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Slow Urban Living Apartments: Transformation of Five Story Walk-up Apartments in Seoul
by
Yihyun Lim

B.A. University of California, Berkeley (2005)

Submitted to the Department of Architecture
in Partial Fulfillment of the Requirements for the Degree of
Master of Architecture
at the
Massachusetts Institute of Technology
February 2014

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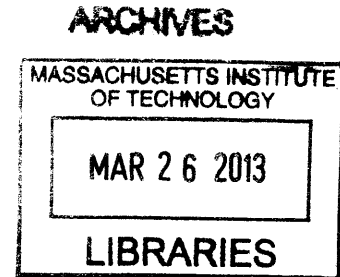
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ABSTRACT

Experiential living is the new trend for future living. Whether it is through living in micro spaces, flexible units, mixed-use developments, practicing urban farming, or sharing lifestyles, these different trends of living intersect at the overlapping theme of experiential living. At the same time, Seoul is facing a final wave of 'retirement age' of the first generation of post-war urban housing apartments. Instead of the typical scrap-and-build urban renewal method (the culprit of the formation of 'apartment city', with over 60% of housing stock as apartments), is there an alternate method of urban redevelopment?

This thesis investigates idea of small-scale urban renewal by integrating the idea of 'experiential slow living' in the existing low-rise, enclosed apartment community. Can this idea of transforming the ground level experience with slow food (productive landscapes) and slow craft (mixed-use living and shared spaces) become the alternative model for urban renewal that can be practiced throughout the city of apartments?

Thesis Supervisor: Andrew M. Scott

Title: Associate Professor



In Seoul, a city of apartments, a special news on apartment transformation spread...



Special edition of Apartment Daily!
"Apartments Re-envisioned: Back
to the Basics - Slow Living"

Apartment Surgery!

Slow Urban Living Apartments:
Transformation of Five Story Walk-up Apartments in Seoul

SPECIAL REPORT ON LIVING TRENDS
& proposal for 'new' model housing of slow living
retrofit of 1970's five-story walk-up apartments

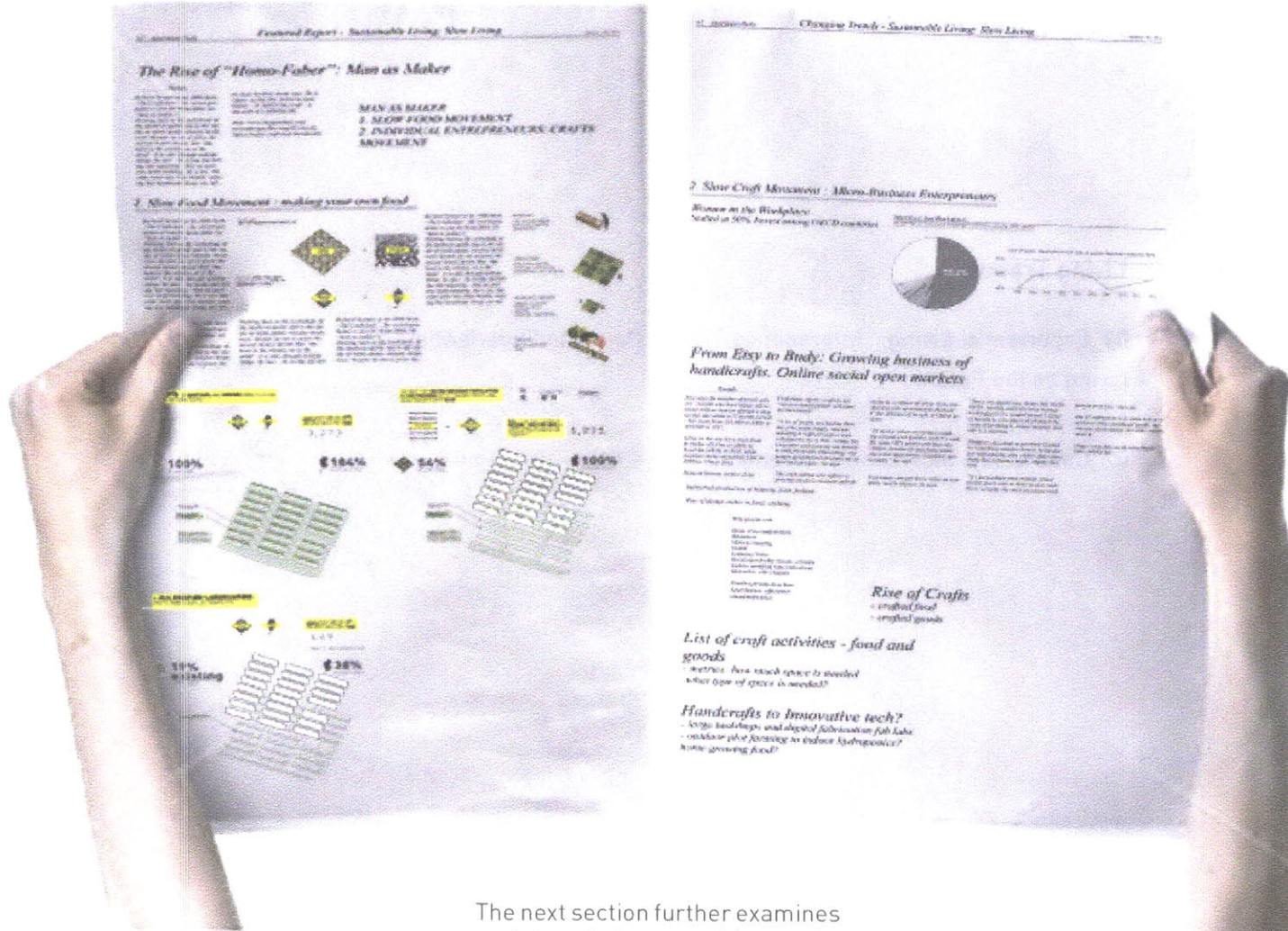


The first section of the special edition of Apartment Daily follows the different living trends.

Living Trends

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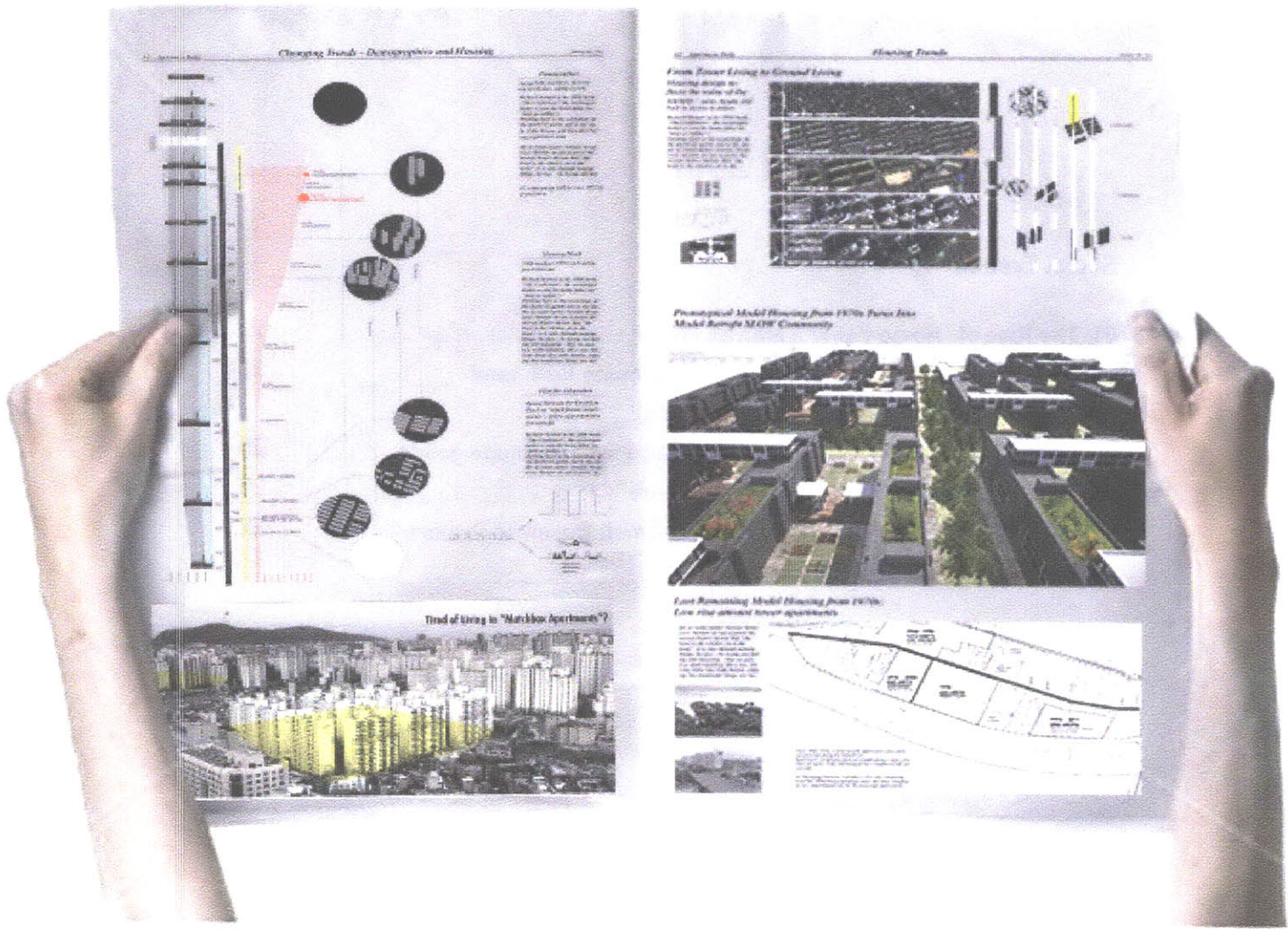
02_Case Study: Slow Living Movement 20



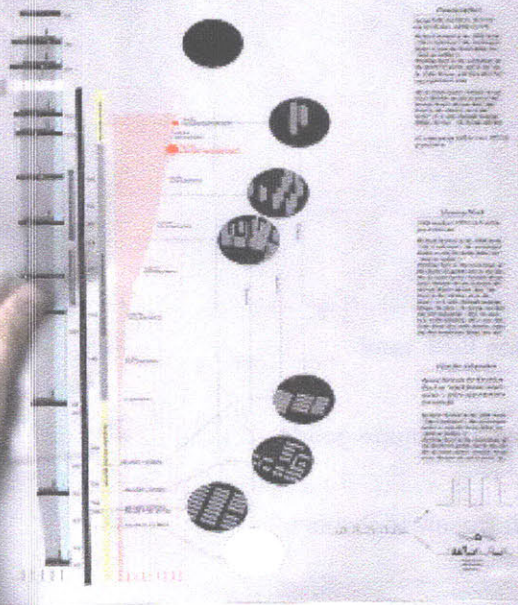
The next section further examines social and demographic trends, from urban farming to craft based small entrepreneurs.

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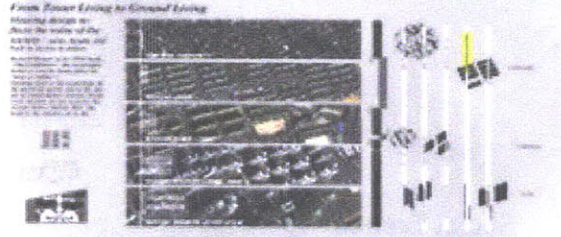


Changing Trends - Demographics and Housing



Tired of Living in "Matchbox Apartments"?

Housing Trends



Principled Model Housing from 1970s Public Housing Model to the NEW Community

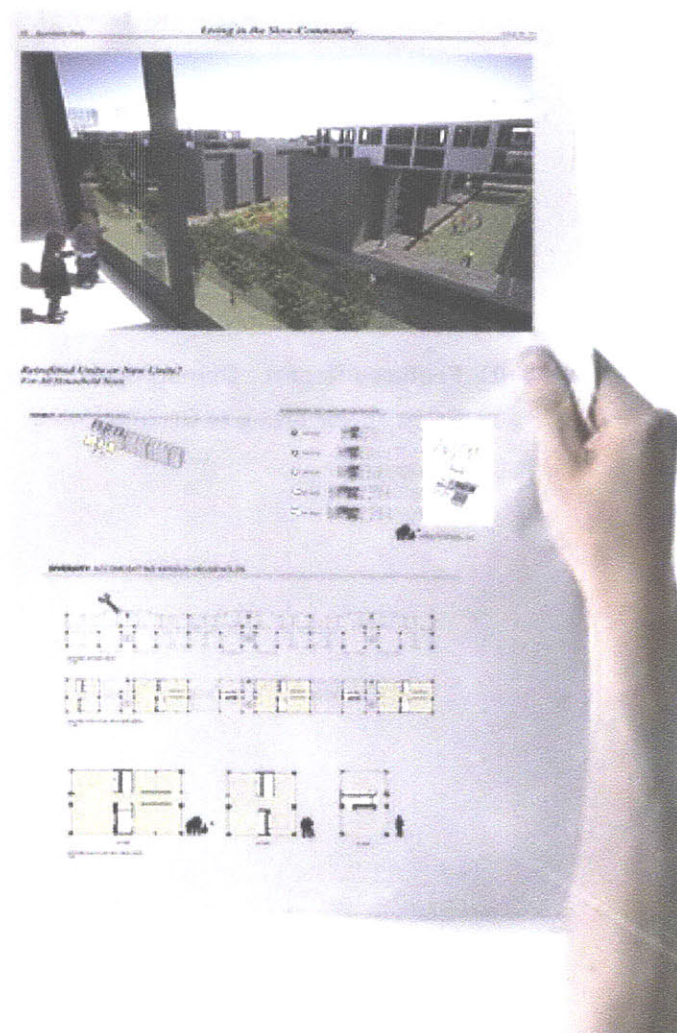
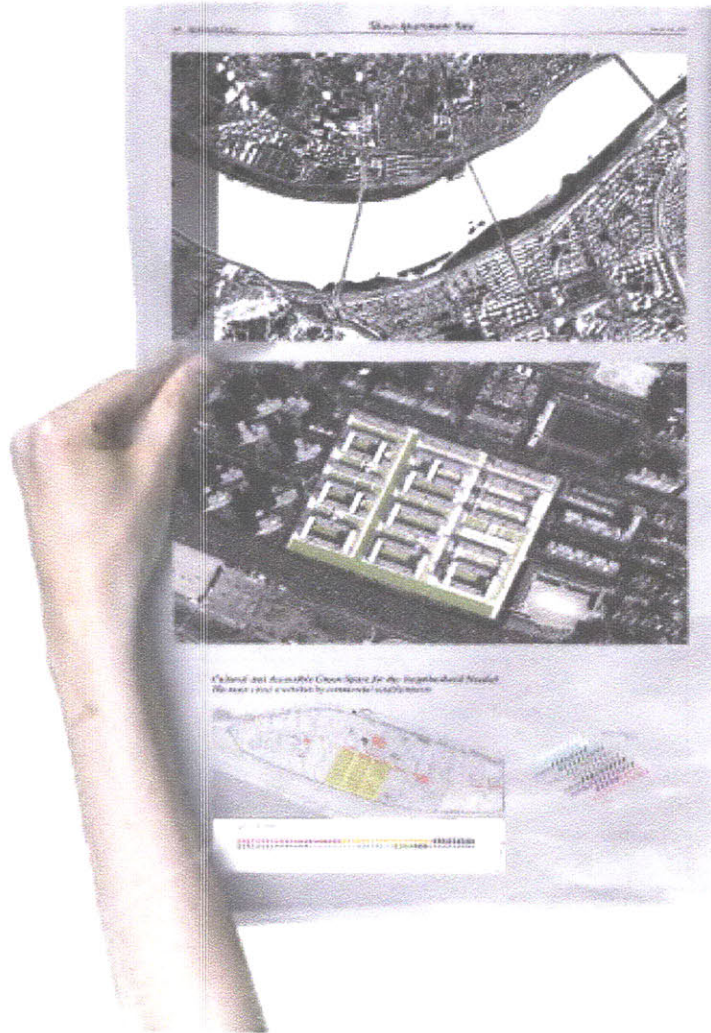


Last Remaining Model Housing from 1970s: Low-rise attached tower apartments

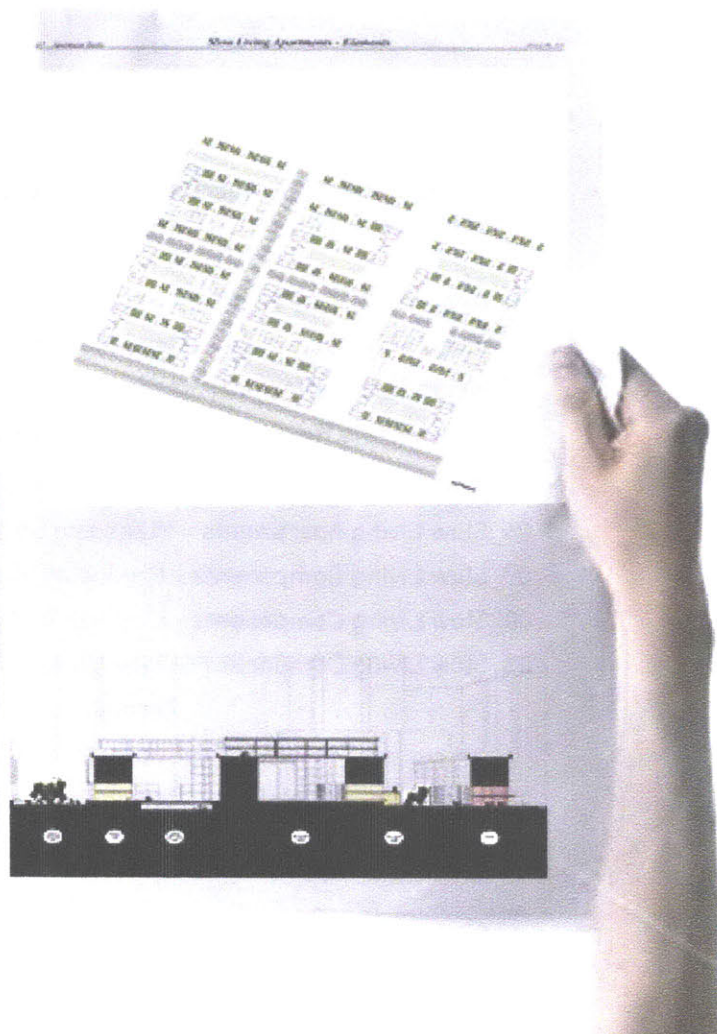
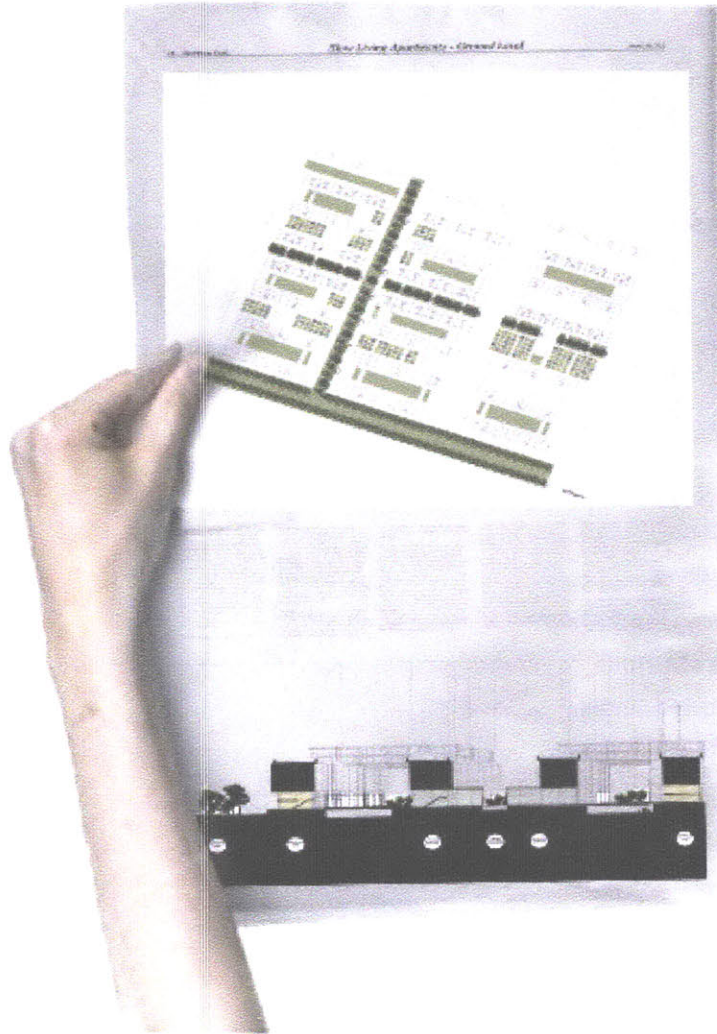


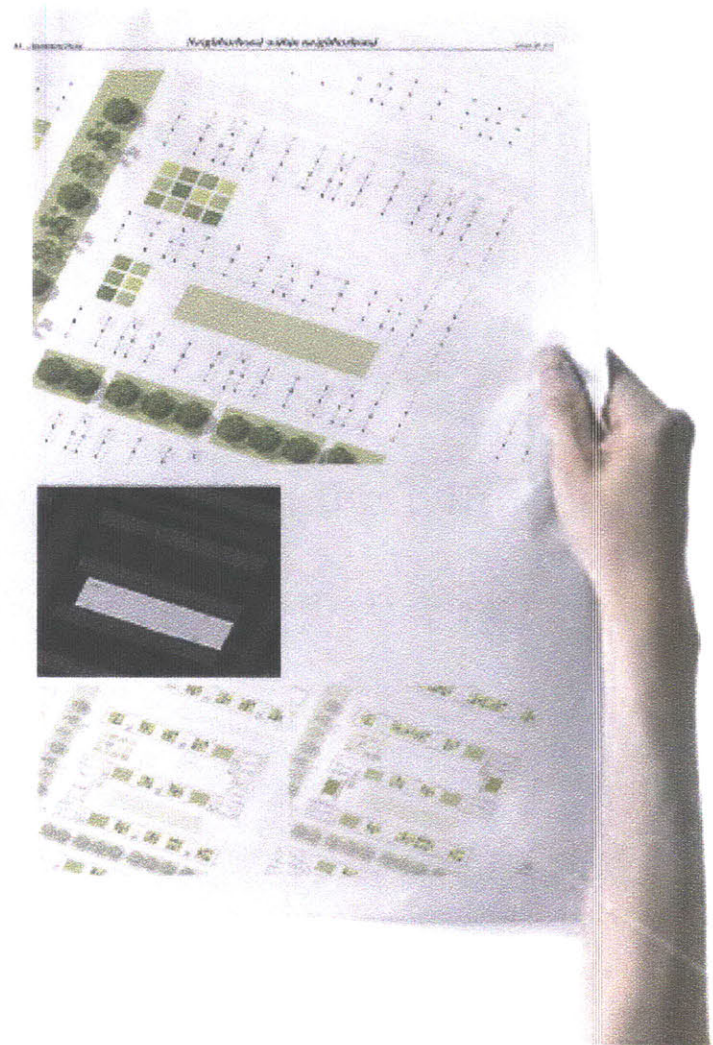
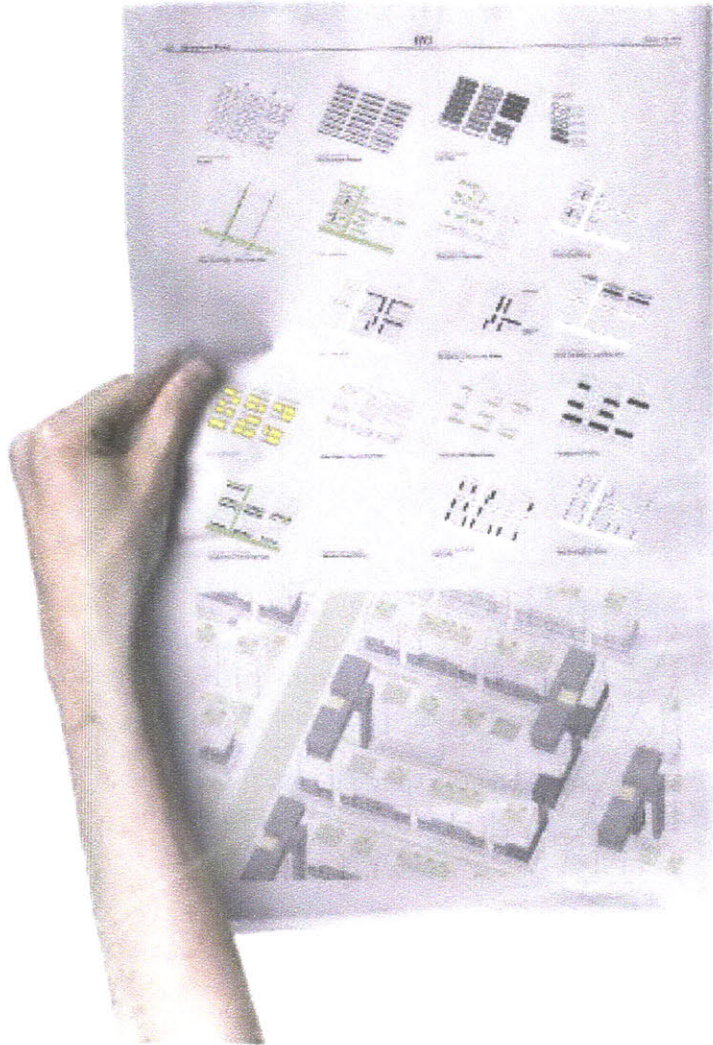
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Featured Report

Experiential Slow Living as Future Living Trend

Trends

Cities and living environments have been evolving and adapting to changes in different trends. Whether it is through organic reconfiguration (due to market forces), or top-down changes through public policy, housing in cities are constantly reorganizing. What are the key trends that are happening currently that will shape the future form and function of urban living environments? From micro-units to shared living, this article looks at four trends in housing that will inevitably overlap to reveal the future living trend; the experiential living.

Trend 1

Micro Living:

Living simple, living small

Micro-living is both a product of densification of cities and also socio-economic changes. Changing demographics such as aging population, increased life expectancy, elongated single life, and increased number of single households demands for a change in housing form. The desire for living close to the cultural amenities a city provides increased the demand for housing in cities. With the advent of technology in flexible interior housing configuration, people are able to live in small compact spaces.

Trend 2

Mixed-Use Living:

From Townhouses to Live-Work Units

Mixed Use Community

Days of strict zoning are gone. Separating the land use to living, working, shopping, and producing are stories of the past. Back in 1961, in the book "The Death and Life of Great American Cities", Jane Jacobs celebrated cities formed from everyday uses and enriched by diversity. She criticized the segregation of uses of the city from zoning and advocated the blurred boundaries of urban programs. Mixed-use is key; light manufacturing can occur in homes, entertainment can occur in workplaces, work can be done at homes, and food can be produced in cities.



Trend 3
Self-Sufficient Living:
Cultivating Community from Productive Landscapes

Growing food is not just for farmers. Small urban plots can be used to produce vegetables and fruits year around and bring us a step closer to becoming self-sufficient. From rooftop gardens to pocket parks, productive landscapes within the city become another infrastructure for the city that connects pockets of residential enclaves to another. Food becomes a social medium where growing own food fulfills a desire for the haptic and tangible, creating a city infrastructure that engages people and cultivates community.

Trend 4
Shared Living :
From carshare to toolshare - sharing hobby spaces

Our world is becoming more and more shareable. Sharing is a growing practice and a concept that is restructuring our world. There are car sharing, yard sharing, tool sharing, co working, and co housing, just to name a few. Sharing is the new social contract where new lifestyle is emerging from changes in the concept of ownership and increased efficiency.

These four trends have the common ground of expanding the experience of daily life.

Experiential living, where tangible experience is key, is the future living trend.

Trends: Slow City Movement

slow (adj.)

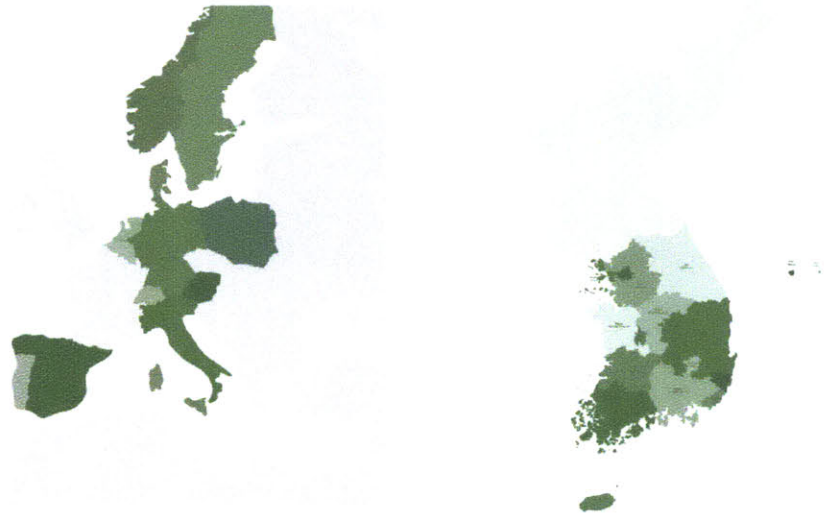
Movement or actions at a relaxed or leisurely pace; unhurried

What is Slow Movement? "Slow" encompasses several layers of meaning that go beyond "sustainable". Slow is the opposite of "fast" – fast food, fast money, fast living – and the negative consequences "fast" had for the environment, society, and health of people. "Slow" embodies cooperation, sustainability, resilience, and sufficiency.

The Cittaslow Movement, was initiated in 1999 by the mayors of four Italian towns to advocate the "la dolce vita" (sweet life). Based on the Slow Food and the Slow movement, the Slow City Movement seeks the real development of communities by cultivating and con-

tinuing the local culture of the community. The movement seeks to protect the natural ecology of communities, traditional culture, local products and handicrafts, and increase community engagement.

As in the Slow Food movement, the Slow City movement also aims to link producers and consumers to fair trade. The movement has spread across 16 countries with 116 Slow City networks.



images from cittaslow.kr



Experiencing the slow city is becoming popular in Korea, appreciating its cultural and educational values. There are currently nine 'slow' cities throughout Korea, ranging from salt farms to zip-bul (straw) handcraft village.



Featured Report

The Rise of “Homo-Faber”: Man as Maker

Trends

In an era of the digital, haptic and the tangible is coming back to the main scene. We're seeing the increasing interest in growing own food and creating own goods. Sociologist Richard Sennett in his 2008 book, "The Craftsman", makes a case for homo faber (or "man as maker"). According to Sennett, it is only through making things that we gain true understanding, and is one path to a fulfilling life.

In a culture with overload of branding and cheap mass-produced goods (from fast food to fast fashion), a post-industrial nostalgia for the pre-industrial handmade products is on the rise. Handmade products are romanticized, and uniqueness and quality are winning over quantity.

Easy access to online markets to sell and buy these handmade goods is also adding to the popularity of handmade goods. An

online marketplace connects the farmer to the customer directly, or a stay-at-home mother can open an e-commerce site easily to market her handmade goods.

The following section will cover two components of "Homo-Faber";

1. Slow Food movement – making own food
2. Makers movement – individual entrepreneurs and handmade goods

Man as Maker

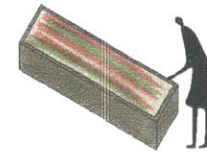
1. Slow Food Movement : making your own food

Urban farming is a common practice these days. Private backyards are converted to vegetable gardens, empty lots are appropriated as community gardens, and vacant rooftops are turning into rooftop vegetable gardens. Various technologies, from aquaponic to aeroponic farming, allows urban dwellers to become creative in growing

their own food in multiple ways. The illustrations on the right shows different scales of urban farming options, which can be utilized at individual home level, community level, or a city-wide level (edible streetscapes).

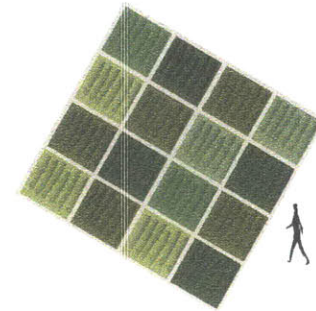
ROOFTOPS

year-around veggies
grains and legumes
greenhouses



URBAN FARM

grains and legumes
seedlings, seed saving
greenhouses and nurseries



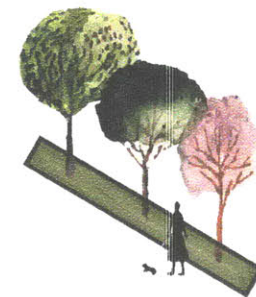
COMMUNITY GARDEN

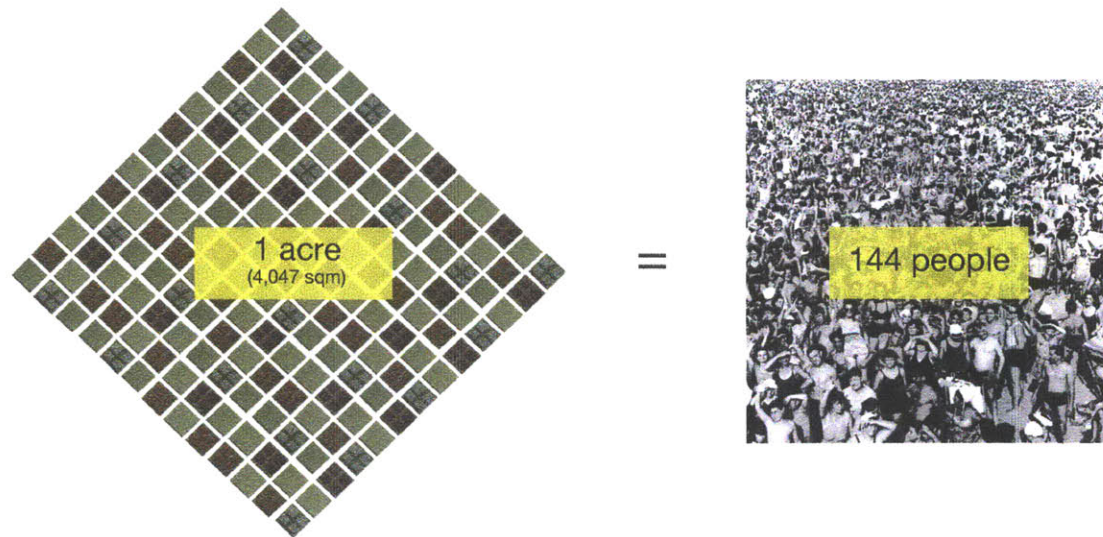
veggies, orchards
flowers, herbs
apiaries
seedlings, seed saving



STREETS

berries and fruits
nuts





How much **urban farm land** is needed to feed enough **fruits and vegetables** for **1 year**?

<http://farmtoapegardens.com/blog/can-urban-agriculture-feed-100-angeles>

According to a study, one acre of farm land can produce enough fruits and vegetables to feed 144 people annually. This converts to 28 square meters of farming space for one person.



From Etsy to Budy: Growing Business of Handicrafts Online Social Open Markets

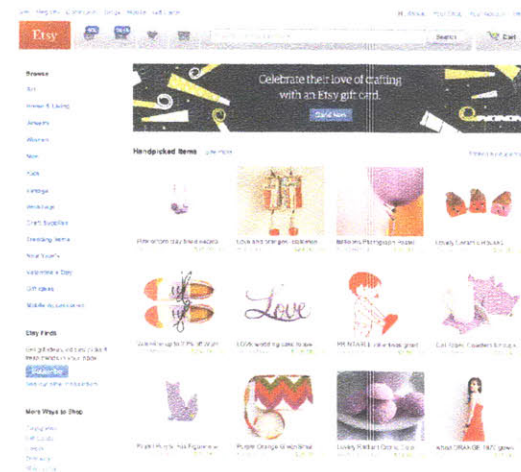
Trends

Etsy, an ecommerce site for hand-made and vintage goods, boasts its people-powered economy with person-to-person commerce. The plug-and-play platform allowed anyone with simple Internet skills to start an online business. Since it launched in 2005, the Brooklyn-based company now has over 25 million members worldwide (over 200 countries), and employs more than 400 people in the US and abroad.

Sociologist Richard Sennett, agrees crafters are "not just bored people with time on their hands. A lot of people are finding their day jobs pretty empty, whereas learning a

craft provides a real satisfaction. It's a skill - things like carpentry and weaving are mentally and physically stimulating, and people get inherent pleasure out of that kind of work," he says (Barford, Vanessa. "Etsy, Folksy and the Mania for Making Crafts." BBC News. BBC, 11 Aug. 2012. Web. 30 Jan. 2014)

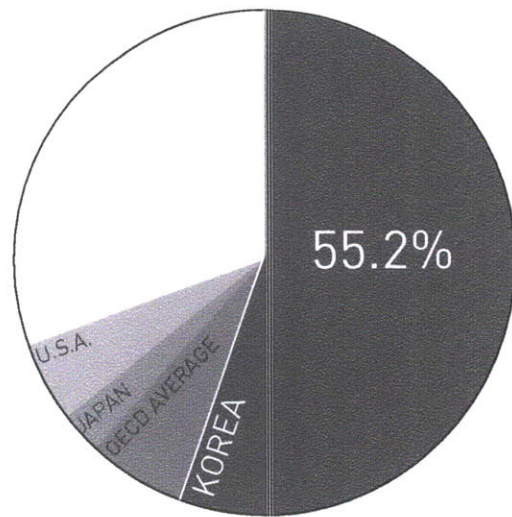
Followed by the success of Etsy and Folksy (UK version), Korea now also has its own version, called Budy. The founders of Budy are hoping to bring the handcraft market to the mainstream economy, and also encourage entrepreneurship among women and old retirees.



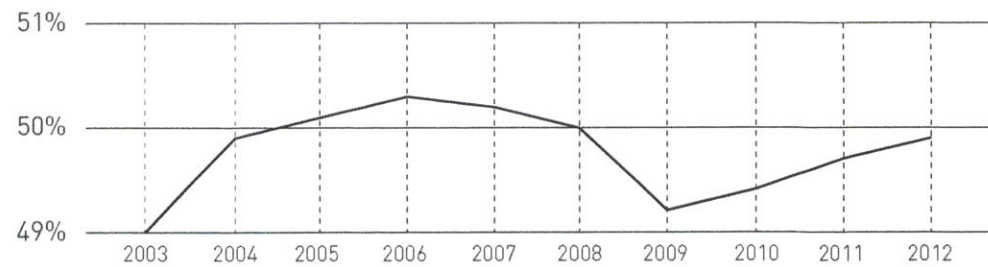
Women in the Workplace:

percentage of women participating in economic activity, 2012 survey

http://www.index.go.kr/egams/stts/jsp/potal/stts/PO_STTS_IdxMain.jsp?idc_cd=1572&bbs=INDX_001&clas_div=A



past 10 years, the employment rate of women has been stalled at 50%



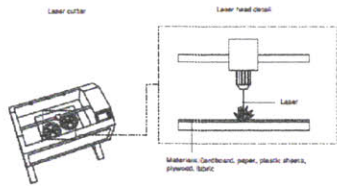
Man as Maker

2. Slow Craft Movement : Micro Business Entrepreneurs

As seen in the previous example of online e-commerce for micro entrepreneurs, easy accessibility of the online platform to reach out to millions of other users is becoming a large incentive for handicrafts. The rise of the handicrafts also reflects the desire to express individuality and personality in a culture of cheap mass-produced goods. The individuality of the small online shops brings the consumer with the maker directly, bringing the excitement of meeting the maker of the product one will purchase.

In Korea, the employment rate of women has been stalled at 50%.

The combination of handicrafts and online marketplace is one way to bring in the women labor into the active economy. In Korea, the employment rate of women has been stalled at 50%. According to a 2012 survey of women participating in economy activity, among OECD countries, Korea ranked on the bottom end of the chart with 55.2%, behind the OECD average.

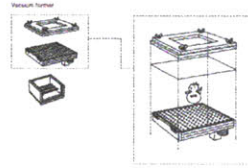


WOOD-WORKING

General wood-working includes traditional wood-working craft skills. These skills are used in carpentry, whittling, furniture making and in some cases, architectural construction.

There a number of machines from hand tools to digital mills that can be included in wood-working facilities:

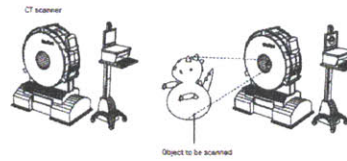
- Air Compressors
- Bandsaws
- Power-Carving
- Circular Saws
- Drills
- Grinders, Buffers
- Joinery
- Jointers
- Lathes
- Miter Saws
- Mortisers
- Planers
- Routers
- Sanders
- Shapers
- Table Saws
- Chop Saws



METAL-WORKING

General metal-working includes a number of standard machines and processes for working with metal. The term covers a wide range of work from large ships and bridges to precise engine parts and delicate jewellery. In many cases machines for working with wood and metal are similar in function however, the machines themselves often have special requirements to move between materials. For example bandsaws are used for both metal and wood however, metal band saws require water hoses, cold air and separate ventilation and plumbing lines, as well as special blades.

- Metal Drills
- Cold Saws
- Metal Lathes
- Edge Finders
- Metal Grinders
- Draw bars
- Tapping and Rolling Tools
- Vises

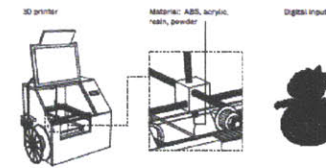


SCANNING

Just as there is the proper printer for each job so is the case with scanners. There are general purpose models but size, form, color and fidelity all matter. 3D scanners capture information from a 3D object and translate it to a digital model for use and manipulation in a variety of software programs. They include 3D scanners, laser digitizers and CT scanners. Again the machines included are only a sample.

MILLING

Milling is a subtractive process which removes material to create a desired form. In most traditional settings mills are part of daily wood-working or metalworking shops. However, advances with computer-controlled, CNC milling almost mandates that this type of tool be called out as separate from their traditional carpentry-focused counterparts



ADDITIVE MANUFACTURING

3D printers range not only in printed material (from metal to plastic, even food!) but in the processes they use to print. A 3D printer typically involves some type of material being laid down in an additive process to slowly build a 3D form. Different design disciplines use various printers based upon that design's needs. Printer processes can range from Stereolithography to Form Deposition Modeling and the machines included in this section are only a sample.

SOFTWARE

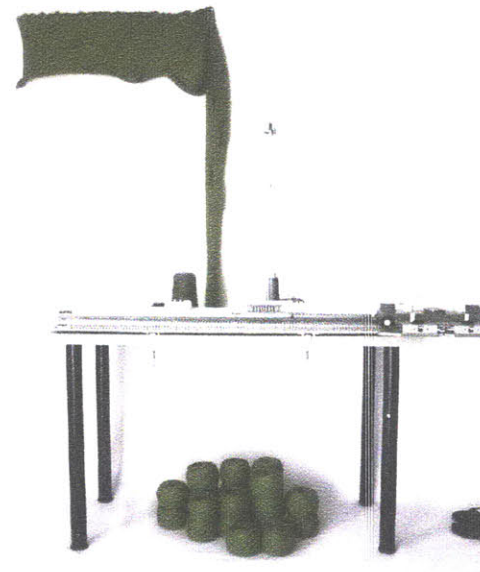
All of the machines reviewed have proprietary software that accompanies them. In addition most machines require prior knowledge of various 2D and 3D computer aided design programs. A sampling of both types of software are reviewed in this section.

Existing FabLabs, *Digital Makers Toscana*

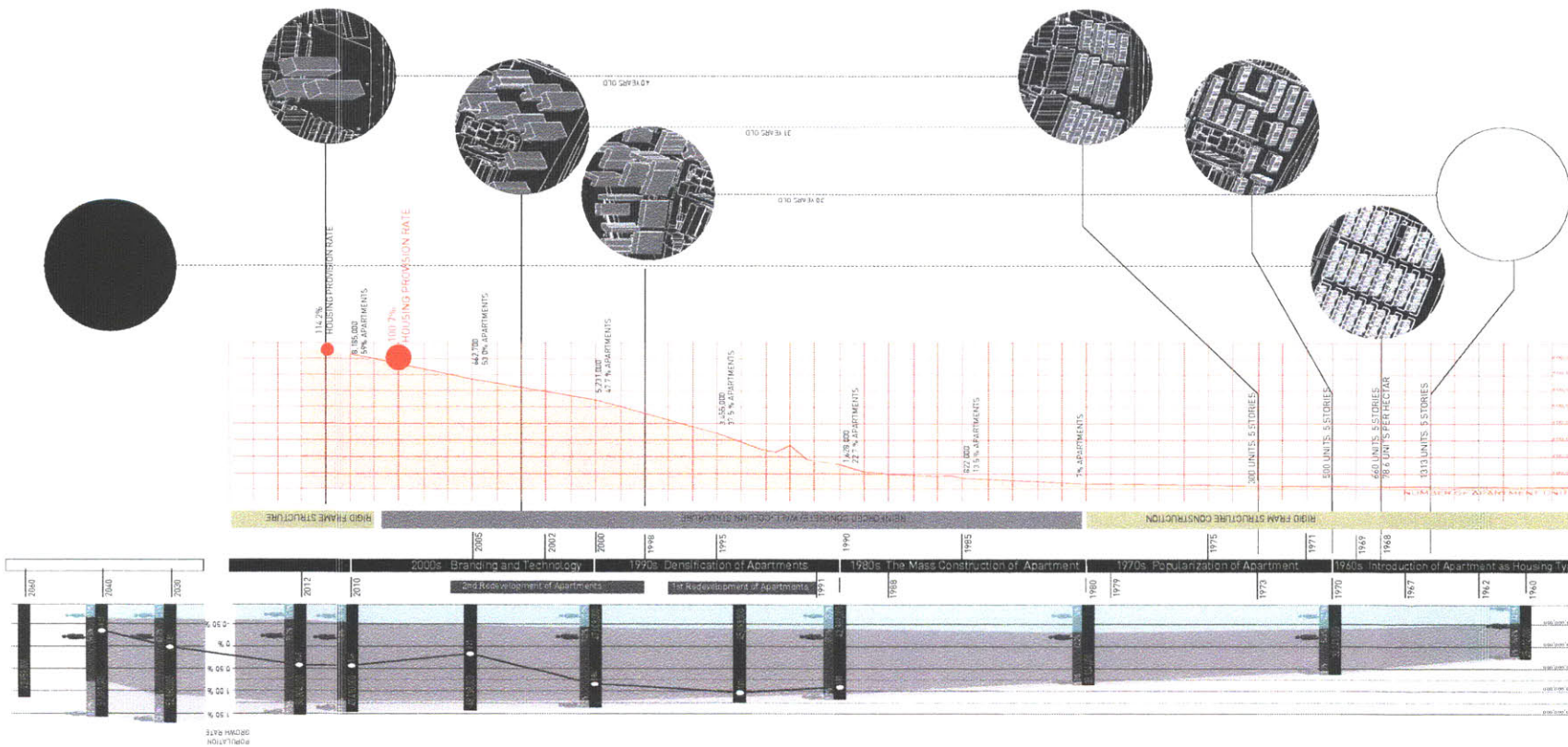
Shared Toolshop, Workshop Space for Small Business Owners : A new Model for Live-Work

The idea of tool libraries has been around since the 1970s, offering communities to share resources that would otherwise spend the majority of the time sitting in drawers. However, due to modernization of cities, and individualization of housing types, communal spaces have been slowly disappeared. In the current days of sharing society, the concept of sharing has returned. The term 'tool' has a wide range of meanings, from kitchen tools (think

large cooking blender), gardening tools, fabrication tools for design and crafts, and also the space itself (kitchen and workspace). Housing complexes, or local communities in cities are bringing back the shared spaces as a desired amenity for residents. Easy access to rapid prototyping tools (as illustrated on the opposite page) and workspaces can foster creativity and micro-entrepreneurship within the everyday life of urban residents.



This graph overlays multiple data on demographics, housing stock, housing structure type, and also the redevelopment timeline. When looking at all of these data concurrently, we will be able to find relationships between different trends, and also predict the future direction of housing developments.



Featured Report

Demographic/Housing Trends

Demographics

Aging baby boomers, decreasing birthrates, aging society

The demographic trends of past fifty years show a slowing down of population growth rate. By 2040, Korea will face negative growth in population. It is also an aging society, with a baby boomer generation entering the 65+ age group. Over 30% of the population will be people of 65 years of age and over.

What type of alternative lifestyle can housing provide?

Housing Stock

2008 marked 100% of housing provision rate - The need for massive construction is no longer valid.

Apartment as housing type was first introduced in 1960s, and since then it became the majority of housing stock. In the late 1980s, government-led mass construction of apartment housing changed the urban form of the city. During this time over 50% of housing stock became apartments. In 2008, housing construction surpassed the 100% housing provision rate. Although there still is a mismatch of supply and demand, the overall housing stock has reached 100%. The need for massive construction is no longer valid.

Flexible Adaptation

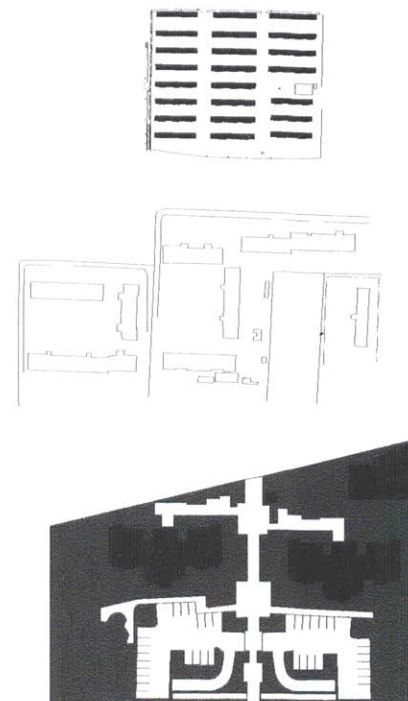
*Reuse Retrofit Re-Envision
Back to 'rigid-frame apartments'
: more opportunities for retrofit*

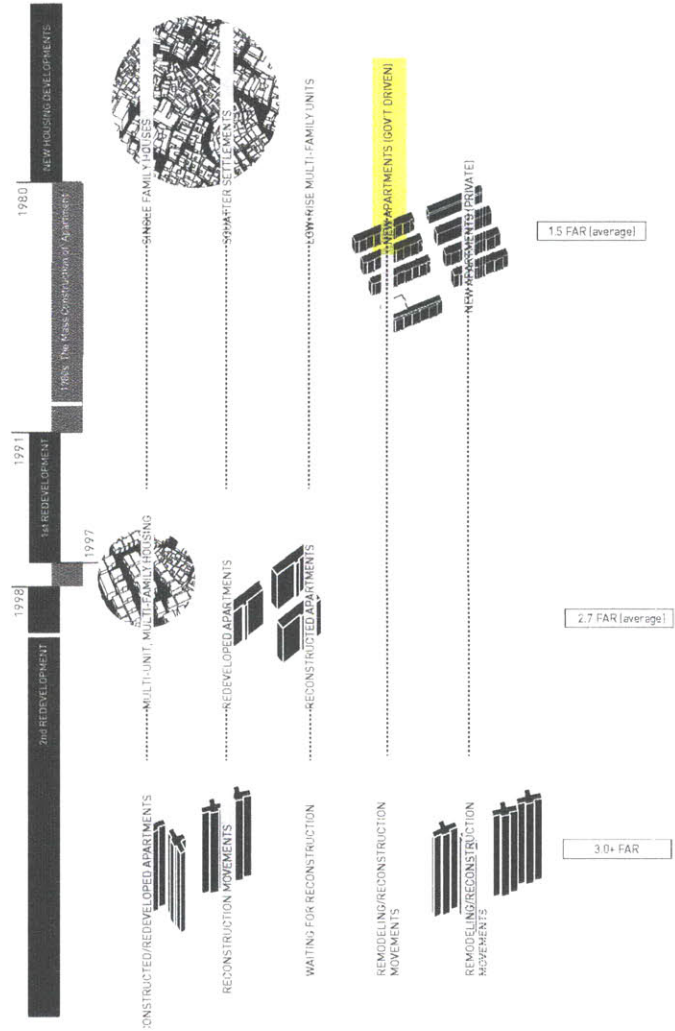
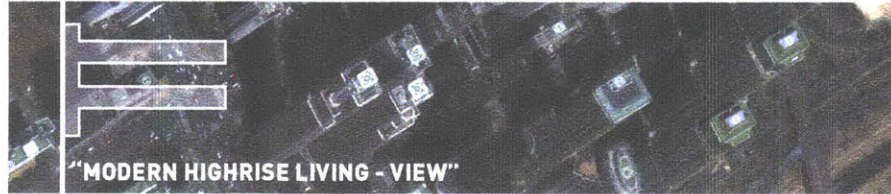
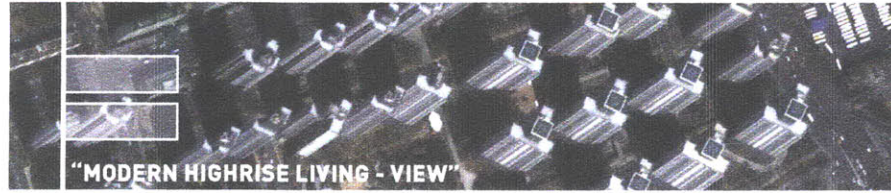
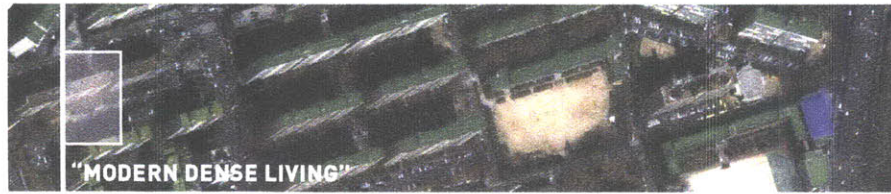
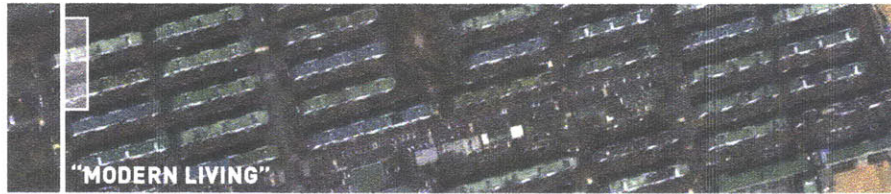
The first generation of apartments were built in rigid-frame structure. However, during the mass construction boom, reinforced concrete wall/column structure was preferred due to lower cost, and faster construction time. However, at this time when population is decreasing and housing stock is abundant, retrofit has become the new method of redevelopment. Adaptation and flexibility are the new keywords in housing development, and rigid frame structures are now back in demand. In what ways can we retrofit the existing rigid-frame structure apartments?

From Tower Living to Ground Living

Housing design reflects the value of the society : views, height, and back to access to nature

Housing developments reflect the value of the society it was built in. From low-rise communities of the 1960s, the housing developments followed the value of "modern living", tower living, and panoramic views of the city. As cities become denser with influx of population, the only way to accommodate the entire population was by building taller and taller. If housing is a reflection of the current values of the society, how will the changing concept of urban living affect the housing form? How will the concept of slow-living influence the redevelopment of housing?

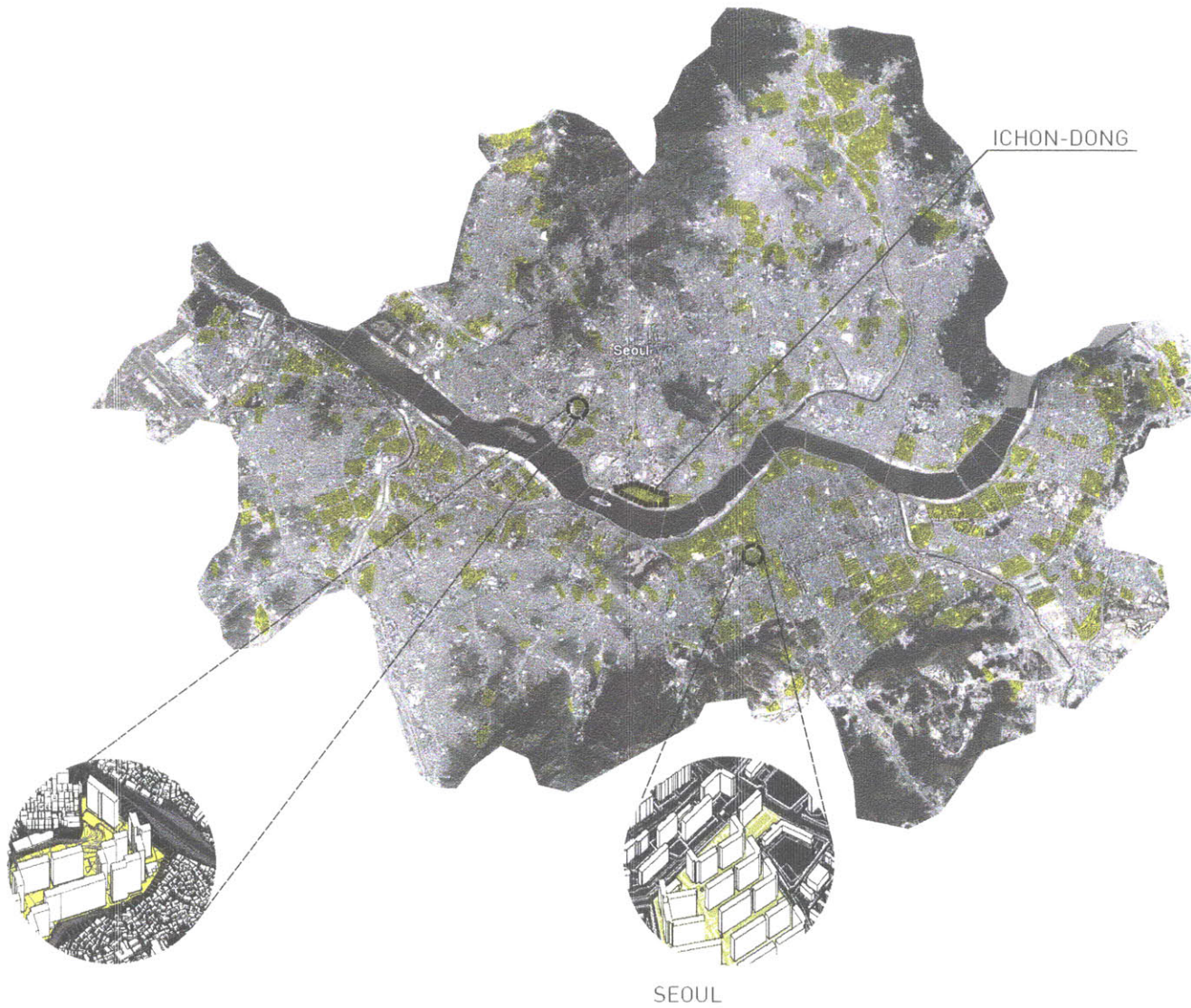






Proposal for Slow Urban Living Apartments - a retrofit

Prototypical Model Housing from 1970s Turns Into
Model Retrofit SLOW Community



ICHON-DONG

Seoul

SEOUL

OVER 60% HOUSING STOCK ARE APARTMENT COMPLEXES

Apartment Danji's (complexes), Pockets of Enclaves

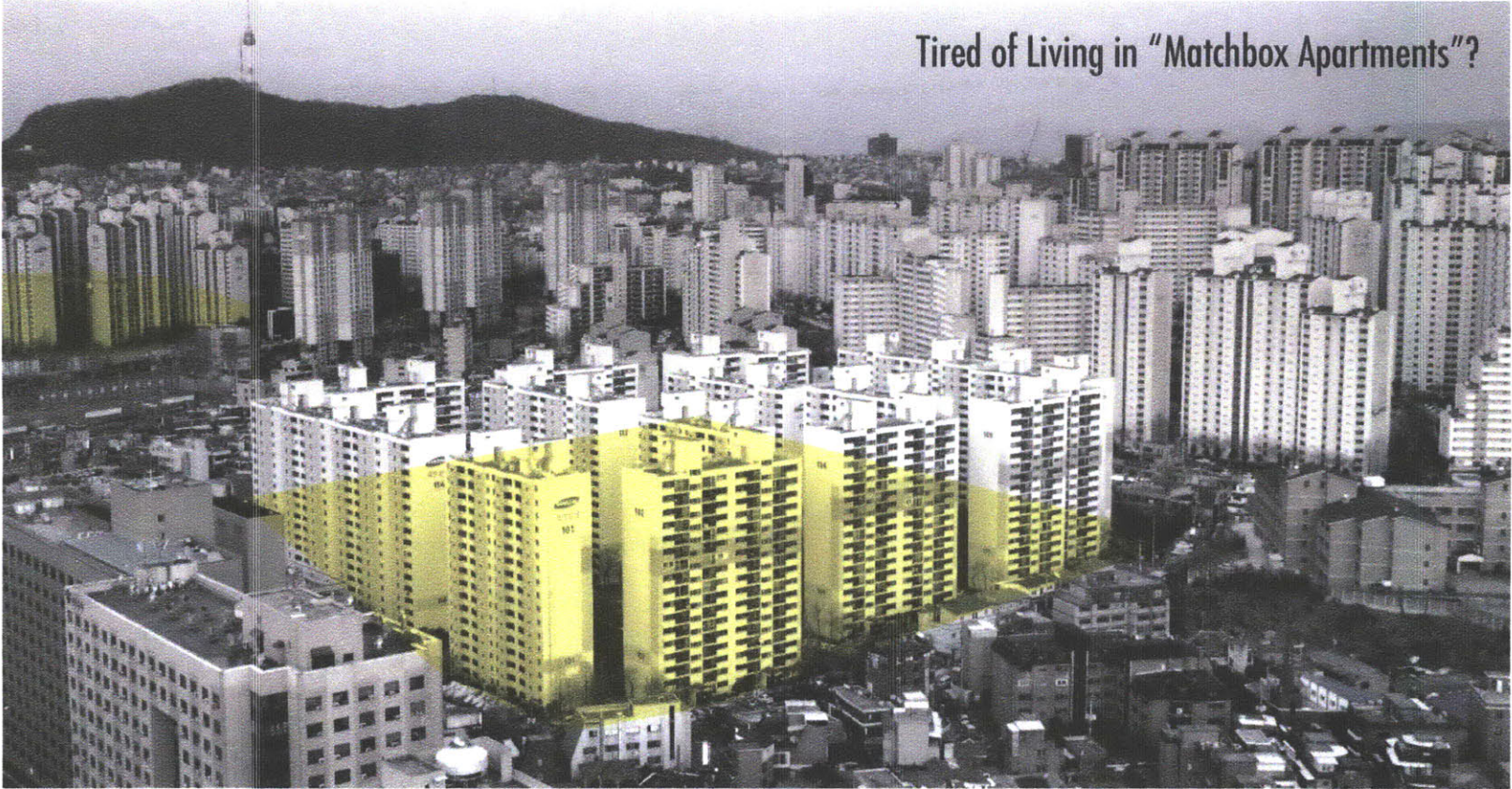
Planned by the government and built by profit-driven developers, the high-rise apartment housing type is the most pervasive housing type found in Seoul. Compressed modernization induced rapid gentrification and urban renewal in Seoul. Users and developers demand that buildings generate profit. The incentive of providing additional floor area ratio to existing low-rise residents, drove developers to instigate large-scale demolitions, followed by new construction. This scrap and build process produced enclaves of high-rise gated communities.

The continuity of time and space in the urban landscape is interrupted by this cycle of scrap and build. Apartment as a housing type has exponentially increased from 13.5% in 1985 to 53% in 2005 (Kangnam district 75.8%, national 47.3%). In 2011, new construction for apartment housing was 400,000 units, whereas construction of single-family housing was not even at 30,000 units. The homogenous, apartment developments create pockets of enclaves within the urban city. By limiting access to

non-residents, the block developments form an invisible gated community and segregating the urban population socioeconomically. Rem Koolhaas writes about this process of urban redevelopment in his book as such, "Through parallel actions of reconstruction and deconstruction, a city becomes an archipelago of architectural islands floating in a post-architectural landscape of 'erasure' where what was once a city is now a highly charged nothingness."

Housing creates social and physical armatures for streets, parks, neighborhoods, and communities. It shapes and organizes the city and the quality of life of urban dwellers. If this process continues, the city will become an archipelago of private developments, left with streets and commercial areas.

Tired of Living in "Matchbox Apartments"?



From Scrap and Build to Reconfiguring the Ground

Is scrap and build the only method of urban renewal? In the essay "Exodus", Rem Koolhaas describes urban renewal as war against the existing cities. Implants of large compounds of apartment buildings destroys the urban context. Existing lifestyles are eradicated and the sense of place is discontinued. Memories and local life is contained in old communities (even though they are bleak 60s modernist apartments), it is necessary to preserve parts of the past while implanting new things.

The following design proposal calls for a reconfiguration of existing low-rise apartment complex. It is certainly under the pressure of redevelopment (the classic cycle of scrap-

and-build), however, is it possible to reconfigure the existing state with additional elements of 'experiential slow living' to increase the property value?

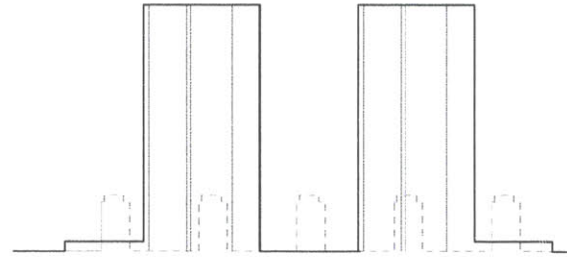
These reconfigurations can occur at contained scales, such as the ground condition of apartment communities. By reconfiguring the scenes and ways of our daily life, this proposal aims to create an alternative method of urban renewal.

How would you like to move around your community? How do you cultivate community? Through reconfiguration of old buildings, we have the opportunity to bring new visions.

Neighborhood in Transformation

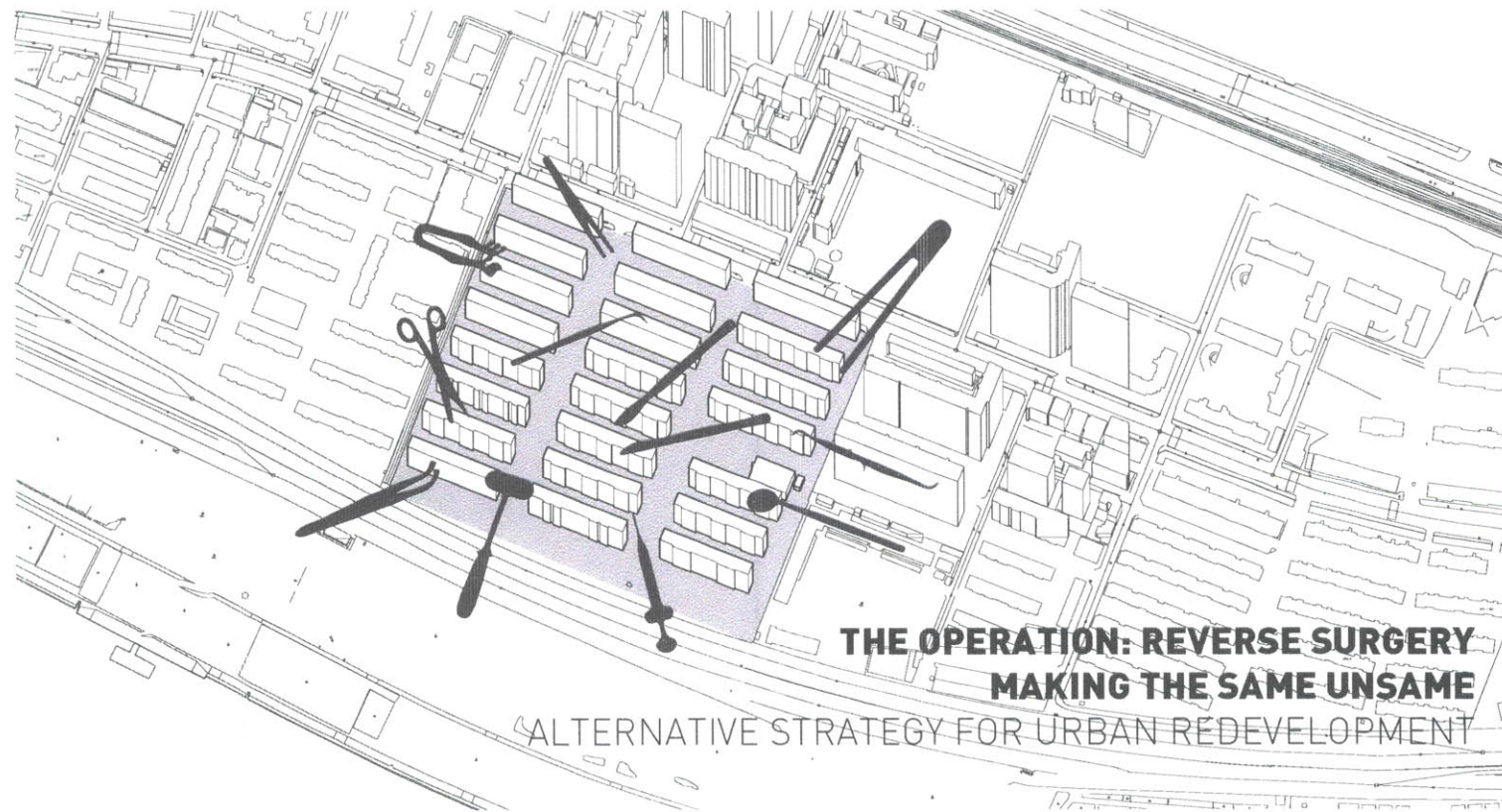


Is this a community of the past? Should this low-rise apartment community go through the same process of urban regeneration?



Instead of demolishing and building high-rise apartment buildings, can we design infills, re-configured ground conditions, and additional amenities to create a valued community?

diverse spaces
differentiation
interaction



**THE OPERATION: REVERSE SURGERY
MAKING THE SAME UNSAME**

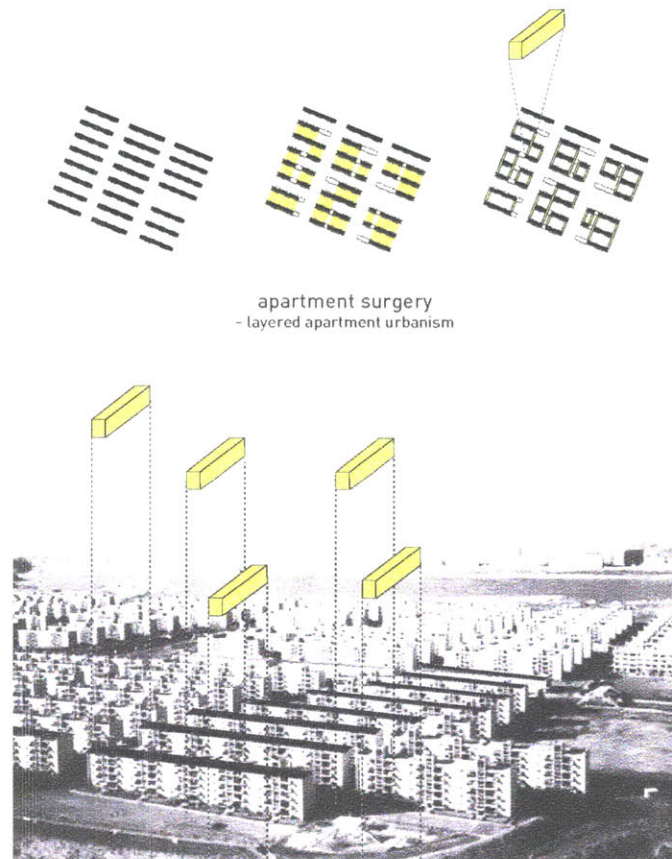
ALTERNATIVE STRATEGY FOR URBAN REDEVELOPMENT

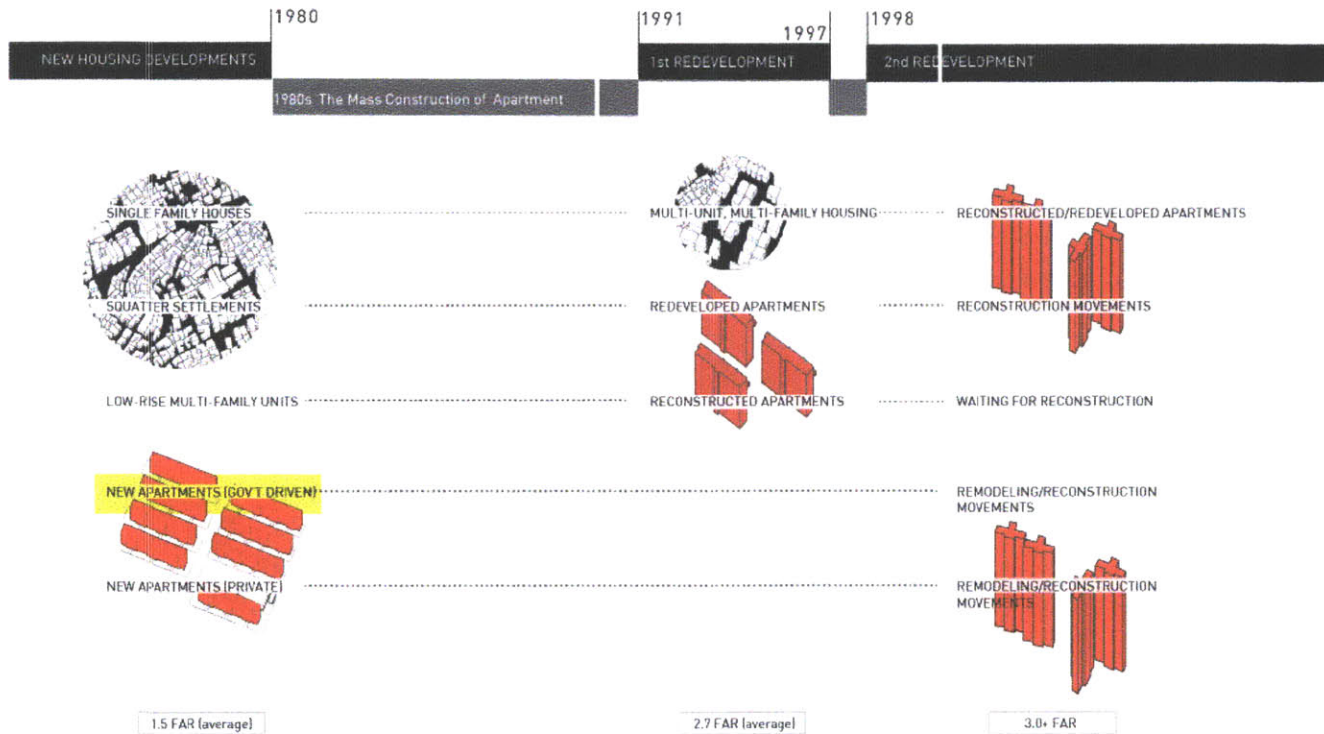
What are the different methods of reconfiguring the ground? Is it through surgical procedure of slicing and adding (above), or through additional layers of new elements of living? (right)

Stories of the Past: Standardized Apartments as the Main Housing Model

Book Review: Apartment Surgery, by Y. Lim

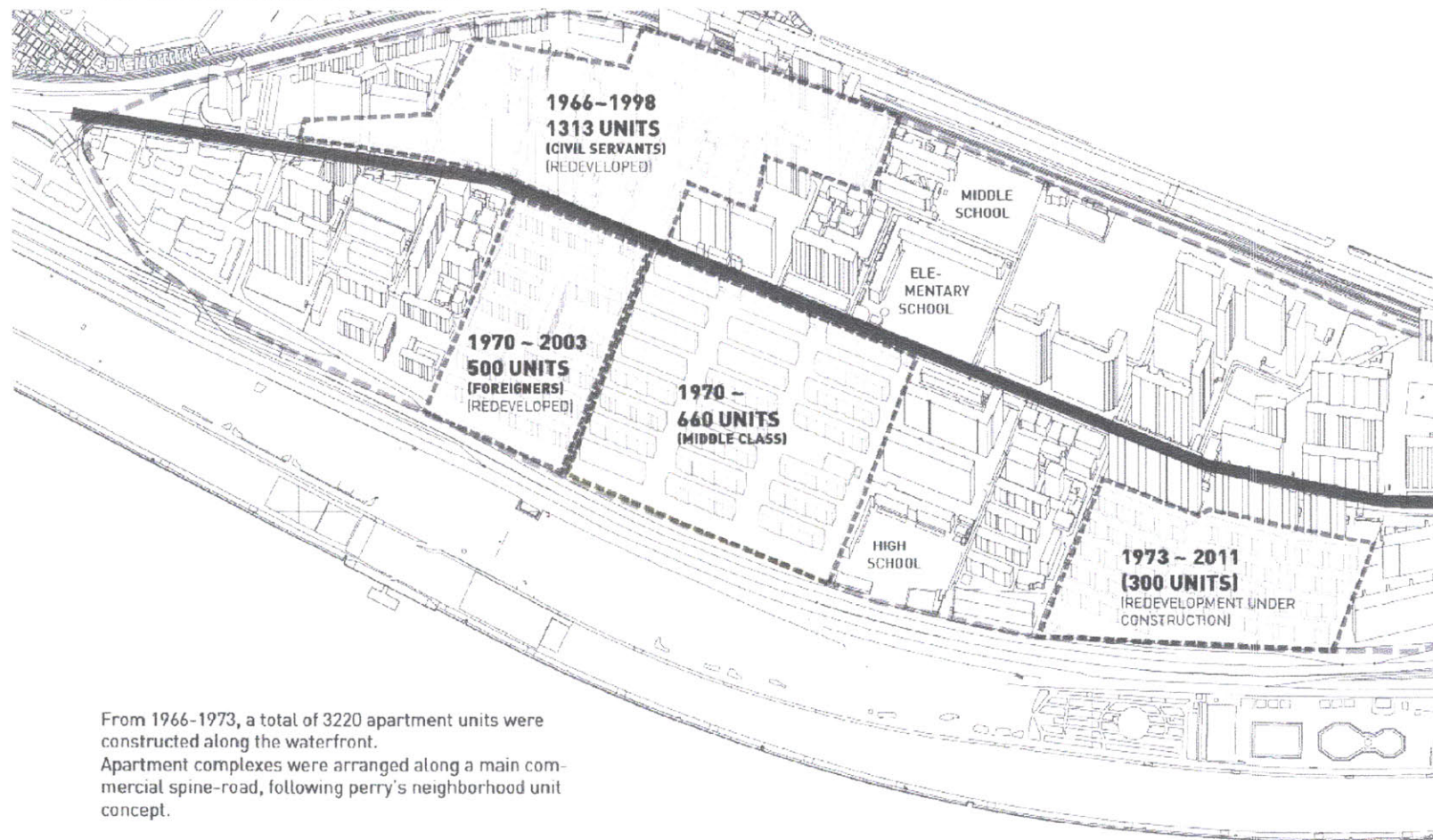
Efficiency, profitability, and high housing demands created the box-like apartment housing type. Average lifespan of apartment complexes are 30 years - instead of scrap and build redevelopment, what are other ways of retrofitting the complex to meet the current needs?





ELEMENT 01 : DENSITY

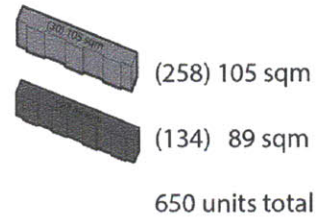
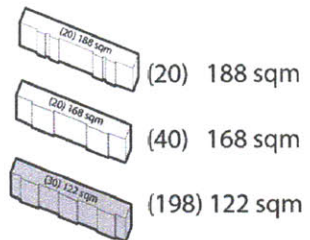
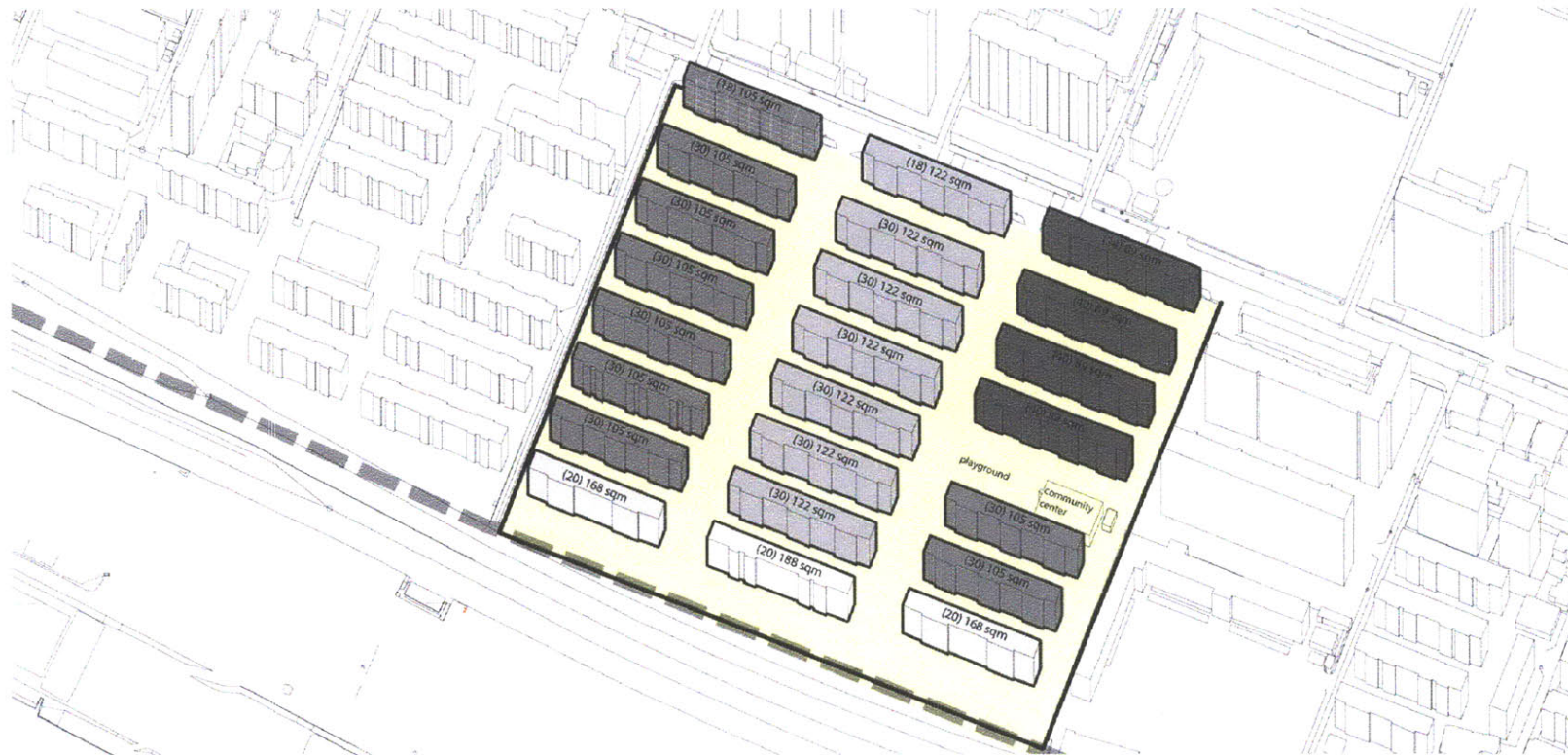
"HIGH" DENSITY MODERN LIVING - 1970s - 2013



From 1966-1973, a total of 3220 apartment units were constructed along the waterfront. Apartment complexes were arranged along a main commercial spine-road, following Perry's neighborhood unit concept.

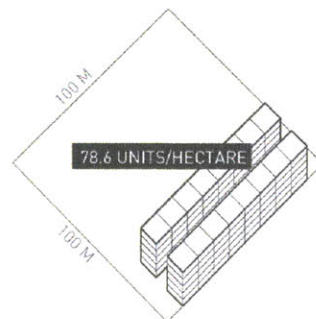
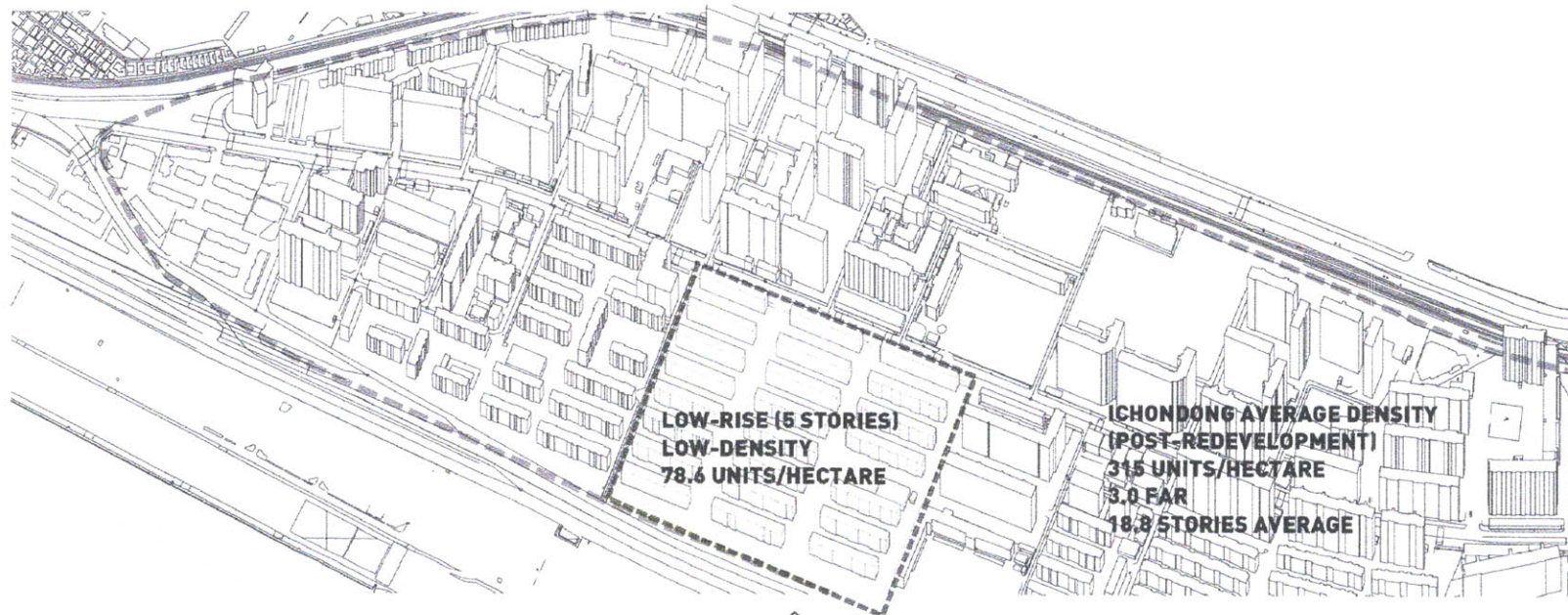
The 'hangang mansion' complex is the only remaining from the 1970s house provision plan. All other complexes are redeveloped into 20-30 story high apartments.

**HOUSING DENSITY
UNIT TYPES AND SIZES**

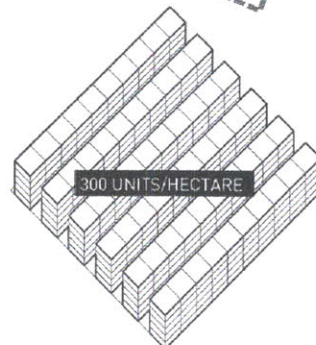


**HOUSING DENSITY
78.6 units/hectare**

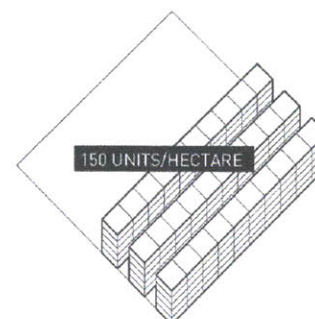
HOUSING DENSITY LAST REMAINING LOW-DENSITY COMPLEX



HANGANG MANSION
HOUSING DENSITY
78.6 UNITS/HECTARE



AVERAGE HOUSING DENSITY
OF REDEVELOPED APART-
MENT COMPLEXES IN THE
NEIGHBORHOOD (IF BUILT IN
LOW RISES)
300 UNITS/HECTARE



RECOMMENDED HOUSING
DENSITY (FOR 3-5 STORIES
BUILDINGS)
150 UNITS/HECTARE



Apartments Re-envisioned: Back to the Basics: SLOW LIVING

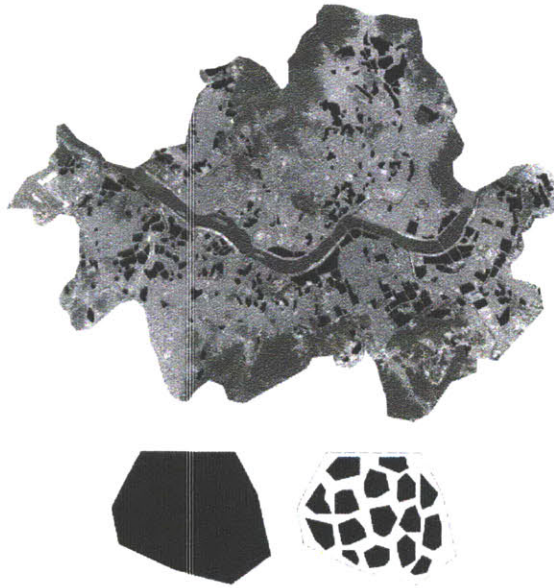
Trends

In the previous section, we have identified experiential slow living as the future trend in housing. In a city where over half of the urban form is dedicated to block apartments, will these changes in trends affect the housing?

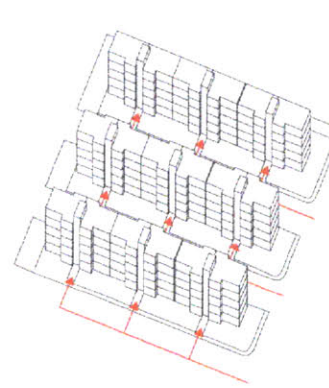
How will demographic trends such as the aging population affect demands for housing design and the formation of neighborhoods? What about new live-work arrangements? What are the alternatives to class-stratified, uniformly designed residential developments? What kind of ground level experiences can cultivate communities?

The Slow Living Apartments aims to address some of these issues by layering ideas of slow-food and slow-craft/live-work entrepreneurship spaces. Sustainability must be accessible and applicable to the practice of everyday life.

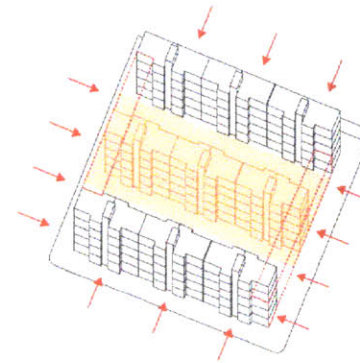
Ground Level Transformations - Opening up the Private Compound



BREAK LARGE COMPOUND DEVELOPMENT
INTO SMALLER BLOCKS



LINEAR BUILDINGS WITH
DEFINED FRONT AND BACK,
UNUSED EXTERIOR SPACE

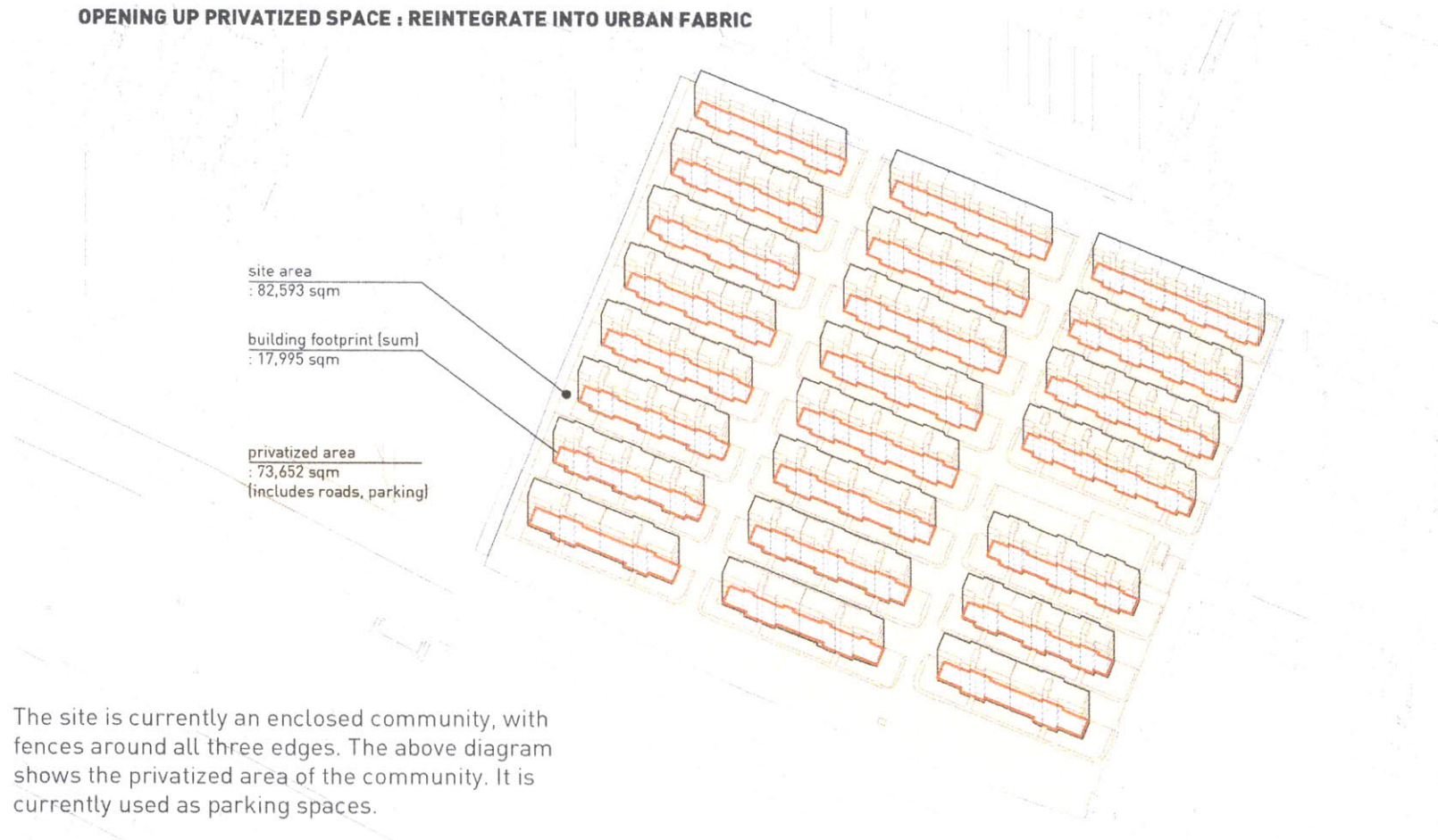


URBAN BLOCK TYPE WITH
MULTIPLE FRONTAGE TO
PUBLIC STREET.
POSSIBILITIES FOR PUBLIC
AND RESIDENT PROGRAMS.

Seoul is a composition of urban archipelago of reconstruction and deconstruction of apartment buildings. The homogenous form of rectangular apartment complexes dominate the current cityscape of Seoul. The by-product of this inscription on urban fabric is the equally homogenous public scape. Even though the apartment complexes are planned and built with a kit of place-making tools (such as

playgrounds, community centers), the semi-public spaces of in-between spaces of apartment complex are becoming more and more exclusive. If this current state of redevelopment process continues, what we will be left with are islands of housing developments and left-over streets with commercial spaces as public zones.

OPENING UP PRIVATIZED SPACE : REINTEGRATE INTO URBAN FABRIC



The site is currently an enclosed community, with fences around all three edges. The above diagram shows the privatized area of the community. It is currently used as parking spaces.

OPENING UP PRIVATIZED SPACE : REINTEGRATE INTO URBAN FABRIC

Goal: To open up the privatized area, and break up the large complex to reintegrate the site into existing urban fabric.

Issue: Apartment owners have in fact 'purchased' the use of privatized area. This area should be 'returned' to the individual unit owners in order to reclaim the public realm.

$$\frac{\text{privatized area : 64,598 sqm (includes roads, parking)}}{\text{sum of all units : 73,652 sqm}} = 0.87 \text{ sqm of privatized area per sqm of residential unit}$$

			x 0.96 sqm of privatized area per sqm of residential unit (includes parking, roads)	- 35 sqm for parking (2 per unit)	- 40% for roads	
		(20) 188 sqm	163 sqm	128 sqm	76 sqm	
		(40) 168 sqm	146 sqm	111 sqm	66 sqm	
		(198) 122 sqm	106 sqm	71 sqm	42 sqm	
		(258) 105 sqm	91 sqm	56 sqm	33 sqm	
		(134) 89 sqm	77 sqm	42 sqm	25 sqm	

Result: provide the specified area as shown to each unit as its own 'private (100%)' space.

In order to deprivatize the private grounds, private spaces should be distributed back to the residents. Whether it through the form of private gardens or access to resident-amenity spaces, introduction of defined spaces is key to opening up the grounds.

Participation and appropriation of public space is essential to increase the quality of public space. Appro-

priation creates a sense of ownership of the space and thus the sense of responsibility to maintain the shared space.

The diagram on the left side illustrates how much "private" space needs to be distributed back to the residents for the common ground to be public and shareable.

LIVE-WORK
COMMUNITY WORKSHOP
COMMERCIAL
PARKING
PLINTH INFILL + OPENINGS TO
STREET



AFTER-SCHOOL EDUCATION
CULTURAL SPACE
MULTI-LEVEL FRAMES



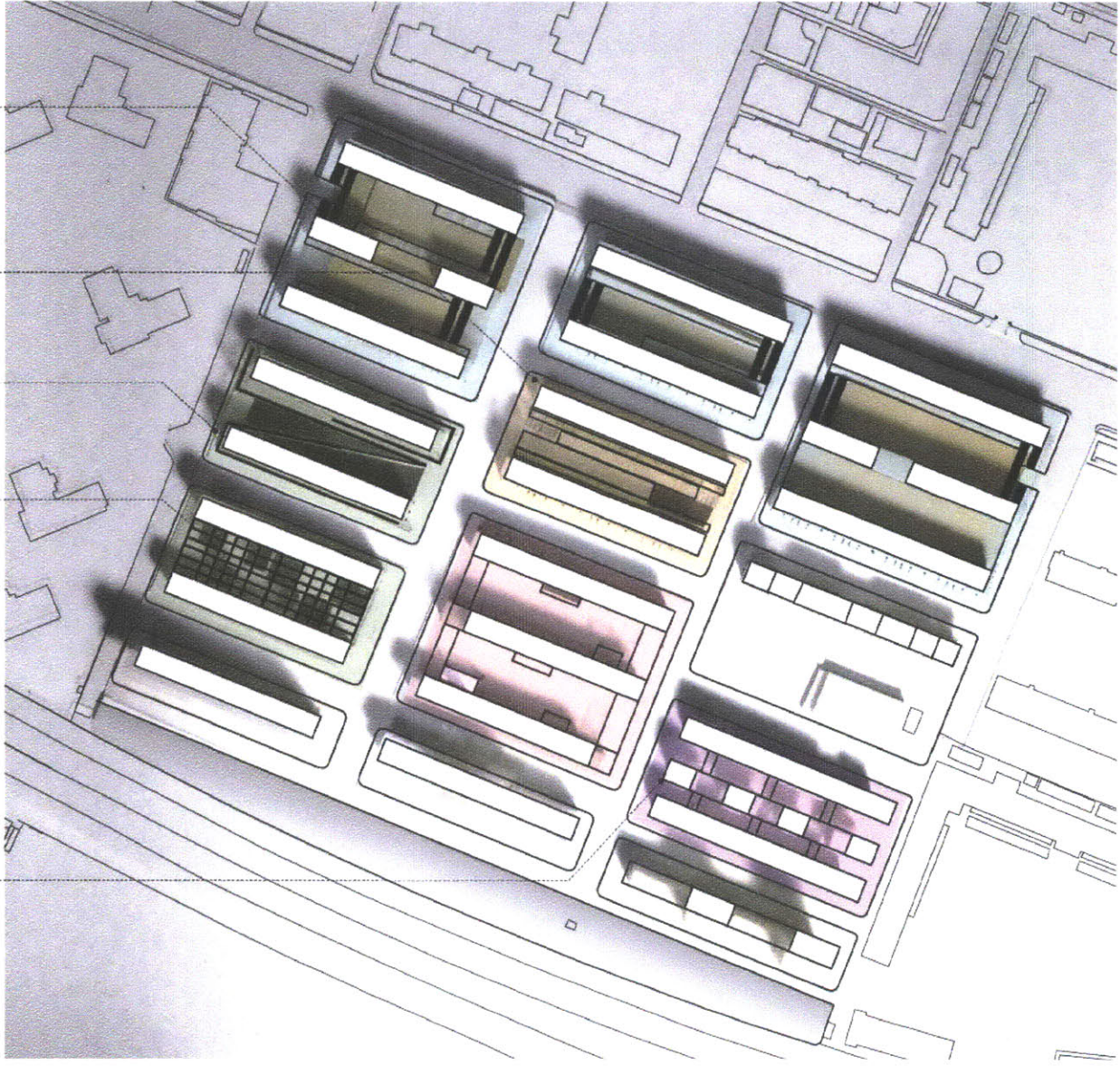
ELEVATED RESIDENT STREET
WITH SHARED GARDEN
WRAP-AROUND MESH WALLS
WITH RAMPS

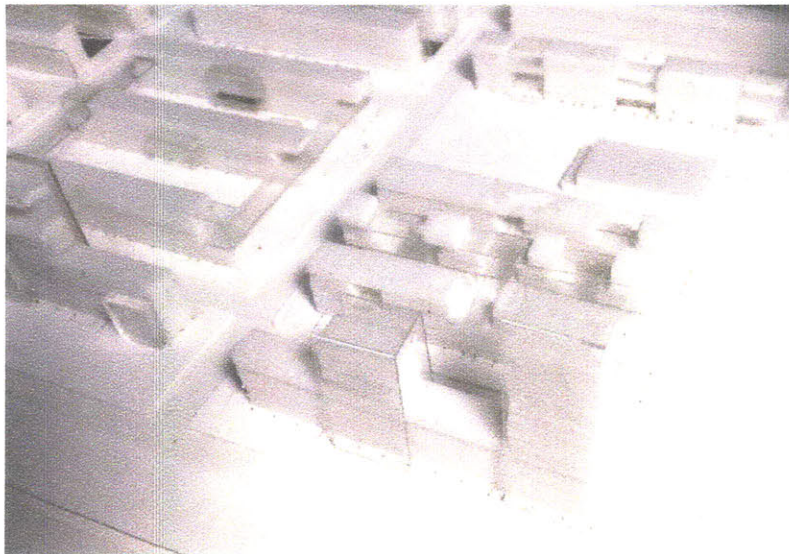
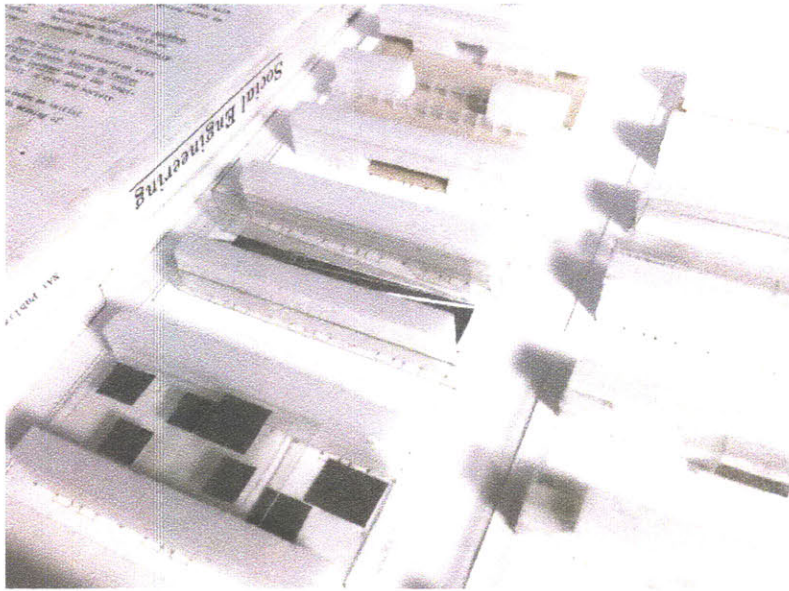


PRODUCTIVE GARDEN
EXTENDED STRUCTURE GRID

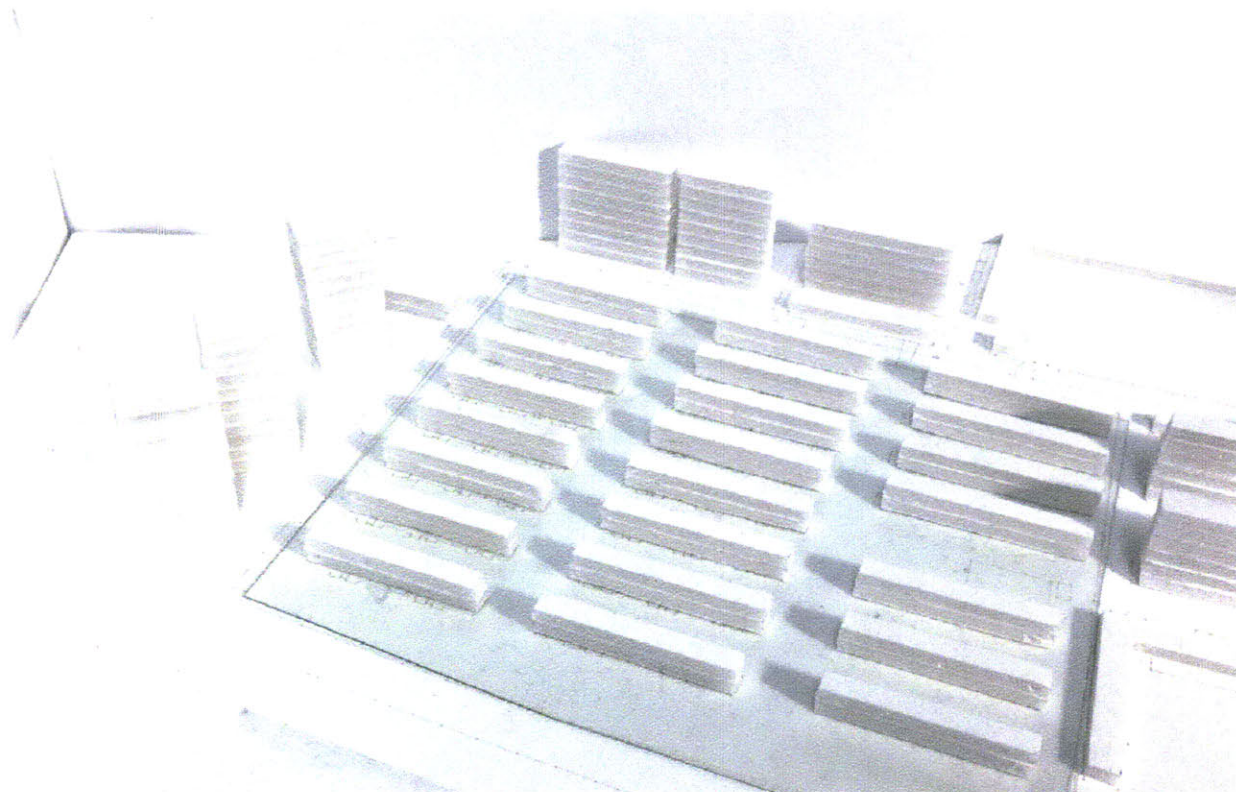




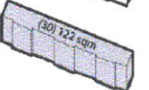
1+1 UNITS
SMALL UNIT INFILL







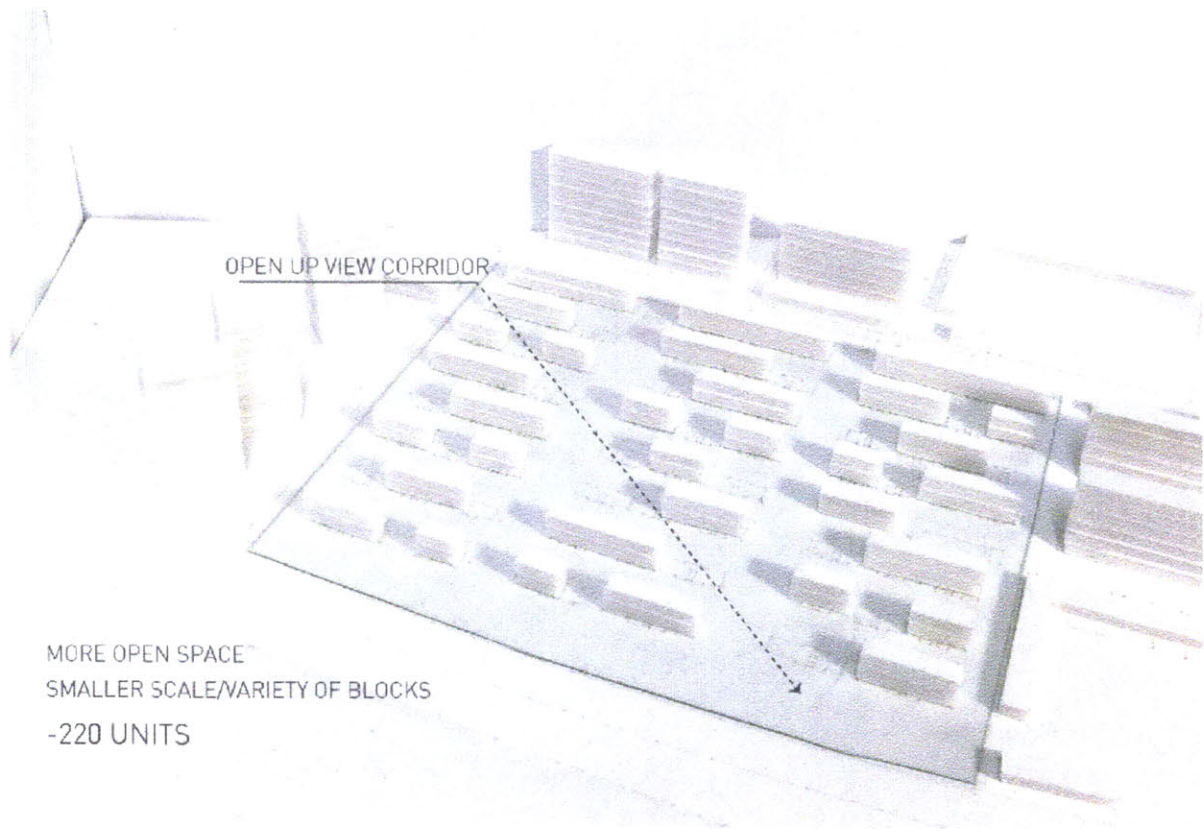
This study looks at creating programmatic courtyards by clustering apartment blocks together. However, it was limited to breaking the larger compound into smaller courtyard blocks, and lacked cohesiveness of the community.



-  (20) 188 sqm
-  (40) 168 sqm
-  (198) 122 sqm

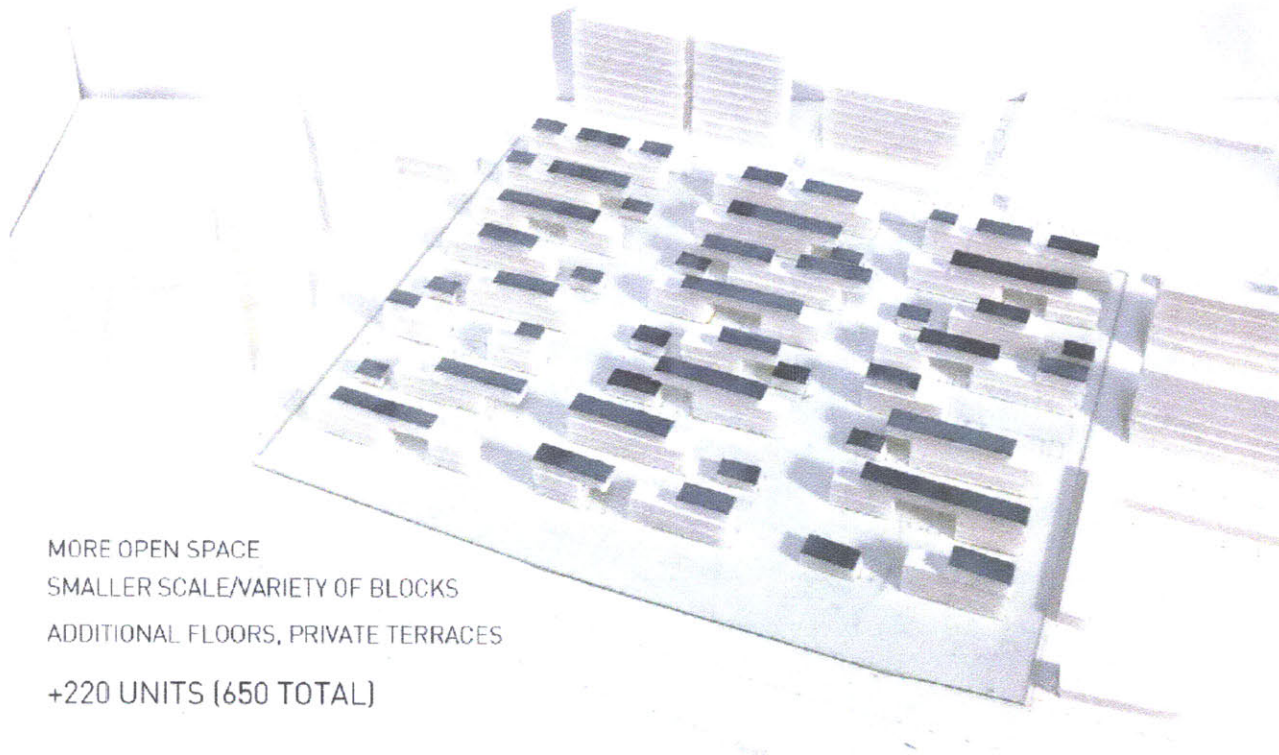
-  (258) 105 sqm
 -  (134) 89 sqm
- 650 units total

HOUSING DENSITY
78.6 units/hectare



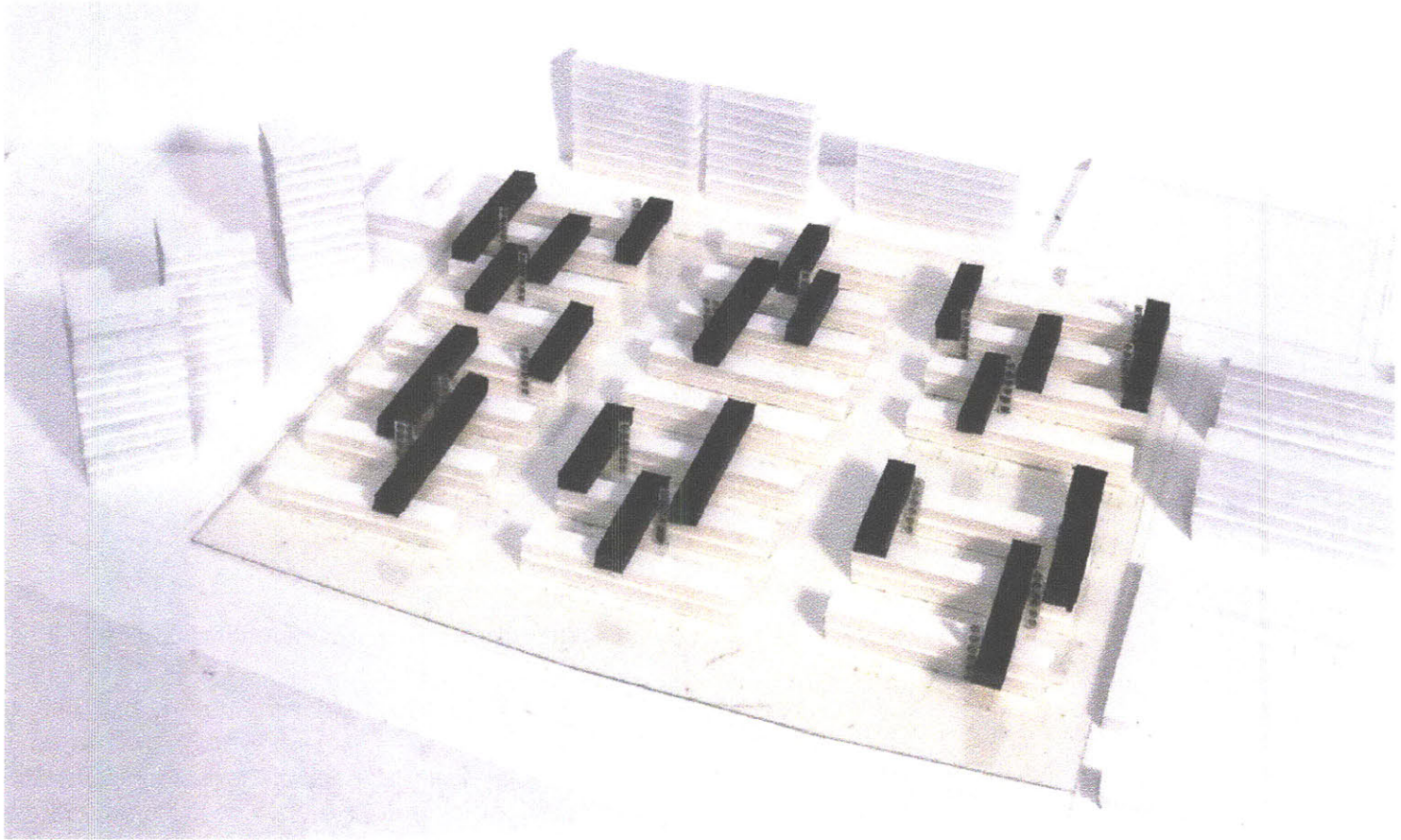
MORE OPEN SPACE
SMALLER SCALE/VARIETY OF BLOCKS
-220 UNITS

This study attempts to create the feel of a small scale residential neighborhood by slicing through the existing buildings and opening up the ground level. However, the deletion of the units reduced the total number of housing units by 220.



MORE OPEN SPACE
SMALLER SCALE/VARIETY OF BLOCKS
ADDITIONAL FLOORS, PRIVATE TERRACES
+220 UNITS (650 TOTAL)

This study takes the previous version of opening up the ground level, and adding new units at the top level to regain the lost number of housing units. The rooftop units gets access to outdoor rooftop spaces.



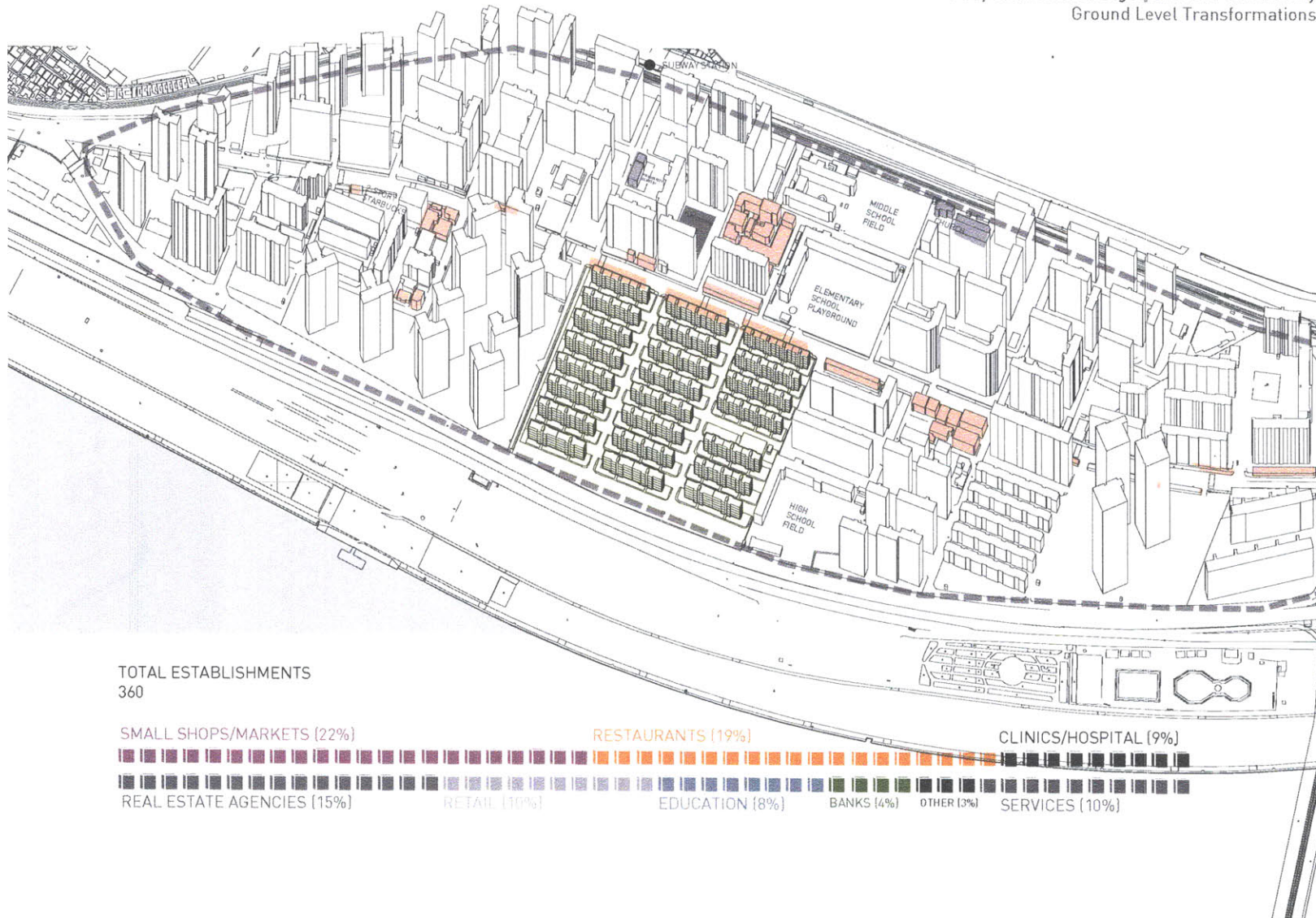
Alternate way of adding new units,
bridging between two buildings with
new vertical access.



What is needed in this neighborhood?

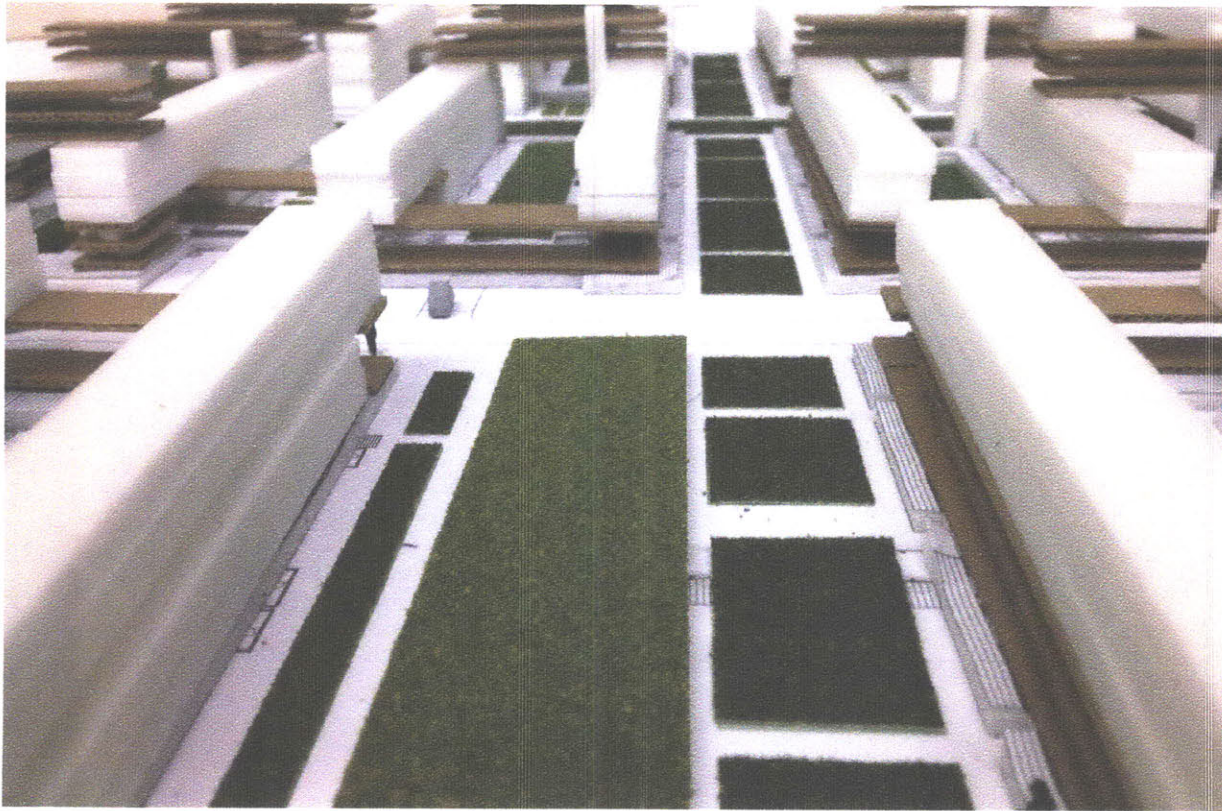
This area is a residential community with a main commercial strip piercing through the center of the neighborhood. Each of the residential apartment compounds are enclosed communities, creating pockets of enclaves. A closer look at the types of establishment shows lack of cultural and green space in the neighborhood. The population composition shows a large number of families and older citizens, a need for family oriented, community space is detected.

Proposal: Slow Living Apartment Community
Ground Level Transformations

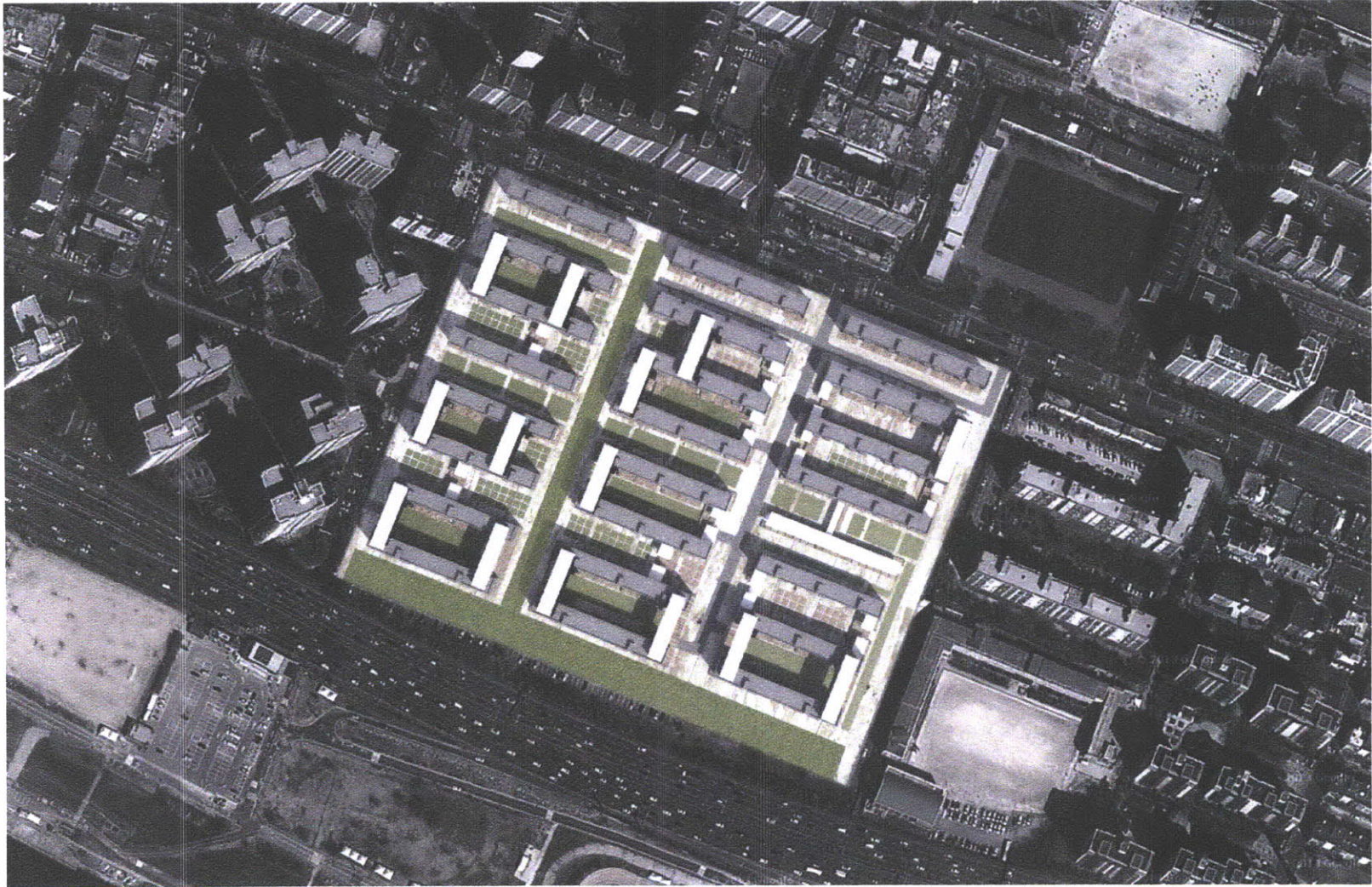




Adjacent housing communities of this apartment complex has undergone massive redevelopment. What is the future of this last remaining low-rise community?



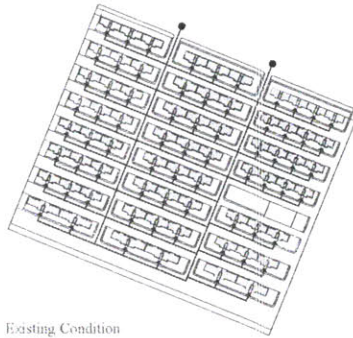
The future of this community may become an experimental ground for urban farming (slow-food), and small craft industry. The compound will be opened up to the public.



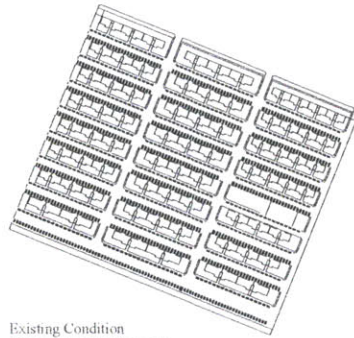
SITE PLAN 

SITE PLAN

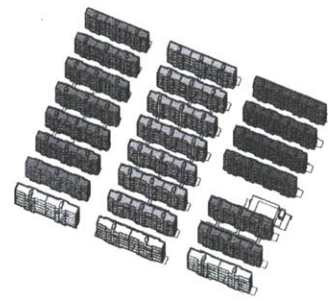
The site plan shows the two main green axis that characterizes this community. New bridging units at rooftop and ground level also be seen.



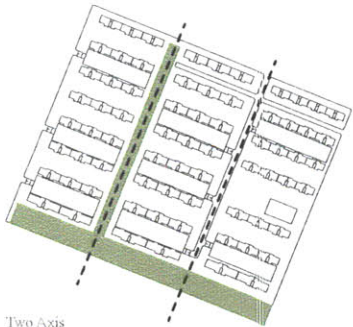
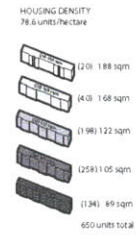
Existing Condition
Access



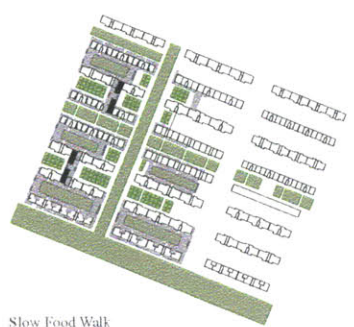
Existing Condition
Ground Usage_Parking



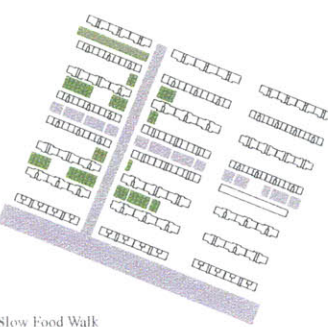
Existing Condition
Unit Types



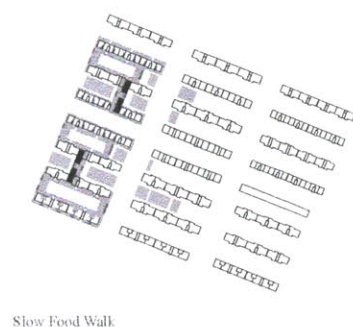
Two Axis
Slow Food Walk - Slow Craft Walk



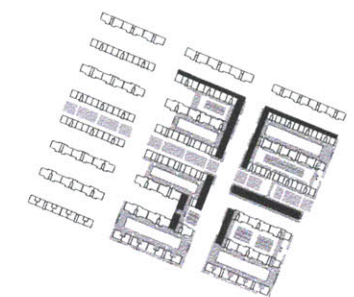
Slow Food Walk



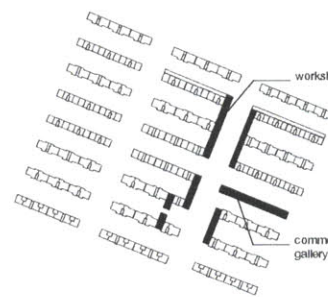
Slow Food Walk
Productive Landscapes



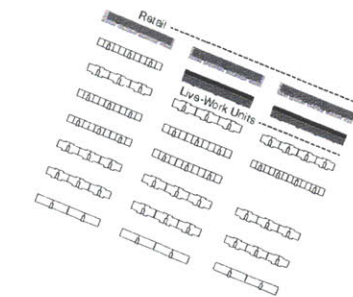
Slow Food Walk
Community Kitchen



Slow Craft Walk

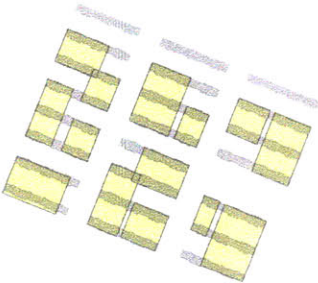


Slow Craft Walk
Workshops + Community Gallery

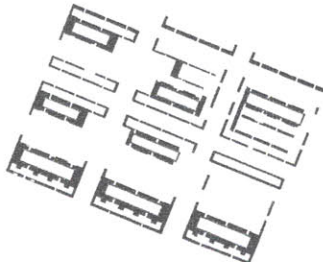


Slow Craft Walk
Mixed Use Retail + Live/Work Units

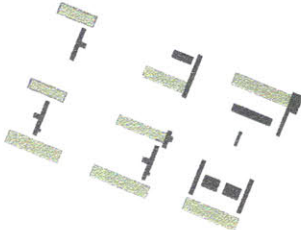
SITE STRATEGIES



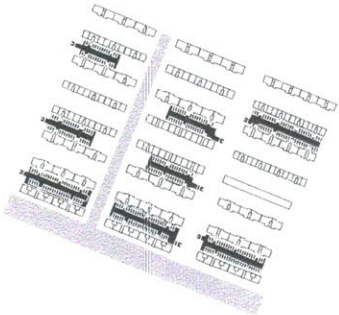
Sub-Communities



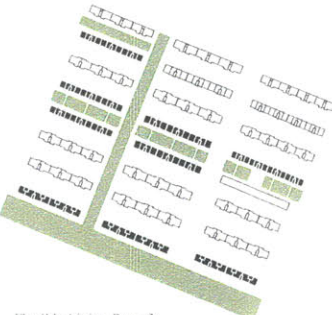
Semi Public / Connecting Patios



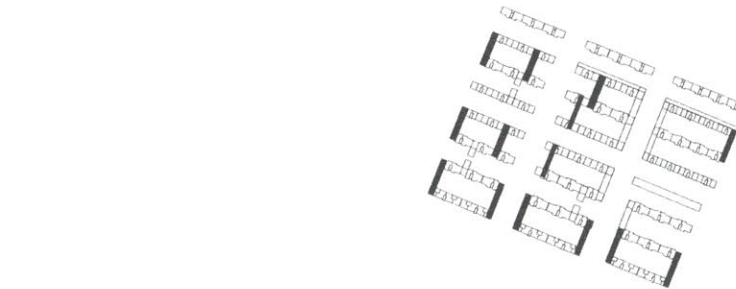
Ground Level Shared Patios



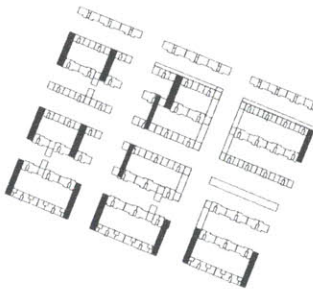
Underground Parking



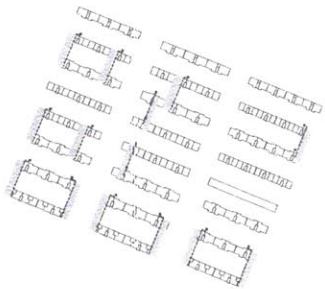
Flexible Living Retrofit
Double Story Townhouse Units



Flexible Living Retrofit
Elevated Shared Patios



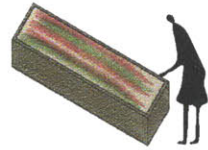
Flexible Living Retrofit
New Units



Flexible Living Retrofit
New Unit Vertical Access

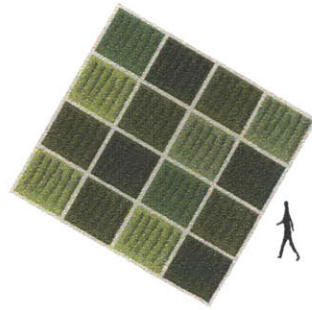
ROOFTOPS

year-around veggies
grains and legumes
greenhouses



URBAN FARM

grains and legumes
seedlings, seed saving
greenhouses and nurseries



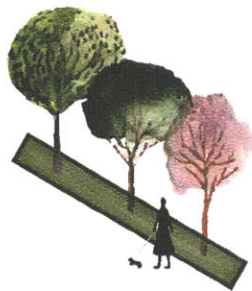
COMMUNITY GARDEN

veggies, orchards
flowers, herbs
apiaries
seedlings, seed saving



STREETS

berries and fruits
nuts

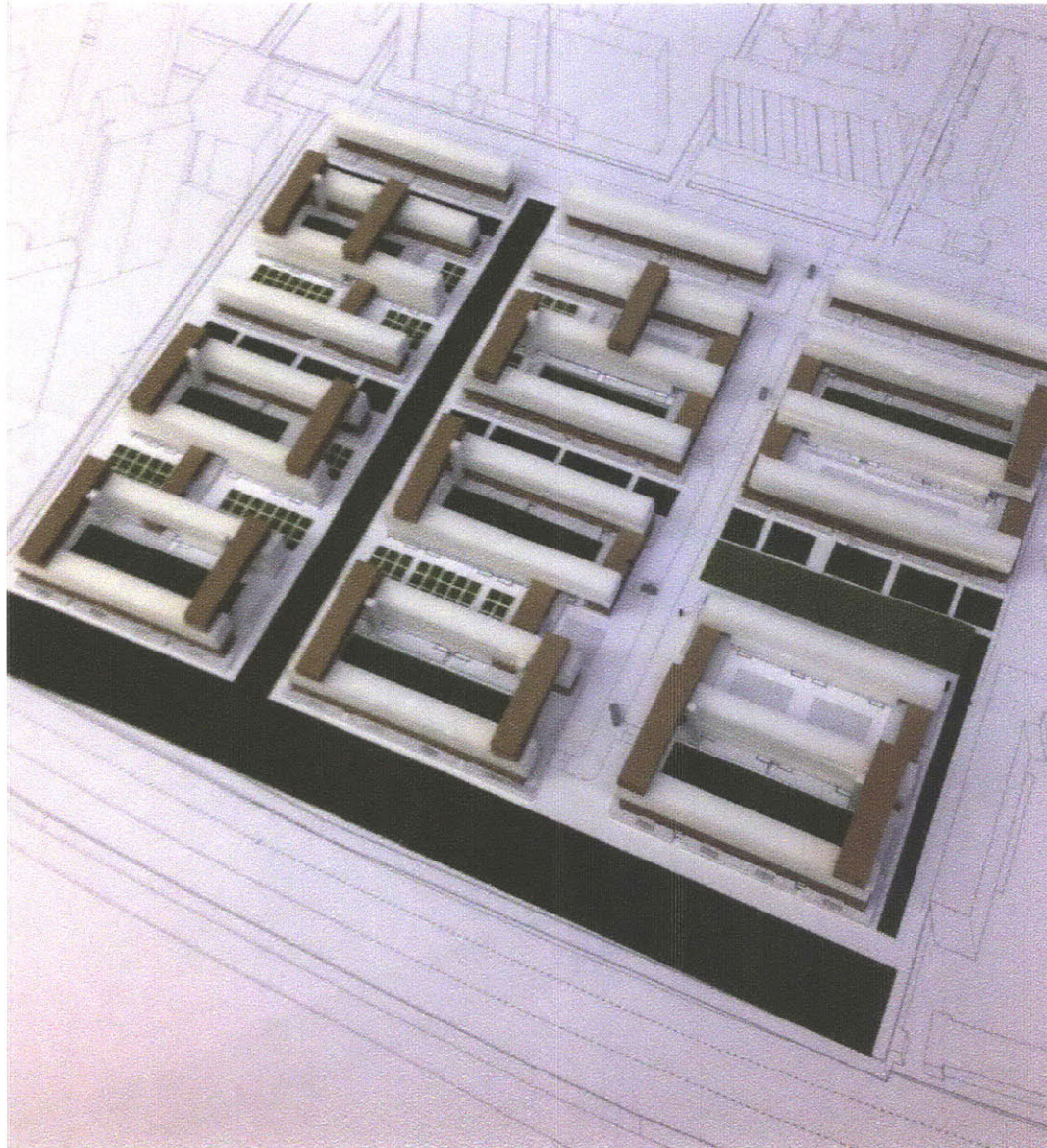


The ground level is where major reconfiguration is occurring. The compound is opened up to the public street, allowing visitors to stroll down the two main green axis of the community. Courtyards and smaller farm plots are designated as privately owned plots, where residents can grow food. New townhouse infill units are also present at this level, along the green axis.



neighborhood plan
ground level

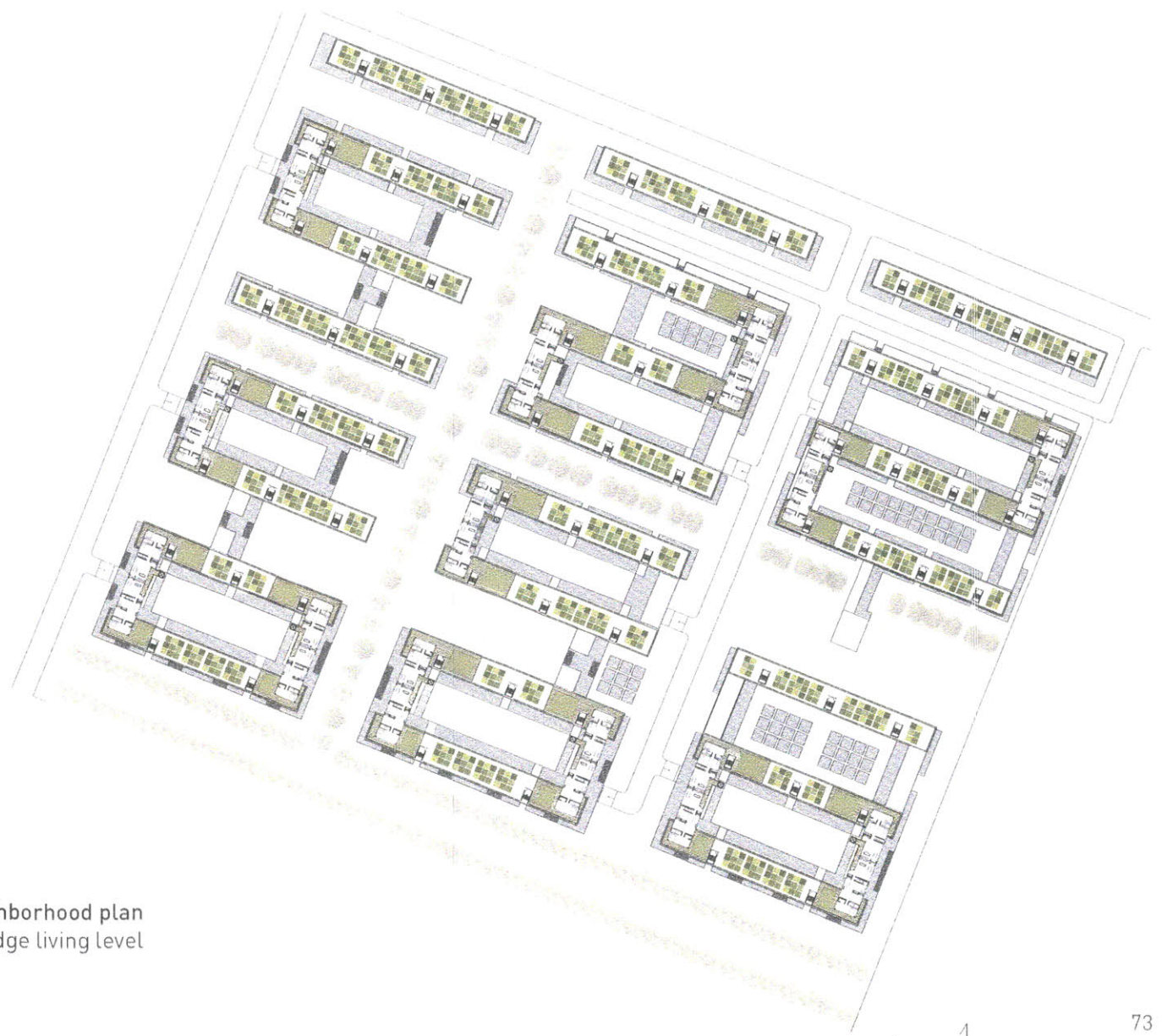








The rooftop level is where new bridge units are introduced. The two story addition houses four units, where each unit has access to either a private rooftop garden or shared patio. There are total of 52 new units.

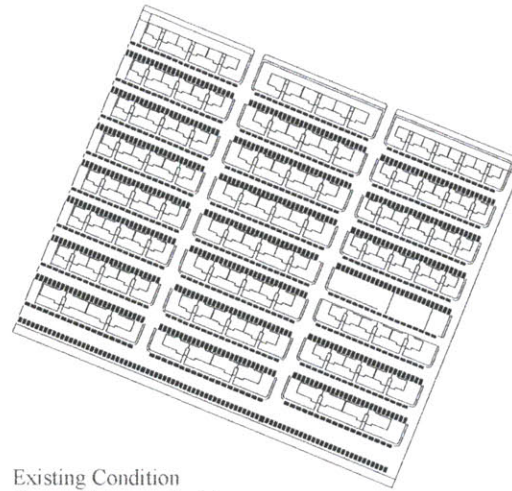


neighborhood plan
rooftop-bridge living level

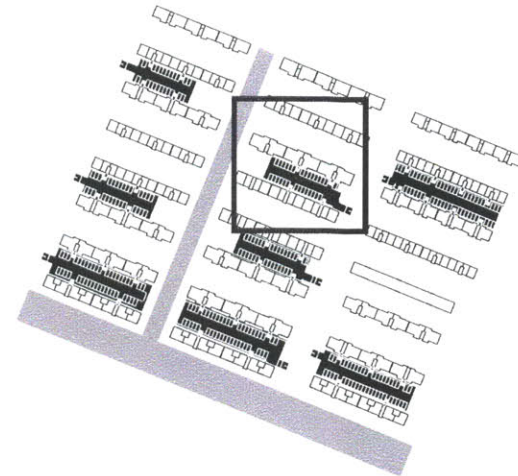




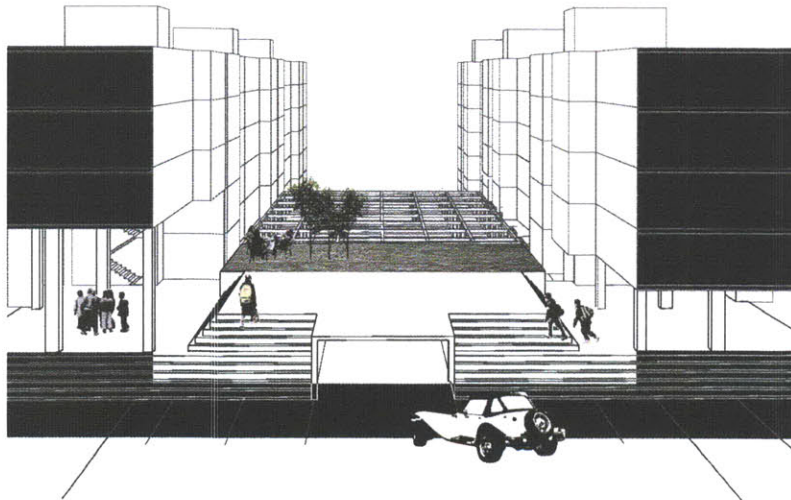
CLUSTER PLANS



Existing Condition
Ground Usage_Parking



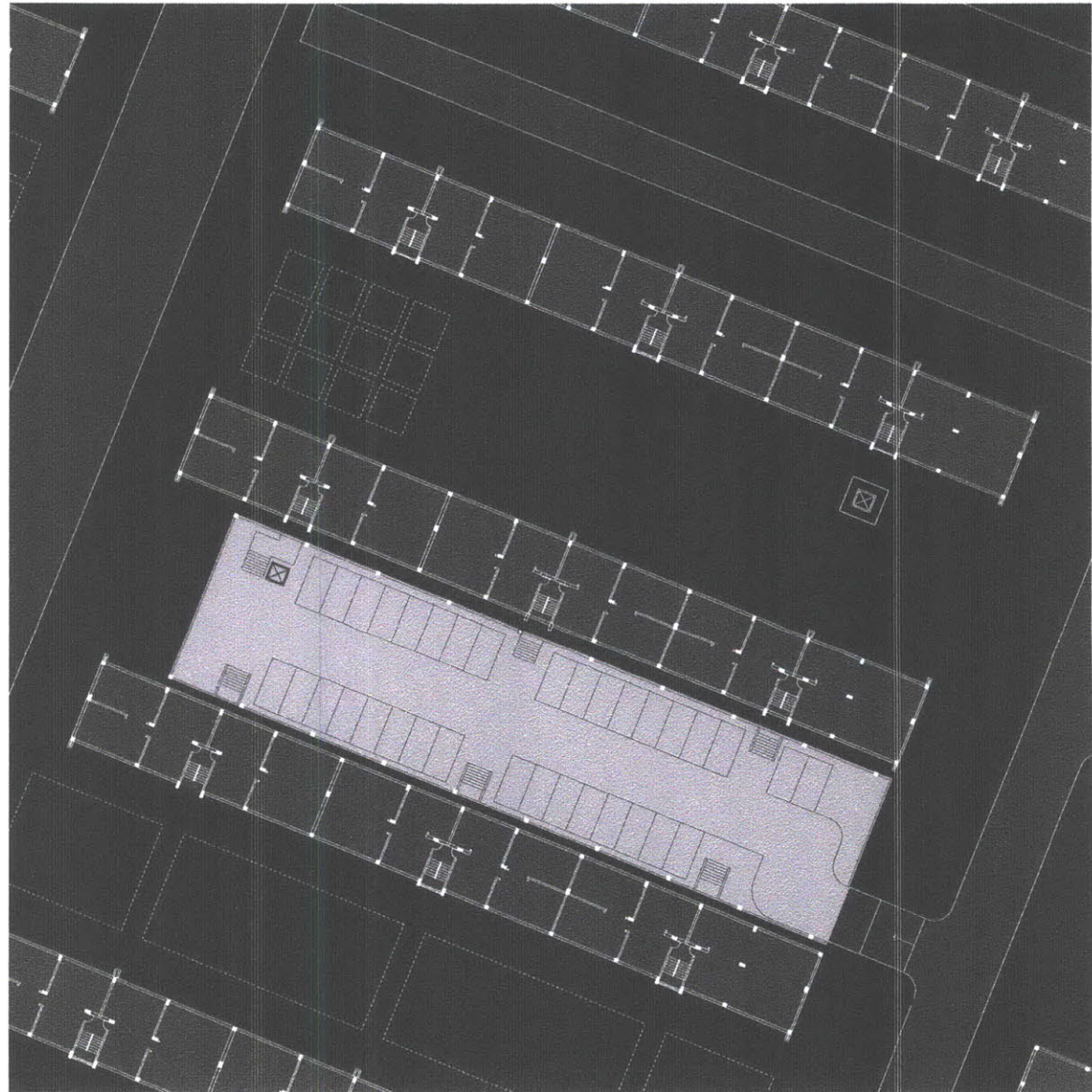
Underground Parking

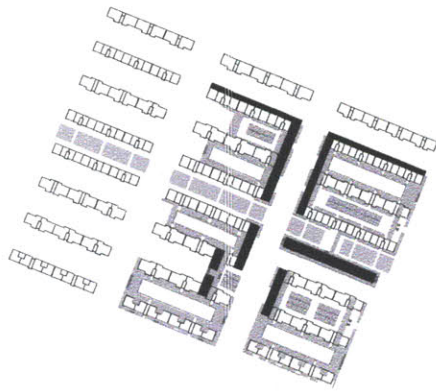


In the existing site, the entire site was occupied by parking spots. Parking surround each building, which left no open space for resident use. In this proposal, concentrated parking is located on the underground level (half-level), below the shared courtyard deck.

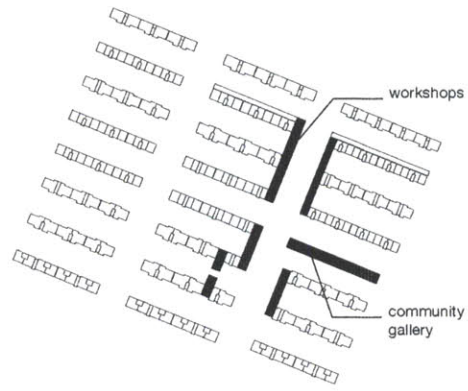
From 1066 parking spots, the proposed plan provides approximated 350 parking spots. These spots are intended for shared cars for residents.

cluster plan - underground level
parking

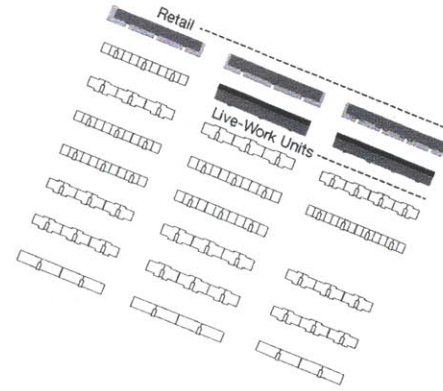




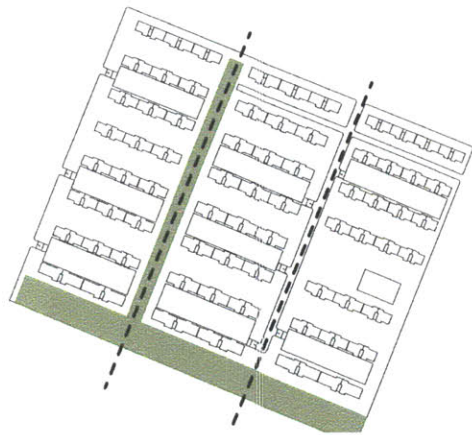
slow craft walk



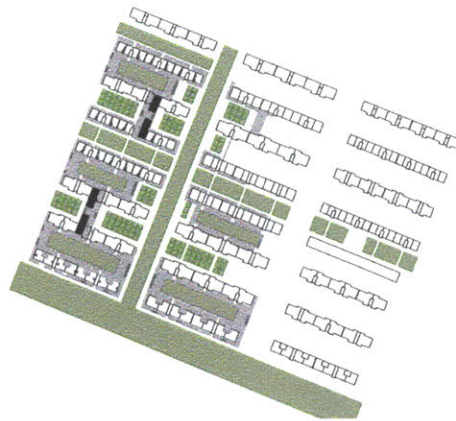
slow craft walk
workshops and shared spaces



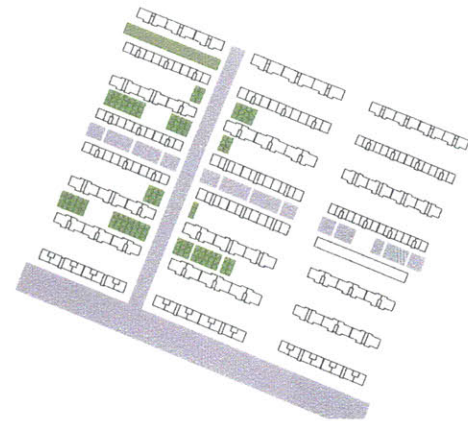
slow craft walk
mixed use retail + live work units



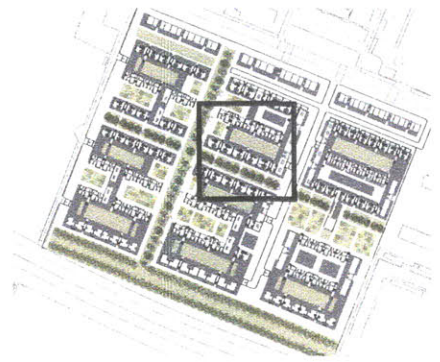
two axis
slow food walk + slow craft walk



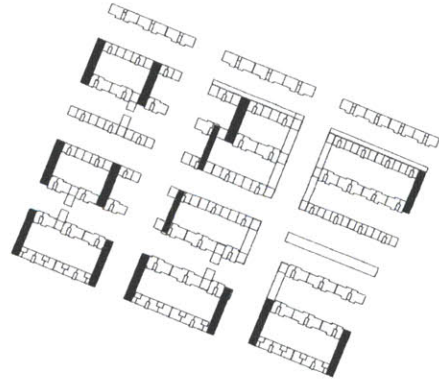
slow food walk



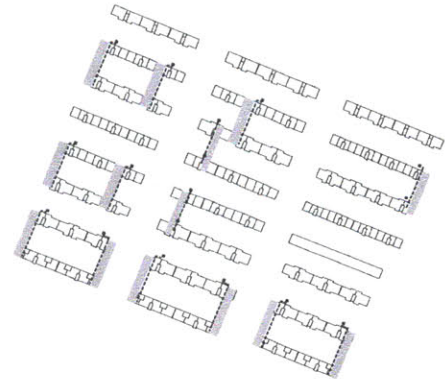
productive landscapes
private plots and community gardens



cluster plan - ground level
productive gardens and
townhouses



Flexible Living Retrofit
New Units

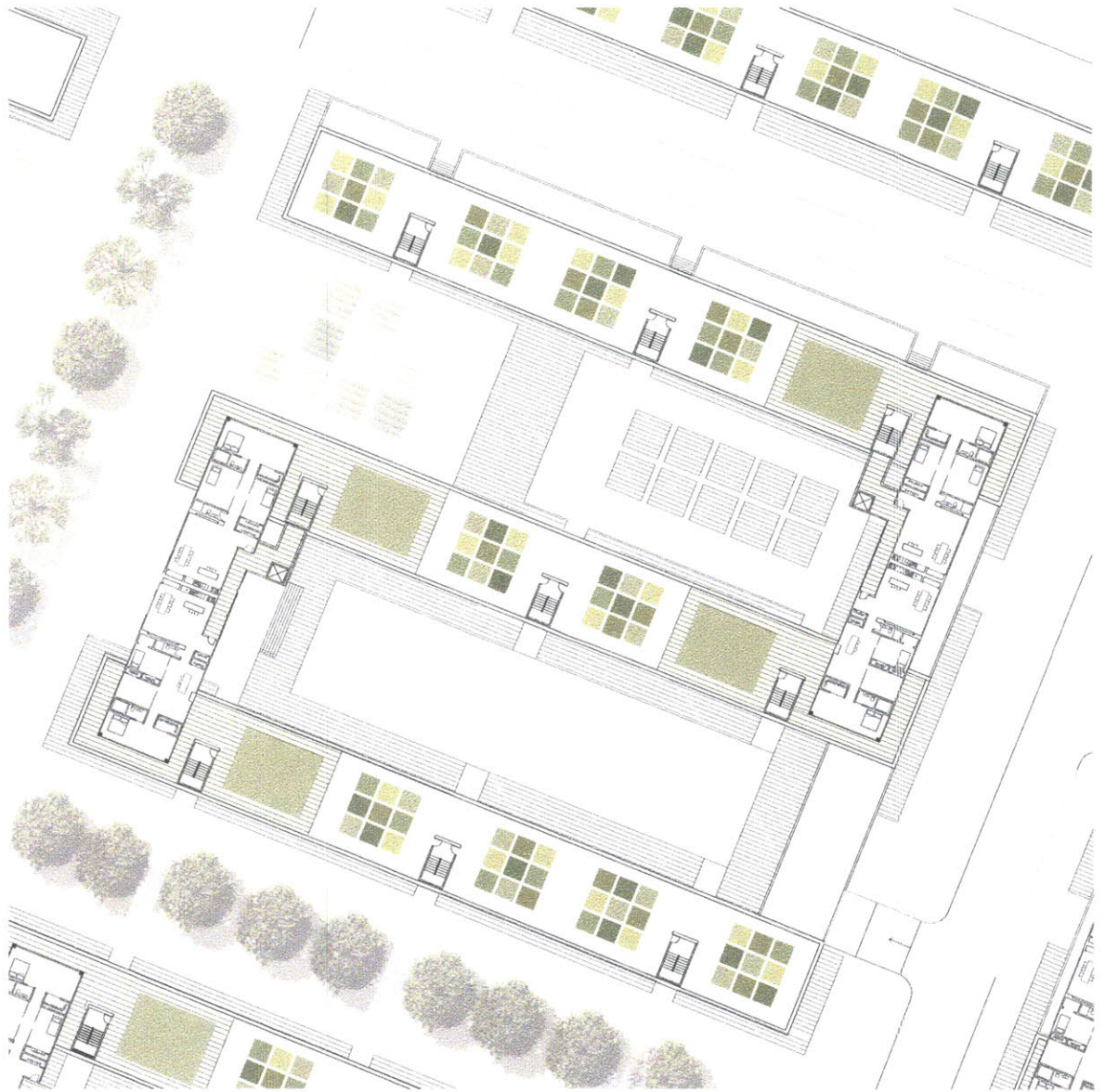


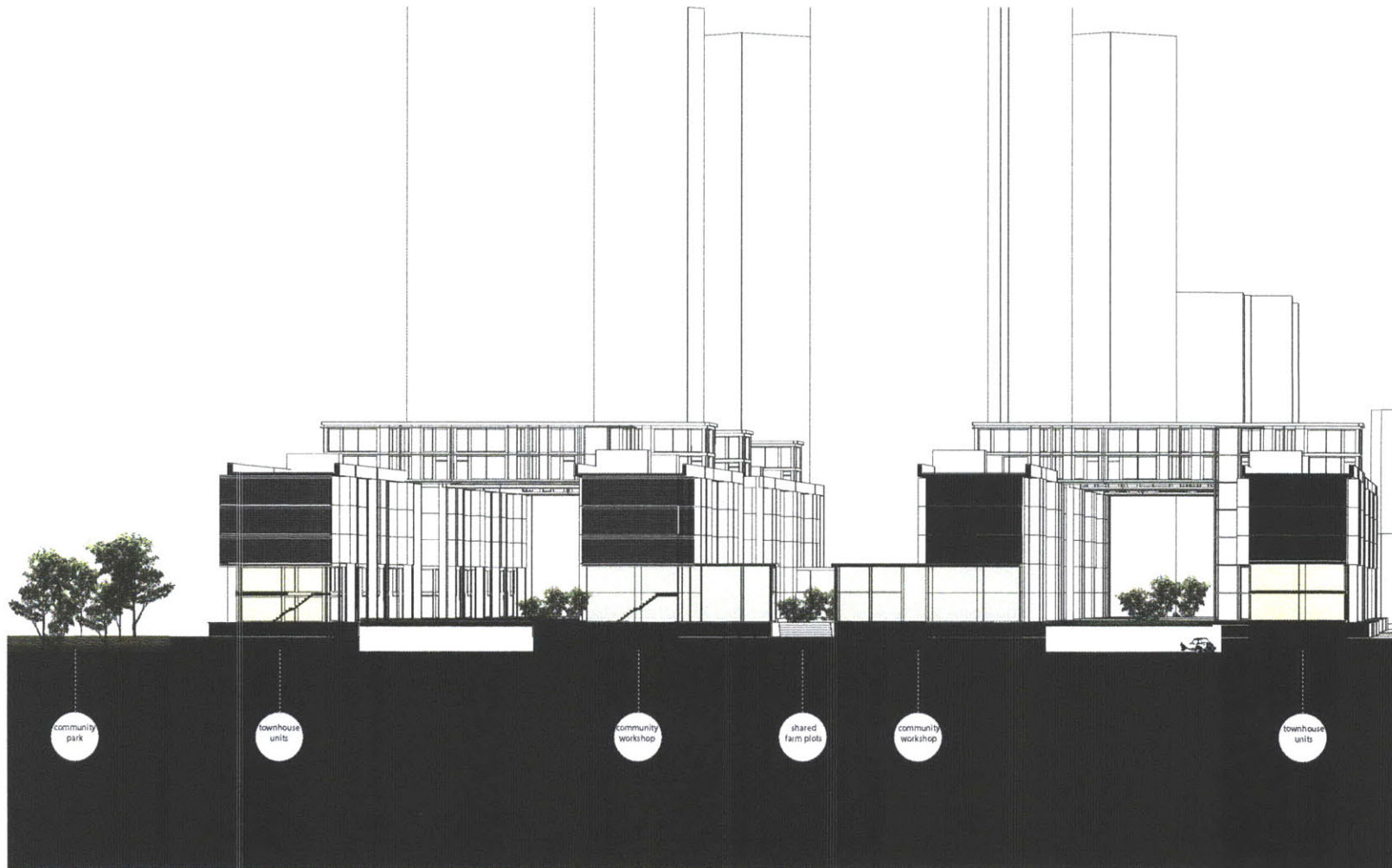
Flexible Living Retrofit
New Unit Vertical Access



The rooftop level is where new bridge units are introduced. The two story addition houses four units, where each unit has access to either a private rooftop garden or shared patio. There are total of 52 new units.

cluster plan - bridge level
6th floor elevated living
with rooftop gardens







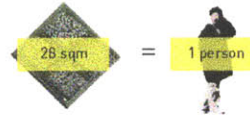


SLOW LIVING COMPONENTS

PRODUCTIVE GARDENS

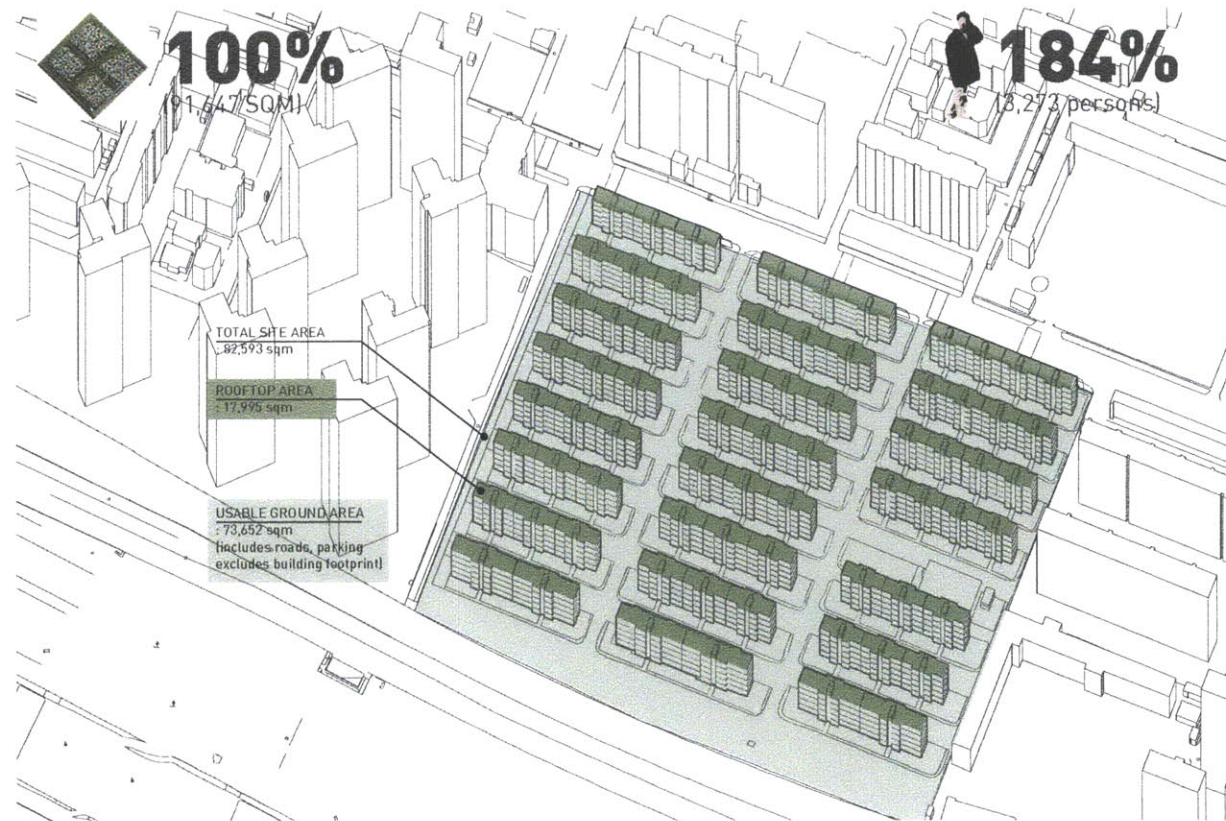
The next four set of diagrams illustrate the relationship between area of urban farm plots and the productivity from these farms. What happens if all 100% of the rooftop and ground becomes vegetable gardens? How much area needs to be converted to farm plots if all 100% of residents needs to be fed? What about the proposed design?

IF **100%** OF **ROOFTOPS** AND **GROUND AREA** (91,647 SQM)
IS USED AS FARM PLOTS



THESE PLOTS CAN FEED **3,273**
PEOPLE WITH ENOUGH FRUITS
AND VEGETABLES FOR **1 YEAR**

3,273
PEOPLE



What happens if 100% of ground level and rooftop area becomes farm plots?

In this case study, roads, parking, and all available ground plane is converted to farm plots (which is unlikely). At 28 m per person (a full year of vegetables and fruits), this coverage can feed 3,273 people, over 184% of the resident population.

To calculate the number of residents in this complex, The average number of people per household (2.73 persons) has been multiplied by the number of units (650 units). We can estimate that there are about 1,776 people living in this community.

TO FEED THE ENTIRE RESIDENT POPULATION (1,775 PERSONS) WITH ENOUGH FRUITS AND VEGETABLES FOR 1 YEAR

$$650 \text{ UNITS} \times 2.73 \text{ PERSON PER HOUSEHOLD} = \text{APPROXIMATELY } 1,775 \text{ RESIDENTS}$$



$$\times 28 \text{ sqm/person} =$$

54% (49,700 SQM) COVERAGE OF GROUND + ROOFTOP AREA AS URBAN FARM CAN FEED ENTIRE RESIDENT POPULATION OF THIS COMMUNITY

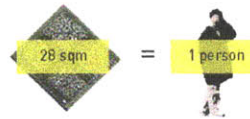
1,775 PERSONS

How much area needs to be converted into farm plots, in order to feed 100% of the residents (1,776 people)?

We'll need to convert 54% of the total area of rooftop and ground level area. This doesn't leave much area of the ground level for other usage, such as streets, parking, and open space.

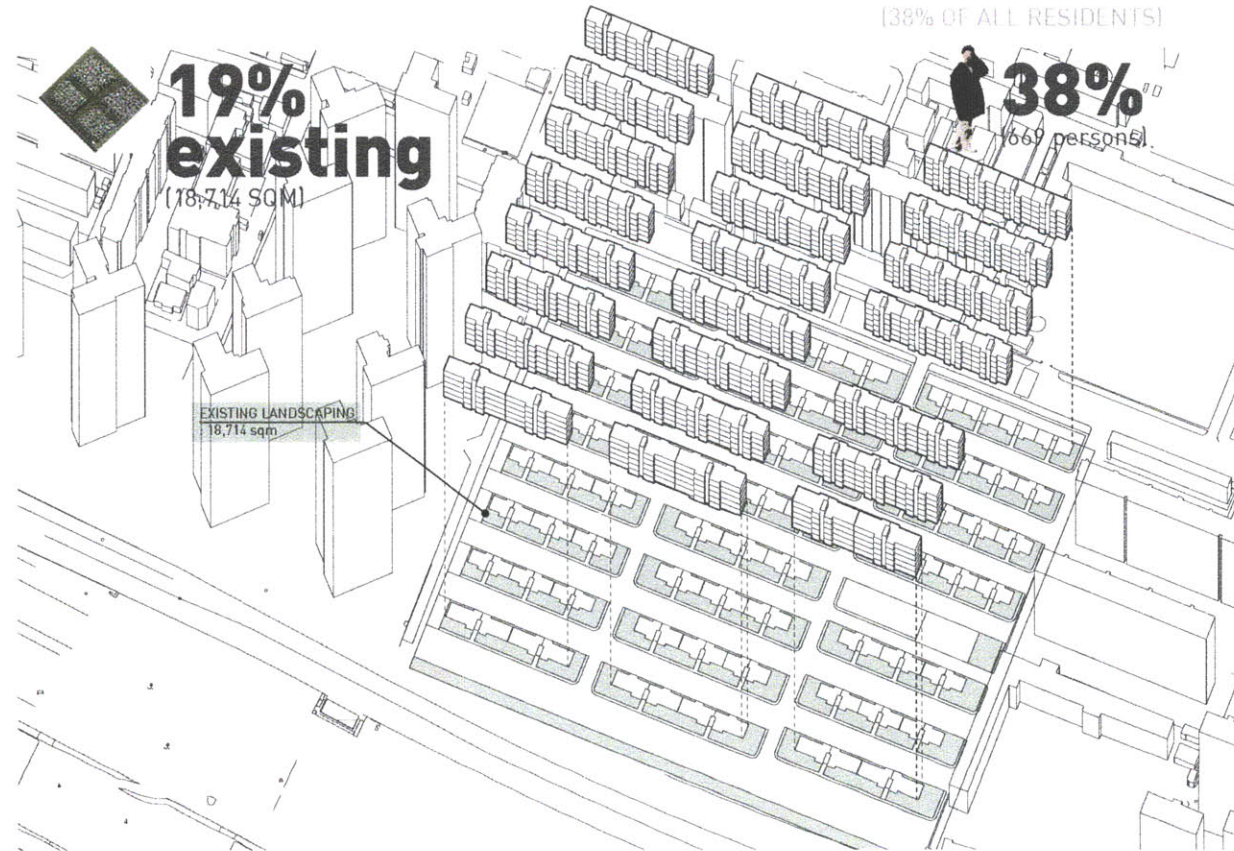


**IF ALL EXISTING LANDSCAPING
(18,714 SQM) IS USED AS FARM PLOTS**



THESE PLOTS CAN FEED **669**
PEOPLE WITH ENOUGH FRUITS
AND VEGETABLES FOR **1 YEAR**

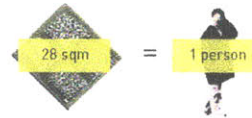
669
PERSONS
(38% OF ALL RESIDENTS)



How about if all existing landscaping of the current site plan is converted into farm plots?

Currently only 19% of the available surface is used as landscaping. This results in productivity of being able to produce enough vegetables for 669 people annually (38% of total residents).

PROPOSAL



THESE PLOTS CAN FEED **851**
PEOPLE WITH ENOUGH FRUITS
AND VEGETABLES FOR **1 YEAR**

851
PERSONS
(45% OF ALL RESIDENTS)

45%
(851 persons)



The proposed design utilizes 26% of all available ground/rooftop surface as productive gardens, which produces enough vegetables and fruits to feed 45% of the resident population.

Differently size plots are provided as private vegetable or shared community gardens. Although a 7% increase in green surface (from existing condition) doesn't seem significant, the proposal creates different nodes of farming areas for collective experience.

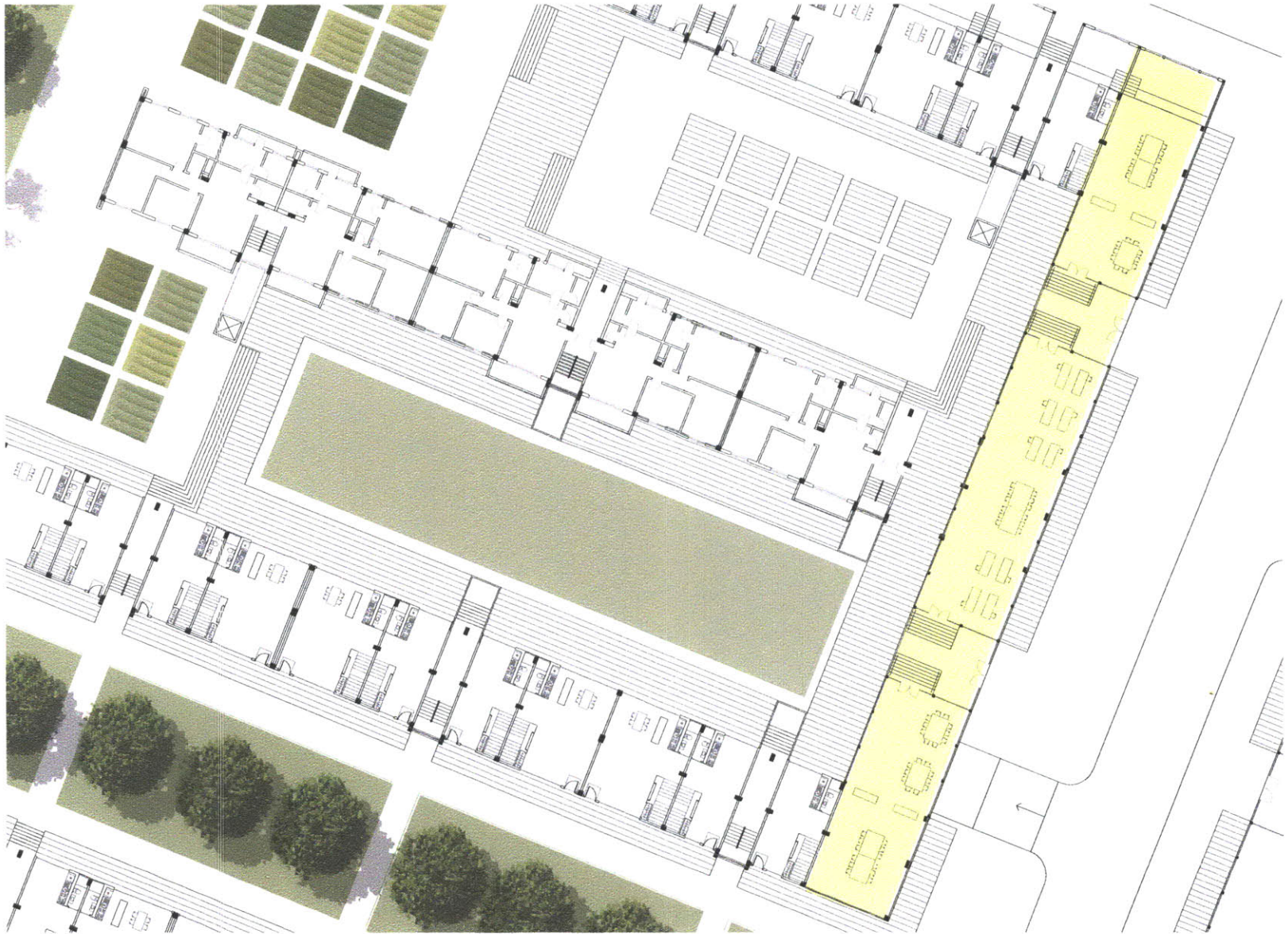


SLOW LIVING COMPONENTS
LIVE-WORK/ SHARED WORKSHOPS



TOWNHOUSE UNITS + INDIVIDUAL WORKSPACES

The townhouse units along the commercial street is provided with add-on workspace for those wishing to run their home-office or shops.



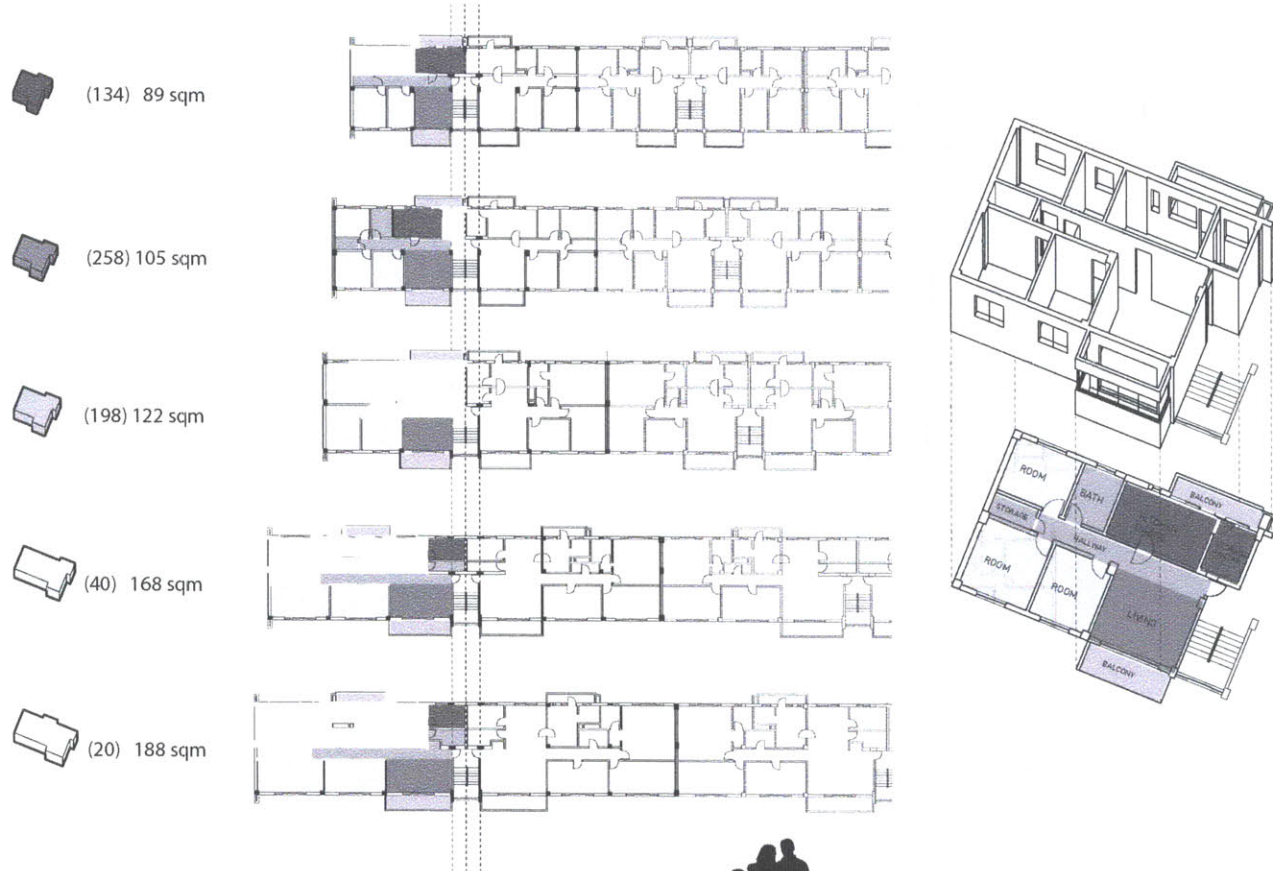
SHARED WORKSHOPS
_GARDENING TOOLS/COMMUNITY KITCHEN
_TOOLSHOPS

Shared workshop, fabrication, and educational space occurs along the main vehicular street, inviting the visitors to join the different programs that might happen throughout the day.

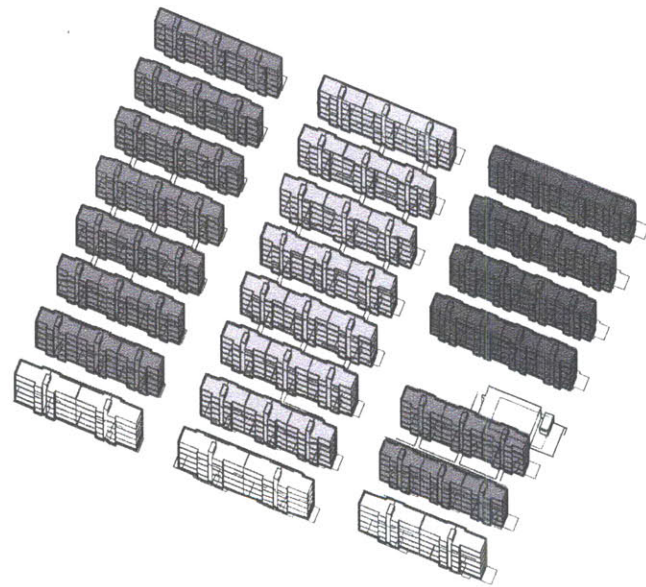


NEW UNITS
GROUND LEVEL TOWNHOUSES
ROOFTOP LEVEL BRIDGE HOUSES

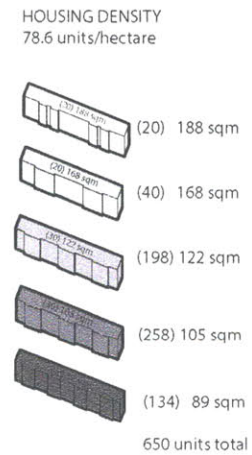
STANDARDIZED UNIT CONFIGURATION (EXISTING)



STANDARD CONFIGURATION =
3 BEDROOM + KITCHEN/DINING + LIVING



Existing Condition
Unit Types

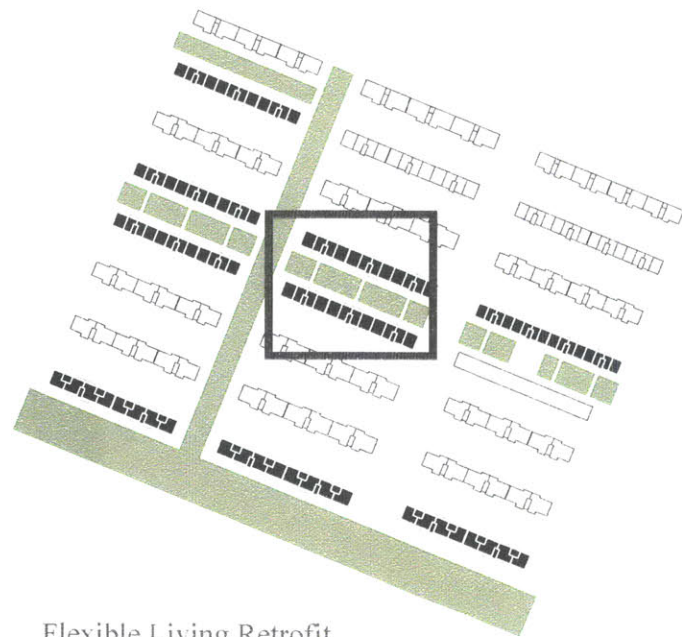


EXISTING CONDITION

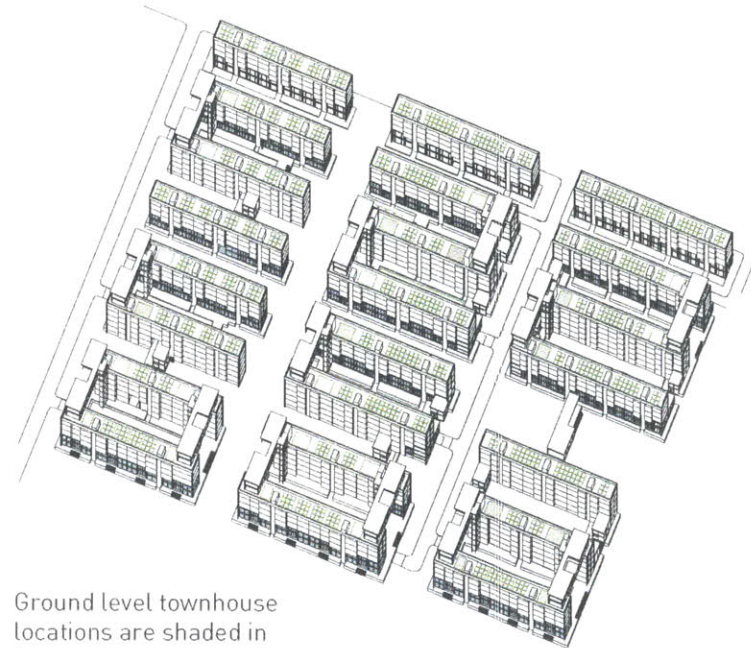
In the existing site, there are five different sizes of units (all within the same building), and are distributed throughout the site in clusters. However the unit configuration is the same in

all sizes of the units, it is only different in scale and sizes. If only the rigid frame structure is left and the interior is demolished, what types of other living arrangements can be inserted to diversity the living condition?





Flexible Living Retrofit
Double Story Townhouse Units



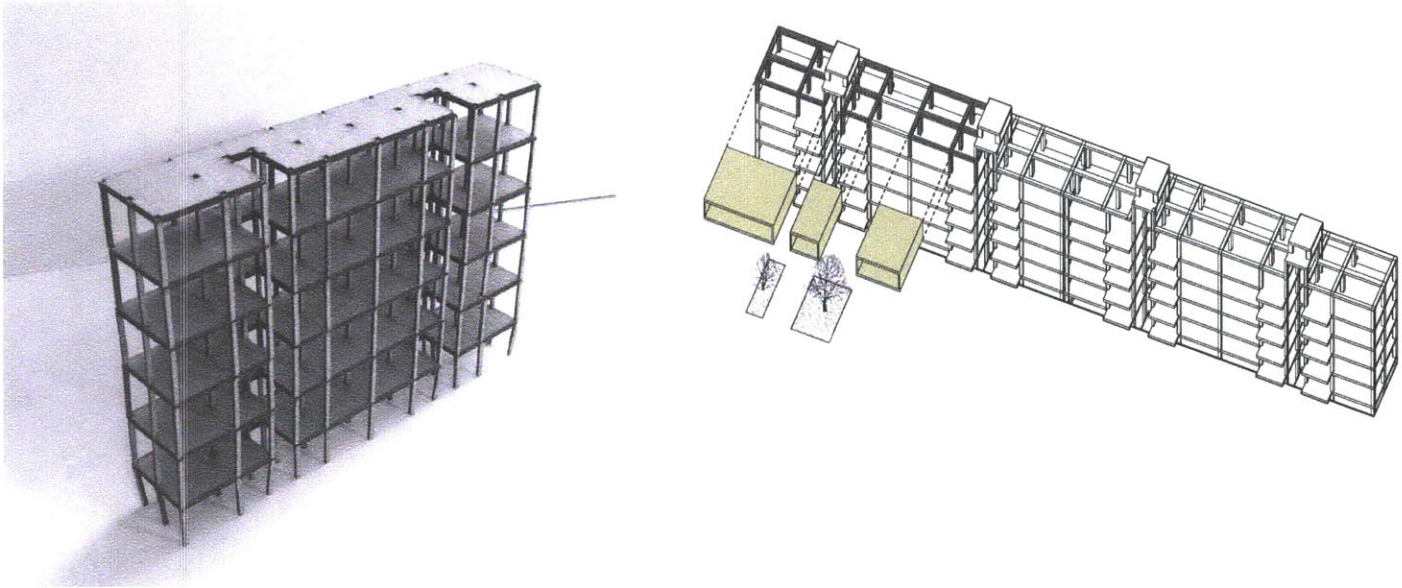
Ground level townhouse locations are shaded in blue

GROUND LEVEL TOWNHOUSE UNITS

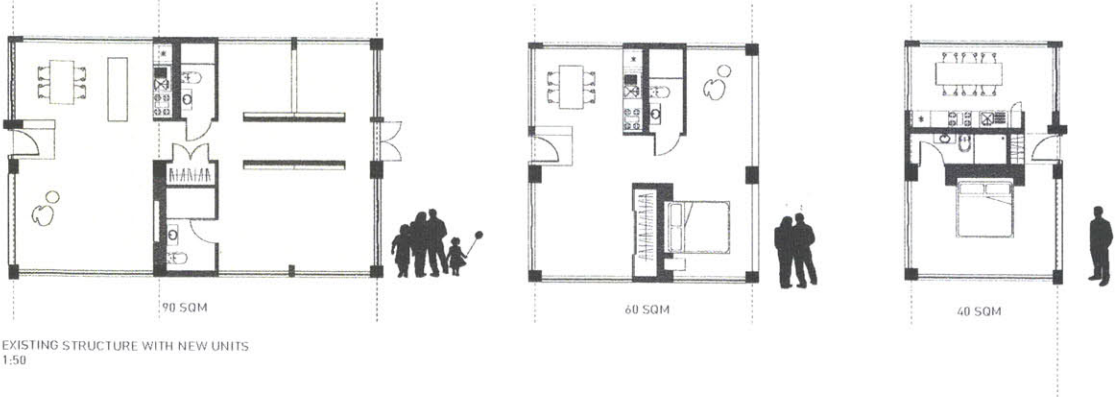
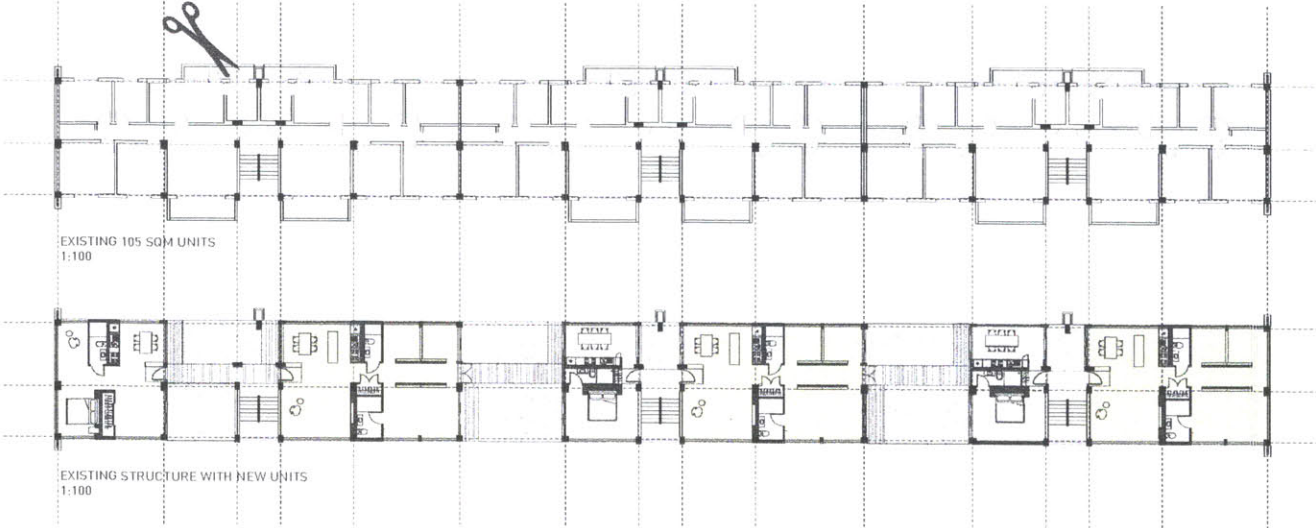
New townhouse infill units utilizes the rigid frame structure of the first and the second level of the apartment buildings, and infilled along the grid module of the existing structure. Townhouses are located along the two green axis, allowing residents to have direct access to

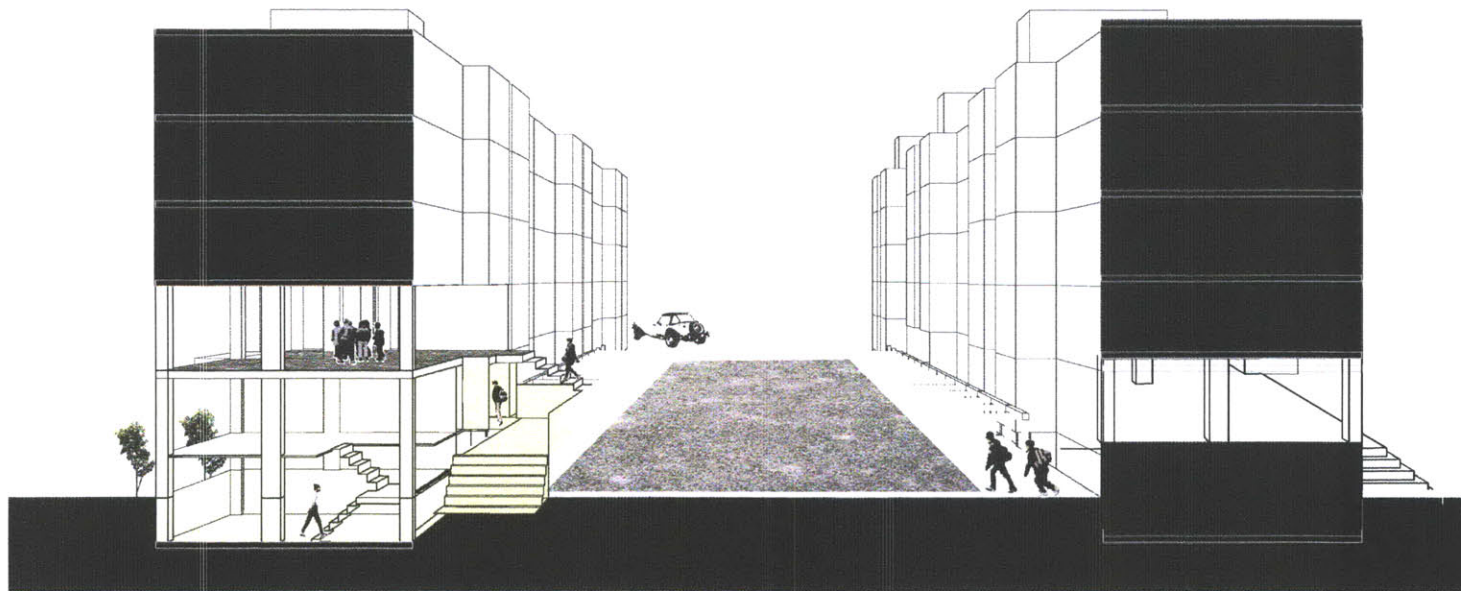
the productive landscapes outside. Multiple direct entries of townhouse units increases the porosity at the ground level, creating community along the streets.

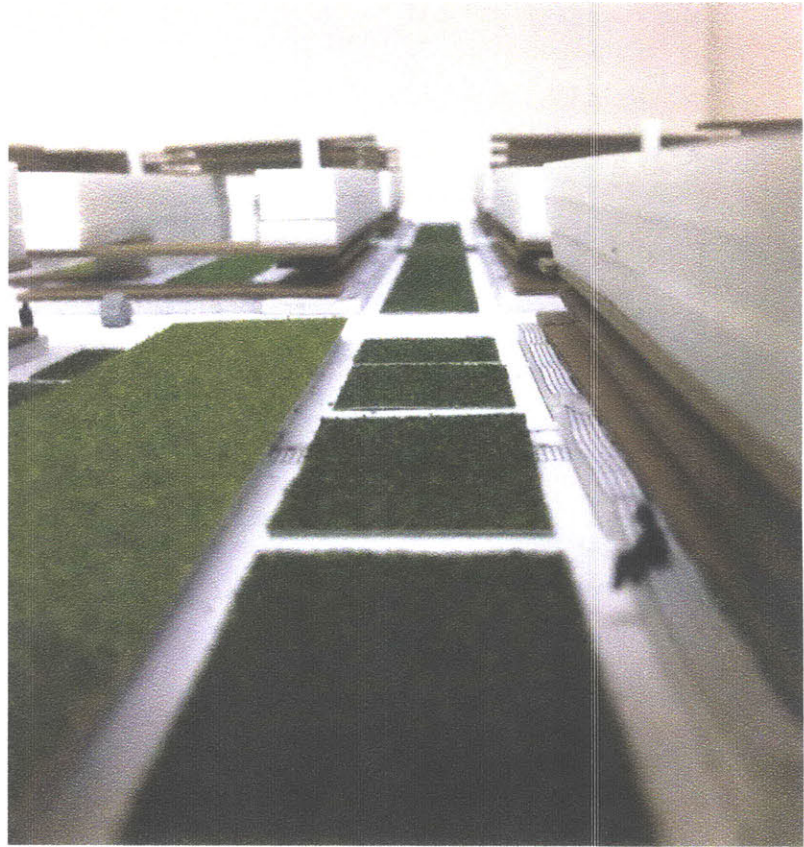
FLEXIBILITY: BOX FRAME WITH NEW UNIT INFILL

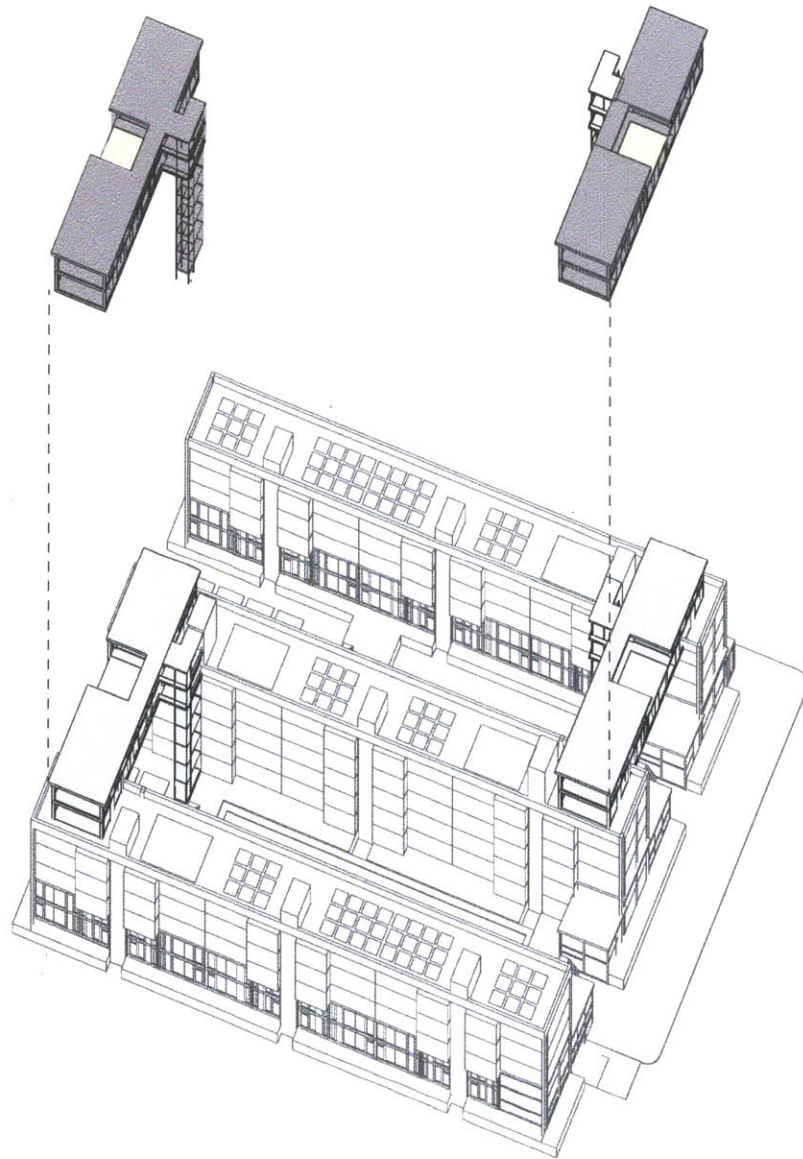


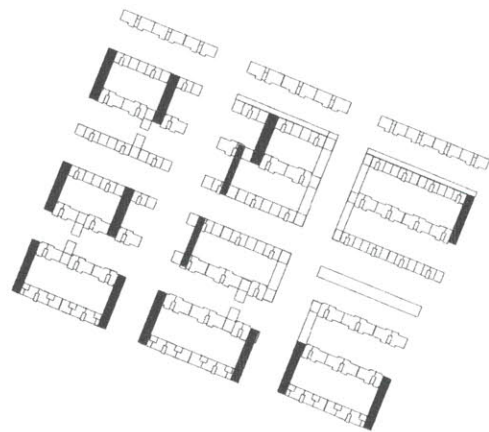
DIVERSITY: ACCOMODATING VARIOUS HOUSEHOLD SIZES



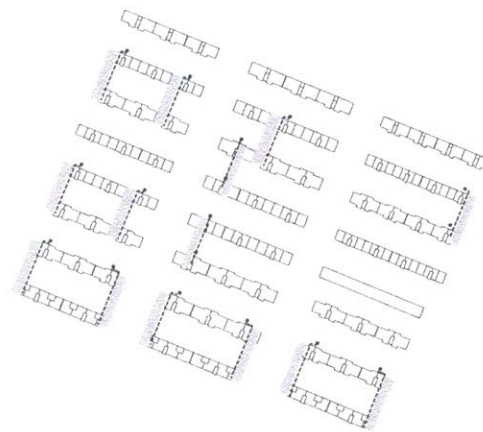








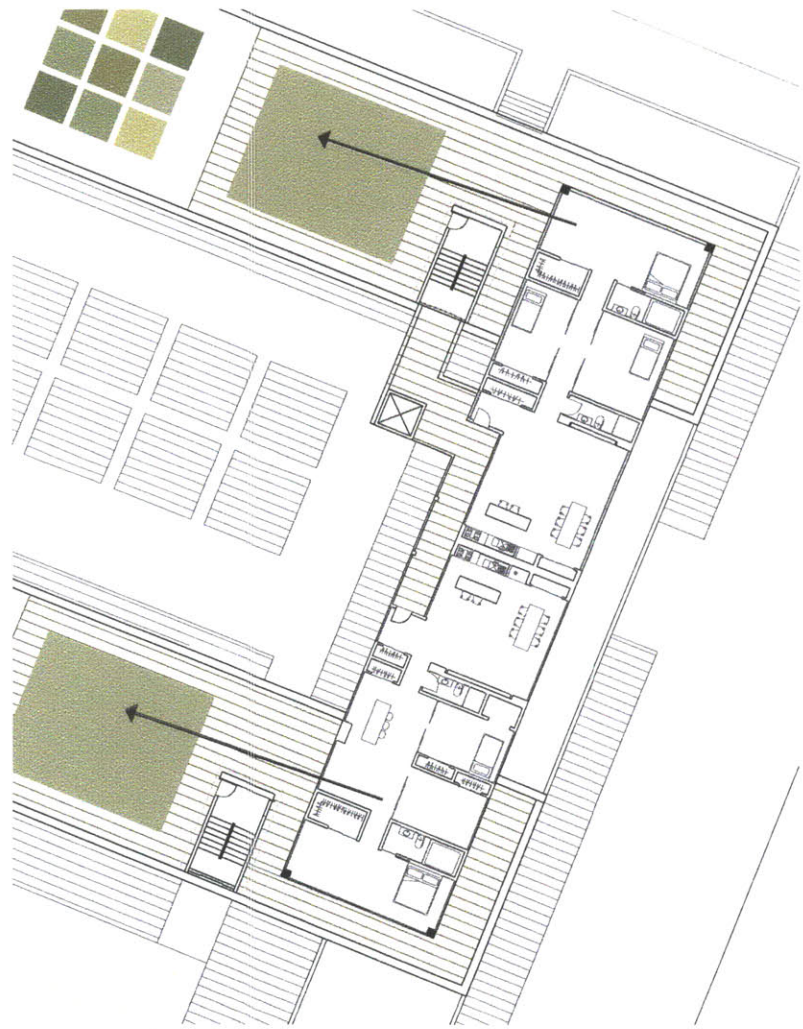
Flexible Living Retrofit
New Units



Flexible Living Retrofit
New Unit Vertical Access

ROOFTOP LEVEL BRIDGE UNITS

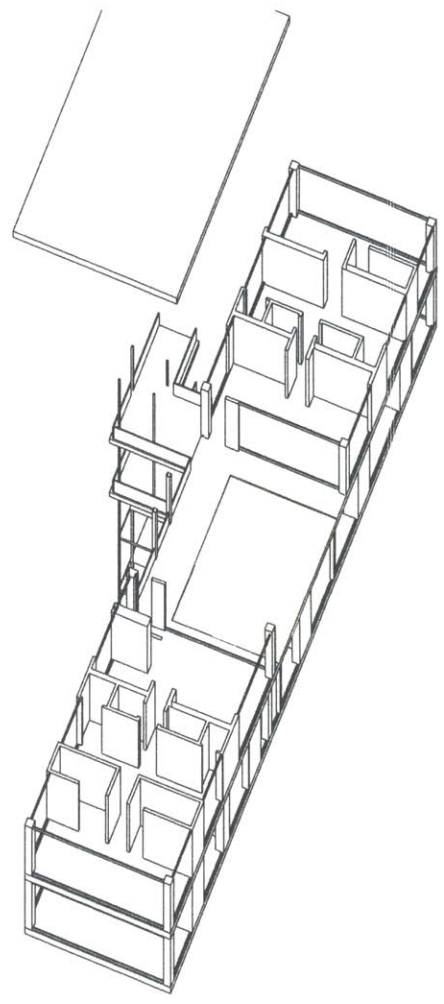
The rooftop level is where new bridge units are introduced. The two story addition houses four units, where each unit has access to either a private rooftop garden or shared patio. There are total of 52 new units.



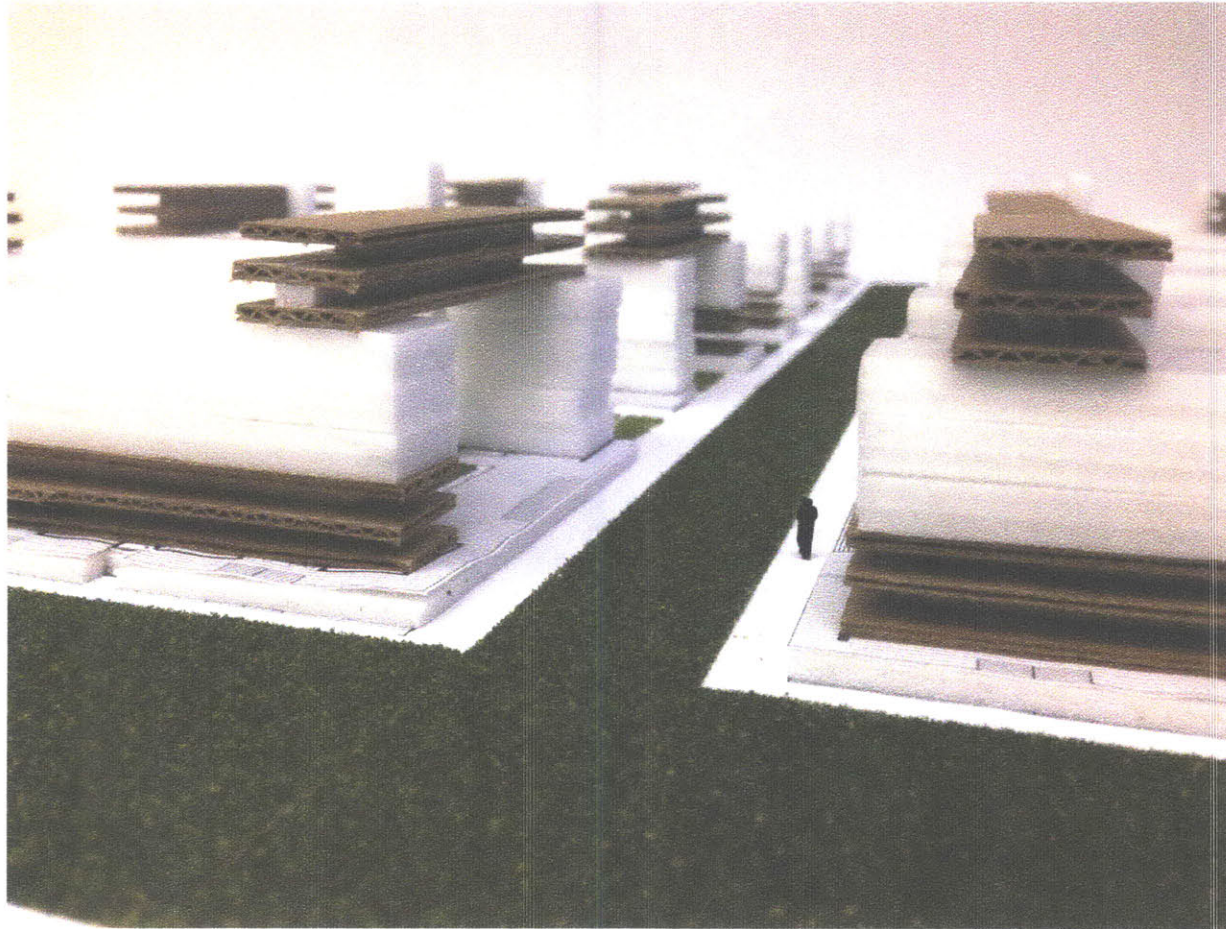
rooftop bridge unit - level 6



rooftop bridge unit - level 7









Micro-Urban Renewal as the Preferred Method

The Slow Living Apartment example above uses various 'new living' components to inject the "experiential slow living" experience to the existing community. The result of this transformation is increase in property value that can hopefully outweigh the incentives of the bonus FAR (floor area ratio) of large redevelopments.

These methods provide the possibility of live-in renovation, where residents can continue to live in their familiar neighborhoods.

Imagine this micro-renewal method is practiced in all remaining apartment complexes throughout the city. If all ground level are reconfigured with the idea of urban farms and small industry workshops, it can create a continuous productive urban landscape that connects the different enclaves of the city. It will form a new urban infrastructure.

What do you think?

Thank you everyone for your help and guidance.
Finally. Let's move on.

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