they said there must be space for computers and laptops for each person and for multiple devices. They also need space for their hobbies such as sewing machines. The need for technology will only grow as subsequent generations age, so this is something that needs to be better developed.

Interior Courtyard

Although the participants have mentioned that they would prefer open air courtyards, they said that a garden or something inside the building so people can enjoy themselves inside as well.

Guest room

A couple of the participants mentioned the need for a guest room so their visiting children can stay overnight, especially during Ramadan when the time between the dusk and dawn is the time to eat and socialize they would love to have their family over. If children have a place to stay it will make it easier for families to meet and to make those trips to visit.

Chapter 3C: Interviews with Consultants/ Experts/ Stakeholders

Meeting with Dr. Mark Lachmann

Geriatric Psychiatrist, medical lead at Bridgepoint Hospital.

Culturally appropriate housing for seniors (Lachmann, 2023)

Dr. Lachmann works mainly with seniors who are in danger of losing their housing due to emergence of dementia, or problems with addictions, and other mental health issues.

We talked about the housing options and current models in Toronto. He discussed it from his point of view and from his experiences with his patients. Dr. Lachmann felt that there is a need for an organized approach to housing seniors, but there isn't a plan or strategy that he was aware of, nor of an articulated plan or a strategy to do this in a way that is culturally appropriate. He finds that there is a lack of housing supports for people who are ageing of any demographic, but particularly for people who need support. The availability of suitable options is skewed to either ageing in place in your own home if you are doing well with some government support, or there is long term care. There is very little in between. There are some small programmes and some social organizations like Woodgreen, which is quite large in its role as a community social service agency.

He gave examples of some housing models and coops in the city that are doing a great job like the O'Conner house, Nanak House in Scarborough, the Macedonian house, Momiji for the Japanese community, Harmony House in East York, And SPLC in Scarborough. He described the design of SPLC as to be very well planned, with two residential towers connected by a foyer. One building is private apartments and the residents buy into a leasing arrangement and generally people in that building are relatively self-sufficient. The other building is more a rent-geared-to-income with some supports that are available to allow people to stay at home longer than they otherwise would if they did not have that in-home support. Then in the foyer there are different kinds of recreational activities, a restaurant, and transportation service as well. It is a way for people to be independent yet receive some support. Across the street from SPLC is the Bridlewood Mall that offers many retail shops and services. They have a food court, grocery

shopping, places to sit, some restaurants, and some coffee shops, so you can just walk across the street to the mall.

According to his view, these issues faced by seniors of any community are less about construction and more about the social aspects, the various supports in place, and about being quite mindful of how people value autonomy and community. He pointed that our structures in Canada value autonomy, but they do not place a high value on community interaction. His entire practice is regarding visiting people who are essentially trapped in their house or in their apartments. He explained that unless you're a senior who lives in a suburban area with family support, you're really stuck. It's impossible to leave your place. He thought it would be beneficial to study how does this exist in other countries. This brought to my mind the thesis written by an architectural student, Monica Leung (Leung, 2018), where she has explored that question.

He explained that in traditional medicine, in geriatric medicine, there's a dominant ideology over the last number of years which is called the compression of ageing. It is the goal of providing care medically to older people: we keep you healthy as long as we can and then eventually everyone turns 85 or 90 and then everything falls apart at the same time. Disagreeing with the idea he broke it down into two points. Firstly, he stated that it was not true. Secondly, what it has done that it meant that the clinical voice of people has ignored this gradual emergence of disability over time so that its why people are living independently and then all of a sudden they go to long term care, it's not about how do we continue to live with disability in the community over a 20 year period, or a 30 year period, or longer.

Dr. Lachmann is interested more in the social aspects of design. He described the vision of healthy ageing in community that we all have in our mind i.e., we have autonomy, some independence, we are also supported, and we are connected to community, and then this will enable us to live longer and healthier. But he said that sadly we're not in that space and it's a very big problem. In his discussion at a webinar organized by BDP Quadrangle (2021) he had described his vision of an Age-Friendly community. The first thing he said was that it should be non-medicalized, it is fundamentally a home first. The second thing is to actually listen to the potential residents. He thought it was a good thing for people who are architects, designers, developers, and other professionals to think in different ways, but we have to ask older people

what actually they would like to maintain a sense of independence and the community. The third thing that he challenged the panelists to think about was what it actually means to grow old as he felt that we have not done that as a society publicly or privately. He went on to explain that there seems to be this fantasy that all of us age well, and then all of a sudden, we go to sleep one night when we're 92 and we don't wake up. A clear, honest conversation about the deficits which may accrue often focuses simply on physical disability, of which he did not mean to understate the importance, but what actually in his experience is far more important, is the loss and change in cognition, issues around depression and isolation. He reiterated that as we think about building healthy communities, they cannot be medicalized and we must recognize how we support each other, recognizing that some of us may have trouble with memory or thinking and really struggle with isolation.

During our chat he told me a story of one of his patients whom he met while delivering a talk at a retirement home. She was not doing well before she moved to that home and was feeling very depressed and lonely. But when he met her there after the talk, she was a different person. She was happy, she had friends, and she said that there were so many things she could do. He told me that the only thing that had changed in her life by moving into the retirement home was that she had developed more social connections and that had been really good for her. Although, the ability to afford a retirement home may not be in everyone's financial range, but there are other lower cost models that can be adapted to a specific community. What he stressed was a design that enabled people to live in a community. I asked him about incorporating the closeness of a religious centre in the design consideration and he thought it was a good aspect to consider and gave examples of communities that understood that very well and had successfully incorporated that into their designs for seniors.

One other question had been nagging me for some time, so I asked him about it. I had been thinking for a while about presenting the design of a seniors' community as a business model. He gave a little pause and started by saying that it is a very fundamental point in his mind. He explained to me that there were two kinds of long-term care settings, one is for-profit chains and the other are the non-profit homes run by organizations or the City of Toronto. He explained that there is very robust literature that talks about how for-profit homes simply provide worse care and that it is not a debatable point with good literature on it. The reason is that wherever you are, you only get so much money per person that is in long term care. And it is not a lot of money.

And in order to make a profit, the only way you have is to take it from somewhere. If you are running a non-profit community then you can turn to the community for fund raising. If you're non-profit then you can raise money and that money is absolutely instrumental in improving care services and quality of life and adding value.

I had been curious about combining services like a daycare with a seniors' facility and asked him why it was not popular in Canada and that many other countries have been doing it and that it has been quite successful. He liked the idea but he said that unfortunately in Canada people are not very receptive to new ideas and that probably will not come from the government but it would be from community social service agencies. He gave the example of Woodgreen which is a cradle to grave kind of a social service agency with different services for the various age groups of the society, and that there are a few more. He explained the reason is that the government envelope is small in Canada for this kind of innovation. The govt. feels they are very strapped financially, and then everyone is trying not to raise taxes.

Dr. Lachmann is a strong believer in co-design and to him it is the best way to design with different communities. We were talking about how people can maintain their independence and he thinks that the best way to be independent is to live in a community. A sense of safety and cultural support can be created in several ways. One way to achieve it is to have your own space, you close the door, and you are safe. The other way is to have people around you who speak your language and understand the writing you use, the intentional co-design, the social co-design is the best thing. We agreed that it is hard to build a building, the cost and the processes involved are extremely complicated. Talking about cultural safety, and maintaining your way of life, he asked the questions: How do you curate cultural safety? How do we co-design for ourselves that makes sense for us? Creating the social governance structure of a community space is a hard thing to do, but that is what is required. There are a number of ways that it can be done and some of them are that people working there speak and read the language of the residents, the concierge or a front-line person or security they all speak English and the language of the residents, the festivals that are celebrated are of the community.

He mentioned several ways that these communities are created and one of them was Naturally Occurring Retirement Communities (NORC). Naturally occurring retirement communities, or NORCs, are residential areas or neighborhoods that were not originally designed for seniors but

have become communities where a significant number of older adults have chosen to age in place. These communities typically have a concentration of seniors who have lived in the area for many years and have established social networks, community connections, and support systems. He said that there are communities that already live together and wondered what the best way would be to buttress those communities that support ageing.

NORCs may be found in urban, suburban, and rural areas, and can take on many forms, including apartment buildings, condominium complexes, mobile home parks, or traditional neighborhoods. They may be clustered around amenities such as parks, community centers, public transportation, or medical facilities.

The term "naturally occurring retirement community" was coined in the 1980s to describe these communities, which often emerge spontaneously as a result of demographic shifts or changes in the housing market. NORCs can provide opportunities for seniors to age in place, maintain social connections, and receive support from their peers and community members. They may also present challenges related to aging infrastructure, accessibility, and the availability of services and resources.

We talked about how Thorncliffe Park seems to be one, but then he mentioned how the elevators are notoriously out of order all the time. In my head, I could hear the participants of the focus group talking about it and imagined them nodding and agreeing with him. He made a very valid point that if you provide people with a facility and if it is not maintained it then it doesn't work. To me, it did seem that tall buildings should only be built if there a well-planned budget allocated to the maintenance of elevators because otherwise for the residents it becomes more of barrier.

I wondered at this if the residents of the buildings where the elevators are frequently out of order stop using them. Do they eventually feel it is too much trouble to go out and start staying in more? Does it disconnect them socially and does that create more loneliness? Those are perhaps questions for further research.

Meeting with Sandeep Dhupar (Dhupar, 2023)

Managing partner of Jeevan Niwas Retirement Village, Brampton

Sandeep has been researching for many years on the subject of an appropriate design for a retirement community for South Asians in Canada. The first thing he said was exactly what my participants all started with, that typically in the South Asian culture we don't put our parents in retirement homes. Culture and religion lay great stress on filial piety and direct us to take care of our parents as they took care of us in our infancy. But as our lives change and living in North America affects us, family dynamics change as well. He echoed what I had found in my literature review that in Canada both members of a couple work and they are not able to care for the elderly parents as they would have a couple of decades ago.

He described the difference between the generations. South Asian who grow old in Canada prepare for their old age and they plan to be independent. But elderly parents who are sponsored by their children and arrive from South Asia have a different view of ageing and different expectations from their children. Their vision is that the whole family should live as a single unit; they are used to the joint family system. In many South Asian regions, the sons and their wives live together with their parents, but in North America all siblings live separately. When that generation tries to adjust to the western world, they become isolated and lonely. For these reasons there is a need for a retirement community for seniors of that region. The other thing I realized during the conversation was that even for South Asians who grow old in Canada and have prepared themselves financially to be independent, if one partner passes away it can make the surviving partner isolated and lonely. It would be a good thing for them to have more people around them and to have more social connections as Dr. Lachmann also mentioned in his conversation. Sandeep mentioned a crucial factor in the long-term health and wellness of the seniors and that is having a purpose in life. If people lose their purpose in life, they lose their will to live and that affects their mental health and can negatively impact physical health as well. Thinking about that, he talked about focusing on the skills that seniors need today. Providing seniors with opportunities to learn and maintain their interests like art and working with computers will help them find that purpose in life. He talked about how using technology will help them and gave the example of his mother-in-law who loves playing games on her iPad and chatting with her friends. They are planning a library which will have books and computers so

the residents can start understanding there are other things to explore. They can also play games on the computers, perhaps play virtual golf, so they are really thinking about ways that they can use technology to keep them stimulated and engaged. I have heard my participants express these thoughts in different ways so it was good to hear that he had also found the same needs as well.

The location of the retirement community matters a lot, but as Sandeep discussed that we have to design not just a facility but one that works with the city's amenities like transportation, shopping malls, parks, trails, and other things. Talking about these outdoor activities I asked him about activities for the seniors in the winter, as it was one of the major concerns I heard from my parents and my participants. He said that the plan is to keep them engaged in an activity room and that they were also planning a 'Rasoi' (kitchen) where the residents can cook together and share their skills with each other. It was something that again echoed my participants' thoughts and took my mind to the family kitchen at Generations in Calgary. Furthermore, he said that they are planning a pool for aqua fitness and a yoga room as many South Asians enjoy yoga. We discussed that if one looks at seniors in India, typically they enjoy walking, meditating, doing yoga, playing cards, and other board games so he plans to provide them with opportunities for those familiar activities. Virtual golf will provide them with something more to do during the winter months. Then they also planned to provide the residents with transportation to go to their places of worship on a weekly basis, also a shuttle bus going to the shopping mall everyday whether to buy something or just to go for a walk. He added that they can arrange tours for them and other activities like birdwatching and that they are planning to schedule activities to just get them out there and moving. A greenhouse is being built so they can do gardening every day and then they can also cook those vegetables, which will keep them busy in the winter as well.

I asked if the potential residents have expressed any specific needs, and he said that their questions are focused mainly on the food and a prayer hall. He stressed that the main aspect of planning the services we provide the seniors is the cuisine, and that it is almost 50% of their needs. Talking about the design of the food prep areas, keeping the various religious dietary needs in mind like vegetarian, Jain, and halal among others, he said that there cannot be any cross-contamination from the foods they are not allowed to consume. The kitchen and food prep area design becomes very important. They will also provide a prayer hall for them and he understood how important religion is in the lives of South Asian seniors.

I had heard from my parents and the participants about the amenities they need within their residential facility and I wanted to compare notes so I asked what his research showed him. It turned out to be very similar to what I had heard from the participants and seen at Generations. He said that there will be an on-site convenience store, a doctor's office, a dentist, a physical therapist, a financial advisor, a salon, a movie theatre, and a pharmacy as well. All these amenities will be on-site and for larger shopping trips they have the shuttle bus to the mall every day. Bramalea City Centre is hardly 10 minutes away from the location and they will take them to the museum and art galleries in the winter. They are also planning to have a healing garden outside, and this is exactly what has been built at Generations, confirming the importance of incorporating nature and natural elements in the design as I had seen from the literature review.

In the suites they will provide a kitchenette which allows them to make tea in their rooms and a microwave. They plan to have one floor (16 rooms) for memory care, two floors (36 rooms) for Assisted living and the remaining 103 units will be for Independent living. They will be following a guide on seniors' interior design and they will make sure that all spaces are accessible.

Replying to my question of a South Asian design he said that they are not looking to bring India in Canada but the design will have references to the region. The design will have references to South Asian design elements like small arches, some prints in the hallways, movie theatre will have movies playing in the different South Asian languages, so there will be some graphics from the movies. The jali design will be incorporated into the interior design. He said that the consideration of colours is important not just culturally but also for wayfinding. Each floor will have a distinct colour to help people locate themselves in the space. He added that they were not looking to create a design specific to one community but appropriate enough for all of the South Asian communities. Another important aspect was that the staff needs to be able to speak the languages, which is what Dr. Lachmann had stressed as well.

As a final question about the design details, I asked about the anthropometric considerations for South Asians as I had heard complaints about the counter heights and other issues from my participants. He said that this was exactly what they are planning, counter heights, the washroom vanity and kitchenette space, the fridges, etc. are being lowered.

Meeting with Prof. Murtaza Haider, TMU. (Haider, 2023)

Prof. Murtaza Haider is a professor of Data Science and Real Estate Management at Ryerson University. He also serves as the research director of the Urban Analytics Institute. Professor Haider holds an adjunct professorship of Engineering at McGill University. In addition, he is a Director of Regionomics Inc., a boutique consulting firm specializing in the economics of cities and regions (TMU, 2022).

My meeting with Prof. Haider was a brief one and I was not able to follow up with another one as I had initially intended. Much of our discussion was about how to define the potential participants and the scope of the research. The life of immigrants is not an easy or a simple one. There are several dimensions to it, and they go through the various stages in a new country that it can become hard to define at which stage the different families or individuals are. There can be three broad categories of the elderly of South Asian origin, the first are the immigrants who came to Canada when they were young, raised their families, and are now old. The second category is of seniors whose children sponsored them and are the parents of the immigrants. The third would be elderly parents who immigrated themselves and are now citizens or permanent residents. He has similar views as Dr. Lachmann on who will need the support of a retirement community, and it will not be people who are doing well and are able to age in their own homes.

The percentage that will require the support of a retirement community will be a considerable number since the economic impacts of COVID-19 have impacted the South Asian community in a significant way. A study (Thobani & Butt, 2022) has found that after the Indigenous communities, 'South Asians in Canada have the highest rate of unemployment; over 17% of this population is documented as unemployed'. The same paper quotes the results of a national survey conducted by The Association for Canadian Studies that revealed that 'three-quarters of South Asians are personally threatened by the current economic crisis, making them Canada's most vulnerable racialized group'. There are other papers that show that South Asian immigrants, in particular Pakistanis and Bangladeshis, fare worse than the Canadian-born colleagues and earnings gap between the two groups is only increasing (Agarwal, 2012).

As we discussed the financial resources of different South Asian groups, he pointed out that the Sikh community is more monolithic than the other communities. Among the Muslims there are many small groups so the financial resources are not that well managed. The most well organized

are the Ismaili Muslims, also mentioned by Dr. Lachmann, and as I have seen in my experience as well. He cautioned that it would be a mistake to consider the South Asian community as a homogenous group as they have vast differences of religions, lifestyles, dietary requirements, and other practices. There might be some hesitation among different families to share living spaces with other religions. Even the Muslims have differences of beliefs and practices between the different sects, but they can largely be seen as a coherent group. They have similar dietary requirements, they celebrate the major festivals like Eid and other special practices like Ramadan together. So if we design a retirement home for South Asian Muslims it might be acceptable although the issues would be more along the line of language for example if someone's parents speak only Pashto and majority of the people speak Urdu/Hindi/Punjabi then they will have some difficulties in socializing. But he also added that this would be for a very small minority as Urdu and/or Hindi are so widely spoken that generally people are able to cope.

Continuing to talk about the financial capabilities of the community, he explained that affluence that people achieve in North America, in Canada, may not be real affluence in a Canadian context but it is a real affluence in a Pakistani or Indian context. You can actually provide a much better living standard for your parents if they are back home than if they were here. So that's a factor to consider in terms of seniors living here permanently and they would only be sponsored here in circumstances if there is no other sibling left behind in Pakistan or India and you would be asking your cousins and other extended family to look after them, and even though you can provide a better living condition there than here. Here most people cannot do more than a bedroom for their parents, but over there you can actually have a full house for them with attendants. This has been mentioned in the beginning of this paper which other researchers (Khan M. M., 2014) have also found.

We discussed the situation of immigrants who aged here and how their long-term care might be planned by their children who were born and raised here. This is very different from the immigrants who arrived recently and are planning to sponsor their parents in five years. So if their parents need care and a seniors' residence they won't be able to afford it, the cost is too high and if they have to pay for insurance and healthcare expenses they might not be able to manage it at all.

Referring to the high cost of living and property prices, he said that the affordability of anything in Toronto can be taken out completely because if they can afford to buy a property in Toronto then they probably belong to the socio-economic group that doesn't need to look for a retirement home. He proposed the possibility of creating a communal living situation that 4-5 families can combine resources to buy a 4-5-bedroom house for their parents. Each parent/couple can live in a bedroom and the other spaces would be shared spaces. This would be at a micro level as opposed to a large-scale project which would be a hotel-like environment where there would be 50-100 seniors living. This would be at a smaller scale and when someone's parents pass away they can sell that portion to the other owners. It sounded very similar to the different housing options that Dr. Lachmann was telling me about.

Out of curiosity I contacted my focus group again and asked them what they thought. The response was 50% in favour of the idea (mainly the women) and 50% doubtful if it would work. The reasons for their doubts were the need for privacy and the distribution of wealth to heirs. AR's father and MI said that it's nice to have company of friends around you but you wouldn't want to be around them 24/7. AR's father suggested an even smaller group of 2-3 families with only very close family friends or relatives so they can get along better and not have too many conflicts. Also, a smaller property like an apartment would be easier to manage and maintain than a large house with potentially an outdoor area to maintain as well. To this MI quoted an old saying: If you want to spoil a friendship (or any relationship) with someone, buy a horse in partnership with them. I threw the question to an Indian friend of mine and she said that in the South Asian culture finding a co-owner is like finding a 'rishta' (potential spouse) for a family member. People have so many differences and peculiarities that to spend 10-15 years together you would have to be matched like a matchmaker finds a potential partner. These exchanges were an indication to me that in order to reach a conclusion regarding the question of a shared communal living property the research would need to involve a larger number of participants which can be part of a different investigation.

Regarding amenities of the retirement community, Prof. Haider mentioned the importance of a community centre and a mosque to be nearby. He reminded me of the need among Muslims for separate spaces for men and women and all this has been stressed by the participants as well.

Conversation with Nawal Ateeq (community leader)

Settlement Counsellor, TNO - The Neighbourhood Organization (Ateeq, 2023)

(Bilingual Conversation in English and Urdu)

I met Nawal during a series of webinars on Wellness and Active Living organized by the Elder Abuse Prevention Ontario (EAPO) in collaboration with TNO and Flemingdon Community Support Services (FCSS) and asked her for a chat about what she has heard and seen regarding the living arrangements and needs of the seniors in the community.

The social structure of the community

She talked about the seniors who live at 12 Thorncliffe Park Drive which is a subsidised seniors' building. She described how they talk about their loneliness even though there are quite a few amenities provided to them. There is a recreational room and there are many activities planned for them like yoga, meditations, bingo, tai chi, and many other activities. But seniors from South Asia do not feel comfortable going to that recreation room because Muslim women do not mingle with men. Because of their culture and how they have been raised they feel uncomfortable in spaces where men and women are mingling freely. Then men as well become awkward, and they don't know what they can talk about with the women because they like to talk about politics or about cricket and women typically don't have an interest in those kinds of conversations. So that is one of the big things, the women and men do want to come down to the recreation room, but they want some programs that are geared towards their interests. So what she started doing was to hold two separate meetings for men and women, and she included some intergenerational participants as well so they can talk about what they would like to do.

I asked her about social situation of seniors who live with their families, and she shared that whether seniors are living by themselves or with their families they are really isolated. Because here their children do not have time to spend with them, and they need someone to talk to. Religion is a very important part of seniors' lives so they have this support system where many women in the community teach Quran with translation, giving dars (religious lectures), or organizing a Milad (celebration of the Prophet's birthday). But these are not daily activities. Most of them are either weekly, monthly, or annual events. It does give them something to look forward to but really in their daily lives they are very lonely. She tried to explain further that they

do want a recreation room where they can get together with other women to swap recipes, organize a potluck, talk about self-care, some meditation and things like that. She told me about a woman she knows who has been in Canada for over 40 years, she is a widow now and lives by herself and is 85 years old and she keeps talking about her loneliness and how it is killing her. She has very good relations with the other women in her building, but she says that she doesn't want to go to the exercise room to work out because there are men there and she feels uncomfortable exercising with them around watching the women. Nawal added that men and women lead separate lives in our culture. They don't talk about the same things, they don't like the same activities, they don't spend time with each other. The women who are comfortable with men around and can find common interests with them are very rare. These are women who have worked alongside men in their professional lives.

Regarding question of the ability of seniors to maintain independence and their autonomy in the neighbourhood, she said that the Thorncliffe Park and Flemingdon area is a great place for people to maintain their independence, and everything is so close by, the seniors' building, 12 Thorncliffe Park Drive, is so strategically located that everything they need is within walking distance. This gives them the motivation to get out and do their chores by themselves and walk a little bit and stay mobile and active. She mentioned the very popular Iqbal grocery store, a walk-in clinic where the doctors speak Urdu and there is a female Urdu-speaking doctor. There are many services available and TNO received funding for other services like providing an escort service to the doctor's clinic and for providing Personal Support Workers (PSWs) to help with the housework. But, she said, everybody does not have access to those services. There may be seniors living with their children and they are financially dependent on their children because they have been sponsored by them. They are abused in so many cases, their children do not let them have the Tax credit. They do not have the autonomy to go out even for a cup of tea or coffee with their friends. They do not have the means to live separately from their children in a seniors' home. When seniors arrive here, sponsored by their children, they have to be supported by their children for 10 years. Some of the seniors unfortunately go to their graves before that time is up and they can be independent. Seniors can't pay for subsidized housing, as subsidy is 30%. They don't even know what benefits they can apply for.

Discussing the topic of the financial resources of the community she had the same feedback as Prof. Haider that there are so many small groups among Muslims and it is a very difficult task to

bring their resources together for a project. There are different sects of Islam that function in a different way from each other. Some of them won't consider living with each other but there are people who don't care about that. The Ismaili community are very well organized, and they have some well-planned systems and volunteer a lot for community services. Not all Muslim groups and sects are organized or cohesive like them. Their (the Ismailis) support system is very strong. Her main concern was the financial situation of the community and the services provided to them by the government as that is what she dealt with in her work. The current high cost of living was exacerbating the problems faced by the immigrant and students in the area.

Discussion on architectural design elements

I asked her about some of the things I saw at Generations and the design needs expressed by the participants.

Curious about her thoughts on the combination of a senior home with a daycare, she responded that is aware of the idea and loves it and that she has been looking into it. We agreed that seniors love having children around and they just light up when they see children around and they can lend a hand in the care and social support of the kids.

During the conversation, I hit upon a realization that children and seniors are actually part of a very similar problem. These two groups are at the either ends of human existence and they are the ones that need the most support from the working age group which does not have time for them. So if seniors' facilities are paired with children's facilities they can provide each other with the human interaction they both need. We realized how overworked daycare and pre-school staff is so if they have some seniors lending a hand it will help them and the seniors as well. She said that she knows it is done quite a bit in Japan, for example seniors read stories to the children, and I recollected the retired day care teacher I spoke with who helped with the daycare in Calgary.

She told me about how TNO wrote an application for a grant to the Ontario government, and there are some very highly educated and experienced people who wanted to work with the local Marc Garneau school. They proposed that the seniors would visit the school once a week, in the recreation room, or a meeting room, or a library, to talk about the stories and life experiences to the younger generation. The other idea is that there are so many skills that will die out with our

seniors like the food they make, their tips and tricks, that would bring so much value to the education of the students. They made a recipe book from the seniors of this area, and she added some from her mother as well. It gives the seniors a sense of accomplishment, if her children need to write some speeches then her mother helps them out. She said that you need to engage them and ask them for their help and knowledge, that makes them feel needed and important. Hossen (2012, p. 6) also noted this phenomenon in his paper that immigrant seniors find their social roles of teacher, mentors, and guides taken away from them when they come to Canada. These roles were ‘a source of status, power and prestige in their home countries’ whereas here they become irrelevant and unwanted. So if they are able to provide their advice, guidance, and expertise from the vast experience of a lifetime, this will benefit both the young and the elderly.

Sometimes the children of the seniors don’t let them do anything because they don’t want to appear as if they are taking advantage of them so they tell them to sit and just ‘relax’ and everything will be done for them. But according to Nawal that takes away their purpose in life and they don’t feel useful. We need to keep them engaged and busy with some responsibilities so they can feel wanted. They need purpose in life and the need to have something to look forward to. This thought was also expressed by Sandeep that after retirement people need a purpose to live longer and healthier lives. Nawal mentioned that especially for widows when their husbands pass away it means their life has ended. They don’t go out and they are treated as burdens.

Recalling my conversations with the focus group, I mentioned that the seniors have asked for a 24/7 clinic in the building. Nawal said that you will be surprised how many clinics and doctors are there, but they are still not enough, there are so many people packed into this highly dense horseshoe that almost 55,000-60,000 are just people from Pakistan and then there are so many people from other areas like Afghanistan, Syria, and other countries. The refugees do go and settle in other areas of Canada like Calgary and the Eastern provinces, but somehow, they find out about Thorncliffe Park and slowly they all move here. Even though it has become very difficult to afford the rents in the area, but people prefer living in the area for its amenities. There is a bus stop at your doorstep, there are groceries, shopping malls, the Ontario Science centre for a family outing, restaurants, movie theatres, halal and non-halal food available.

She didn’t think that people will move to places outside Toronto to live in a lower cost area. People apply for subsidies to live in Thorncliffe Park and Flemingdon Park buildings for the

conveniences of the location. But once they go on social assistance, because of things being so expensive, they become stuck in a vicious cycle and are unable to move out of that financial situation. Children grow up in that area and learn the same mindset, they remain in that cycle for the rest of their lives. People live for 18-20 years and have no intention of moving away from here. There are very few people who find better jobs and are able to move away from this area. There is also the element of fear because they have a high level of comfort here, they are unsure if they will be able to adjust to a different area with the language and cultural barriers they might face. The facilities here are so valuable that they are unwilling to travel, they become stubborn in their thinking and refuse to move.

It's not that they stay for the quality of education. The high schools here face many challenges, including gangs and a disconnect between parents and children. The children live in two worlds and are torn between the two cultures. Parents force their children to wear hijab and enforce certain rules so this creates these problems. She added that the seniors are also stuck between worlds in the same way as the children.

I asked her if there were no financial constraints, would seniors like to live in a community of their own? She said that most probably no. Because it's not like they want to be rid of their family and go out and enjoy life (this is seen as a negative thing). They would still want to be close to their families and be involved in the lives of their children and grandchildren. They just want some financial freedom, and they just want to be loved and respected by their families. They don't want to go and live by themselves. Their entire lives revolve around their families and their children. They don't eat and go to any social events without their families, and that it is quite common in South Asians whether they are Hindus, Sikhs, or Muslims. Seniors will feel more isolated if we place them separately from their families. It should be something similar to Thorncliffe where they can live with their families.

She mentioned that all the problems have been caused by the extremely high density of the area. The government does not understand the scale and nature of the problems created by the high density. I told her that the participants mentioned that too many tall buildings create isolation, the buildings have become too large and are too many to be maintained properly and the elevators are constantly out of order, which affects their quality of life and their access to other people if they avoid going out because the elevators are so frequently broken down. This creates mental

health issues as well, and she agrees with me that it is unfortunately true and that it is a very difficult problem.

I asked her about the activities that seniors enjoy, and she responded that Community gardens would be a great thing to get the seniors involved. She said that there are two community gardens in their area, one is in Flemington and one is in Thorncliffe and the latter was run by TNO. Seniors will become involved in activities like yoga and tai chi, a physiotherapist on site will help people become more mobile. But they need to learn that they can improve their health at any age. The problem is that if it is left up to them they will not do it. There have to be classes for all of them to do some light exercise every day. Culturally physical exercise and activity are not part of our approach to health and fitness. This concern was voiced by AR about her father, and personally, I know it is the same case with my mother who has no inclination for any scheduled physical activity.

The research images

I wanted to get her thoughts on design elements, so I asked her to take a look at the images I had shown my participants and she was very kind and enthusiastic about it.

She liked image 46 and it reminded her of the home of some friends in Turkey who lived in a low-rise apartment that was designed around a courtyard that looked just like this one. There were four apartments on each floor and the residents had a small social space to sit and chat. Every apartment had a balcony and there was a place like this where people could stop and chat with each other as they came and went with their work and other activities.

She liked the description of the design of Generations that each level has a lounge and then they have an open-air courtyard outside. The idea of the smaller neighbourhoods on each wing really appealed to her and she said that it was important to provide as many opportunities for socialization as possible. She really liked no. 41 with the courtyard, and she loves that gathering space in the house. No. 51 looked really depressing to her, and she liked no. 47 with comfortable seating. She stressed that daylight is essential in senior centres and agreed that it can change your point of view.

She agrees that congregational places are very important. There can be multi-use spaces so that the room is not empty all day. But she did echo the participants thoughts that spaces for prayer and recreation should be separated as the prayer spaces need to be kept clean and the prayer rugs are laid on the floor. It would be better if we can have a place to leave the prayer rugs as it can be difficult to lay them out and pick them up 5 times a day.

Talking about the amount of space in the suites, she said that a seniors' residence would typically be for a single person or a couple, you're not allowed to have your children there. So she thinks that the spaces should be open enough to allow for walkers and wheelchairs, it should always be an accessible design. When I told her how the seniors wanted a separation of living spaces from the dining and kitchen spaces, she responded that it is possible that the seniors' point of view might be from their personal preferences and their own experiences. According to her, the seniors' residence at Thorncliffe has a very small kitchen. If she had a choice, she would keep it open concept because it will be a small space and realistically it should be well-lit, the lighting should be sensibly planned and there should be enough counter space.

Nawal recalled her memories of visiting older homes in Kashmir when she was young. She said that colder regions used to have smaller rooms and kitchens like in Kashmir, and the hotter regions like Karachi have larger, airier spaces, so in Toronto we have would need something in between as the summers can get very hot and winters get really cold. It felt to me that her instincts were right on the spot with how spaces should incorporate the needs of the inhabitants and their location, reminding me of the theory of Critical Regionalism 'used by Frampton to define an attitude of resistance against a globalized, generic architecture' (Cutieru, 2021). I came across an article some time ago that homes in Kashmir used to be built of wood, with very elaborate carvings. In an 'unplanned' effort to modernize, and unfortunately at the expense of the vernacular architecture, the residents of the Kashmir valley adopted concrete, glass, and steel to build their homes. This has caused a rise in energy use to heat the homes as not much thought was given to insulating the homes in an area where summers are quite brief (Naqash, 2017).

When talking about the sizes of kitchens for seniors she said that many seniors get their meals prepared by services like Meals on Wheels and Muslim Welfare Canada. So they don't spend a lot of time in the kitchen and are not doing as much cooking as people with families.

I asked her if she thought that there was a difference between Eastern and Western designs or colour schemes. To that she responded saying personally she would like a neutral colour scheme as it stays bright. You can spend the daytime easily but the evenings can become very gloomy if it is not bright enough with lighter colours. She liked no. 65 where they have a neutral colour scheme that people can decorate according to their taste. Again, small spaces need to have lighter colours and should not become depressing in the evening.

I asked her opinion on storage spaces and she replied that proper configuration of storage becomes more important in smaller spaces. You need a summer and winter wardrobe so storage of clothes and other items becomes very important. Badly designed closets just turn into a dumping place for everything. The entrance closets and bedroom closets don't have any shelves and it is so hard to use them. It is really hard to customize the empty closets here. Seniors would find it very convenient to have pre-configured closets. They should be able to store their assistive devices as well.

Regarding the participants opinions of countertop heights in the kitchen, she agreed that countertops can be a couple of inches lower, it won't make a big difference to a tall person but it will make a big difference to a someone who has difficulty with the higher countertops. For people with arthritis the lower countertop heights will make it so much easier. It is important to have enough space for them to place appliances and items of frequent use like some spices, crockery and cutlery because it is hard for them with weaker joints to reach up again and again to take out and put back things. I shared with her that when my mother comes to stay with me, she puts all the things that she frequently uses within an easy reach. Sometimes because of injuries even we like to have things within a convenient reach.

Discussing washroom design she said that culturally speaking, South Asian seniors are not used to taking a bath and they prefer showers that they can just step into with stable seating. There should be grab bars for the shower area, and that the toilet should have support on both sides. She mentioned there should be a proper design for washing feet for prayer that has a seating incorporated in it. As we discussed cleansing methods, she recalled the bidets she used in Turkey and that she found them to be so convenient. There is a bit of a learning curve attached to the usage of the bidet, but it is much more convenient as compared to the hand showers, which we

call Muslim showers. She wondered if both kinds of cleansing methods can be included, or if it was an either or situation and I replied that I would have to ask a plumber about that.

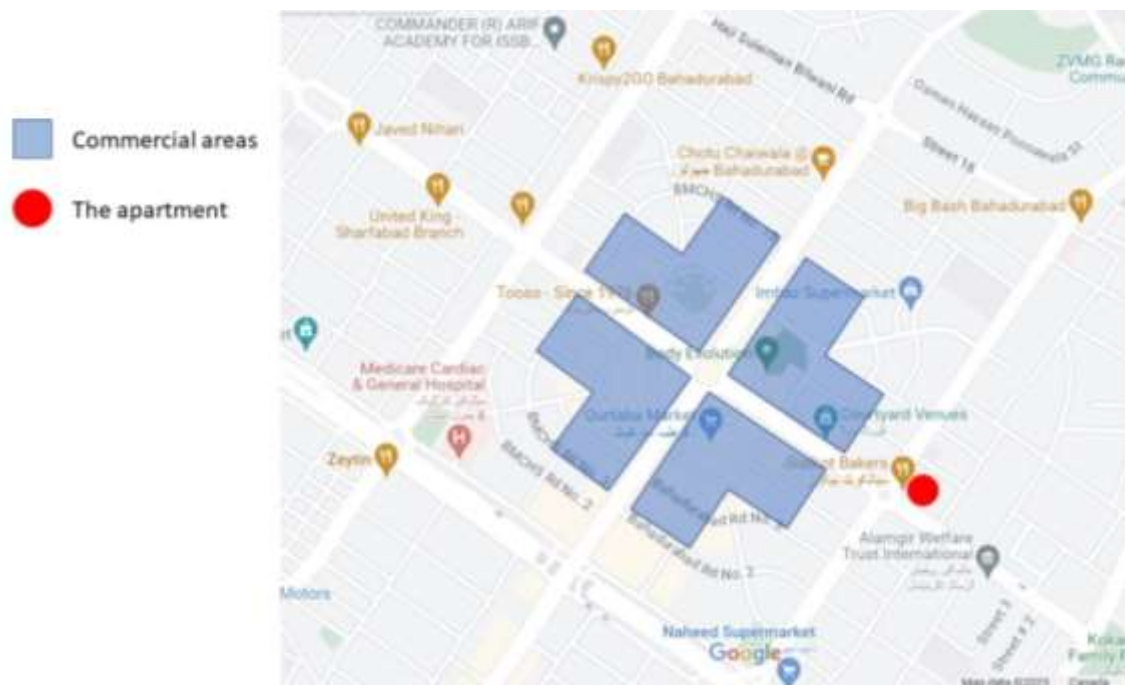
Continuing our conversation about Eastern vs Western designs, she said that South Asians don't require a design that is radically different from what is currently being built, but there are these small considerations that will make a big difference.

Chapter 4: Discussions and Data Analysis

The 15-minute city exists: Brief analysis of 2 neighbourhoods in Karachi.

As the participants talked about the need to have everything close by at walkable distances, it reminded me of the concept of the 15-minute city and the writings of people like Jane Jacobs (Jacobs, 1961) and Jan Gehl (Gehl, 2010) that promote a people-centered urban design instead of the car-centric designs of cities which have become the norm in North American cities. In Karachi, most neighbourhoods have a small commercial area where people can easily get items of daily use like milk, bread, eggs, and medicines quite easily. There are also basic services like doctors, optometrist, small departmental stores that have a limited number of clothing, shoes, kitchen tools, crockery and cutlery, and photocopying service easily available.

The google images of two neighbourhoods from Karachi, Bahadurabad and PECHS (Pakistan Employees Cooperative Housing Society), will illustrate how there are commercial areas placed in each neighbourhood. These two are the older neighbourhoods in the city's east area that were created in the early 1950s.



*Image 82 Bahadurabad, Karachi. The residential areas are around the commercial center.
Google maps*



Image 83 The main intersection at night, Google images



Image 84 The same intersection at day, Google images

Bahadurabad was initially only residential with just the area at the roundabout as a commercial area, but the retail shops have expanded quite a bit and the density of the area has increased as well. There are more apartment buildings at the edges of the main streets now and my parents lived in one of them. Although it has become much noisier than before, but they liked the hustle bustle and having everything they need close by. The commercial areas are in blue and their apartment is shown with a red circle. A medical centre opened up on the second floor of the building which had various consultants like a General Physician, an eye doctor, a hearing aid retailer, and a gym. This made their life much easier.

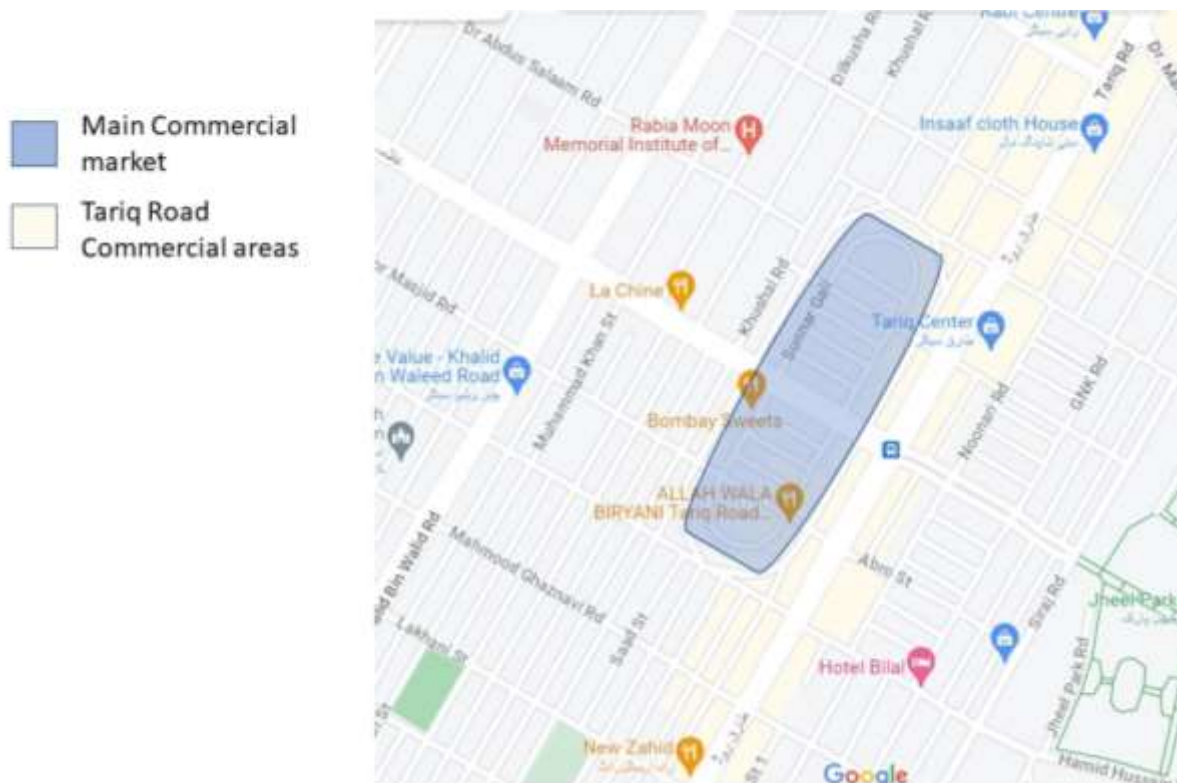


Image 85 PECHS, Tariq Road, Karachi. The bustling bazaar is along main Tariq Road, and the market is nestled in an oval shape within the residential area, Google maps

Tariq Road area of PECHS has a similar developmental graph as Bahadurabad and the commercial market was planned in a pill-like shape with parks at either end of the semi circles with residential apartments around them. The shops and bazaars of Tariq Road have flourished in the past couple of decades, and it is one of the many conveniences of the area. Before moving out of Karachi, my husband and I lived in the area and I had loved being able to go shopping so conveniently and create a sense of familiarity with the people who lived and worked in that area. I never felt the need to drive, I could easily walk or take a short rickshaw ride to get anything I needed.

For its affordability, convenience of location, availability of public transit, and culturally appropriate retail shops and services the Thorncliffe Park neighbourhood stands out as the preferred area for South Asian residents. The density of the area is a serious concern, and it would not be wise to increase that in any way. But it provides the residents with all their needs and can perhaps provide a model for future developments with the learnings from the successes and failures of the design.

Understanding the South Asian Muslim culture: graduated entry and levels of privacy

To explain the need for privacy at entrance areas according to cultural and religious norms, I will use the floor plan of my grandparents' house to explain the concept of graduated entry, the different levels of privacy in a South Asian home. The image below shows their home and the drawing next to it is the plan drawn from memory. This house was not designed by an architect or an engineer. According to my mother it was my grandfather and the contractor who placed the rooms as was common practice in those days.



Image 86 Image of my grandparents' house built in 1955 (author)

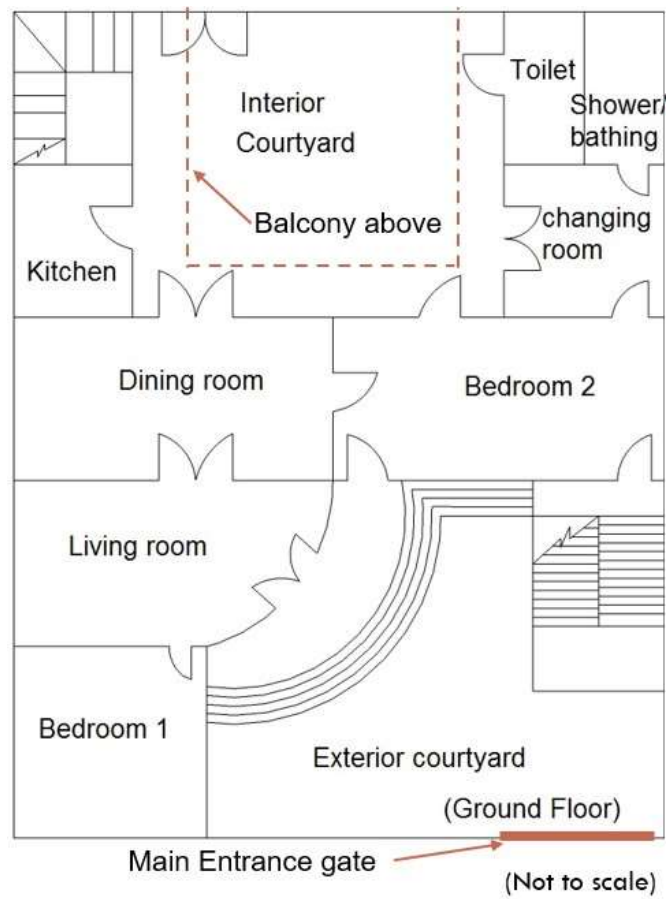


Image 87 Estimated floor plan of the house (author)

The image of the house is from the street. The main gate opens into a semi-private exterior courtyard. If the male visitor was an outsider who came on business, then they are seated in the exterior courtyard and the male members of the family can go out there to meet with them. Vendors and delivery people are allowed access into the exterior courtyard only. If it is a known person, or a family friend that the women of the home are familiar with then they are invited into the main living room. The rest of the house is still quite separate from the living room and according to the Islamic traditions there is still some visual privacy for the family. If they are relatives or people that the family is comfortable enough to invite into the dining room then the women join as well, otherwise they are served food in the living room. But with time these values have undergone a considerable change and ‘modernization’, so the social behaviour is not bound by those traditional values anymore. Hopefully, this explains the debate the participants were having whether to combine the kitchen, dining, and living areas.

Eastern versus Western designs

This was an important question for the research and I repeatedly asked my participants if they felt there was a difference in Eastern and Western designs. I asked them what would make them feel comfortable in an environment and that would evoke a sense of familiarity and belonging?

At first they didn’t understand what I was trying to ask. One of them also got a bit irritated and asked: Why would anyone build what we need? Won’t they consider the needs of the majority of the people? I explained that the point of an inclusive design is to consider the needs of those that are usually overlooked by mainstream design.

Then after they had completed their collages, it seemed they had a better understanding of my question and two of them responded by saying that in reality, in today’s world, there is not much difference.

MI said that most of the construction in the South Asian region and in other regions of the world follows the Western styles which is the dominant design. Since colonization people in Pakistan and in India as well do not build their homes and apartments like they used to, so the problems of how the spaces progress from the public spaces to the private spaces exist in there as well. The addition of Islamic art and craft work can make a big difference in creating that sense of belonging. He said that he would love to see calligraphy and jali work incorporated in the designs.

AR said that it seems to be a 50-50 proportion of Eastern and Western designs. There aren't many big differences, just small ones that matter a lot. Like taking the different anthropometric measurements into consideration for millwork, providing more privacy at entrances, better storage solutions at entrance and in bedrooms, and the bathroom designs that can provide hand showers and areas for wudu.

Another problem is the storage of shoes in the foyer, the reason being that many Muslims, particularly women, pray in the home. So, the floors must be kept absolutely clean and free of any dirt from the outdoors, and this is why it is undesirable to bring outside shoes into the house. The dining areas are also very close to the main entrance so to keep it clean it is better to leave shoes at the entrance. The washrooms have separate slippers which are worn only in the washrooms and left at the door as any splashes of urine or dirty water would be carried in the home if worn outside the washrooms. There is a need to create a proper storage solution for frequently worn shoes at the entrance.

My father designed and built a shoe cabinet and built-in closets for his apartment in Karachi, Pakistan. The only thing he regrets is using the flip-up doors for the upper cabinets which turned out to be difficult to use. The images for these can be found in the appendix.

Lack of washrooms for women

SP mentioned the problem of not having enough toilets and being unable to hold sometimes. I had heard of similar issues in building toilets for women by Karim for their community centres. At one point during the presentation at MGH he showed me the designs for their community centres and talked about how they have the inadequacy of the building code by building an equal number of toilets for men and women. They found that they need more toilets for women as the older ladies have a harder time with incontinence and then accidents happen in the washroom queues which can cause great embarrassment for the seniors. So they have had to build additional universal washrooms to help the elderly women maintain their dignity. Also, women usually have children with them so again, the number of toilets is not enough, and for children it is hard to wait as long as adults to use the toilets.

To shed some light on the reference in the conversation about the separation of 'clean' and 'dirty' areas in the bathroom. Until the 1950's when my grandfather's house was built, the toilet waste was collected on a regular basis by the municipality, and it was located at one end of the

house. The sink and bathing room were also separate from each other. The toilet was kept separate even after the flushable toilets were installed and it was still considered proper to have the bathing area separate. Japanese bathrooms still follow these rules and the ideas of keeping certain elements of the bathroom separate from each other is not unusual in many eastern cultures. Although now it has become normal to have the shower, sink, and toilet in the same bathroom, the location of the three elements does need a little bit of consideration. In some homes in Pakistan I have seen a half wall next to the toilet to create that separation from the other two.

Anthropometric considerations

There is not enough research to discuss the importance of the lower heights of kitchen countertops and shelving for older adults, but it is a consideration that is long overdue. One paper (Bonenberg, et al., 2019) found that the ease of preparing meals and height adjustment of kitchen millwork and furniture are the two top priorities for elderly and disabled users. Lowering the working and storage shelving by a couple of inches can make a big difference to people whose bodies have changed due to age or disability. I have myself had trouble with working at the 36-inch-high countertop when I injured my shoulder joints due to a fall. I'm of an average height for a South Asian woman i.e., 5 feet 2 inches, and I found that working at a lower surface let me use my body weight to reduce effort at shoulder joints when cutting, chopping and mixing. I observed the same for my mother after my own experience and asked her the maximum height that would be comfortable for her, she used to be 4 feet 11 inches tall but has now shrunk a bit due to ageing. We found that a 34-inch height countertop was a very good height for both of us. Her most comfortable highest reach for a cabinet shelf was at 2 feet 6 inches above the 34-inch countertop.

Flooring materials

Flooring is an important part of the discussions for seniors. As people age their sense of balance diminishes and they become unsure about their footing (Reimann, et al., 2020). The participants stressed the importance of having floors that reduce impact in case of falls. At Generations, Karim explained to me that they can't have carpeting as it can get very difficult to clean up in case of spills and other accidents and it can become expensive to replace so they had LVT flooring with rubber backing to absorb the impact of any falls.

An experimental image

I had no. 34 as an experimental image of a building in northern Pakistan which experiences cold weather, and to my surprise no one selected it or talked about it. This made me wonder about my own perception of eastern designs. Then as I went through the images they had selected in the collages I realized that they were preferring contemporary designs and image 34 was not a contemporary building.

Food options in cafes on the road

An interesting point was made by SP when describing the available options for snacks and refreshments on the road. She said that on road trips with family whenever they stop for breaks, the available options for snacks at places like Tim Hortons are all sweet. Her voice held a tone of question and surprise, she asked why there aren't any options for people with diabetes. I had never thought of it and never thought to question it. In Pakistan many of our snack options are savoury and not sweet as in Canadian cafes. Looking at the rise of diabetes even in the younger generations it does seem sensible to make food more inclusive of those who cannot eat sugar.

A note on translation: Working with bilingual participants.

There are some challenges when working with bilingual participants who are equally comfortable with both Urdu and English. Being bilingual, I find myself switching between the two languages frequently, but translation becomes a bit of an issue. I chose to translate the Urdu contextually rather than verbatim because of two reasons:

1. The grammatical structures are different, and it would further confuse the meaning for English speakers if translated verbatim.
2. Architectural and design research does not require precise translation as research, for example, in the healthcare would. Discussing this issue with Imroze Deol, a fellow South Asian classmate, we had a conversation and out of the discussion came the need of transcreation in language translation. He mentioned how in healthcare it is important to have symptoms translated properly because that can affect diagnosis. He gave the example of how there isn't a word for depression in Panjabi and people describe it as "I feel broken".

Whereas, in my opinion, in architectural research it is not as crucial to translate in that manner.

Chapter 5 Results and Design Suggestions

Conceptual drawings using SketchUp.

As part of the results from the interviews with the focus group, I have drawn up some SketchUp models to show some of the thoughts I gathered and some anthropometric investigations I conducted with my mother.

Entrance



Image A: The entrance area should accommodate a wheelchair's turning radius (author)

- As the most basic requirement, the entrance should be large enough to accommodate a wheelchair's turning radius which is currently 5 foot in diameter according to the Ontario Building Code (OBC).

- There can be a sliding screen door to provide privacy for the interior spaces so that they are shielded from direct view of the main door as in Image B below.
- The sliding door may not be the best option in terms of stability or strength for frequent and long-term use. This image is meant to convey that a design solution is required for this area as Images 11 and 12 of the Appendix shows (see Appendix 4).
- The closet at the entrance should have accessible heights which would make it easy for everyone to use it (Image C). The built-in shelving is sturdier, more comfortable to use, and the hanging rods at two heights will allow wheelchair users to reach it as well.



Image B: The sliding screen door shields the view of the private interior space from the entrance door. (author)



*Image C: The entrance closet should have accessible hanging rods and shoe storage shelves
(author)*

Kitchen



Image D: The kitchen counter and shelving heights (author)

- Lowering the kitchen countertops by two inches to 34-inch height instead of the standard 36-inch height will make a big difference in the comfort of the women for meal preparation.
- The highest shelf height that can be reached with provision for grasping, pushing, and pulling objects, is 2 feet 6 inches above the 34-inch countertop. Any shelving above that will not be useful for the seniors who will need someone's help to get there.
- The face of the cabinet above the fridge should be kept flush with the fridge as it becomes unusable if it is set back from the fridge.

Bedroom closet



Image E: Heights and shelving configuration for the bedroom closet (author)

- Accessible closets can solve problems for everyone. The heights will be comfortable for many more people to use.
- Seniors need their closets to be sturdy and built-in closets with drawers and shelving are preferred.
- Any space above 7 feet will not be usable unless there are pull-down or drop-down storage systems.

Recreation Hall (conceptual)



Image F: Conceptual floor plan of a Recreation Hall (author)



Image G: Entrance to the Recreation Hall featuring Jali work (author)



Image G: Floor plan with section markers



Section 1 (author)



Section 2 (author)



Section 3 (author)



Section 4 (author)

- The Recreation Hall is conceived by the participants to have references to Islamic art and crafts to create that sense of belonging and familiarity.
- The activities they envisioned happening here are: Board games like ludo, carrom, chess/ checkers, Connect 4.
- The light activities also included table tennis and billiards/ pool.

- There is an area for refreshments and snacks also provided with a small kitchenette and a sink. It also includes vending machines for snacks and drinks (section 2).



Image H: The games area with a pool/billiards table and a table tennis table (author)



Image I: Another view of the table tennis and pool table area (author)



Image J: the refreshments area (author)



Image K: Carrom and monopoly tables (author)



Image L: Sitting area in games room.

Chapter 6

Discussion and Conclusion

It was very interesting to discover that designing for Muslim seniors of South Asian origin does not require anything that is radically different from how spaces are designed for seniors in general. The best practices that are generally followed in the industry make sense for them as well such as creating accessible spaces, incorporating biophilia, designing with daylight to create bright, open spaces, locating lounges and placing seating strategically to encourage social interaction and physical activity, and providing opportunities to learn new skills and maintain other interests. The incorporation of retail and other services within the same building, or at a short walking distance, to help seniors maintain their independence is good not just for South Asian seniors but seems to be applicable to most of the elderly people. Similarly, designing low to mid-rise buildings, ensuring proper maintenance of facilities like elevators, designing better access to transportation, creating green spaces around, providing on-site healthcare services, and creating opportunities for inter-generational interaction are all design elements that are beneficial not for just one particular ethnic group. However, there are a few aspects that need to be considered when designing for this particular segment of the population:

- Create designs that incorporate multigenerational living, according to cultural values seniors prefer to live with their children and grandchildren.
- Design for privacy between the public and private spaces especially at entrances
- Design better storage for shoes at entrance
- Closet design to include built-in millwork.
- Provide options for separate social spaces for men and women like in living rooms/ family rooms.
- Activity spaces that either have a slight visual separation for men and women or that can be worked with a schedule to allow women privacy.
- Design areas for activities that are relevant to this cultural group like yoga, walking, and cricket.
- Increasing the number of toilets for women (more research is required to understand this better)

- Lower kitchen countertops, bathroom vanities, and shelving by at least 2 inches to reduce back and shoulder strain.
- Incorporate areas for wudu as many Muslims wash their feet before prayers.
- Include prayer rooms (musalla) in the building and locate the community close to a main mosque/ masjid.
- It would be important to consider the materials, furnishings, colours, and textures chosen to be relevant to the cultural sensibilities. Other design elements like geometric patterns, arches, and jali work should be incorporated.

People's social lives are inexorably connected with the physical design of the environments. As an Interior Designer I am used to seeing the quantifiable elements rather than the subjective ones. During my research, I was reminded of Bryan Lawson's book 'How Designers think' (Lawson, 2005) that architects and designers tend to put faith in things that they can measure. How social interaction occurs between people of a particular culture can only be understood after speaking with them to understand how it takes place in their culture. The importance of social interaction has been proven by several studies in health sciences and social sciences to affect the mental and physical health of seniors. Researchers have found that "frequent interactions—monthly or weekly—with family and friends and having someone to talk to reduce the risk of getting dementia" (Mahalingam, et al., 2023) They also found that living with others and doing community activities increased longevity.

Importance of co-design with various groups

During this research I heard many problems of the South Asian community in general, and the seniors in particular, and the social interaction and physical design of spaces seem to have a great bearing on each other. One thing was clear from the case study and interviews with the different stakeholders that for any design to be culturally appropriate and for any design strategy to be successful, it is essential for the members of that community to be part of the design process. Our built environment is a complex system and co-design "is a way of thinking about living in complex systems and shaping them in the direction of preferred futures" (Gatenby, 2019). This would involve consultations with the community at the different stages:

Stage 1: Before the design, in the Pre-Design research phase

Time and again it has been proven that involving the users and design specialists in dialogue before the planning begins is the best way to ensure that the resulting design is relevant and there are no additional costs for band aid solutions after construction. The various consultants that are brought in the later stages should be involved in the initial meetings as well to identify and verbalize any gaps the community themselves might not be able to think of as relevant.

As I have learnt, an important part of research is to listen to not only what is being said but to develop the skill to ask questions about what is not being said. The different consultants will help to draw out that information from the future users of the design.

Stage 2: During the Schematic Design Phase, and into early Design Development

As the design progresses through the initial design development stage, it is crucial to involve the community in the iteration of ideas. MGH went through several iterations of the design before the centre was built. Even though both the architect and the client were mainly South Asian, the design for any specific community is best understood by the community themselves. There must be multiple ways to present the information to the community members who do not think like professional architects and designers do. Using technology with physical models combined with hand drawings and site visits is a great way to help potential users understand the design.

The challenge with technology

Technology is a complicated tool to use, where it solves problems, it can create new ones as well. At Generations when we were walking outside in the late evening in the front area, I saw light fixtures under trees that were meant to shine from underneath them to give them the ‘rendering glow’ at night. What the designers failed to take note of were the streetlights right next to the trees. The bright light of the streetlights made the installation ineffective thus creating a waste of time and money. There are many on-going debates over the limits of the use of technology which will take an interesting turn in the future as we factor in Artificial Intelligence and its applications to design problems.

Stage 3: The post occupancy stage for future learning.

The difficult thing about architectural design is that it is not easy to create 1:1 scaled prototypes as, for example, furniture designers or fashion designers might be able to. Every project is a new

step in learning, there are always new aspects that come to light once the space becomes occupied. The design industry has been going through rapid changes in recent years and as new knowledge is discovered and new technologies are applied there will be even more changes in how we live, work, and relate to our environment. A post occupancy evaluation can become an invaluable tool to learn about the built projects for future applications.

Nawal's comment about women not being able to use the amenities in the seniors' building is an example of an issue that can be discussed in a post-occupancy study with potential solutions which might involve either adding physical separations or by designating certain hours of the day/days of the week to be women only.

Designing spaces across the generations

I mentioned earlier about locating daycare spaces within a seniors' residential facility. A different segment of our population can be successfully paired with the elderly. Designing multigenerational spaces is not a new concept for Eastern cultures, but it is apparently becoming a growing trend in Canada and US as younger generations, particularly post-secondary students, face economic hardships and seniors have to deal with growing loneliness and isolation. In Toronto there are programs like Canada HomeShare that help seniors and post-secondary students find a suitable match (Pedersen, 2021) (Canada HomeShare, 2021). Multigenerational housing has been in existence in Europe and Asia for a long time but now it is gaining popularity in this part of the world as well (McLaughlin, 2020). I met an elderly lady at a social event, and we got talking about her as she is a widow living in Kitchener with her son's family living in Scarborough. She lives in a mid-rise building with outdoor areas to sit, and she had many retail and grocery stores close by that she can go out and shop herself. Curious about this unusual arrangement for an elderly South Asian woman, I asked her why she lives so far away from her son. She said that the building she lives in has many students from India who drop by to say hello and to run errands for her. In exchange for their help she sometimes cooks for them for a low price, and she enjoys having her own space to herself. Her son and his family come to visit her from time to time and everyone has their own space to return to.

It would be a great idea if apartment buildings for seniors and students are purposefully designed to keep this need in mind.

Limitations and Recommendations for future research

The limitations encountered during the focus group interactions have been mentioned earlier when discussing research methodology, however there are a few more aspects that are worth noting here. I found that working with cultural organizations and mosques from South Asian Muslim communities requires a considerable amount of time, persistence, and planning. It is important to have connections with people in the administrative positions in these organizations as getting a response can become a challenge for strangers. Also, a phone call is always better than an email in English as they are more comfortable speaking in Urdu/Hindi. Further inquiry into the different aspects of this research can be undertaken with a larger number of participants to produce better results.

Areas for future research

There is further research required in several areas. The need for extra toilets for older women due to incontinence problems is an important factor, necessary for the elderly to maintain their dignity. I heard from multiple perspectives that the Building Codes have an insufficient understanding of women's needs, and this is an area that requires further investigation.

Dr. Murtaza Haider and Dr. Mark Lachmann both talked about the higher success of senior housing on a smaller scale; Dr. Lachmann had given examples of some community housing projects in houses where a small group of people were living together as compared to larger housing projects with a more institutional setting. Improving and creating more opportunities for such housing models is also an opportunity for a future inquiry.

Another area worth researching in the future would be the connection between poorly maintained elevators and how they affect the isolation of people who depend on them for mobility. As I heard repeatedly from people who live in high rise and who avoid living in high rise apartments, badly maintained elevator systems can cause people frustration on a daily basis and can make them avoid using them.

There are a few projects for seniors' homes within the South Asian Muslim communities that have received approval for construction and the learnings from this MRP can be applied towards their design as well.

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Appendices

Appendix 1: Presentation to Focus Group participants.



Banking



Groceries and Halal meat



Hair salon and other personal grooming

What services would you like nearby?

Would you want these retail shops close by or in the same building?

What other services do you need?



Jewellery and other items



Coffee shops

How do you socialize?

- Do you go out for coffee or tea?
- Or do you prefer to have people over at home?
- Why?
- Do you prefer to eat out with friends and relatives?
- Or do you prefer to invite them to your home?



Chai at home or at a cafe



Eating out with friends and family



8



10



9



11

Shopping for clothing and shoes, etc.



12

On-site daycare to see and hear children (maybe you can see your grandchildren daily)

Healthcare services



13

Dentist



14

Doctor



15

Vision and hearing care



16

Labs nearby for doctor prescribed tests



17

Pharmacy



Playing cards and board games



Arts and crafts

How do you like to spend your free time?

- Which activities do you enjoy?
- Would you like to try out something new?



Playing pool



Lounges for sunlight and views



Gardening



Exercise, physical therapy and fitness

How do you stay active and fit?



Sitting in a park for relaxation



Playing golf



Swimming



Walking in a green area



Taking the bus



Subway



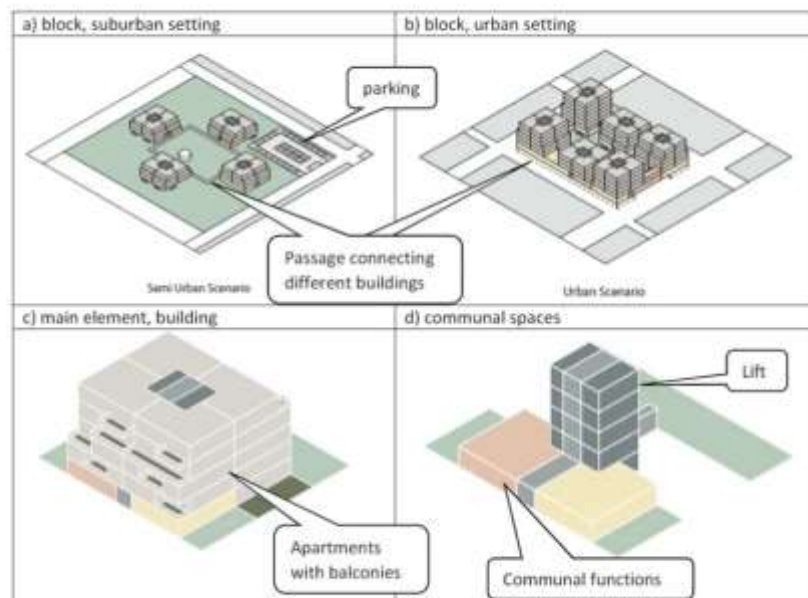
Taxi or Uber

How do you get around?

- Do you use public transit?
- Do you drive?
- Is taking public transit easy?
- What are some of the difficulties you experience?
- What do you wish for in your community?

WHAT SIZE AND SHAPE OF BUILDING?

- What kind of building would you prefer?
- Which shapes and sizes feel beautiful to you?
- What colours would you like?
- Which materials make you feel good (brick, glass, wood, metal, etc.)?
- What frustrates you about the buildings around you?
- What changes would you like to see?





Images of various buildings

[not in printed images, website: <https://www.primetier.com/communities/cotturmo/santa-clara/>]



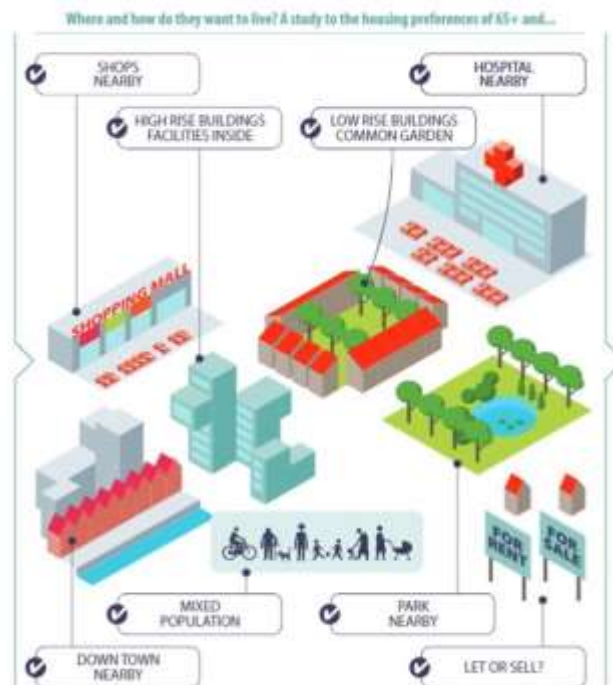


Image 38-B

HOUSING PREFERENCES

Where and how would you like to live?

- Low rise (4-5 floors)
- Medium rise (5-12 floors)
- High rise (over 12 floors)
- In a city or away from the city?
- Near shops or shops in same building?
- Near a hospital or medical services in the same building?
- Near a park or a covered walking area in the building?
- What winter activities would you prefer for maintaining your health?
- What kind of population would you like in the neighbourhood?
- Would you like to live near a masjid or have separate male/female prayer spaces in the building?



CORRIDORS AND HALLWAYS

(These images are not part of printed images)



Corridor 1



Corridor 2

ATRIUMS AND COURTYARDS



39



42





Areas for events or group activities

- What do you think about the size, colours, lighting, materials, and seating of these rooms?
- Is a good view important for these rooms?
- Would you like an area like that (like a party room)?
- Would you like large events and group activities?



Areas to relax and chat with friends

- Which of these rooms do you like?
- Is it important to have a good view in these areas?
- What do you think of the colours, materials, seating, and lighting?





Religious activities and celebrations

- Would you prefer a masjid nearby or would you like to have separate male/female prayer areas in the building?
- What are some of the difficulties you experience in practicing your faith?



KITCHENS

- What kind of kitchens do you like?
- Do you like open kitchens, semi-enclosed, or completely separate?
- What kind of appliances do you prefer?
- What do you feel is the perfect counter height for you? Do you wish the counters were lower or higher?





Dining areas

- Do you prefer dining areas with or without windows? Or patio doors?
- What kind of walls, ceiling, and flooring would you prefer? Why?
- Do you feel there is a 'western' and 'eastern' style of dining rooms/ areas?
- What makes it different?
- Which materials or decorations would make it feel more culturally relevant to you?

Location of the dining area/room

- Would you prefer an open dining area, a partially separated area, or a completely separate dining room? Why?
- Do you think an open dining area is better with a kitchen or a living room?





LIVING ROOMS

- What size of living rooms are you comfortable with?
- What is the minimum capacity of a living room for you? Why?
- What colours and finishes would you like? Do you feel a difference in 'eastern' and 'western' styles?
- What kind of furniture would you like?



BEDROOMS

- What size and kind of beds and bedrooms would you prefer?
- Is there a particular furniture style you like or find easy to use?
- What colours, flooring, lighting, and height of rooms would you prefer?
- Would you feel comfortable with large, medium (no. 69), or small windows? Window coverings?



Closets and Storage

- Do you find the closets and storage easy or difficult to use?
- What are some of the things you wish you could change?



HOME MAINTENANCE & DAILY CHORES

- What are some of the challenges you face?
- Are there some things you like and dislike?
- Do you prefer to do all your washing and cleaning yourself? What kind of appliances do you like?



SHOWERING AND BATHING

- What are some of the features of washrooms in Canada that you like and dislike?
- What colours, flooring & wall materials, storage, hooks, shelves, lighting, exhaust, etc. would you like?
- What do you wish was different?
- Which features are absolutely necessary?
- Do you like bathtubs, open shower areas, or enclosed (glass) showers? Why?





WHEELCHAIR ACCESSIBLE (BARRIER-FREE) WASHROOMS



CLEANSING

- What kind of plumbing would you prefer for cleansing?
- Would you prefer a hand shower or a bidet?
- What other containers or appliances do you use?
- What are some of the challenges?
- Which cleansing method is the most preferable?

82



83



(82 and 83 not printed, images sourced from Amazon and Wayfair)

Appendix 2: Guide to creating a collage sent to participants.

MAKING A COLLAGE

A short guide to help you with your art work and our second meeting.

Steps to follow

Step 1: Select the images that you feel you really like

Step 2: Lay them out on the cardstock sheet. You can either create a pattern with them (circular, wavy, etc.), or a grid.

You can even lay them out randomly, or by colour scheme.

Really any way you like!

You can also use the back side of the cardstock sheet if you feel you have run out of space.

Step 3: When you are satisfied with the layout, then you can glue the pictures to the cardstock sheet.

Step 4: Don't forget to write your name!

Step 5: This is the most important step! Please tell me about your art work and the images you chose. This is what our second meeting will be about.



Hope you have fun with it!

[illegible]

EXAMPLE 2





EXAMPLE 5

Appendix 3: Images of closets and storage spaces

Images of a shoe cabinet and built-in closet in Pakistan.



Image 1: Shoe cabinet (Naqvi, 2022)



Image 2: Built-in desk between the closets (Naqvi, 2022)



Image 3: One of the built-in closets (Naqvi, 2022)



Image 4: Built-in closets in another bedroom (Naqvi, 2022)



Image 5: A typical wardrobe in Karachi, Pakistan (Naqvi, 2022)

Appendix 4

Images of Collages received from participants.



Image 6: AR (front of the collage)



Image 7: AR (back of the collage)



Image 10: SP (front of collage)



Image 11: Photograph of a curtain hanging in the foyer of participant's apartment (credit: AR)



Image 12: Photograph of the foyer of a townhouse of a Muslim South Asian family (credit: author, by permission of homeowner). The curtain also keeps the cold air out of the house by creating a vestibule.

Appendix 5

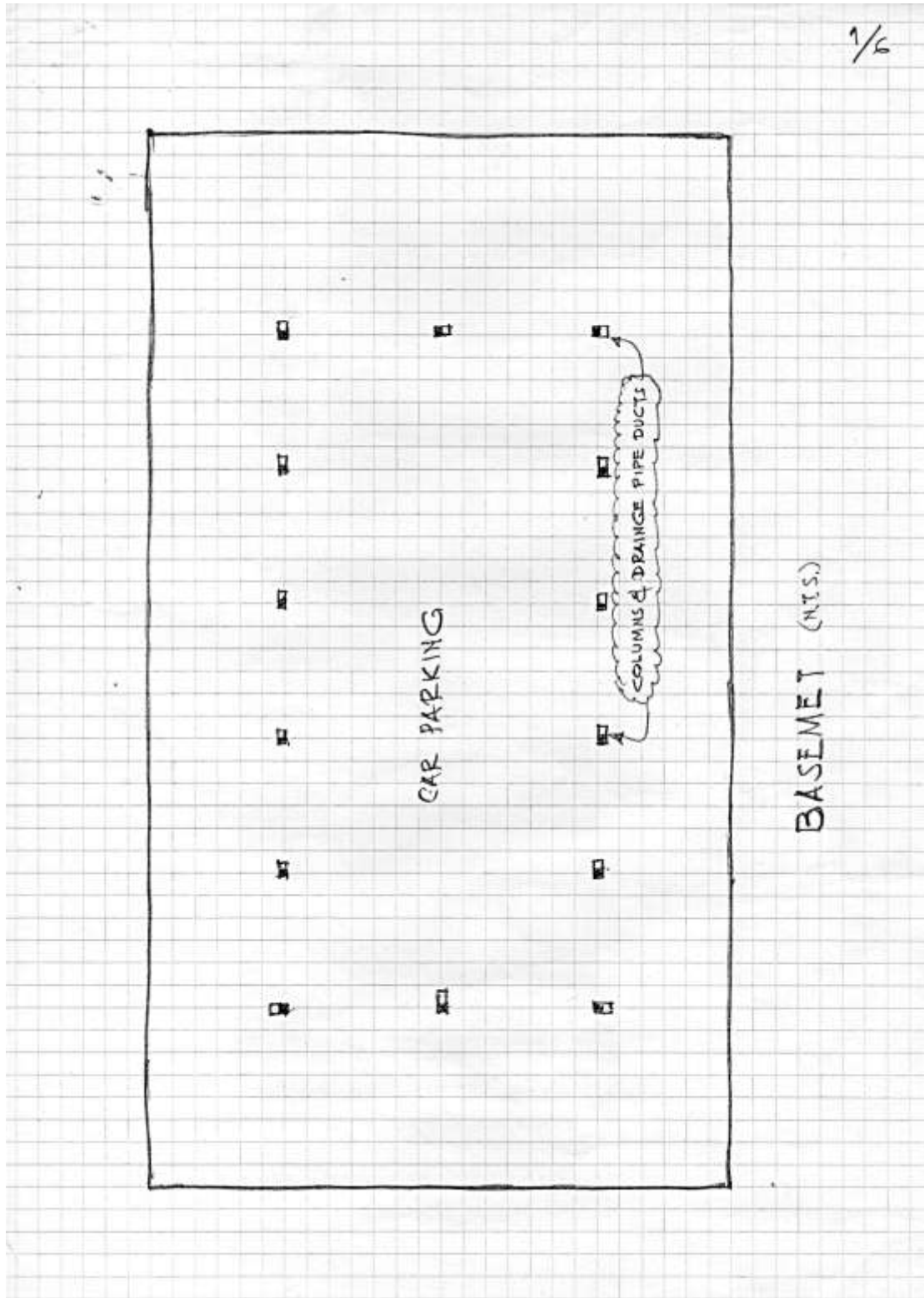
Conceptual design by Fakhrul Hasan Naqvi

The following pages are a conceptual design of a building drawn up by my father for his vision of a seniors' residential complex in Canada. These drawings are not to scale (N.T.S.) and are merely to convey ideas and concepts.

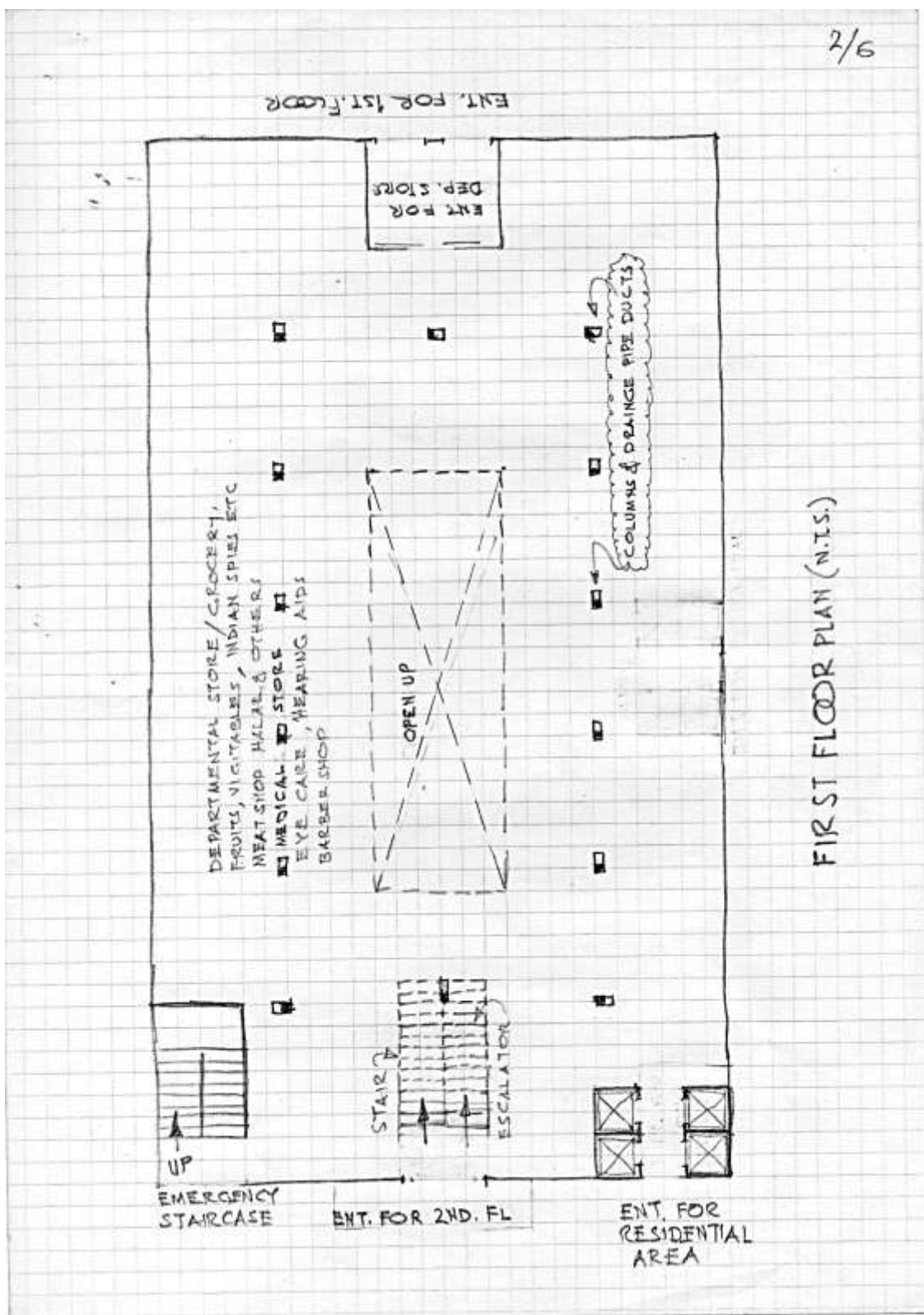
Cover page



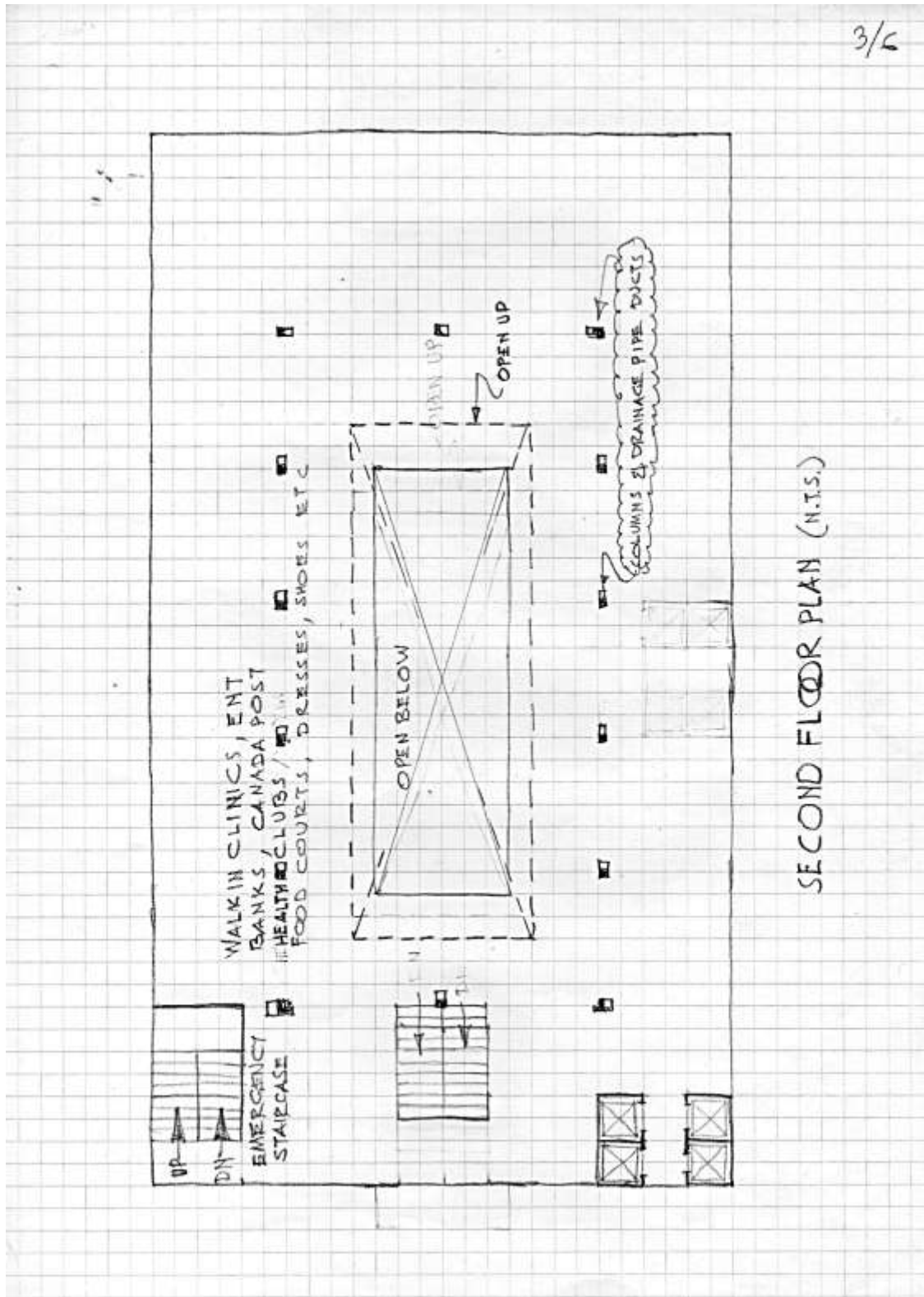
The cover page (Naqvi, 2022)

Conceptual Design

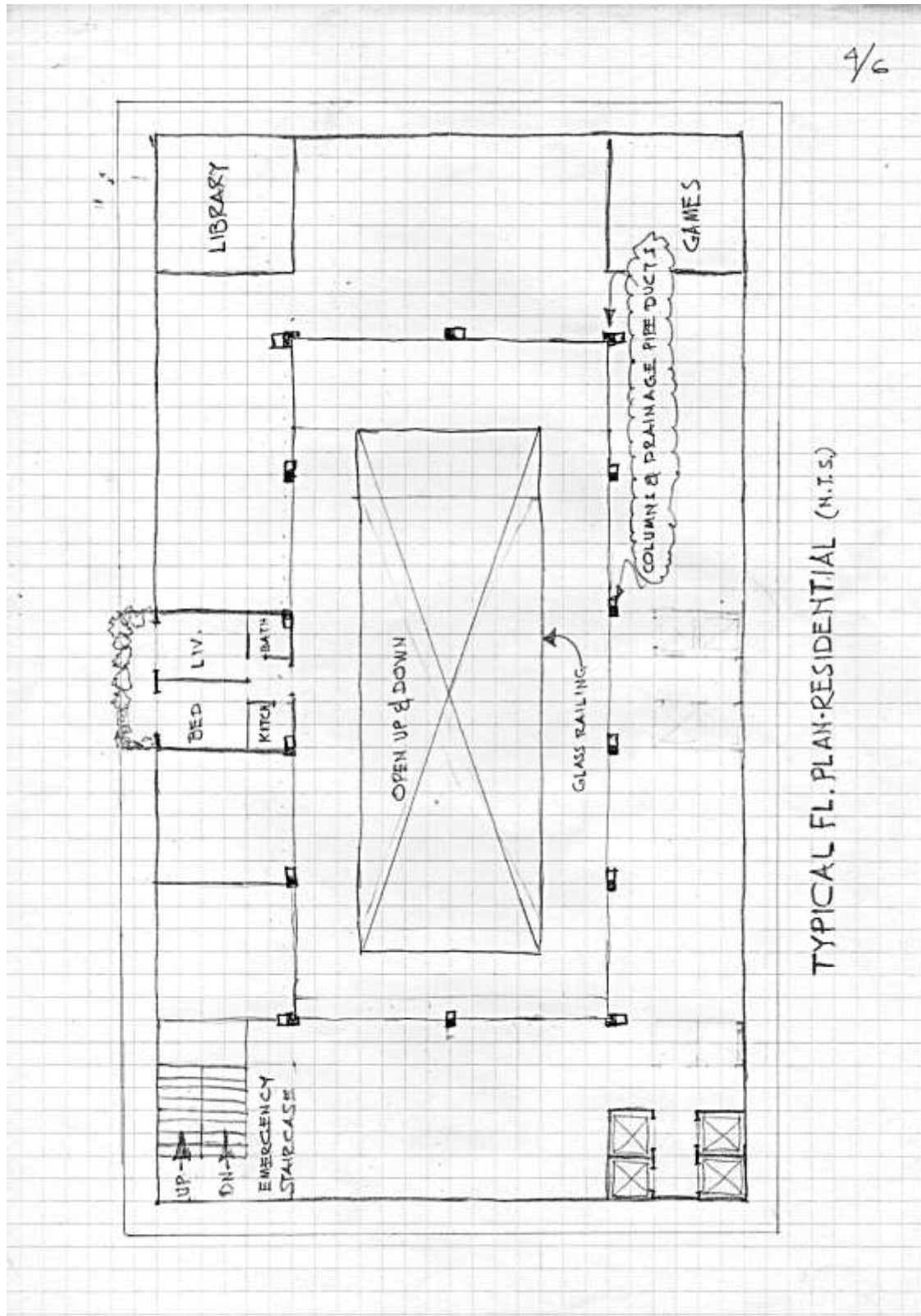
Page 1 Basement Plan with columns showing the drainage pipe ducts (Naqvi, 2022).



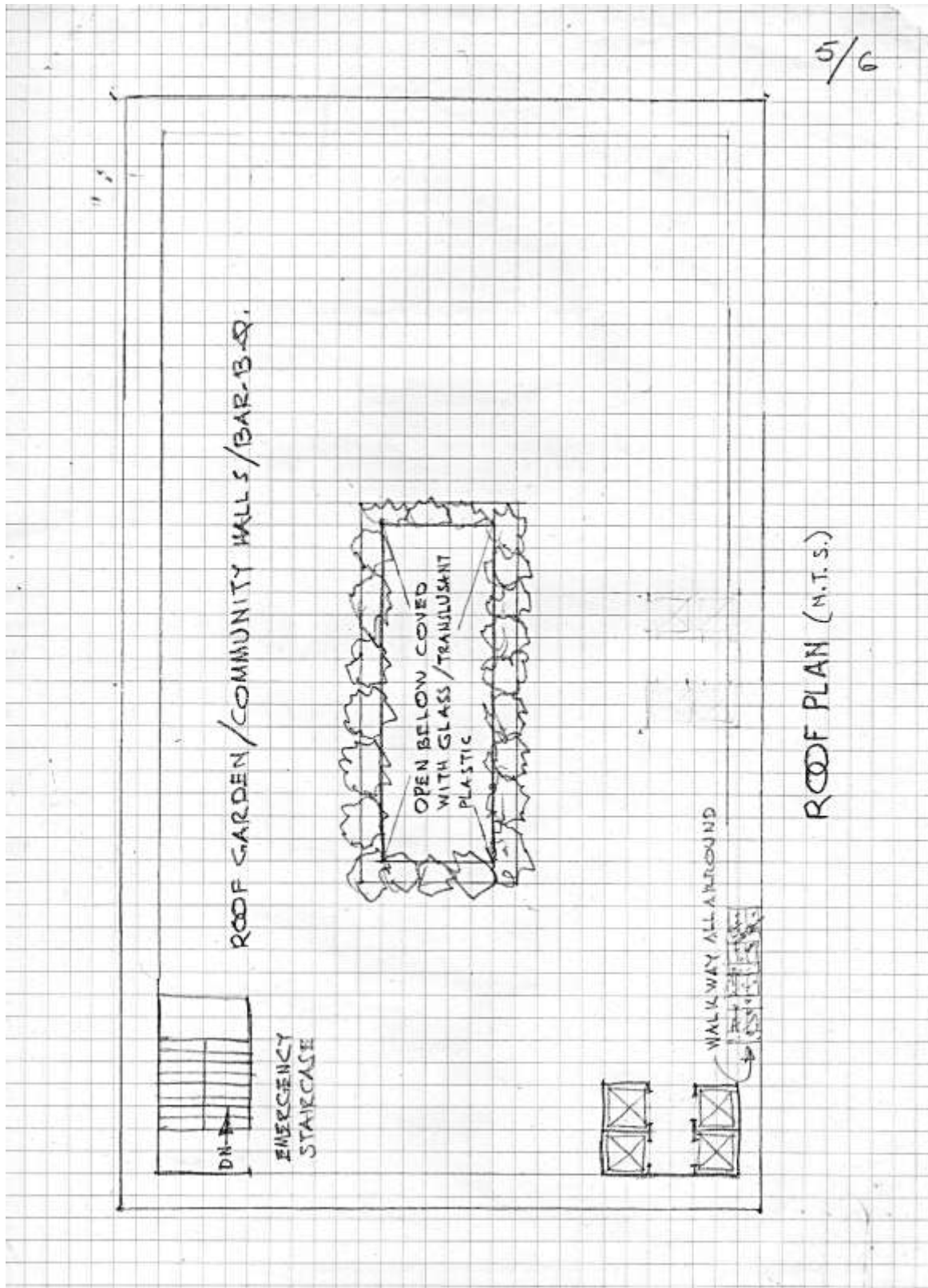
Page 2 First Floor Plan (Naqvi, 2022)



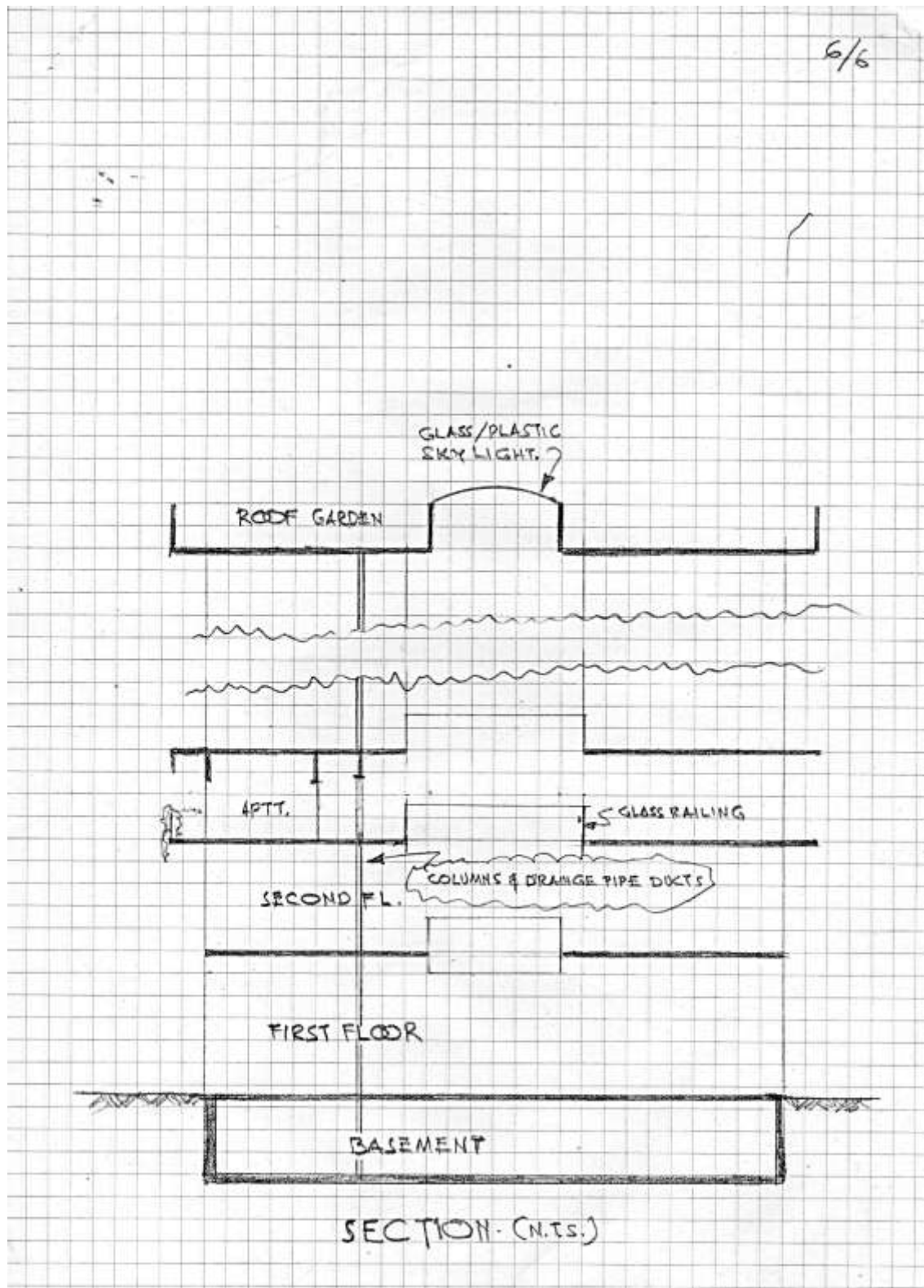
Page 3 Second Floor Plan (Naqvi, 2022)



Page 4 Typical floor plan (Naqvi, 2022)



Page 5 The Roof Plan showing the roof garden area and the atrium (Naqvi, 2022)



Page 6 Section of the building. The columns with the drainage pipe ducts, the sizes of the openings through the floors, and the railings. (Naqvi, 2022)

Notes from the explanation of above sketches.

Translated from Urdu

This is obviously not for a single person but for a group of people whose temperaments are very different from each other and even for a single person the mood varies throughout the day and even through the weeks. Sometimes he/she feels like they want everything available nearby and other times they may feel that they would want to go for a walk to get something.

The absolutely necessary things in the building are pharmacy, a medical clinic, grocery with halal meat, hairdresser, banking, and a post office.

All the services should be planned so that at least basics should be available, and it should be located in an area where if other items are needed the retail/commercial shops are not too far away from the seniors to get by themselves.

It needs balconies for sure.

Notes from the drawings

Car park is in the basement, the first floor should have:

- A department store (many varieties of items which include furniture, stationary, kitchenware, a small bookstore, like a mini-Walmart)
- Grocery (fruits & vegetables, Indian spices, etc.)
- Meat shop for Halal meat and others
- Pharmacy
- Eye care (testing and spectacles)
- Hearing aids
- Hairdresser

The second floor should have the following:

- A doctor's clinic
- Banking services
- Canada Post
- Food court
- Gym/Health club/ Exercise room

- Clothing and shoes store

Typical floors should have:

- Studio flats (seniors who live alone)
- 1 bed + living rm (for a couple)
- 2 bed + living rm

The roof top spaces should be only for the residents of the building, and it can have:

- A roof garden.
- Community halls (separate spaces and washrooms for men and women)
- BBQ spaces

Other Details:

- He thought that we could place the vertical circulation in the corners so that the awkward space can be utilized better.
- Columns should carry the drainage lines with them.
- The skylight of the atrium should be operable. It can be opened up in the summer and closed in the winter.