REFORESTING FOREST LAWN SOUTH

Advanced Professional Planning Studio

SAPL |University of Calgary |Winter 2022

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Contents

1. Acknowledgement

This study was started and completed on Treaty 7 territory. We give thanks to the First Peoples of this region, including the Blackfoot Confederacy (Siksika, Kainai, Piikani), the Tsuut'ina, the Stoney Nakoda Nations, and the Metis Nation (Region 3), who continue to make this place their home.

2. Introduction

2.1. About the Project

The project International Avenue Tactical was aimed at exploring contemporary themes in planning and professional planning practice. It is centred around real-world problem involving analysis, synthesis, and formulation of a planning or urban design solution.

The project is a studio exercise, executed by the students of University of Calgary, Gaurav Prasad and Nilendu Bala, with Professor Fabian Neuhaus as the Instructor, along with the participation of the members of Forest Lawn Community Association.

The goal for the project was to find the major concerns in the community of Forest Lawn South and to seek planning solutions including tactical interventions to improve the overall living experience of the community. The project started in mid-january with the challenge of covid restrictions and online meetings. From there, the team started visiting the community to gather initial data and started background research of existing policy documents. Three major thrust areas were identified. These were safety, missing identity of the community and uneven spread of green in the community.

Some of the major concerns of the community, that are important to state and that the world and all communities living in it including Forest Lawn are going to face, are increasing level of pollution, unsustainable development leading to climate change, geo-political turbulence which is making the process of development more unstable combined with any unknown threat like the pandemic.

We have considered all the potential challenges and then went on to find best solutions at community level to tackle them.

2.2. Project Timeline

The project can be divided into five phases, the first phase started in January with data collection, the second phases majorly consisted of analysis, the third phases consisted of policy formation. After the rigorous three phases, the implementation phase was activated. The implementation phase started in the spring of 2022 with temporary interventions and followed by the ground work for long term interventions.

First Phase
- Primary Data collection
- Site survey
- Secondary data collection
- Literature study

Second Phase
- Analysis of data
- Overlapping of layers
- Trends of data and future projection

Third Phase
- Formation of policy for every issue
- Proposal for future
- Temporary interventions piloting

Temporary Interventions

Long-Term Interventions
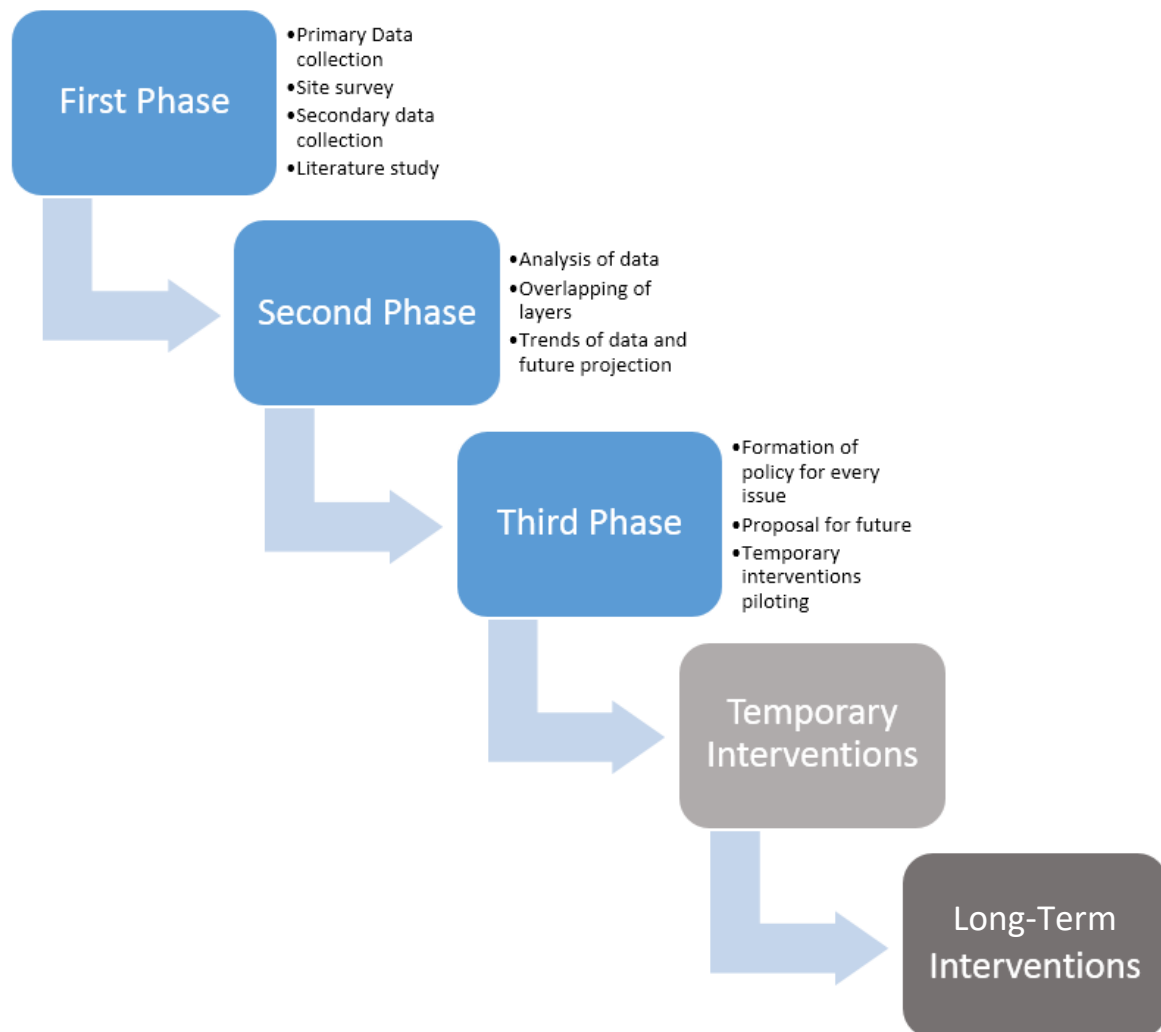
Temporary interventions include, Pop-up markets at weekends by blocking off avenues, making useful street furniture out of household wastes.

Long-term Interventions include, proposal of phase wise development of a high-density housing along the 19th Avenue and making Forest Lawn greener by planting evergreen trees along the streets.

3. Research

3.1. Location

Forest Lawn South is a neighbourhood and part of a former town in the southeast quadrant of Calgary. The neighbourhood is bound by 26 Avenue SE to the south, 36 Street SE to the west, and portions of 52 Street SE and 48 Street SE to the east. It has the multicultural 17 Avenue SE to its north. It has area redevelopment plan in place and is part of the International Avenue Business Revitalization Zone. The community is represented in the Calgary City Council by the Ward 9 councillor.
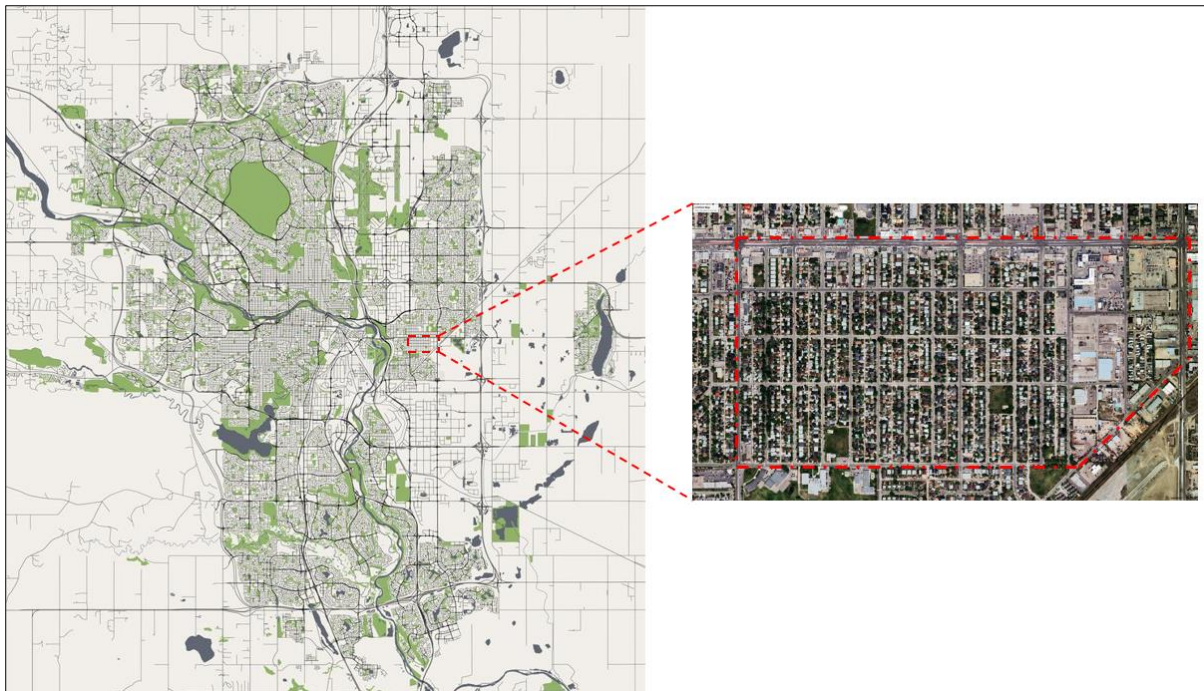

Figure 1: Location of Forest Lawn South

3.2. Demography

The total population of Forest Lawn is around 7000 out of which the population of Forest Lawn south (south of the international avenue) is 2500. The density of the population is 2000/sqkm with total 760 plotted housing spreading across the area of 1.3 sqkm.

3.3. History

In the early 1900s, the region was initially populated. Forest Lawn and neighbouring Albert Park were formed as communities on July 4, 1934, after being part of the Municipal District of Shepard No. 220. Just over a year later, on August 1, 1935, Forest Lawn and Albert Park merged to form the Village of Forest Lawn. Forest Lawn was formed as the Town of Forest Lawn in 1952 and applied for city status in 1958, but the application was never completed. On December 30, 1961, the town was annexed by the City of Calgary, along with portions of the Rocky View No. 44 and Foothills No. 31 municipal districts.

Figure 2: Forest Lawn in its early days.

Figure 3: Forest Lawn City Signage

3.4. Land Use

The existing situation of the community mostly has residential use spreading along 70% of the area with some commercial on north and industrial land use on the eastern side of the site, the amount of park, green or open spaces is insufficient for the existing population.

Land use of the community is primarily residential with commercial restaurant and shops at international avenue, which act as the central axis for community. The international avenue is one of the prominent criteria in making the character of the whole community, it connects to the community to the Downtown via 9 Avenue street and this enhances the overall commercial feel of this street.

Figure 4: Present Land Use Plan of Forest Lawn

4. Issues

Through our observations, we discovered some major planning topics which need to be addressed. There are various challenges that are prevalent at some places in the community whereas some challenges are present throughout. These challenges include the similar pattern of streets spreading across the community, poor waste disposal, uneven spread of trees, missing landmarks, security and shortage of green space.

4.1. Rising Population

The population of Forest Lawn is increasing 1.6% per year, according to the projection of Calgary Metropolitan Region Board. The present population of Forest Lawn is 7000, which is projected to rise to 12,600 within the next 50 years.

4.2. Typical Grid Pattern

There is typical grid pattern variation throughout the community, extending from west to east and north to south which adds up to the feel of being nowhere and lost in the community. There is a total of 40 such blocks having 40 houses in each and all are in grid iron pattern.
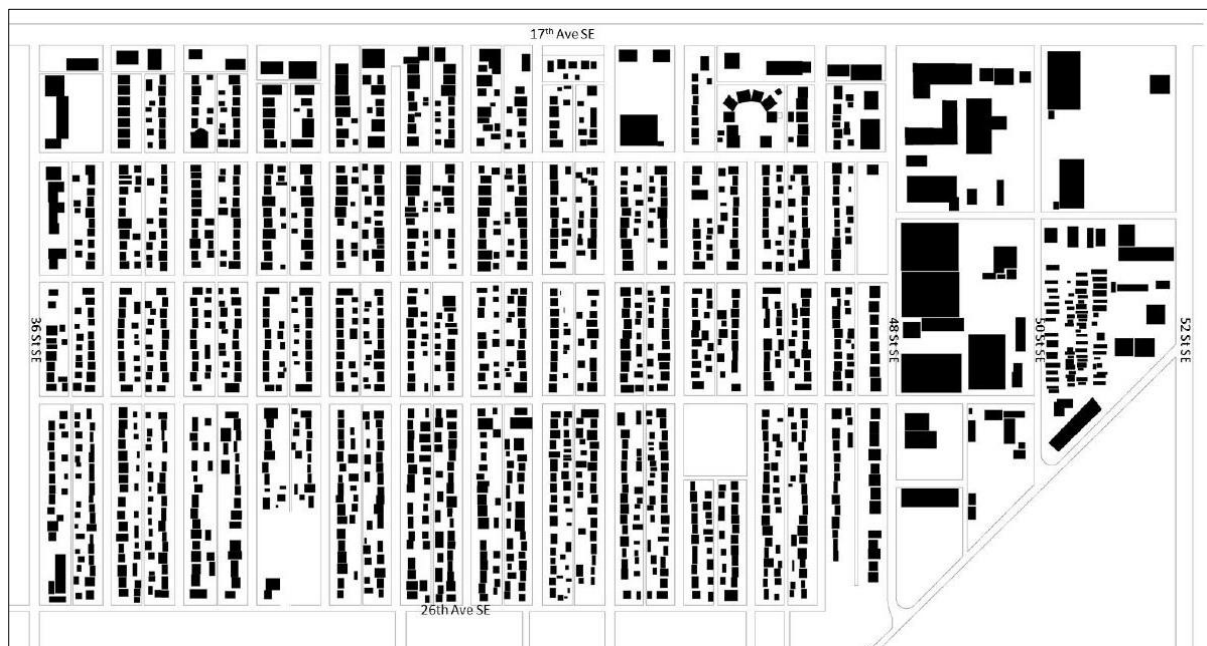
Figure 5: Grid-iron pattern

4.3. Poor Waste Management

A lot of waste is disposed at open locations. These waste not just worsen the aesthetic but becomes hazardous for children and other residents. By proper classification and through reuse and disposal, this issue can be addressed and used to create interactive community activities resulting in usable outdoor street and park furniture and products. During the site visits we also discovered a lot of unattended garbage lying all over the community mostly at back alleys and parking lots.
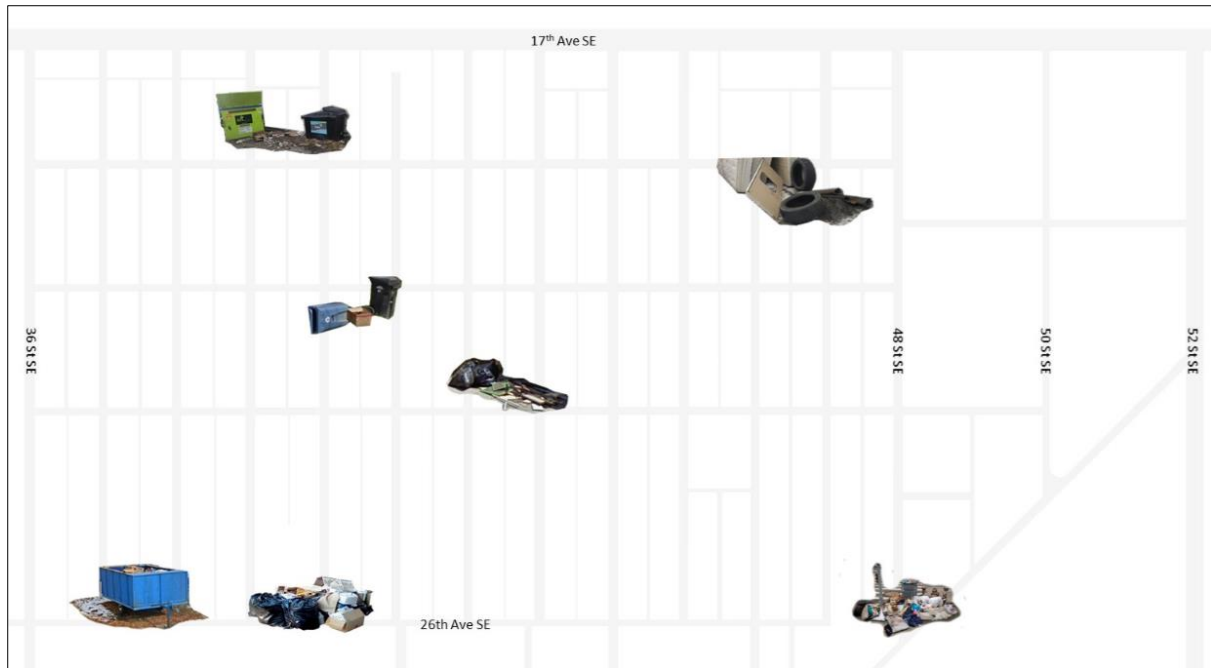
Figure 6: Location of overflowing garbage

4.4. Uneven Spread of Trees

During the site visits and through google images we observed a drastic unevenness of the spread of trees, which are dense on the western side and very sparse on the eastern side. And thus, the site also has a potential to use the available spots for planting tree saplings of different species. The number of trees is more in 36th, 37th, 38th avenues and decreases as we move towards 46th, 47th, 48th avenues.
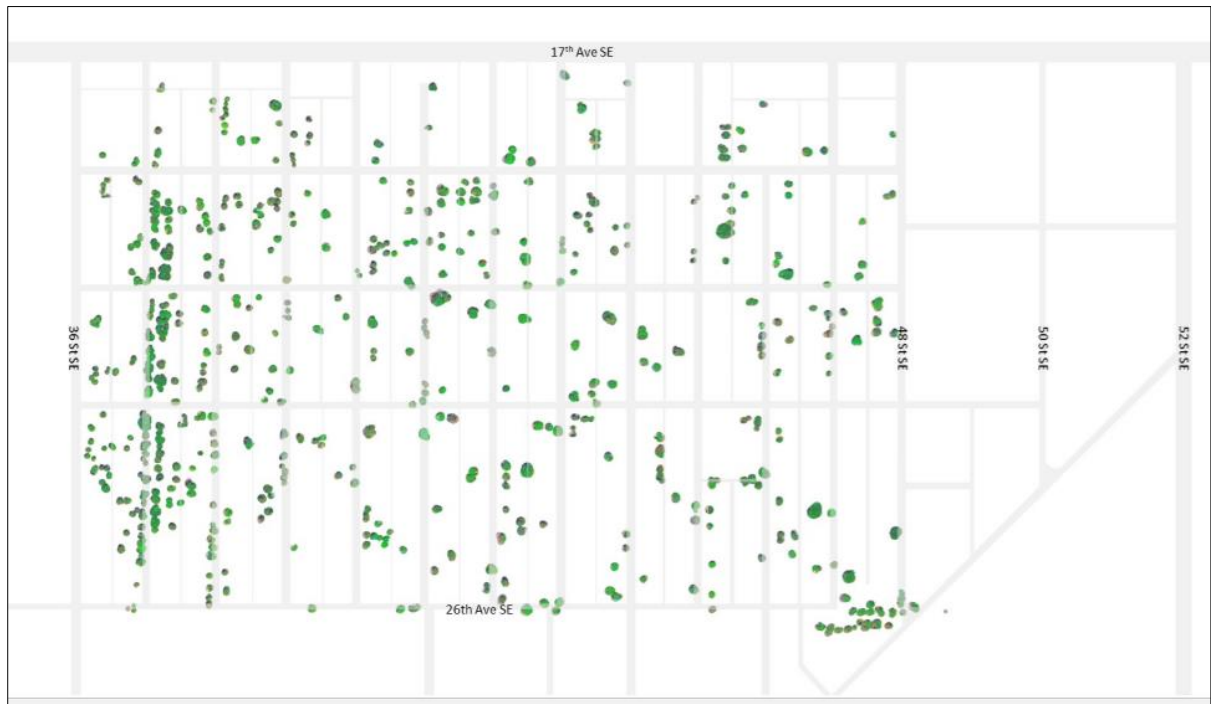
Figure 7: Present tree coverage in Forest Lawn

4.5. Security

There are issues regarding security also, nearby areas are experiencing activities at some locations and at odd times. This has also resulted in property value degradation also.

Figure 8: Dark alleys at night time.

4.5. Missing Landmark

Unlike other neighbourhoods within the community there are no schools, major parks, recreation centres or any such location which makes it easy to locate and relate yourself.

4.6. Shortage of green and open spaces

There is absence of proper open space for community engagement and due to which there is a very weak connection between the neighbours which adds up to the risk of security issues.

5. Vision & Narrative

5.1. Our Vision

Based on the analysis and the most predominant challenges faced by the community is prone to, our vision was automatically directed towards three main goals. These goals are green, safe and clean community.

Although these goals may seem to diverge from addressing the mentioned issues, but they are interconnected and addressing these goals there must be a varied amount of strategy that would be required to be implemented. These strategies will overlap with each other and will cover all the challenges that the community is prone to face.

5.2. Narrative

We have identified the key issues of Forest Lawn. They are poor waste management, uneven spread of trees, grid pattern, security, missing landmarks. Although they are all separate topics but are interlinked. Uneven spread of trees is linked with grid patterns. They both result in a sense of loss in the community. The issue of security is linked with poor waste management, these both issues are prominent at specific locations which are least favourable for a walk or any interaction. Similarly, our main vision which is based on green interventions, waste recycling and community engagement will target multiple targets linked with each other. Moreover, to accommodate the rising population, we will be proposing redensification of the community.

Our main goal is to bring about maximum changes with minimum disruption.

VISION

Waste Recycle   Green Community   Community Engagement

PROCESS

Tree Plantation   Waste Utilisation   Community Activities   Reinventing Spaces

ISSUES

Typical grid pattern   Poor waste disposal   Low public open spaces   Public safety   Uneven spread of trees   Missing landmarks

5.3. Immediate Vision: Reclaiming the Streets

Through tactical intervention the internal streets of the community can be temporarily used for various purposes. The streets of the community can be utilized for weekly markets and waste utilization events arranged by the community. Though this is a temporary measure but eventually the community will develop their own way of organizing and executing such ideas.

Figure 9: Present Day Condition of 21st Avenue

Figure 10: Pop-up Markets

5.4. Long-Term Vision: Placemaking

The vision of placemaking can be achieved by development of the lost unused space in the community. The idea is to reinvent the dead spaces in the neighbourhood through place making and plant saplings of evergreen trees. These spaces can be utilized for general meetings and social gathering in the community in future.

For example, we have identified a lost space along the 17th Avenue, in between the KFC and the Jewellery Store. This is a space often used for objectionable activities and is permanently barricaded, forming a lost space. To reclaim this space, we have proposed the retail stores to face their entrances towards the space and plant a oak sapling in the centre of the space. In the next fifty years this space will develop into a community space. A vision of the same has been recreated by the author below.

Figure 11: Present day condition beside the KFC

Figure 12: Reimagined space in next 50 years.

5.5. Long-Term Vision: Redensification

The blocks along the 19th Avenue are redensified to provide the housing for the growing population of the community, alongside there are some other proposals like introduction of cycle tracks. This vision portrays the high density multi storey apartment along with the existing low-density existing housing. Additional interventions like cycle track and next generation transportation system, including the provision of wireless charging along the parking are envisioned.

The block will be continuous and to create porosity in between the community and the 17th Avenue, the built form will be on pylons.

Figure 13: Present Condition along the 19th Avenue.

Figure 14: 19th Avenue reimagined.

6. Strategy

To execute the visions there are some strategies which have been though upon. These strategies are to be implemented by the residents, as well as the development agencies with time to give shape to the whole vision of the project. To visualize and depict, the strategies in the best possible way, some of it has been executed in small scale.

6.1. Strategy for Reclaiming the Streets

This strategy is focused on the immediate vision of reclaiming the streets. This intervention will target the issue of poor waste disposal, security through community engagement because a well-connected community is safer and more aware of its neighbourhood. Weekly, different cross junctions of the community will be temporarily blocked by cars and barricades and will be used by residents for community engagement activities like pop-up markets where the locals can set up own shops. This event can take place on every different intersection on different weeks and give chance to the residents of all the streets and blocks to participate.
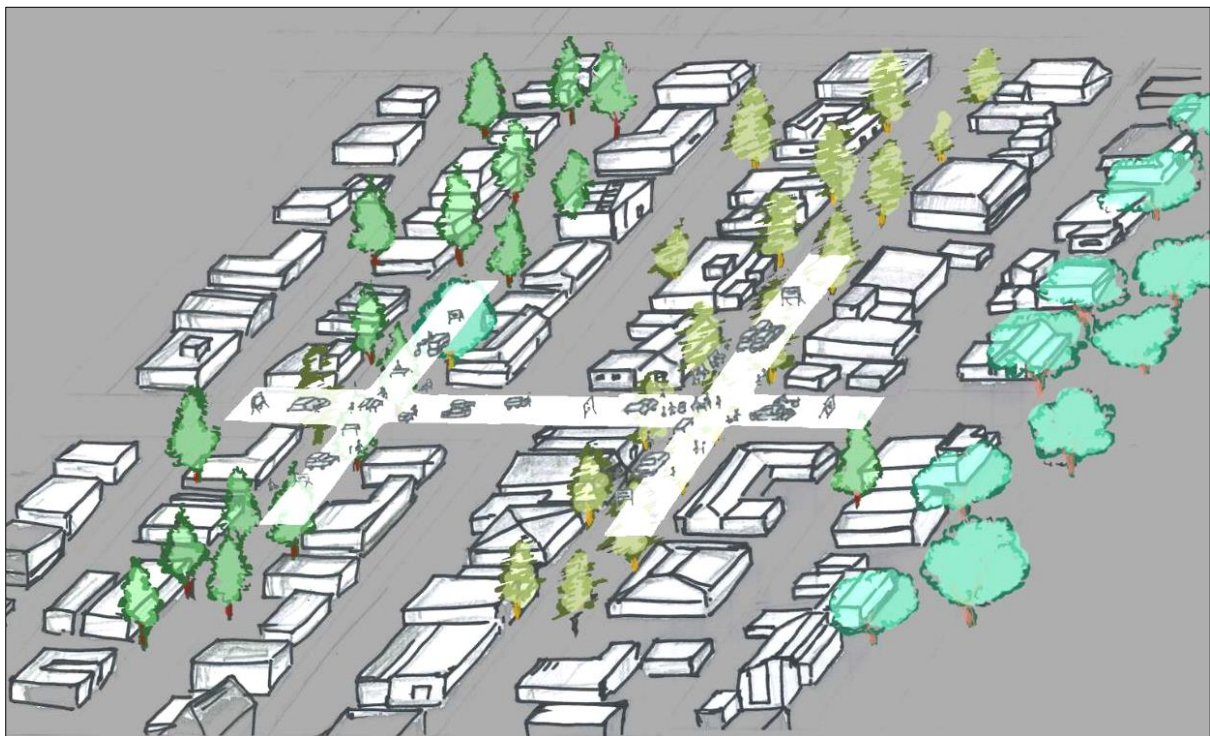

Figure 15: Weekly Pop-Up Markets

6.2. Strategy for Placemaking

This is the first strategic intervention which will realise the long term vision of placemaking and making Forest Lawn more foresty. Tree saplings will be planted in a phased manner during the summer season through community engagement. Each street will have a different tree species giving an identity to every street with colour, texture and fragrance. The view shows 43rd, 44th, 45th street with Trembling Aspen, Golden Larch and Green Lash trees. All the trees have different time of maturation which is around 40-60 years.
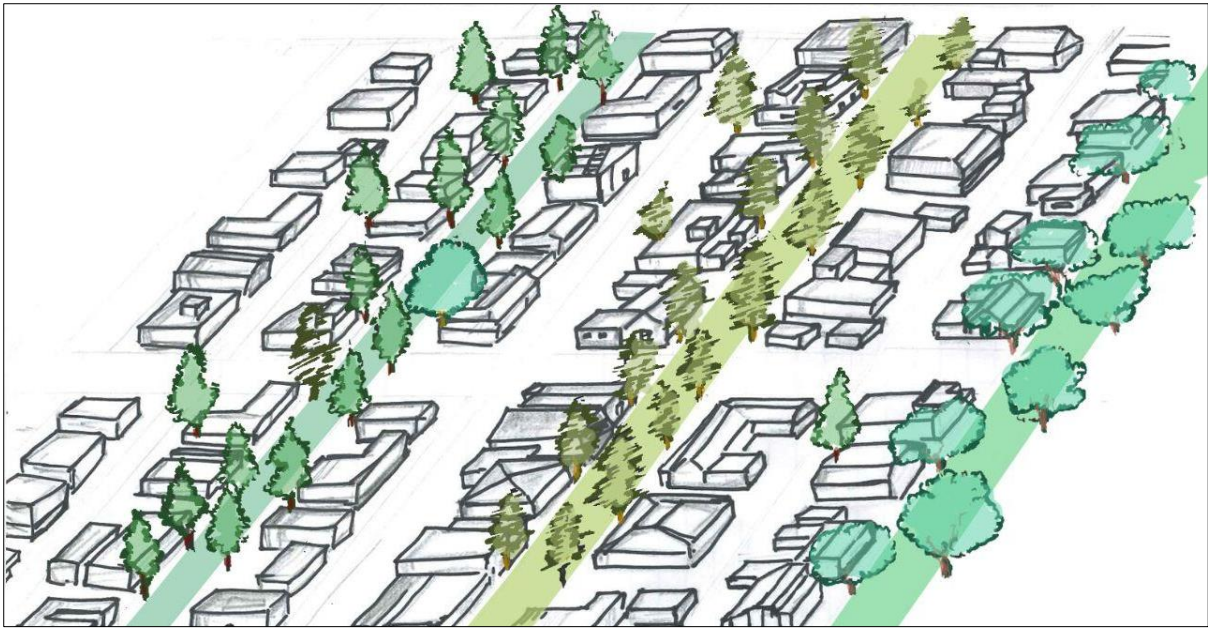
Figure 16: Forest Lawn 2070

6.3. Strategy for Redensification

The strategy is to cause minimum disruption in the community. Hence, here the strategy is gentrification of the area which will be beneficial for the community. There are spaces which are never used at all. These spots are mostly along the 17th and 19th avenues. We are redensifying the proposed multi storey affordable housing so that it will provide housing to the growing population and will activate all the area near the international avenue and the place will become livelier and safer.

The use of pylons to make the connection between 19th and 17th avenue more porous will vastly enhance the quality of the neighborhood and might even help to bridge the disconnect between the Forest Lawn North and South.

Figure 17: Gentrification along 19th Avenue

7. Master Plan 2070

Figure 18: Master Plan 2070

After incorporation of all the vision into the new masterplan, the proposed master plan for 2070 was developed. It will retain the plotted houses in all blocks except the one adjacent to the 19th avenue. The blocks near the 19th avenue will have better accessibility to public transport therefore it will be developed into high density affordable housing. The commercial built-up towards the 17th avenue would be retained for the iconic shop facades and promote the local businesses. The FAR for industrial plots would be relaxed up to a certain limit so the area gained from the process would be utilized for proposing a new park and a primary school for the community. Apart from these strategies, there will be introduction of new policies to plant different species of trees on all the street sides, cycling track and electric charging stations.

7.1. Features of Master Plan 2070

Some of the salient features of the proposed Master Plan 2070 are minimal change to the existing fabric of the community, preserving the front commercial character of the community along the 17th avenue, reactivating the lost spaces, controlling the traffic through traffic calming measures like, pedestrianizing access roads. An extensive cycle network in the community has also been proposed. This will encourage more cycling and walking.

Other features include, high density and affordable housing at suitable locations, increasing the public green spaces of the community with a big park, basic facilities like school within the community to cater the rising population, and trees plantation.

7.2. Functions and Flows of Master Plan 2070

School and Convenience stores

Added public green spaces

High density residential housing

High density green network

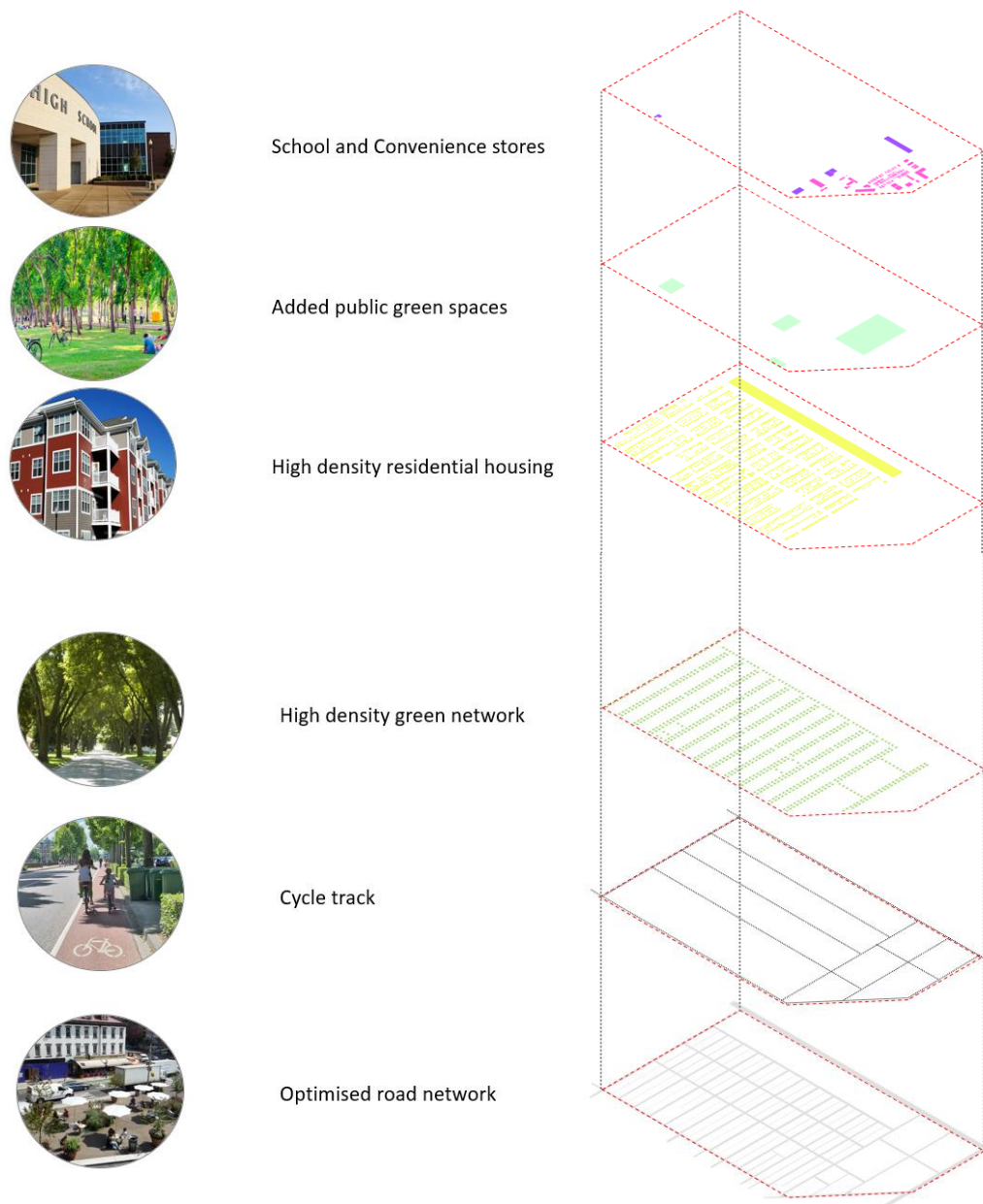Cycle track

Optimised road network

Figure 19: Function and Flows of the Master Plan 2070

The proposed Master Plan along with the interventions, incorporates three major basic facilities in the community, a school, more public green areas and gentrification through high density residential areas. The flow of the Master Plan is designed to encourage the pedestrian and cyclists. The site has been provided with three major cycling tracks along the east west axis as those roads have less vehicular thorough fares. Overall the entire road network has been optimised by pedestrianizing the roads connecting the community to the 17th Avenue.

7.3. Phasing of the Master Plan 2070

The phasing of the project has been done according to the timeline of the growth of trees. All trees have different height and different maturity phases. Once the mass planting of the tree

saplings is done the trees and the community gentrification will reflect and supplement each other in terms of the community fabric, while the young trees will replace present old and dying trees.

For the initial years, i.e. till 2029 the major focus will on planting tree saplings and maintaining the aesthetics of the community by regular waste clean-up drive and waste upgradation works. The next phases will be comprising of four stages. After 2030, the next phase will focus on the increased population of 320. They will be shifted to affordable housing of 4 storey near the international avenue. This would be done every 10 year and in 40 years the complete stretch of multi-story will be complete by accommodating 16 % rise of population every year.
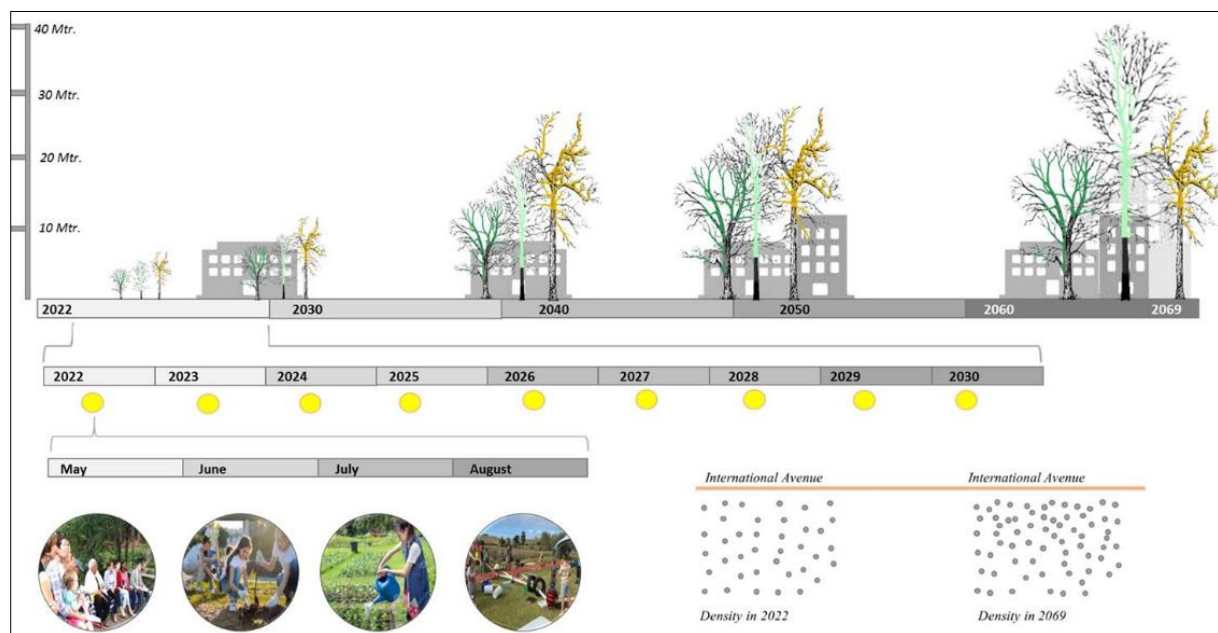

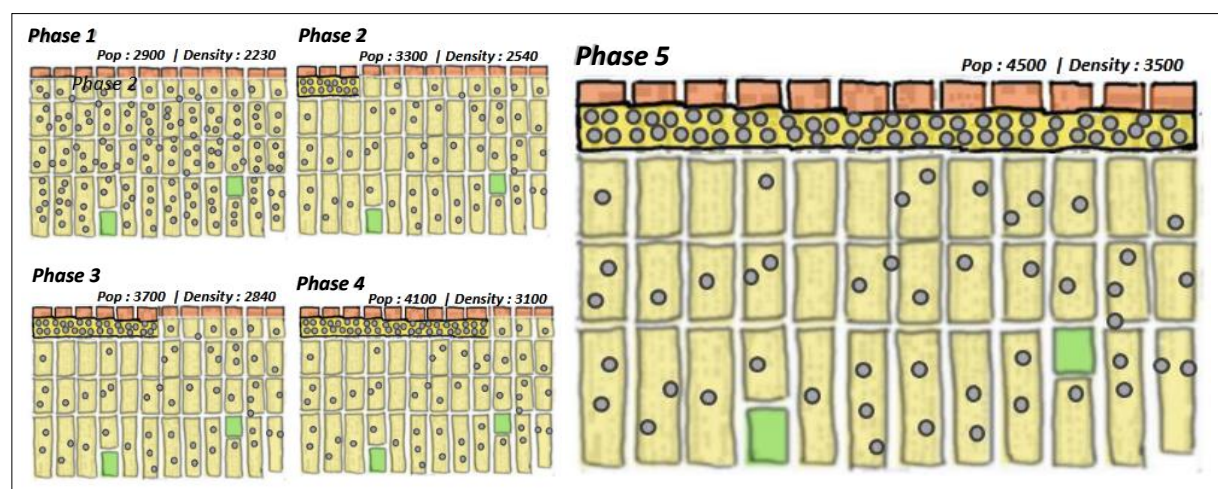Figure 20: Phasing of the Master Plan and its relation to the trees and gentrification.

Figure 21: Phasing of the Master Plan 2070

7.4. Proposed Facilities

Facilities	Existing	Proposed	Total
Plotted Housing	760	0	760
Grouped Housing	0	700	840
Population	2500	4500	4500
Area	1.3 sq.km	-	1.3 sq.km
Density	2000/sqkm	3500/sq.km	3500 sq km
School	0	1	1
Parks	2 (.016 sqkm)	1 (.064)	3(.08 sqkm)

Figure 22: Density Calculation

The Master Plan 2070 will have 60% residential in the main core of the community and southern side. 14 % of mixed high density residential near the 17th avenue to absorb the increase in population and allowing the neighbourhood to maintain large public green spaces. Amongst the total green spaces, 4% of open green will be also used in tactical intervention.

The population projection is referenced from Calgary Metropolitan regional plan and is expected to grow from 4000 in 2022 to 7000 by the year 2069. That also will densify the area. The area densification can be seen in the above figure indicating higher density toward streets with good accessibility whereas the other part will retain the green and low dense character.

8. Policy

A total of six policies that have been formulated will directly or indirectly help the proposal to be implemented on ground:

Policy: Residents of each plotted housing will be responsible for taking care of at least one tree in front of their house till it matures completely.

(Front yard of each household = 15 meter and total houses in each block = 20; total blocks in each street = 4; total streets in the community = 12; total number of trees = 960; total number of trees for providing fresh air to the entire community = 20160)

Policy: F.A.R. for plotted housing = 175 and for Group Housing = 400

(Group housing or high-density Housing will only be permitted within 150 meters from a 30 meter or more wide road.

In addition to the above clause, group housing should also have access to 24-meter-wide street and if not, then road widening can be taken along the plot direction.)
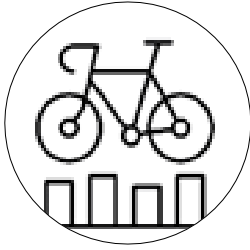
Policy: Provision for cycle track on every alternate street within the community on one side.

Policy: Designated charging point for electric vehicles on all streets within the community at every 800 meter distance.

(Once the formation of a legal RWA structure in its place then the community can nominate members and the community can function without the support of Municipality or local level interventions and development works which are not covered under Municipal Act and or Special area plans.)
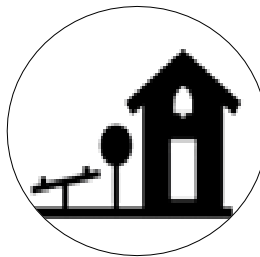
Policy: Provision for one elementary/primary school per 2500 population within the community.

(Regardless of the number of facilities already in the community the minimum number of facilities like schools and parks, should be allocated to the population of the community. The schools should not overcrowd, or the students not forced to go far from their community for primary education.)
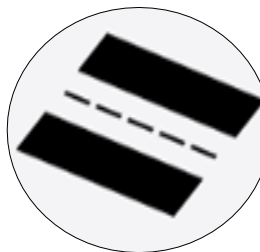
Policy: Any part of the community is dissected by a 30 meter or wider road in future then, that part of the community will be considered as a separate community all together or will be amalgamated with an existing community on other side if not separated by a 30 meter or wider road.

(Forest lawn south is not a community but part of the community forest lawn and therefore there is absence of community level facility like school and parks which are allocated to forest lawn community but in the north part and is separated by a major arterial road which makes it inconvenient to use for the resident of forest lawn southern part)

9. Tactical Urbanism

Tactical urbanism includes low-cost, temporary changes to the built environment, usually in cities, intended to improve local neighbourhoods and city gathering places. It is also commonly referred to as guerrilla urbanism, pop-up urbanism, city repair, or Do-It-Yourself (D.I.Y.) urbanism. Other terms include planning-by-doing, urban acupuncture, and urban prototyping.

Tactical Urbanism is all about action. It is citizen-led approach to neighbourhood building using short-term, low-cost, and scalable interventions to catalyse long-term change.

9.1. Waste Upgradation

Waste Upgradation is nothing but Recycling. As a concept this technique has been around for quite some time, mostly at a micro-scale where individuals reduce waste and preserve energy and cost of new materials. In the Global South this has been a very common practice since years. Recently it has gained momentum.

In the UN Sustainable Development Goals, this strategy plays a key role. Apart from reducing raw material costs, using recycled materials leads to the reduction of carbon footprint. In architecture, recycled and reused materials are slowly becoming attractive alternatives to conventional building materials. When sourced appropriately, they turn out as a financially resourceful solution.

So, as a pilot project, we went to the site and built our own outdoor sitting arrangement of table and chair using discarded tyres and mattress. Using four waste tyres which were stuffed and covered from mattress sponge and sheets to make a table and a set of two matching comfortable seats for outdoors. These installations can be done by community residents and can be used in open or put up for public gathering for weekly community markets.

Figure 23: Scavenge through the garbage to find useful materials.

Figure 24: Identify and procure materials.

Figure 25: Procure materials.

Figure 26: Organise the needed materials.

Figure 27: Stacked two tyres to form table.

Figure 28: Used foam from mattress to fill the tyre for seating.

Figure 29: Topped up the seating with fabric from the mattress.

Figure 30: Pin a packing box for table top.

Figure 31: DIY Outdoor Seating

Figure 32: Perfectly functional pieces of furnitures.

9.2. Reforesting Forest Lawn

The green tactical intervention was implemented with around 100 seed bombs comprising of an assortment of Hibiscus, Cilantro, Cosmos seeds and 50 spruce tree sapling for planting and engaging community members. This was a very successful pilot project which can be implemented at later phases by the Community itself. For this, we set up a stall near the community center and community residents of all ages participated and learned about the intervention.
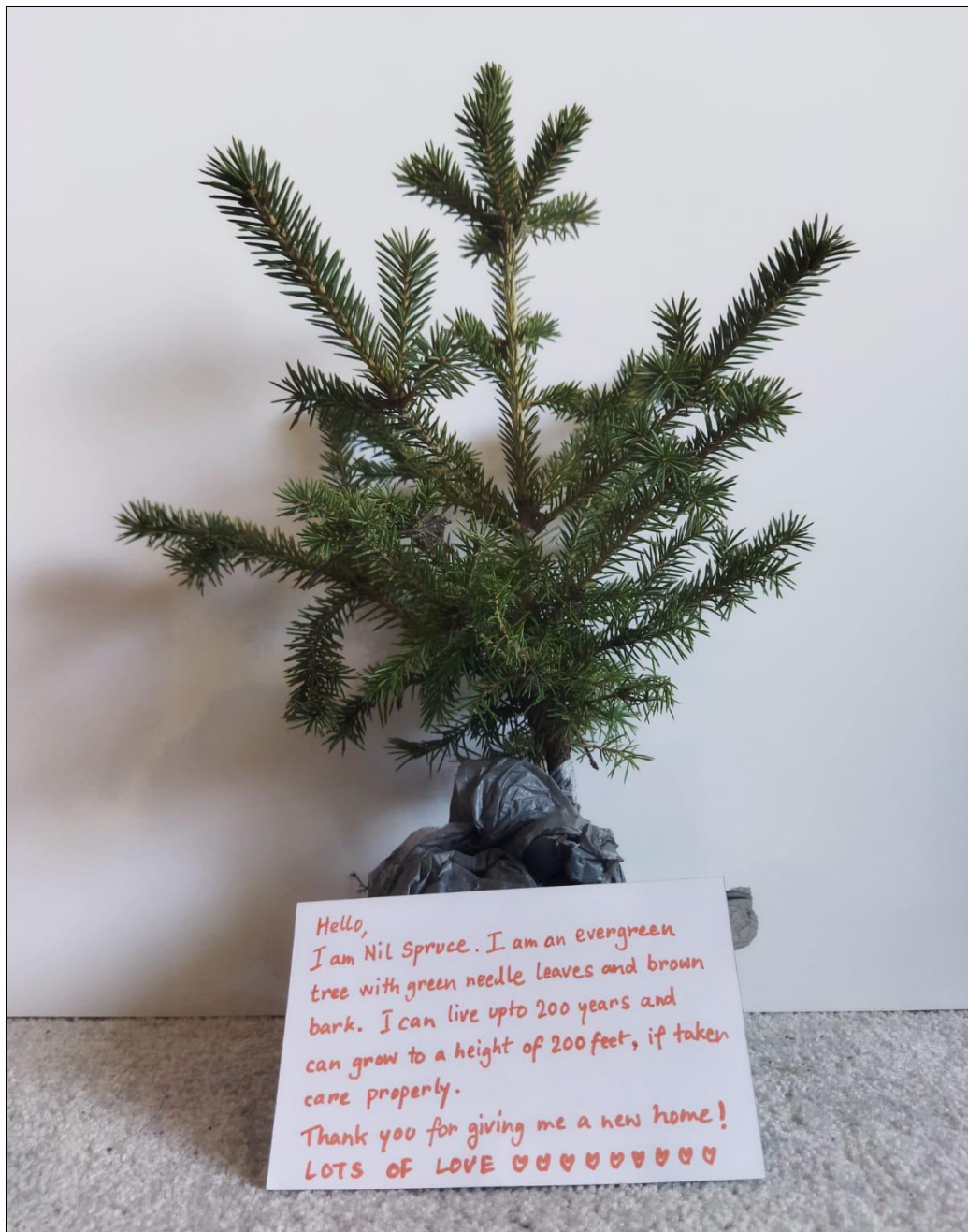

Figure 33: Spruce saplings up for adoption

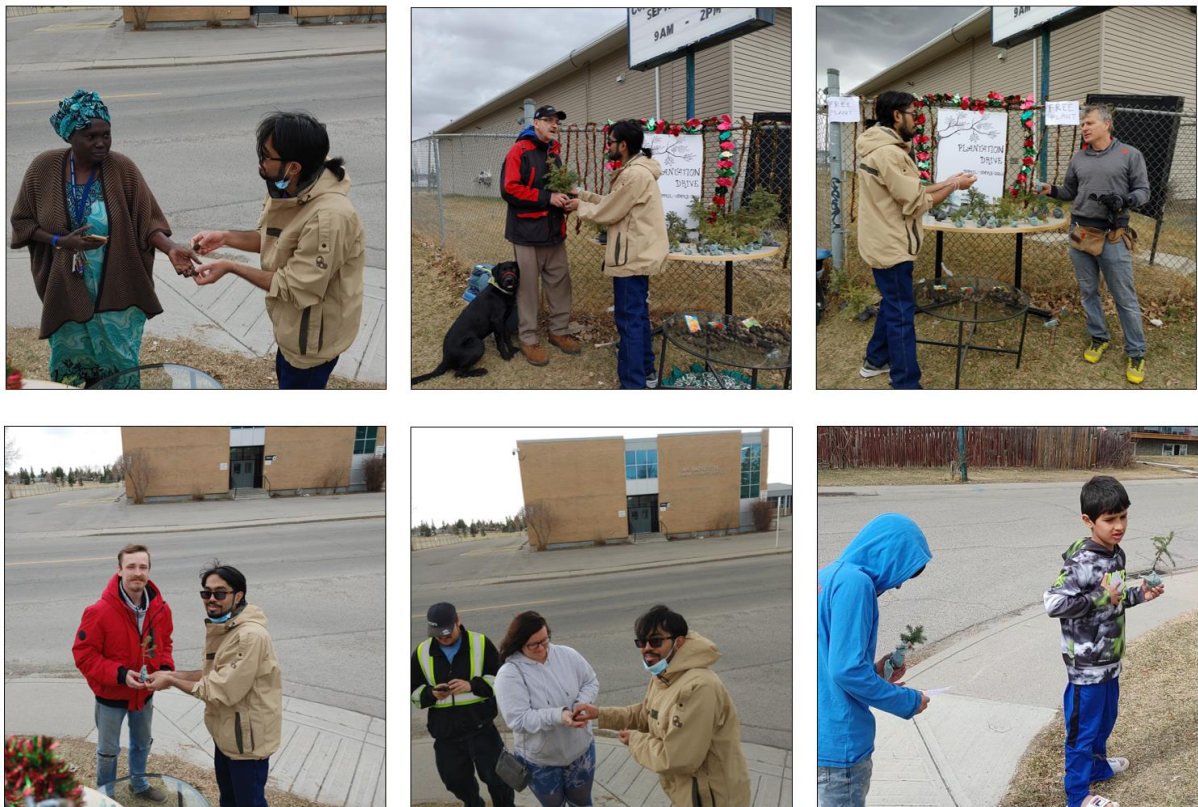*Figure 34: The Green Drive Stall in front of the Community Association*

Figure 35: The very successful Plant Drive

Figure 36: Tree Saplings were planted along the Community Association Boundary

10. Outreach and Response

The project has a great community response. We met with FLCA Vice-President Elizabeth Daniels for understanding the issues of the Community and which led us to contribute meaningfully for the community. FLCA President Gar was very supportive with his constant support during the events.

We reached out to the community through various platforms including the NEXTCalgary portal, direct engagement during tactical intervention and through the Community Facebook Group. Amongst all of these, the most effective and responsive one was the Facebook interaction. Members had just stopped by during the event to greet us after the post, with a few demands for future such events.
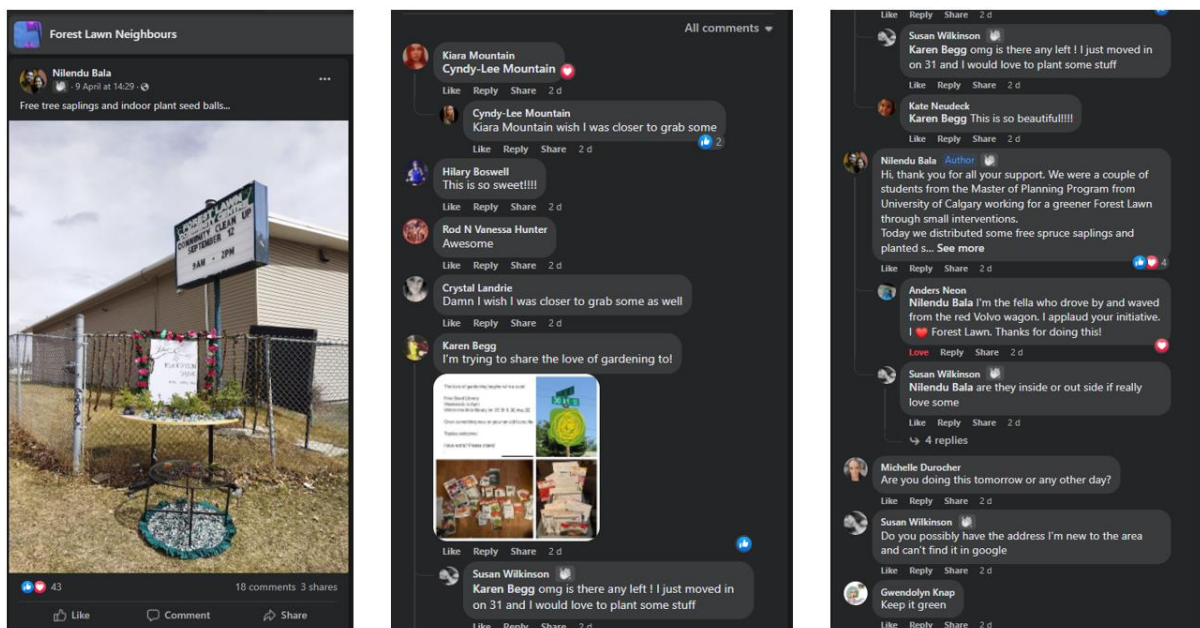

Figure 37: Facebook outreach

Figure 38: Meetings with FLCA Executives

11. Reference Projects

11.1. Branching out tree program, Calgary

Calgary's tree canopy coverage is currently at 8.25%, this includes trees planted on both public and private property. This program aims to increase grow and expand the tree canopy coverage to 16%. There are a limited number of trees given away each year and a limited number of species. Species that will be available for the 2022 Branching Out program are, Siberian Larch, Ussurian Pear, Trembling Aspen, Paper Birch, Courageous Crab, Ponderosa Pine.

11.2. Rei Hofe Complex, Munich Neuhausen

This is a high-density residential complex which was constructed to gentrify the locality and make housing arrangements for the growing population.

11.3. House of Mixed Hues, Mumbai by Architect: S+PS Architects

The House of Mixed Hues, or Collage House, looks at the idea of recycling in several ways. Old doors and windows from demolished houses in the city have been recycled to be used in this project, establishing a theme of nostalgia. This theme is further enhanced through the use of hundred-year-old columns from a dismantled house.

One of the courtyard walls features cut-waste stone slivers cladding, which was sourced from the 'waste' generated in stone cutting yards. The flooring is of old Burma teak rafters and purlins.

12. References

Ibimilua Adewale Festus, 2014, Key Issues On Landscape Planning In The Context Of Environmental Sustainability (https://core.ac.uk/download/pdf/236405623.pdf)

Reza Keshtkaran, 2019, Urban landscape: A review of key concepts and main purposes (https://isdsnet.com/ijds-v8n2-06.pdf)

International Journal of Integrated Waste Management, 2022, Clarivate Analytics Journal Citation Reports

Iheanyi Omezuruike Okonko, University of Port Harcourt, 2009, Waste utilization as a means of ensuring environmental safety-an overview

Gaurav Gangwar, 2020, Principles of Design for Sustainable Group Housing Projects in India

The City of Calgary, 2007, CALGARY... A CITY OF TREES Parks Parks Urban Forest Strategic Plan Urban Forest Strata

(https://www-prd.calgary.ca/content/dam/www/csps/parks/documents/management-plans/urban-forestry-strategic-plan.pdf)

David Thompsom, 2018, Green Jobs: to build It's time Alberta's future (https://d3n8a8pro7vhmx.cloudfront.net/afl/pages/176/attachments/original/1259687945/GreenJobsReport2009.pdf?1259687945)

Taylor, M. Bramley, M. Winfield, "Government Spending on Canada's Oil and Gas Industry: Undermining Canada's Kyoto Commitment" (http://pubs.pembina.org/reports/GovtSpendingOnOilAndGasFullReport.pdf)

William, M . A. (2009) sustainability. In P aul, C . P hilip, C.; and M ark, G .

(eds.) Introducing Human Geographies. London, Hodder Arno Simond, J. O . (1995a) Landscape Architecture: Shaping of Man's Natural Environment. New York, Mc Graw-Hill Wright,

R . T. (2008) Environmental Science: Toward a Sustainable Future. New Delhi, PHI Learning