

"KITCHENLESS" CITY

Collective Urban Kitchen as Supplement to Kitchenless Apartments

Yupeng Lian

Chalmers tekniska högskola
Department of Architecture and Civil Engineering
Master Program of Architecture and Urban Design (MPARC)

Tutor : Kengo Skorick

Examiner : Joaquim Tarrassó





"Sharing culture is growing and thanks to new technologies and the fact that we are spreading out more and more around the world makes it easier to be less afraid of others, or to let go of our things."

This said Anna Puigjaner at her interview of Archidaily about her on-going PhD study in "Kitchenless City". By yet the end of my academic life, I could finally find my wishes root firmly in the expectation of a **diverse, open, equal, trusting** society. And therein architecture contributes to provide possibilities and to push forward the process. Rethinking what people are already accustomed to is dangerously challenging, but I would still love to take this chance to state an understated voice, with fully naive assumptions and imaginations, which doesn't aim to be astounding at present, but by the chance in future someone happens to run into these and happens to have the same faith could join the streams into a bigger flood.

I see "kitchenlessness" as a parade, a campaign, a weapon. Against embedded sexism without realising, against the indifference of diverse family structures, against far-fetched integration, against once-fully-effected but fading-out-at-present trust between people. I am grateful for all of the happenings to me in the past years in Sweden, for the people I met, for the places I've been to, but also the hatred and injustice I experienced. By yet the end of my academic life, I become passionate and motivated than ever since, but also realise how powerless and ignorant I still am. I thank Chalmers for this short 2 years, I, unfortunately, haven't become that I wished I could before, with flawless storage of knowledge in this field, not even close. But I know clearer than ever what I will not be, it's not enough to live a good life, but essential enough to be a being. Standing at the end of indulged and worry-free student life, I need to wake up from dreams, I shiver for the reality, but I also hope and look for the ones who hope the same.

CONTENTS

BACKGROUND

Post-war Housing Production in Sweden	05
Kitchen and "The Other Side"	07
"Kitchenless" City	09
Communal Kitchen & Household	13
"Kitchenless" Circumstances & Delimitation	14

PRE-STUDY

Starting from the Kitchen and Cooking Units	16
Interfaces: Ceiling, Walls and Floor	18
Equipment: Dimensions and Moving Patterns	19
Activities in a Package: Sequences in the Traditional Dining-related rooms	21
New Reference: Sequences in New Circumstances	23
Case Study 1: Common Kitchen of Today	25
Case Study 2: Kitchen before Standardisation	27
Case Study 3: Comachine / Co-farming / Soup Kitchen / Karma	28

RESEARCH BY DESIGN

Decomposition 1: Desexualisation / Universalisation	30
1-1 Floor	33
1-2 Shelves/storage	35
1-3 Disher/storage & Fridge/freezer	37
1-4 Preparing 1	38

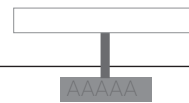
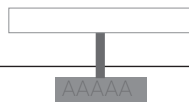
Decomposition 2: Variant in Family Structure	40
2-1 Floor	43
2-2 Sink & Stove	44
2-3 Interior Walls & Preparing 2	46
2-4 Stove & Pentry	48
2-5 Sink	49
Integration: Socialisation	50
3-1 "Interior Wall" X Ceiling	51
3-2 Exterior Wall	53

IMPLEMENTATION

Site: Danderyds sjukhus	56
Chances: Transportation Node	57
Challenges: Segregated Housing Conditions	58
Formation	59
Section	63
Plan / Perspectives	64

REFLEXION

Flexibility on Site	67
Outlook	68
Reference	70



POST-WAR HOUSING PRODUCTION IN SWEDEN

Sweden faced the same circumstances as most developed countries after the war. Manufacture and mass-production to stimulate economic growth, where required tremendous amount of workforce as well as dwellings for them.

Between "**Folkhemsperioden**" 1945-1960, Sweden critically built nearly 900 000 new houses with concerns of living comfort which grounded a very high housing standard in Swedish practices. Meanwhile resolving the overcrowdedness with a larger living area within reasonable rent and promoting neighbourhood, some researches completed under war-period were put into practice which led to revolutionary new plans and qualities in normal apartments, within them included also Hemmens forskningsinstitut (HFI)'s kitchen research. Not only contemporary Swedish Standard originates closely from inventions from this era, but also architecture from rest of the world searched for inspirations from them.

After success in raising standard but stagnation in neighbourhood and overcrowdedness, the famous "**Miljonprogrammet**" came front with even more radical massive housing production under 1965-1975 which piled up Swedish housing storage with 1 005 578 new housings, particularly in suburban areas near big cities where new urban parts came into formation. From a bigger context, urban planning was equipped for the intensive inhabitation. In Stockholm and Gothenburg metropolitan area, these areas are connected to the city centre with rail-transport which plays an extremely important roll in residence's daily life. A general principle is for these towns were once regarded as successful Swedish invention in city planning, e.g. Vällingby as ABC-town.

Compared to the thoroughness of living standards, functionalism helped to achieve goals faster. Swedish functionalism turned housing shortage

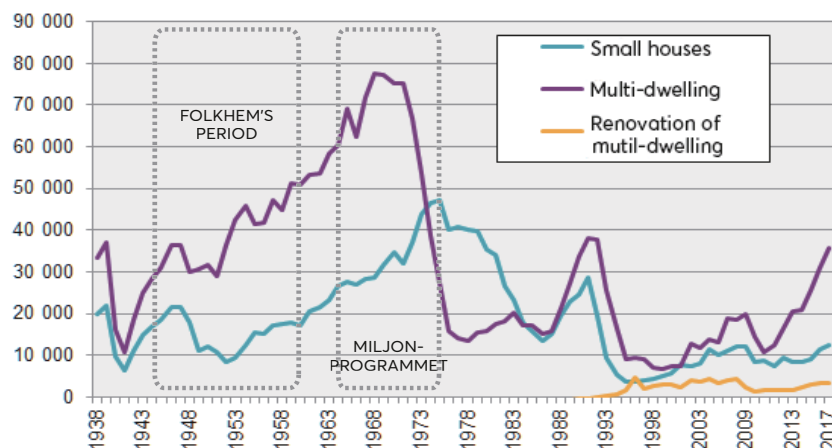


Figure 1, Housing Production in Sweden 1938-2017



Figure 3, Examples of New Towns under Miljonprogrammet, up: Rinkeby, Stockholm, down: Rosengård, Malmö.

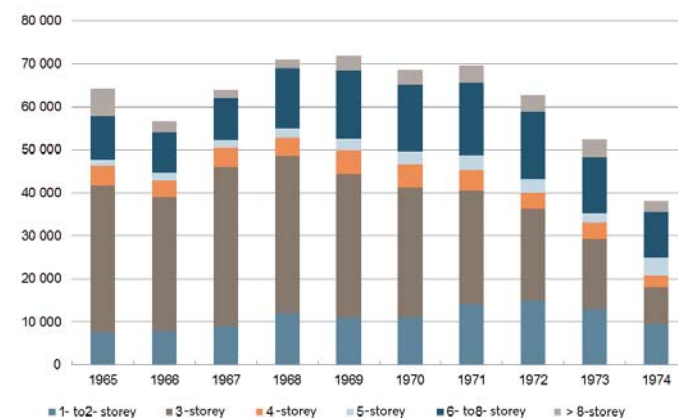


Figure 2, New Housing Type Piling Diagram under Miljonprogrammet

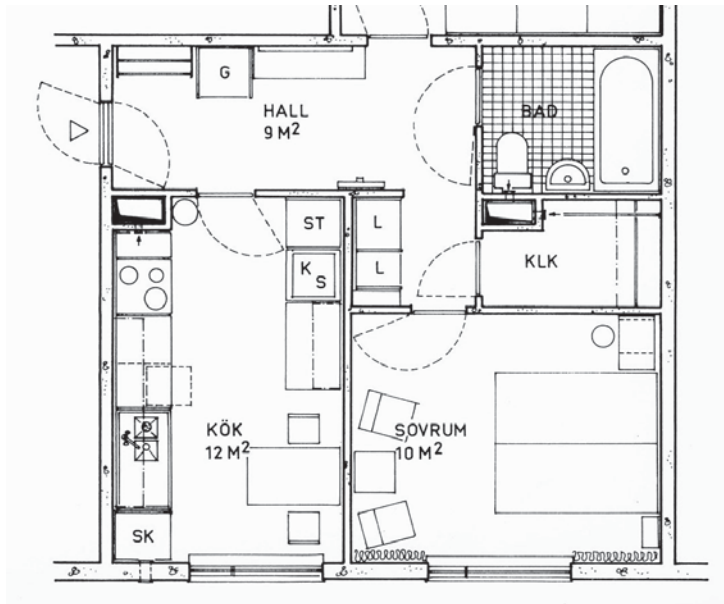


Figure 4, A Principle Solution in Miljonprogrammet, 1968

into housing redundancy in 10 years which sacrificed the architectural variety in many cases. To ensure the living comfort standards which were raised up earlier meanwhile to maintain the high-productivity, functionalism solved the dilemma with highly centralised, standardised, industrialised dimensions, which are kept until today and characterise the Swedish architecture image from other countries. Among these inventions, the kitchen is one of the most significant examples.

Standard kitchen in Miljonprogrammet grounded several measurements and arrangements in today. E.g, 600*600 as a module for the working area even household appliances, same depth and height of different working platforms, and several fixed variants for vertical dimensions. This over-rationality brought both mass-production possibility also a dull image and unsatisfactory experiences of kitchens from that time. Residence who lives in small flats from Miljonprogrammet with small kitchens enjoys very limitedly according to research on 1990.

Housing under Miljonprogrammet created unthoughtful problems till today. Besides the obvious segregations of these towns and low quality of some buildings themselves and residential neighbourhood, over-standardisation and functionalism cast unreturnable effect on contemporary Swedish architectural image. And left 20% of the Swedish population still living in housing projects from Miljonprogrammet after the new millennium and 650 000 apartments in need of renovation in the near decennium.

Problems left behind are not easily solvable by just updating energy performances or renovating homogeneous concrete-blocks with colours and wall paintings. Social classes segregation and stereotypical prejudices basing on some Miljonprogrammet's towns might not be altered at all. The contradiction between old unattracted living blocks and new residential areas requires a dramatic change in living patterns to bring new experimental solutions.



Figure 5, A Standard Kitchen in Miljonprogrammet, 1968



Figure 6, Renovation of a Building in Holma, Malmö, 2014



Figure 7, Competition Proposal by Kjellgren Kaminsky, Rinkeby

KITCHEN AND "THE OTHER SIDE"

Kitchen has been regarded as the centre of a home, an apartment, a living unit since ancient settlements formed. Early settlements with less complexity in plan take easily the fire and cooking unit as the centre of a home, in another way to say, "kitchen". According to historical researches and typological studies on some of the contemporary settlements of several branches of peoples who still keep the similar living patterns as centuries ago, kitchen shows even cross-continental dominance in a household in different parts of the world. For example, a Sápmi tent which remains nearly the same constructions as centuries ago likens in the kitchen- a centralised perspective with early Banpo settlements existed 6700 BC in middle China. In the left below picture shows clear evidence on the archaeological discovery that within the sunken room area located the round-shaped pit in the centre for firing and cooking in a typical Banpo Settlement. Where the similarity remains in a Sápmi tent in the below right picture, which was taken late in Swedish Lapland, the room as an exhibition for

the visitors to understand Sápmi people's living patterns which keeps a visible amount of features from the ancestry households.

Since then, people's living condition, habits, family construction, domestic elements have been relentlessly changing, meanwhile kitchen still is considered a centre, despite in the physical floor plan kitchen might no longer be the centre. The starting point of the contemporary formation of the kitchen started in late 19th century when household condition had been staying in the similarly unorganised way for centuries, Catherine Beecher called up people's attention, at the time were mainly women, by first time summarising up domestic efficiency in the kitchen. Since then in the coming century, from "household engineering" was put up by Christine Frederick in 1912 to achieve "less time spent, less distance walked" in the cooking unit, to George Féjer firstly brought up the fitted kitchen design with floor-to-ceiling, wall-to-wall, modularised, interchangeable units at the 1960s with the commencing of contemporaneous industrialisation of



Figure 8-9, a typical room plan from Banpo Heritage (L), a Sápmi tent (R).



Figure 10, Alice Constance Austin showing an architectural model of a kitchenless house, 1915



Figure 11, Christine Frederick's own kitchen

Banpo culture formed.
Earliest kitchen model
in a settlement.

Sami culture
formed.

Catherine Beecher published
*"The American Woman's Home, on
Principles of Domestic Science"*.

M. Howland, A.K. Owen, J
Deery brought about partial
site plan, Pacific Colony,
Topolobampo, Mexico.

Charlotte Perkins Gilman
published *Women and Economics*,
which advocated kitchenless
houses and apartments.

Christine Frederick
wrote article *"The New
Housekeeping"* for the *Ladies
Home Journal*.

Alice Constance Austin
developed kitchenless
house model at Llano
del Rio, California.

7

BC 6700

BC 800

1869

1885

1898

1912

1915

kitchen making, the main impetus of this movement was the dissatisfactory experiences between the users-group and this room.

In the history line, before this dissatisfaction being solved in this more visible way, there was another movement branch finally led to the topic of this thesis - removal of the kitchen, which started at 1850s with feminists' promotion of "combined household" such as Marie Stevens Howland by pushing forwards a reduction achieved by sharing into a later utopian model of kitchenless house and apartment which was overtaken by Alice Constance Austin in this pace. Some of these early ages' kitchenless models will be discussed later in the study which unfortunately didn't become the mainstream solution.

Until almost a century later this concept was academically brought up by Anna Puigjaner again, this form has been growing with itself with the motivation from people's "rebel" towards solidifying social norms and rolls. the 19th to the 20th century, having a kitchen at home was considered unhygienic in American lifestyle

there loads of "kitchenless" models were growing, which is also the main inspiration resources to Puigjaner's study too. Even meanwhile architects' genius inventions at new flat types somehow helped to suppress and to solidify this gender-oriented differentiation in household rolls, there were still people tried to turn the table and show the other side of the kitchen. And thanks to these social science researches, rethinking of the kitchen still remains a topic today.

It's, of course, but not only, a feminism topic to put a well-accepted model into criticising target again. People in larger perspective are actually less dependent or satisfied with this completed equipment than they think they are. The problems are not thoroughly solved but instead "solved" by a given and fixed platform so people won't have space to interpret. However, challenging on this model is more conceptual than practical. This thesis is not aiming to provide a substitution to replace daily practice. Instead, encouraging and starting a new conversation of closed cases is the ambition within the competence.



Figure 12, J.J.P. Oud, Erna Meyer's Kitchen in Weissenhof (1927), Stuttgart



Figure 13, Grete Schutte-Lihotsky, Frankfurt Kitchen (1926)



Figure 14, HFI researches on housewives' physical reponse (1944)



Figure 15, Sidney White's experimental housing proposal in Örebro (1953)



Anna Puigjaner

Christine Frederick published "*Household Engineering: Scientific Management in the Home*".

1917

Georg Muche, Adolf Meyer kitchen in the Haus am Horn built for the first Bauhaus exhibition.

1923

Grete Schutte-Lihotsky designed "Frankfurt" kitchen, later being duplicated between 1926-1930

1926

J.J.P. Oud designed kitchen for Erna Meyer in Weissenhof experimental settlement, Stuttgart.

1927

Hemmens forskningsinstitut (HFI) research on housewives' physical response to work in Swedish kitchen.

1944

Sigrun Bülow-Hübe presented her Canada Mortgage and Housing Corporation (CMHC) research.

1967

Anna Puigjaner wins 2016 Harvard GSD Wheelwright Prize for the research of "Kitchenless City"

2016

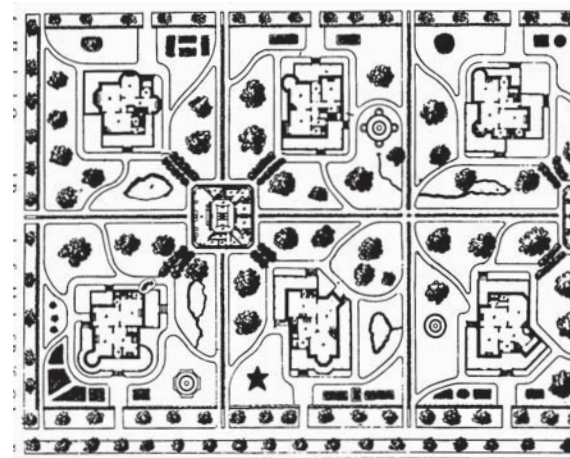
8

"KITCHENLESS" CITY

FORM 1 / COMMUNAL SHARING HOUSEHOLD

By quoting directly from Architect Anna Puigjaner, whose ongoing PhD study has won Wheelwright Prize from Harvard University, the main idea lies behind this thesis work is deeply inspired by this research on existing models of communal residence and bases her starting point of this concept on the point of view of the domestic comfort. On her lecture 2018 at ArkDes, she pointed out some examples from early apartment prototypes to nowadays collective kitchen in a different culture as supporting argument which will be analysed later. This somehow explains that the kitchenlessness is not only a simple exclusion of a deep-rooted household function but relocation and reformation of this private room into a diverse context. In short, based on the benefit of the sharing model.

There are several forms of kitchenlessness had existed in the historical models or still could be seen. This chapter will open up from the public perspective, namely, the models of the kitchenless apartments/houses won't be discussed in depth. Furthermore, the residential perspective which relates to housing design's discourse will not be the focus of this thesis.



1885
Mexico
Block plan of Pacific Colony
Open usage

This site plan was brought by Marie Howland, Albert Kimsey Owen, and John Deery as one of the very first sharing household models. With a starting point of improving domestic comfort and women's working condition. Four houses with private dining rooms share one service building in the middle of the kitchen, laundry and servant quarter.



1958
China
People's Commune (人民公社)
Open usage & Free food

During Mao's anti-rightists' period, China had thousands of People's communes where people shared every private thing for free. Food harvested from the farmyard according to collective labour, the jobs were assigned by the commune leaders. Private cooking was banned. They mostly abolished after the Cultural Revolution due to the hunger and the perishing economy.



2016
Singapore
Goodlife Makan communal kitchen
Open usage & Voluntarily free food

This communal kitchen aims to give seniors who live alone more opportunities to socialise with others while preparing and sharing a meal.

There are also similar facilities run by a charity, religious groups in Asian countries. It's a low maintenance model built on consciousness and trust. They are partially involving other age groups, for instance, kids.



2000
Sweden
Olofshöjd student housing
Semi-open usage

Which has been the most common sharing household in many European countries, shared kitchen in a collective residential environment, such as student corridors, senior housing, hostel, etc., has been recognised as a most mature sharing household model.

In the later chapter in the thesis, the prototypes will be discussed among this model.

FORM 2 / COMMERCIAL COLLECTIVE HOUSEHOLD



2012
USA
Forage Kitchen
Membership, Paid usage
& Renting events

Forage is run by a company which provides compensated usage for those who are interested in cooking, socialising and improving cooking skills. Cost for using facilities is about 25 USD/ hr, with included cleaning service. Period cooking courses or help are organised by the kitchen with extra cost. It runs with considerable interest for the owner however the price makes this not a replacement for the traditional household.



2007
USA
Dartmouth Grange
Paid usage,
Collective Farming &
Community Service

It runs after a larger social establishment following the American Civil War and aims to improve the lives of rural farm families in the area. Offers paid usage for the cooking facilities and no obligatory hours' requirement for membership. It's less profitable in terms of the closer bond to the community activity.

FORM 3 / COLLECTIVE DINNING AND STREET-FOOD CULTURE



Fig 16, A university canteen in China while freshmen's military training course.



Fig 17, A office cafeteria in Bangalore, India, December 2003

China after Mao's socialism extreme era still keeps a lot of collective and communal culture in many aspects of daily life. It's almost every college and university have huge capacity canteens which provide students' all meals for a student life about 3-5 years. With low single profit but huge amounts, owning a student canteen is stable and profitable in the long run.

As well as in other Asian countries, not only school but also bigger companies have their own canteen which replaces a huge percentage of the daily cooking household.



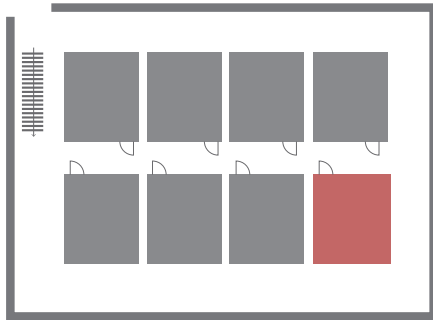
Fig 18, Street food in Yasothon, Thailand.



Fig 19, Raohe night market, Taiwan.

Also in a lot of Asian countries with splendid food culture and diversity, street food and periodic market stands in an unmovable part of people's daily dining. It's significantly different from the food stands and shops in western countries, stands' construction is very lost-cost and flexible. Management of the stands is paid little by the shop owners for the maintenance and cleaning. Furthermore, this service form has a wide life span and customer targets. However, the presumptions are the local food culture itself, as well as the tolerance and including the ability of the "mess" from the urban level.

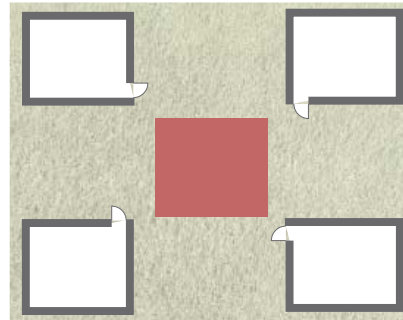
COMMUNAL KITCHEN & HOUSEHOLD



TYPE 1: Corridor

Common kitchen in same floor or building, residence in the building has access.

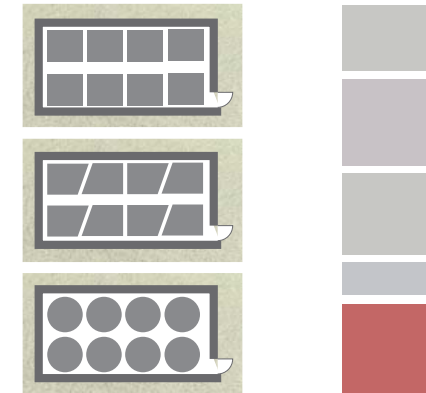
Most common in student, senior housing in collective living condition. It's the most mature common household model, but critiques exist as adjacency to private living improves residence's reluctance of obligatory publicly, and unsatisfactory of housing comfort.



TYPE 2: Courtyard

Common kitchen outside the building but within the quarter.

Seen in the late 19th to the 20th designed low-compact living area, or culture remains separate household, for example, East African bungalow community, Beijing Quadrangles. However, sharing household remains high cost because of the privacy.



TYPE 3: Open-street

Cooking or eating at city street.

Could be both interpreted as street-food culture, and separate located facilities. As mentioned it started to get acknowledgement in North American society. The model of this thesis mainly bases on this typology.



"KITCHENLESS" CIRCUMSTANCES & DELIMITATION

ANNA PUIGJANER'S STUDY

As mentioned above, Puigjaner's study based on American circumstances where housing history grew a bit differently.

In 19th it was considered unhygienic to have a kitchen at home in American families. Even they experienced the same period after wars after the Stock Market Crash in 1929 women were forced into the labour market and the same approach as early Swedish context forced forwards female-labour oriented kitchen development. But there were big databases of how people lived before kitchen standardised even existed, and Puigjaner's study focuses significantly on this back-tracing of the residential solutions.

Apart from these studies, she also summarised the different type of "kitchenlessness" which this thesis has taken part in the reference.

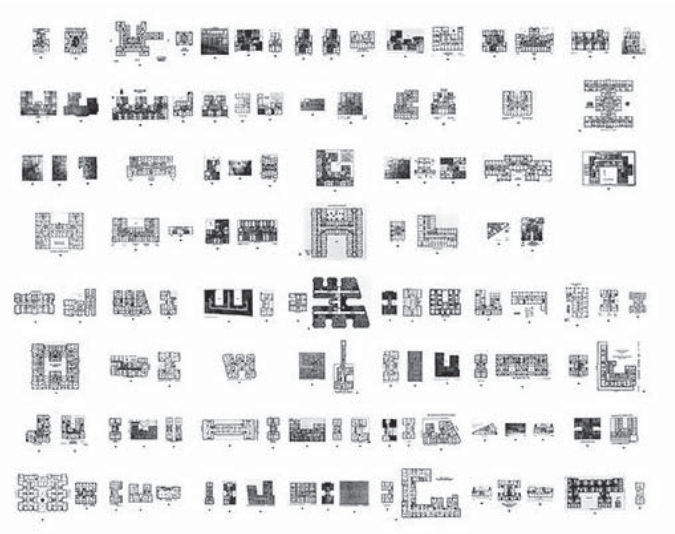


Fig 20, Mapping of Kitchenless Apartment, Anna Puigjaner, 2017

CIRCUMSTANCES

- New build/ renovating residential area
Housing type contradictions, or problematic Miljonprogrammet living quarters
- Higher density / compact living standard
- Experimental housing projects
- Uncompulsory, free will of usage
- In combination to city junction / node



DELIMITATION

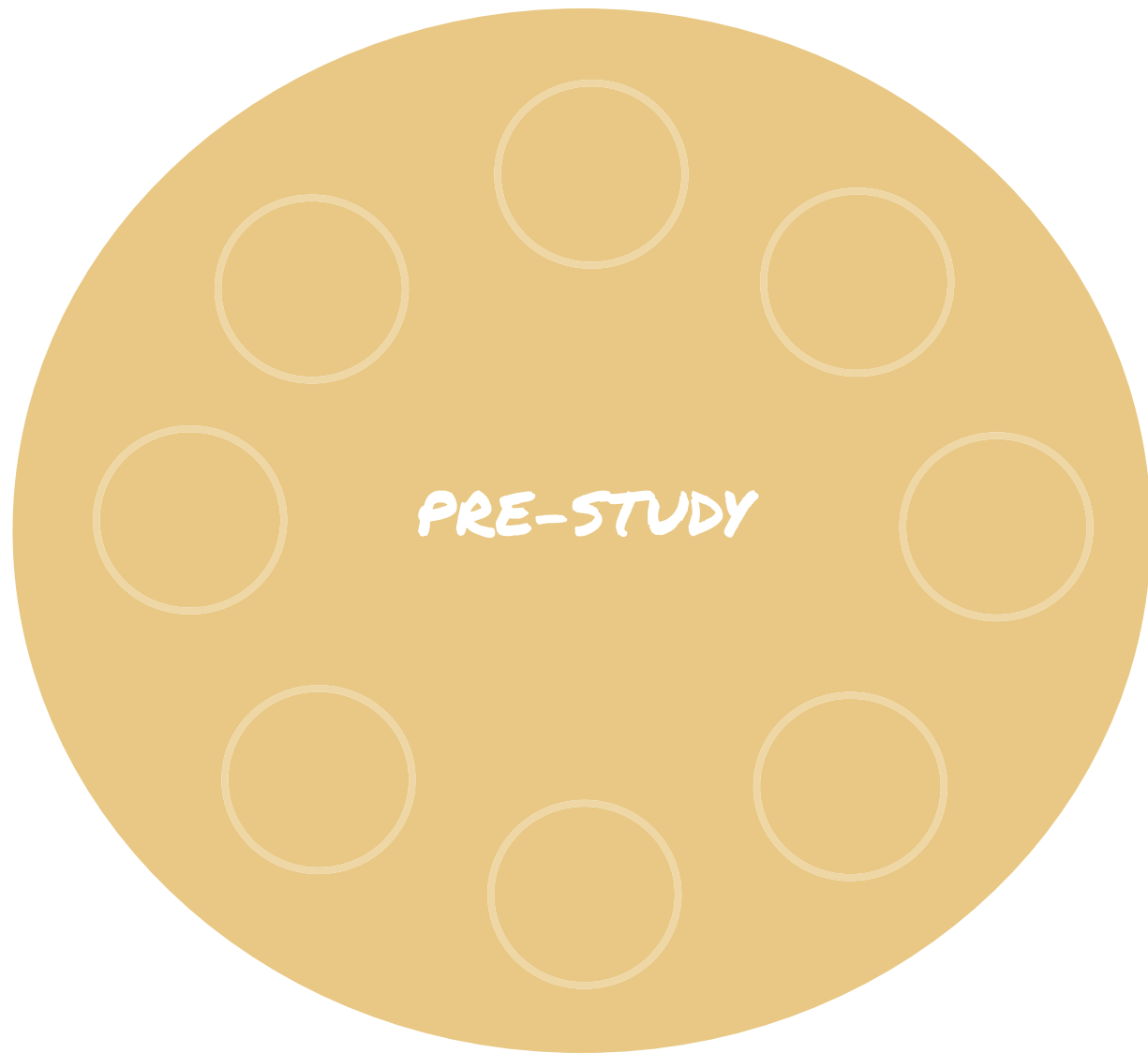
- x Not a replacement of kitchen
- x As compensation of a certain amount of new kitchenless apartment
- x Kitchenless apartment type / Residential environments will not be discussed in this thesis



Example: Danderyds sjukhus



Example: Gullmarsplan



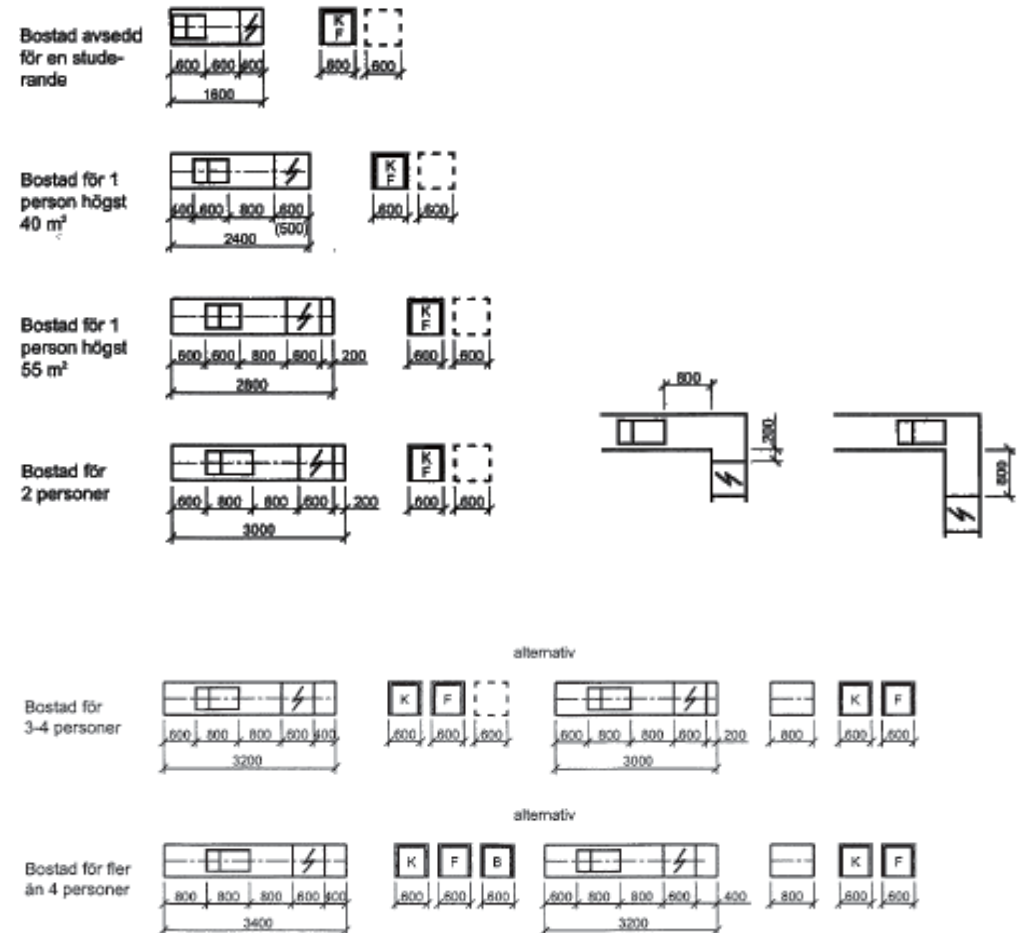
STARTING FROM THE KITCHEN AND COOKING UNITS

SWEDISH KITCHEN STANDARD TODAY

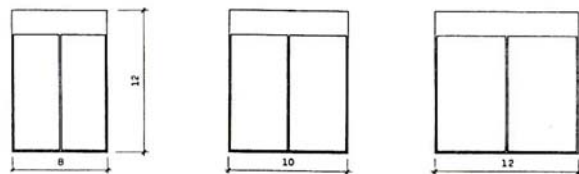
To trace back, the discussion of standardised kitchen organisation and standard dimensioning started from 1940s HMFI research on housewives responses to kitchen work, who was signed the main user group of the kitchen at that time. Later Sigrun Bülow-Hübe's research as a continuation pushes forwards this trend not only in Sweden but in North America to standardise the combined kitchen.

Before 1997 the Swedish Kitchen Standard replaced by the European universal standard, the kitchen standard itself has developed with fixed, standardised dimensions which served the massive production period in Sweden. Even if flexibility and equality of gender roll in the kitchen had taken into consideration, it is only a few variants of fixed dimensions. Flexibility contradicts always with the standardisation.

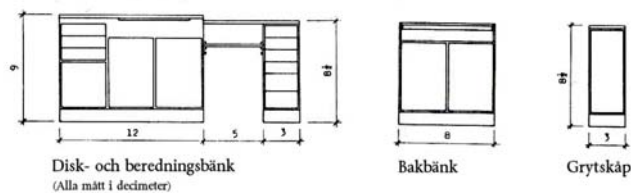
Even though the daily kitchen standard that Sweden uses is no more tagged with "Swedish functionalism". But the old beloved over-rational even brutal functionalism has rooted deeply in this contemporary version and warmly welcomed by the market. It's easy to follow and cheap to produce, so it's getting harder and harder to be challenged or questioned.



Väggskåp, fasader



Låga golvskaåp, fasader



ELL 2009

Källa "Byggnästaren" 1948, nr 4.

Fig 21, Vertical dimensions in a contemporary Swedish kitchen, left
Fig 22, Today's Swedish kitchen standard, right

Interfaces

Interior wall

In a traditional household, sidewall helps to create a close, separated space from the rest of the living space. Also as a carriage of small storage and collection of utensil.

Ceiling

Ceiling height is very fixed in the kitchen for the restriction of the dimensions of the cupboard, refrigerators, pipes, etc. The low ceiling will help with the enclosure, the high ceiling will reduce intimacy in the kitchen but also reduce the efficiency of the ventilation.

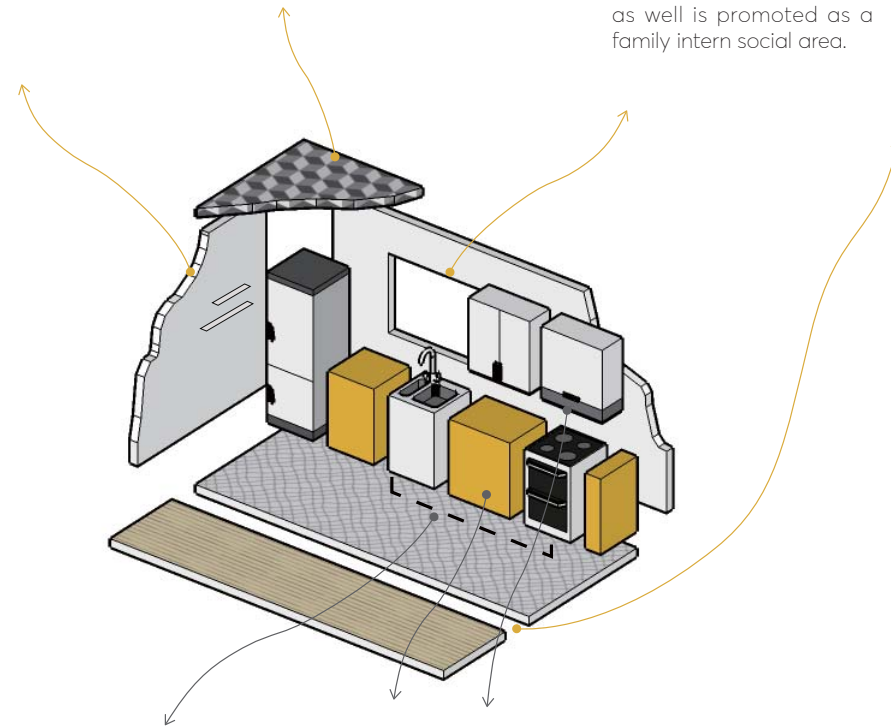
Exterior wall / Light

Exterior wall bears loads of the hanging facilities and opens outwards to let in the daylight. Relatively sufficient daylight is crucial for the kitchen in a traditional household as well is promoted as a family intern social area.

Floor / Border

1,2 m free movement requires in front of the countertop according to BBR. Behind this, there usually exists a clear border between dinning and operating area. It could be loose furniture or a division of the room. It is very unpleasant to eat directly in the greasy and smoky room if condition allows.

RESPONSE TO A TRADITIONAL KITCHEN



Arrangement

It's not only industrialised but also suits the displacement of the cooking activities. Position of sink and stoves (water and electricity) are relatively fixed.

Freospace / Flexibility

So as the size of the equipment is usually modulated, the free space in between defines the allowing capacity for the kitchen.

Integration

Water, ventilation, electricity, lighting, etc. are mostly integrated with the storage function in the module cupboard.

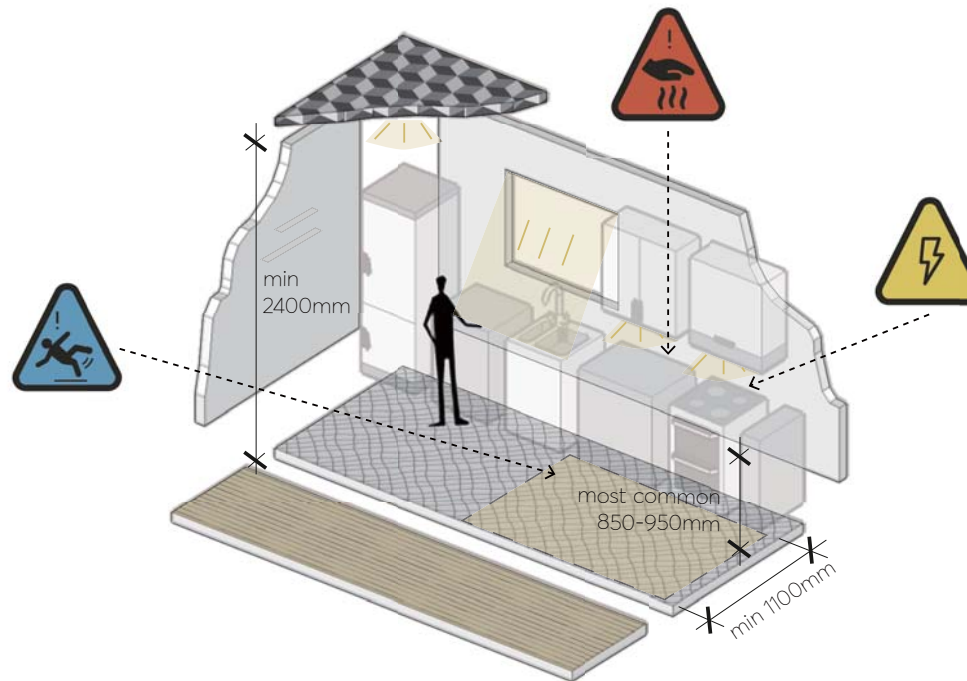
Equipments

INTERFACES: FLOOR, WALLS AND CEILING

Ceiling

Swedish Kitchen Standard from 1970 introduced a "kontinental höjd" from then on cupboards didn't connect to the ceiling directly. Daily standard bases on this have a "kontinental höjd" on 2250mm, plus the area between cupboard top and ceiling, the minimum ceiling height will be at 2400mm.

However, the ceiling is still the medium of ceiling lighting. It provides general lighting in the room. Because of the shadow cast by cupboards above, integrated lighting at lower side is needed above working and cooking area.



Interior Wall

After the 1980s, open kitchen solution started to come into people's home. Therefore kitchen standard changes accordingly. Daily standards ask for 3 to 4 room apartments should have divided kitchen area. In another word, the interior wall should divide the kitchen from another room. However, an apartment smaller than 45 m² doesn't need to follow.

The division between kitchen and living room is embedded very much with social class and household role. Kitchen work was or is still regarded as greasy, messy, unhygienic. The kitchen was less open

to guests because of the working environment. The middle class had clear physical requirement between kitchen and bedroom which is commonly acknowledged. In conservative societies where women are still unrevolutable the only householder, a kitchen is still a closed place for women to stay while men having guests at the living room.

Exterior Wall / Bearing Wall

From 1944 HFI's researches, kitchen with natural light became a must. It meets the physical comfort in a working environment, also provides a possibility of direct air ventilation.

Exterior walls have also the role of bearing vertical storage. The fixed height is limited by the construction possibility but also security perspective. The shelf for oven/microwave with burning risk should be close to countertop but not too close to avoid children's reach range. So sacrificing the flexibility for minimum area usage is the only solution when the vertical area is exhaustively used.

Floor

Apart from the floor material choices to reduce the risk of slipping, a free space of minimum 1100mm in front of the cooking, preparing place is required for users to move freely around.

In the daily residential context, it is seen often as a very long, narrow and a linear area. L-kitchen or island-kitchen plan can reduce the redundant moving steps along the linear countertop but the fixed furniture will build up enclosure and isolation of the kitchen area itself too.

EQUIPMENT: DIMENSIONS AND MOVING PATTERN

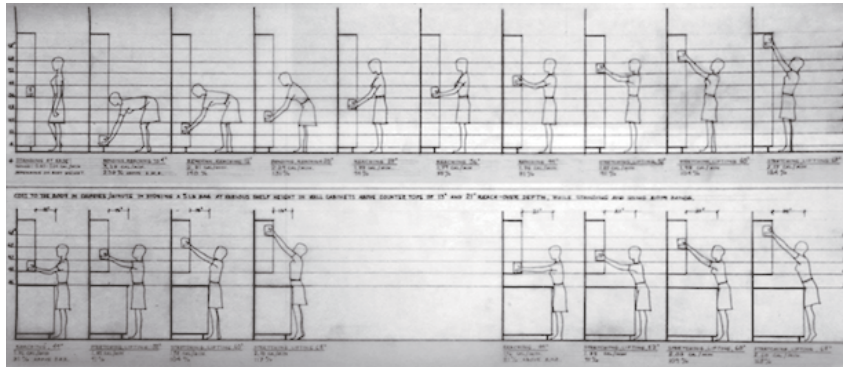


Figure 22, Sigrun Bülow-Hübbe's research diagram about the working height, 1950s.

ARGONOMY AND 40S "FEMINISM"

Those researches don't only ground the kitchen organisation and plan of today, also at the vertical dimension too.

The left photo shows Sigrun's research of the height of the pantry and working height based on an average woman's dimension. To achieve the lowest energy consumption of a housewife, the height of the pantry and countertop are decided, and somehow it is kept till today.

We couldn't call this sexism at the 40s because of the starting point is positive on improving the main users' working condition, which was mainly women at that time. However, today, the keeping of this dimension more or less reflects the sexism in this design. As Sigrun once argued, designing special dimension for men which only cook Saturday supper's starter was actually boasting on masculinity. But at least, as the second argument in later result, the new medium of a household should at least achieve desexualised or unisexually universal when condition allows.

Food Material Related

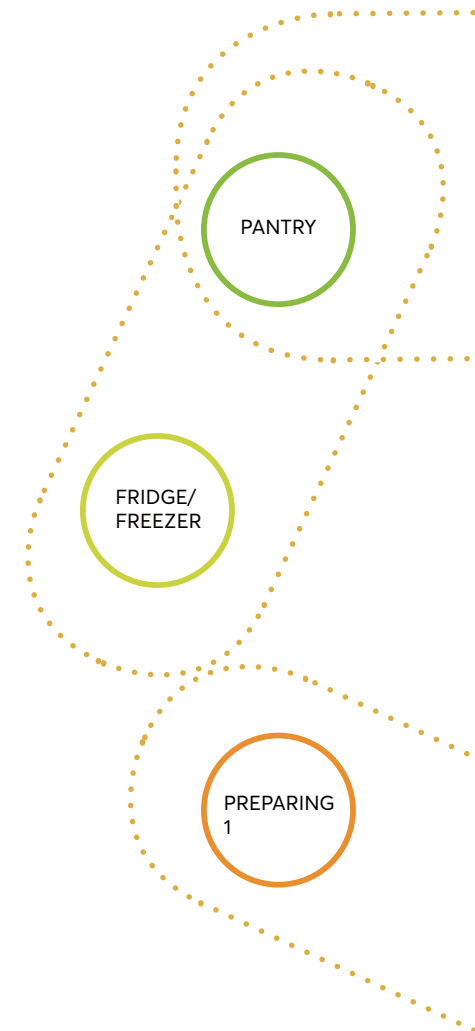
Fridge/freezer and pantry are closest related to the food and material therefore have extrovert interactions. When shopping finished, user comes into facility and stores them into **Fridge/freezer**. Other food material has closer relations to cooking activities are placed in the **Pantry**, e.g spices, rice, pasta, sauces which don't require further processing before being cooked.

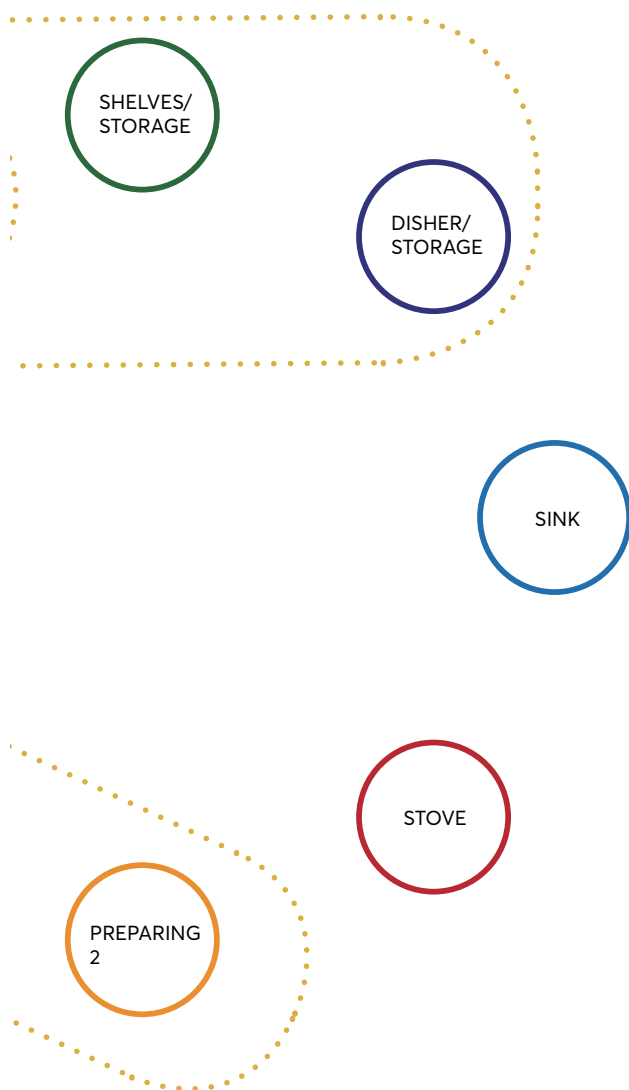
Preparing 1 & Preparing 2

Preparing 1 and **2** are abstracted from the 1944's diagram and in daily pattern still have a significant difference in function even they are already integrated into the same platform.

Preparing 1 has more function as a producing and processing working area where people cutting, refining, processing, etc. Including *Rensplats*, *beredningsplats*, *utbagningsplats* and *jäsningplats* in 1944 diagram where they are differently proposed for different working processes.

Preparing 2 has a more remarkable function as an unloading place, a free "table" next to the stove, by the storage. In daily condition, it is cross-used with "Preparing 1" in a lot of practices.





Storage Department

In form of **Pantry**, **Shelves/storage**, **Dishes/storage**, have also slight differences in functions and physical experience.

Pantry is closest to the heat-resource so placed mostly above. **Dishes/storage** has obvious capacity for eating and preparing containers with less direct bounds to stove. **Shelves/storage** stores rest of the equipment, e.g. pans, pots as well as small machines for cooking and preparing.

Water Usage

Water usage, or reflecting on **Sink**, has a relatively fixed pattern. It is used among hygiene-related activities: cleaning the raw material, cleaning used containers and tools. So it also has extrovert interaction in the form of food and domestic waste.

Apart from this, water is partly used under cooking activities when water is needed as a cooking ingredient.

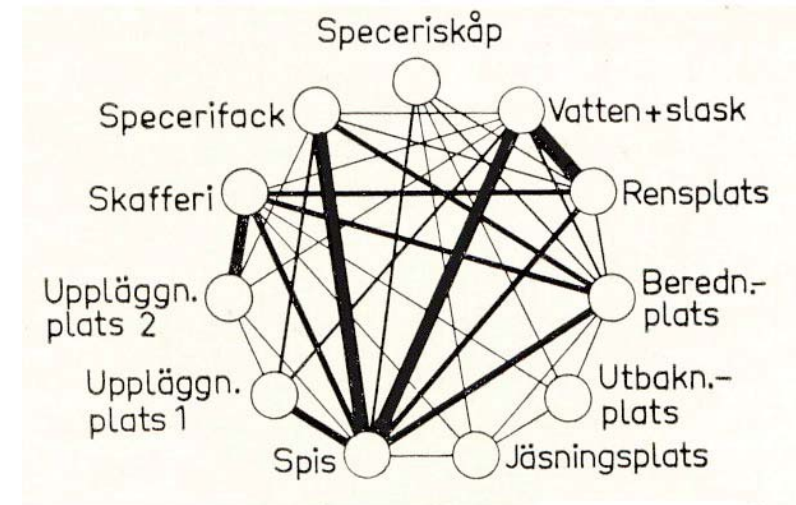


Figure 23, Förflyttningsdiagram according to HFI's research, 1944.

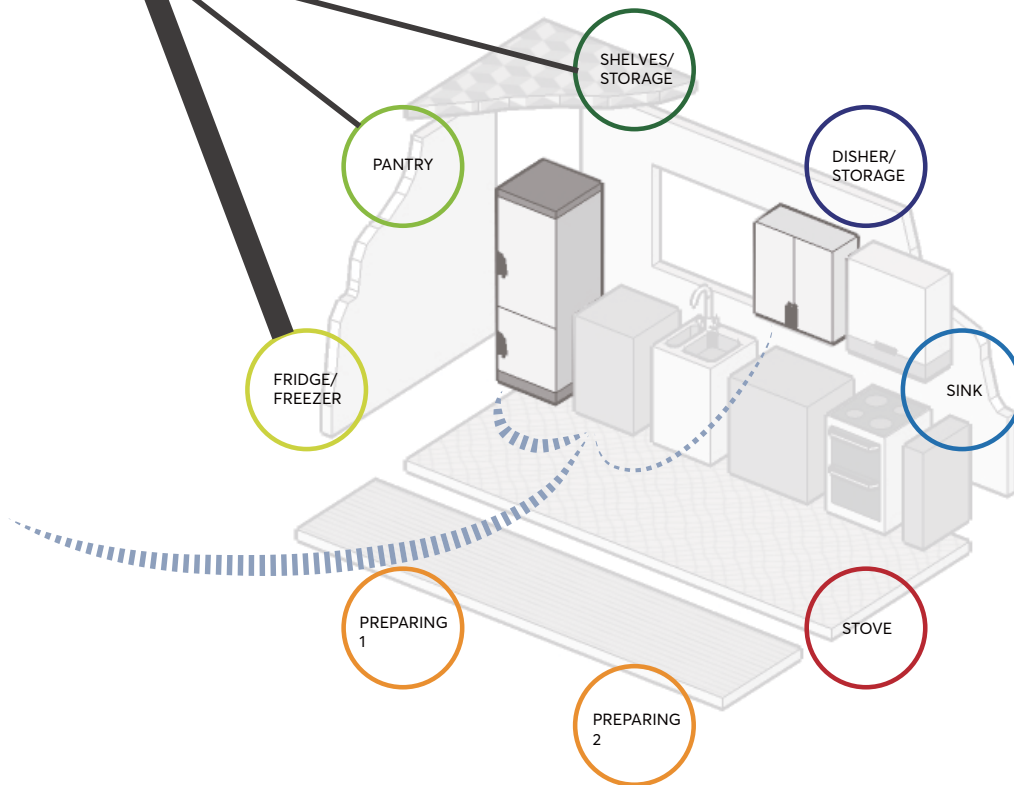
Moving Pattern as A Reference

So far in this thesis, pre-study and research have come to a new moving pattern in this new typology. It bases much on the existing pattern, comes from the studies and analysis from a standard kitchen in the residential circumstances.

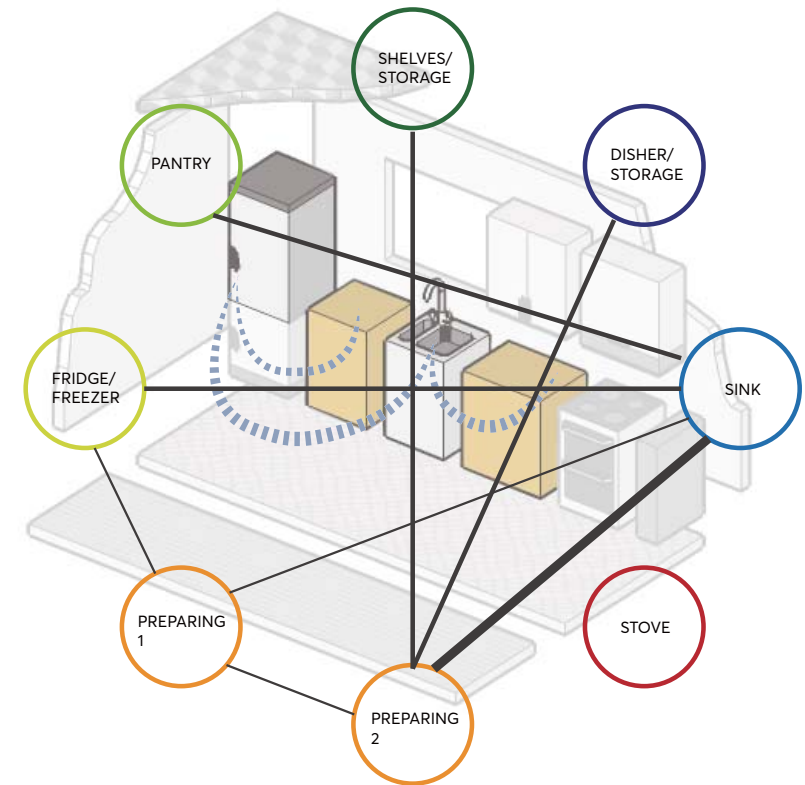
So it will be a guideline, a reference to the upcoming studies, but not a restriction. Because the challenging of the existing pattern is the main focus and it will bring dramatic changes to this pattern. Basing on this reference could be both sympathetic and opposing.

ACTIVITIES IN A PACKAGE: SEQUENCES IN THE TRADITIONAL DINING-RELATED ROOMS

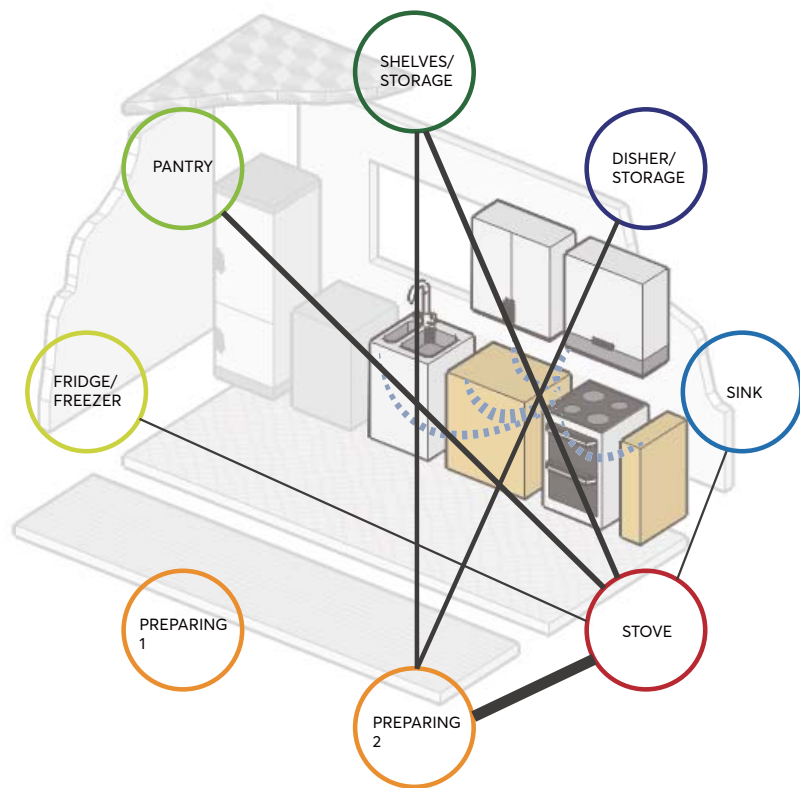
After shopping
Raw material



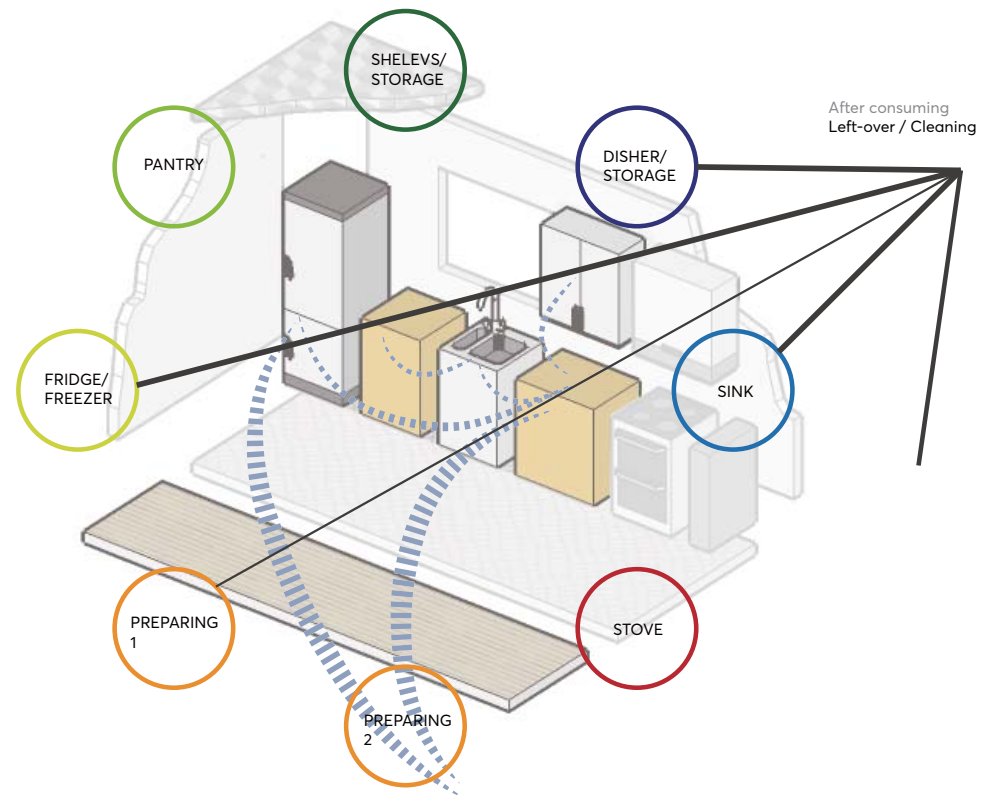
Shopping and storage



Preparation

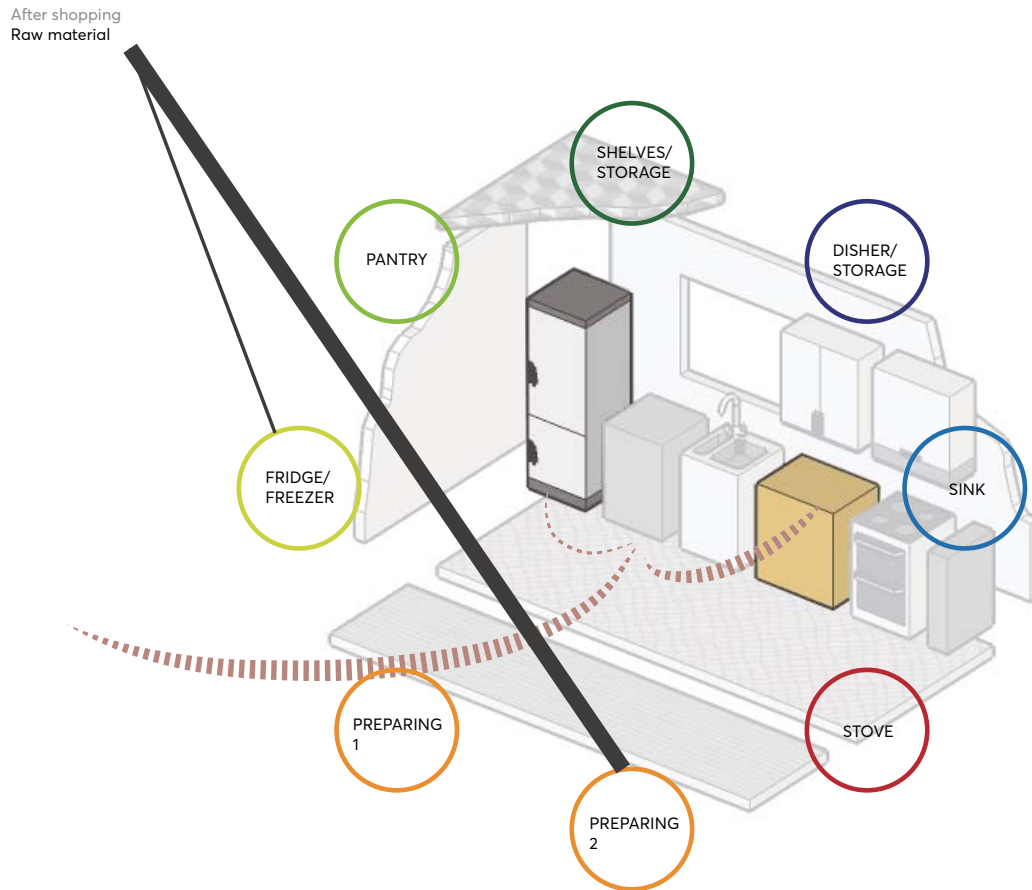


Cooking



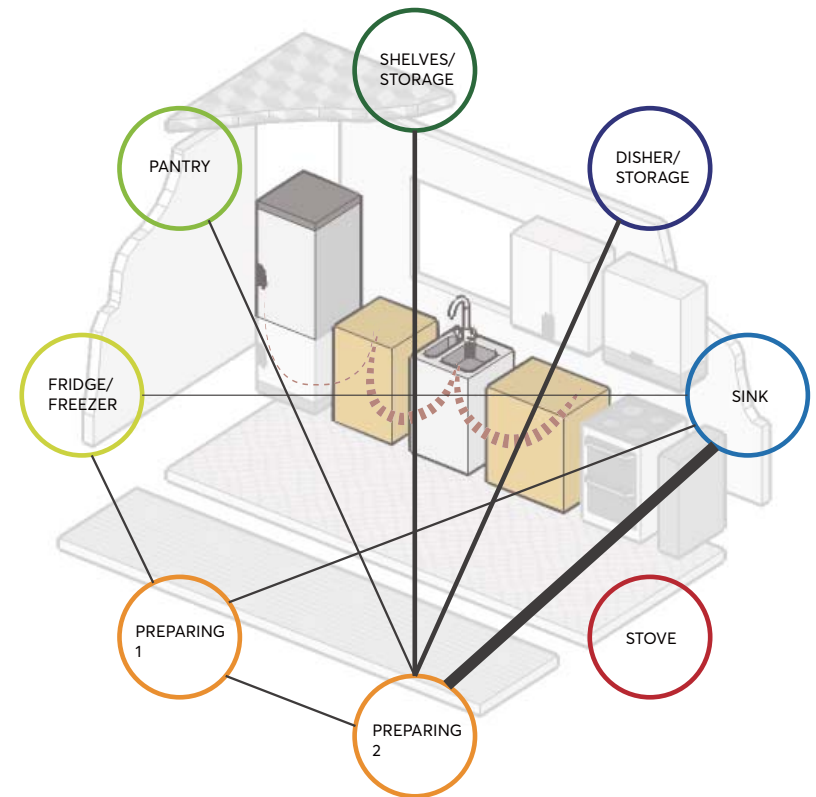
After-cooking and storage

NEW REFERENCE: SEQUENCES IN THE NEW CIRCUMSTANCES



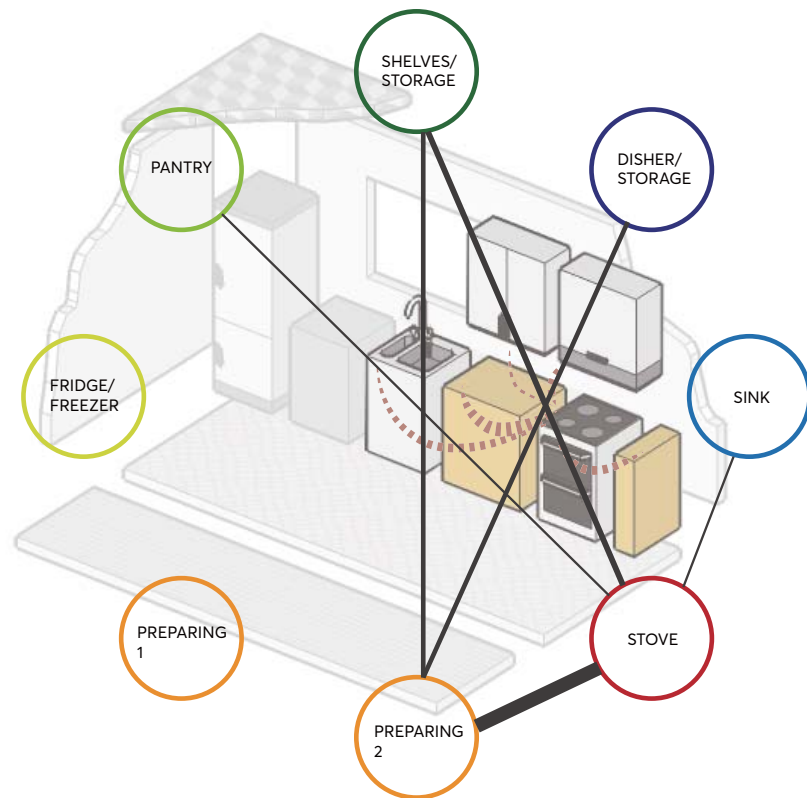
Shopping of raw materials

A very small amount of food material needs to be stored in a refrigerator or cupboard. Most of them will be prepared or consumed or recycled in this kitchen complex, could also be brought back home. So the storage will in the term of short-time storage, as long as the using period of the facility.



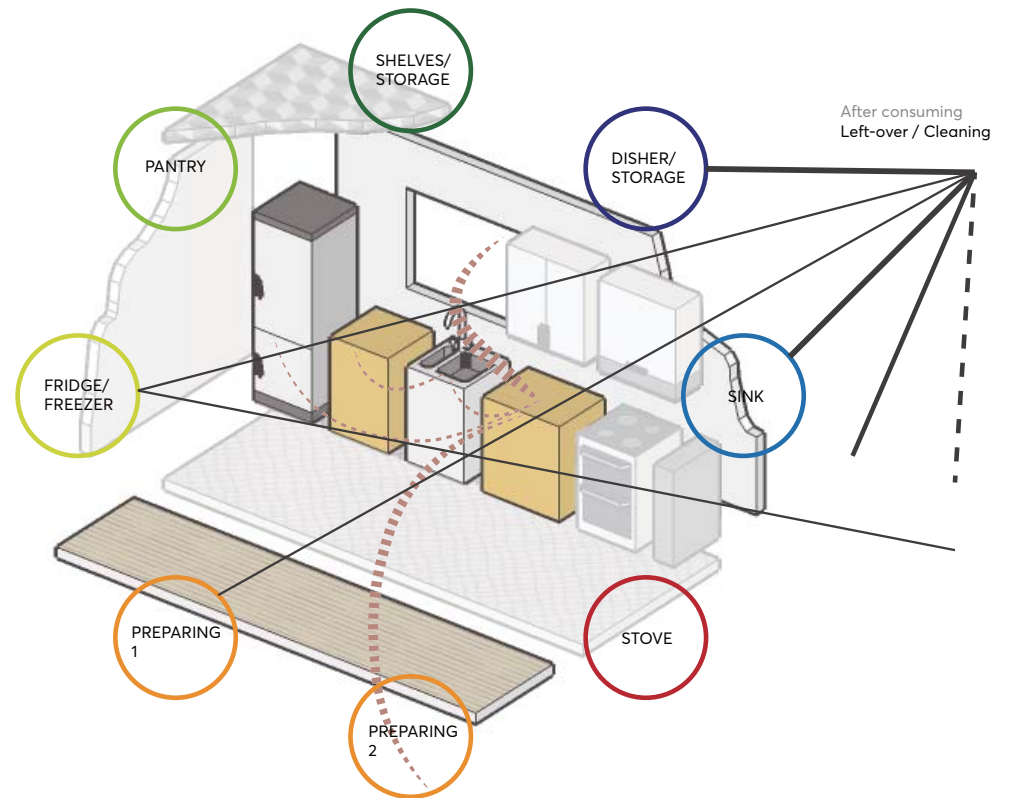
Preparation

Similar to normal kitchen pattern, but weaker links between storage with operating countertop because of the direct consumption of the purchased raw materials.



Cooking

Almost the same frequency as the normal kitchen. In term of the individual usage or group, usage will be discussed in this later chapter.

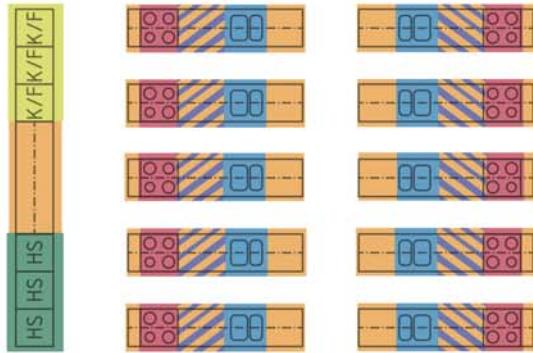


After-cooking and storage

After cooking and consuming, left-overs could be brought back home or sent over into the recycling circle. Such as donating, lost-profit selling, at the exterior side of the kitchen, an interacting "window" will be critical to the complex and bring tighter bond to the bus terminal itself.

Meanwhile cleaning work could be finished individually or collectively, for the collective work will require extra staff and cost for this collective service which could suit the flexibility of different sharing scenario.

CASE STUDY 1: COMMON KITCHEN OF TODAY



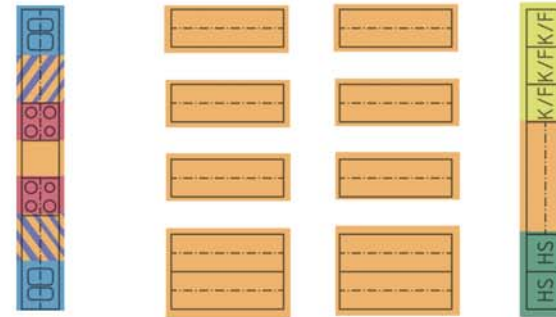
TYPE 1: COOKING STUDIO



Figure 24, Arclinea & #Eataly, Milan

Stove, sink, countertop as a unit is equally allocated to every individual. Rest of the cooking facilities, storage are by the side and used by very much degree of sharing.

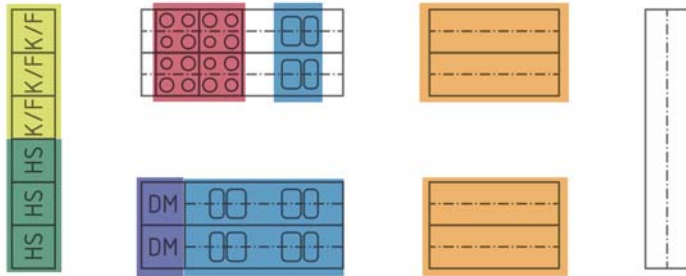
The individual operating unit is a basic module for a single cooking booth which on plan level is a generally open organisation but the individual need of independent free space is still confirmed.



TYPE 2: COMMUNAL KITCHEN



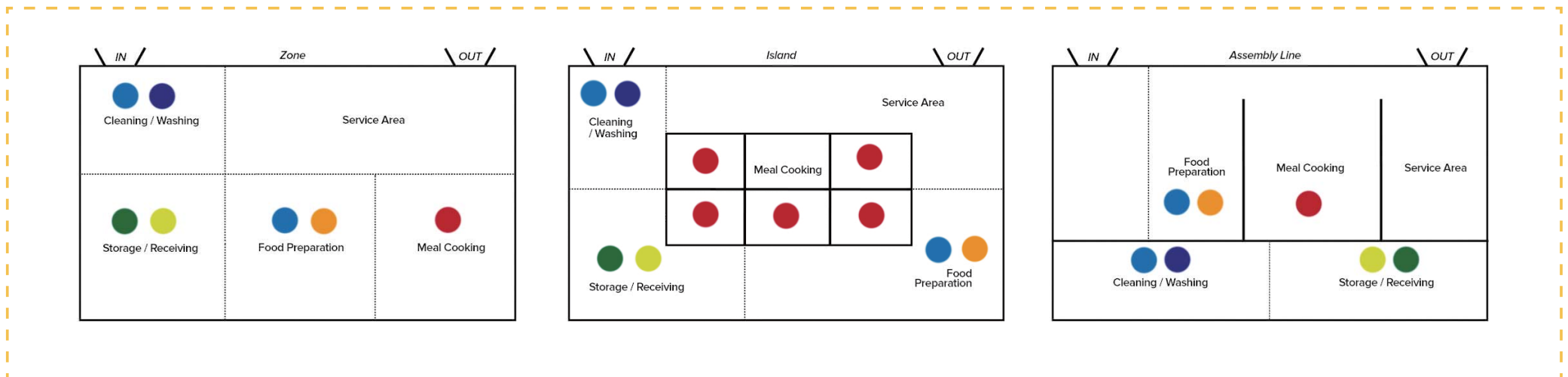
Only **countertop** as a separate function, for some of the successful communal kitchen models, large space for food preparation is also a booster of social activities. So well these tables can be simply used as dining tables too.



In a commercial kitchen or restaurants, clear function blocks provide high efficiency and hygiene. The arrangement has a close bond to the different phases of the kitchen usage, and the separation of them still provides the possibility of rearrangement of functions according to the sequence, or the different goals of this sequence aim to achieve.

However dinning is totally exclusive, and clearly cleaning stands at IN and service area stands at OUT which also shows the models of the "windows".

TYPE 3: COMMERCIAL KITCHEN RESTAURANT KITCHEN



CASE STUDY 2: KITCHEN BEFORE STANDARDISATION

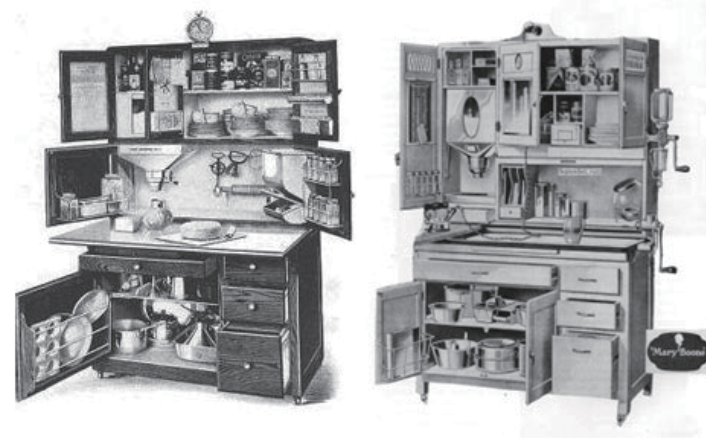


Figure 25, Collective storage and its inspiration before kitchen standardisation

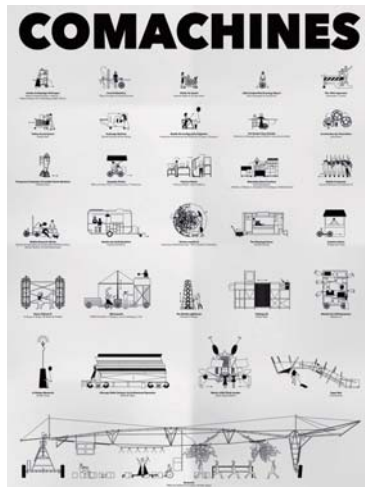


Figure 26, Special working platform for fermenting work before kitchen standardisation



Figure 27, Integrated spice-shelf before kitchen standardisation

CASE STUDY 3: COMACHINE / COFARMING / SOUP KITCHEN / KARMA



Co-machines

A cooperative project by On/Off Studio of mobile disruptive architecture. Ecological or technological in scope, all the interventions in this project are mobile and nearly all of them are performed without permission from city planners.

It is an argument against the established procedures of urban planning and city-building. Case-studying of them brings smaller-scaled approaches to urban topics. They are defined as architecture but they are designs, installation or objects.



Soup Kitchen

A food-distribution model in Singapore. It differs from a secular, non-affiliated charity wholly run by volunteers, to a self-managing facility to a special target of people who have close social bonds.

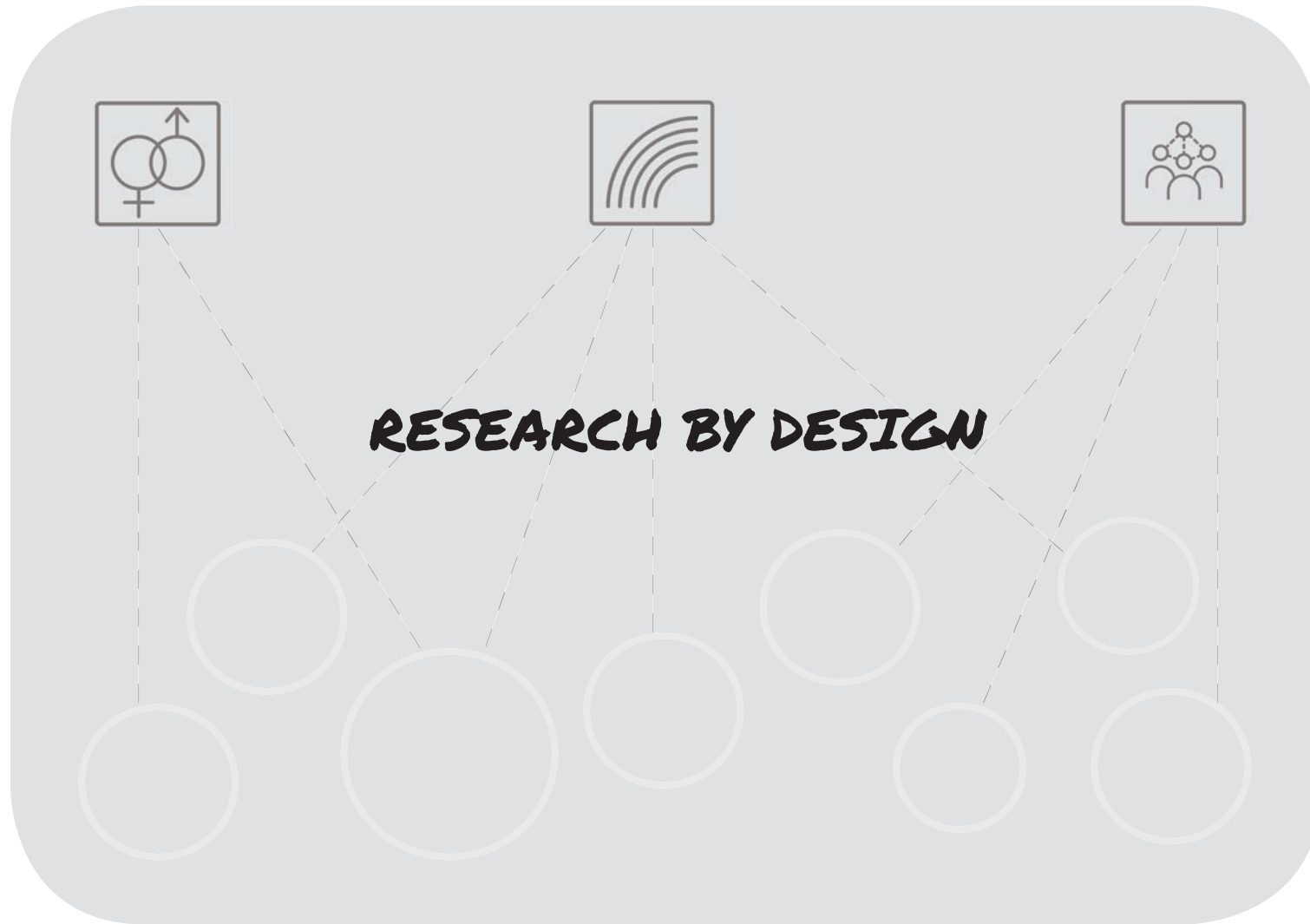
Case-studying on this provides more possible structures of a public cooking and eating facility. Apart from the existing commercial models, the non-profit model could be able to work in some circumstances.



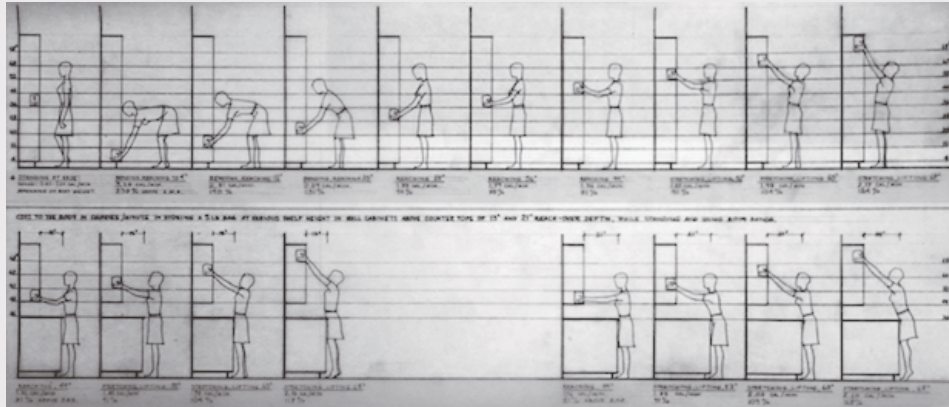
Self-service Food Recycle

Karma is a Swedish internet platform that brings together restaurants with leftover. As a collective medium, it closes up the cycle of food by aiming at people chasing convenience and low-cost.

Case-studying on this adds supporting evidence of food upcycling in an urban context. The success of Karma reflects on the behavioural possibility for the customers' side. It is trustworthy for people to rely on a new model and it is less impossible than expected that people's acceptance towards new media even in a solidified consuming field.



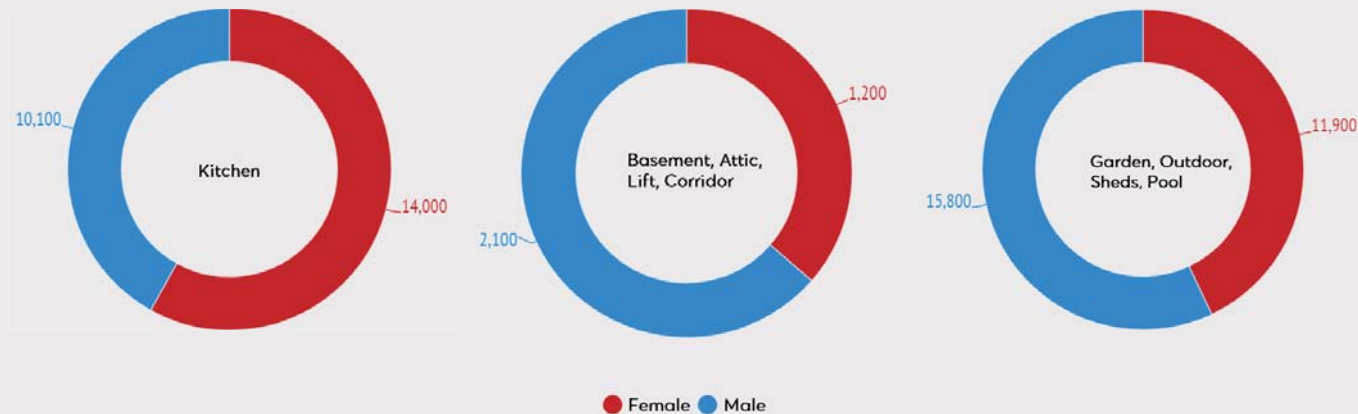
EMBEDDED : FEMININE LABOUR ORIENTED



Female Dimension as Reference

Basing the kitchen units' dimensions on female, which from the historical perspective had a dominant number of the users, as the starting point of making the housewives spend less energy on cooking, was actually once a feminists' perspective, to speak out the voice of gaining a better working condition for women themselves. But nowadays, which may seem exactly the opposite.

In an interview of Sigrun Bülow-Hübe, she pointed out that, taking men, who will only out of being a gentleman for once a week to cook dinner, as a reference to kitchen's dimension would actually let masculinity dominate this battle.



Roll Difference at Household

According to a study from Swedish Socialstyrelsen of the number of both genders who visited the hospital for the emergency accident treatment in 2015, a clear difference is visible between the male and female in the different kind of household chores, even at today's family pattern, in Sweden.

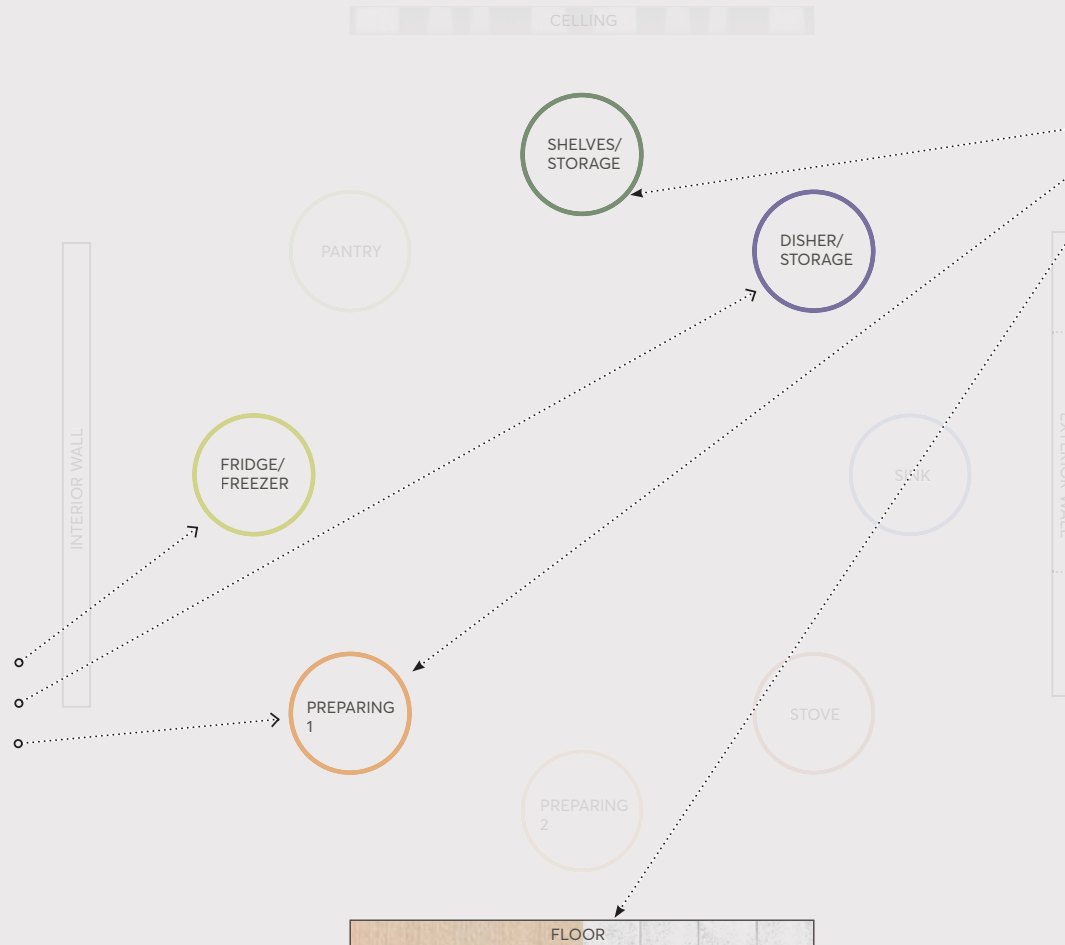
Figure 28, Statistics of the number of both genders who visited hospital for the emergency accident treatment, 2015

DECOMPOSITION 1: DESEXUALISATION / UNIVERSALISATION



Kitchen Chore Duty

To balance the roll in the kitchen chore, which in this circumstances related units as: **Fridge/freezer** standing for shopping and categorising, **Preparing 1** standing for material processing and **Disher/Storage** are taken into discussion.



Vertical Dimensions

In general, all of the standardised kitchen units' vertical dimensions base on female dimension. Among the interfaces and equipment, therefore the places where people work, especially **Shelves/storage**, **Preparing 1** and **Floor** will be mainly discussed in the chapter.

Among them, **Floor** is the medium of rest of the units will require the biggest rethinking.

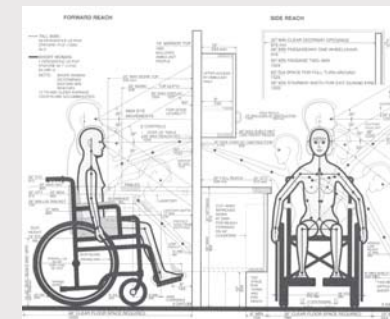
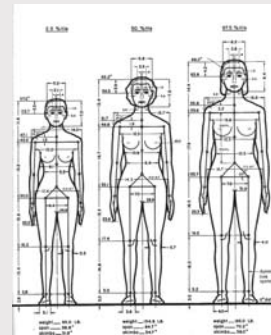
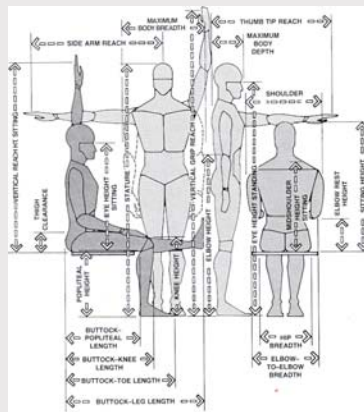


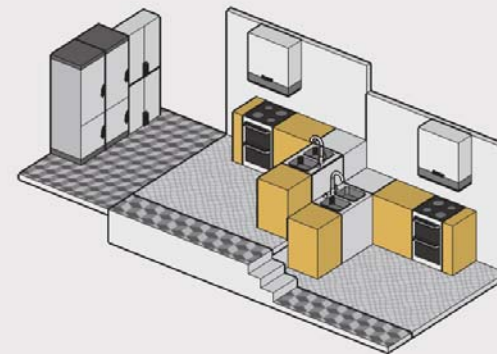
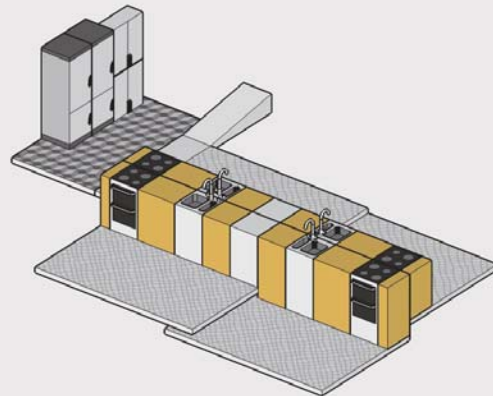
Figure 29, Dimensions of different basic physical types.

Standing at the Same Height

To desexualise this, new prototype tries to give different working height above the floor to different individuals. Which will be: Varying from 850-1050 mm according to toady's BBR recommend, extra 100 up and below for flexibility. For example, 810mm is optimal for wheelchair users. Instead of having a different countertop, will give different groups the same experience level for working, which means, floor varies, which bring also the possibility of division.

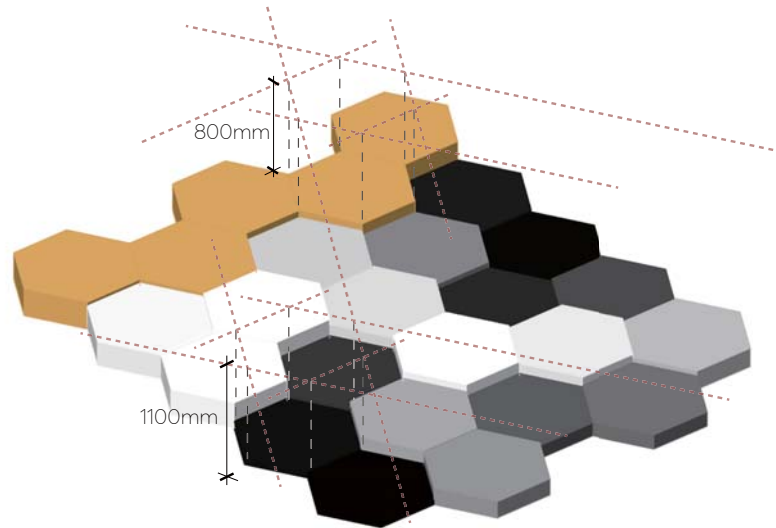
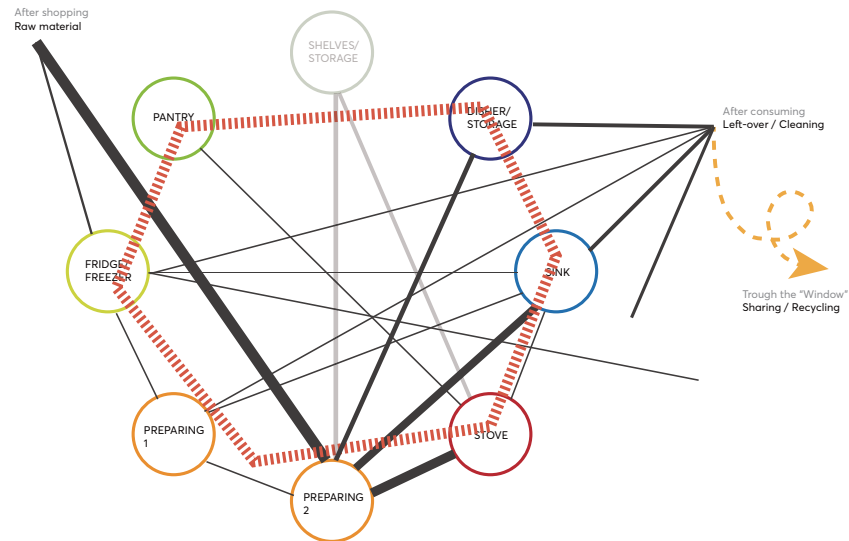
Collective Storage

The integrated cupboard above countertop has less flexibility to adapt to different groups, so instead will use collected storage at the other side, which will benefit the streams from the functional perspective as well.

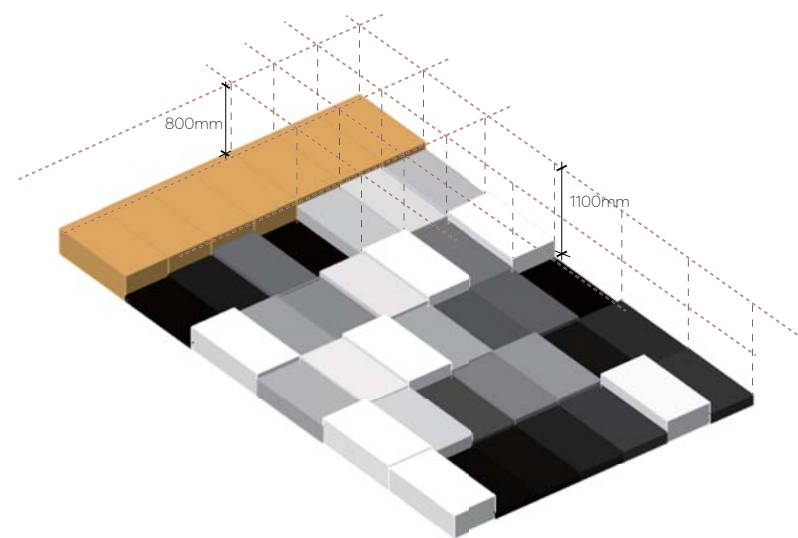
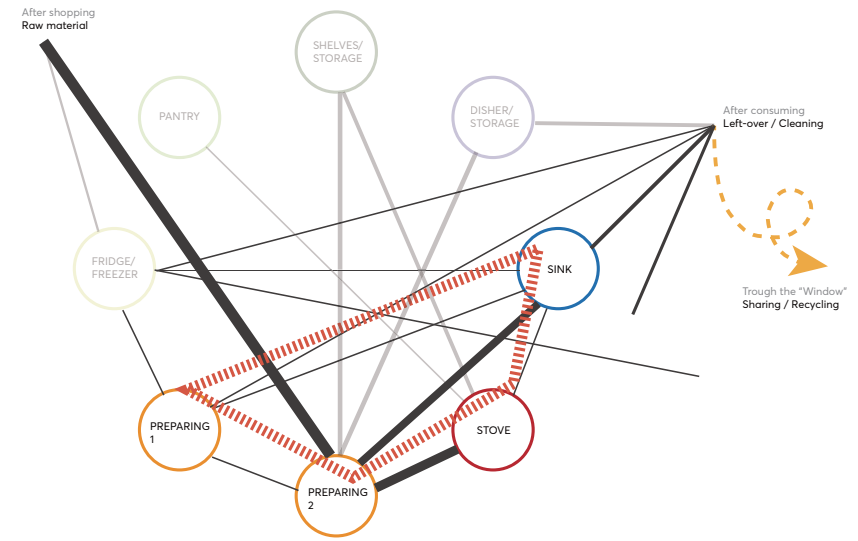


1 - 1 FLOOR

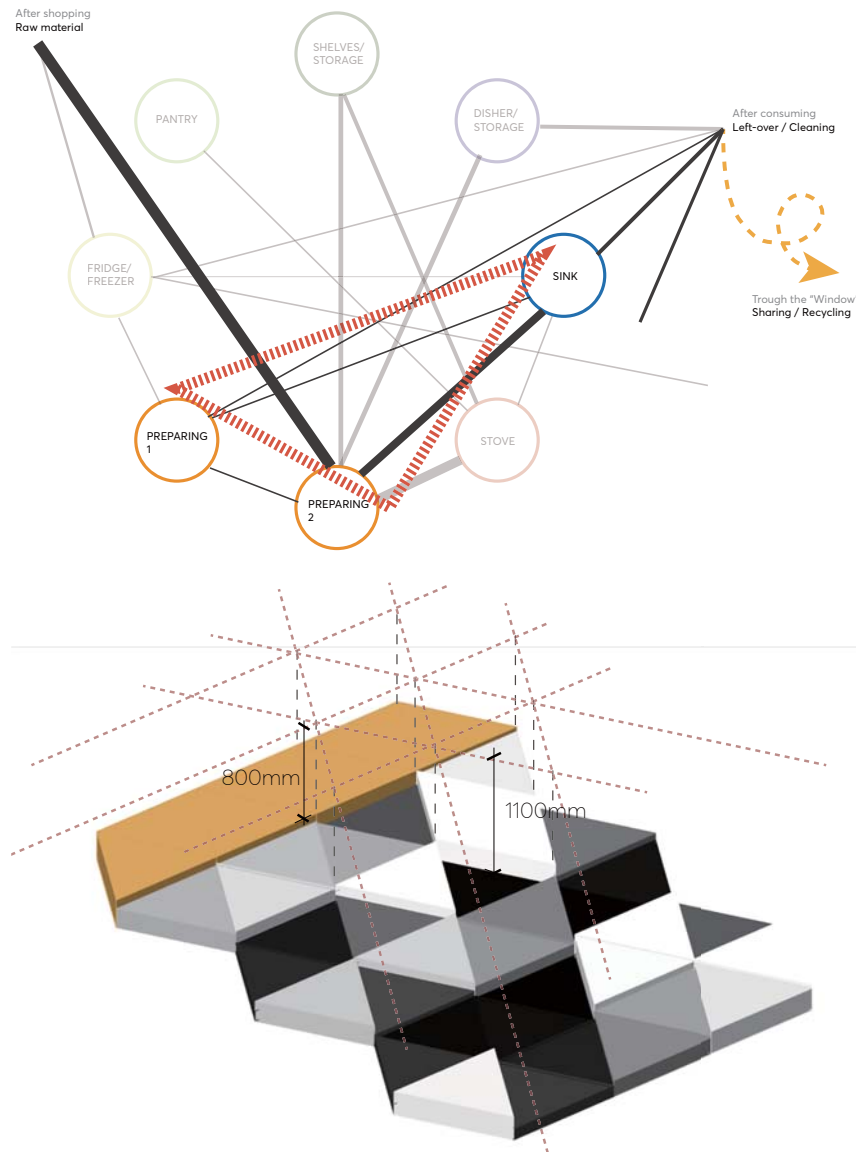
Test 1



Test 2



Test 3



Handicapp Booth

Locates closest to the passage with the lowest height 800mm. The colour marked out as a colour has 0,40 NCS-colour lightness contrast from the adjacent booths to benefit the colour blind users could be able to tell the difference and be aware of the height difference.

Height from Floor to Countertop

The colour indicates the height difference. Lowest has a possibility for 1100 mm height from floor to countertop, and with the black floor. Highest for the 800mm height, with a white floor. A various position of different floor heights could be identified directly from the colours, even for the colour blind.

Black has 0 value of lightness in NCS-colour scale while white has 1. The suggested colour for handicapped booths should have the best value at around 0,50 to have easiest differed from the various ones. Also, the adjacent plots to the handicapped one should be set a limit of a range of 0-0,1 / 0,9-1,0 which refers to 800-830mm / 1070-1100mm to be recognisable for the colour-blind and the sight impairments.

NCS lightness 0,50

Handicapp Booths
800mm from floor

NCS lightness 0

1100mm from floor

NCS lightness 1

800mm from floor

1 - 2 SHELVES / STORAGE

Minimum Ownership

Collectiveness brings possibilities to minimise the ownership of white goods. According to social study that many of the white goods have extremely short operating time per object, which favours the producers economically. By encouraging every single household to possess products per unit to push forwards the industry and consumption but also causes tremendous waste.

So hereby all of the kitchen tools and equipment are proposed shared usage.

Categorising After Phases

Basing on the exhibition of kitchen tools and white goods to the right, they are now furthermore categorised after the using phases which are defined previously. Study on moving pattern between **Shelves / Storage, Pantry** with other units reflects when and where they are used most.

And also leads the conclusions, **Pantry** with seasoning process has merely connection to the **Cooking** phase, however in **Cooking** phase is not only the **Stove** working but also other white goods from **Storage**. Apart from these, most of the kitchen tools are used in other phases which has a more complexed pattern with other units.

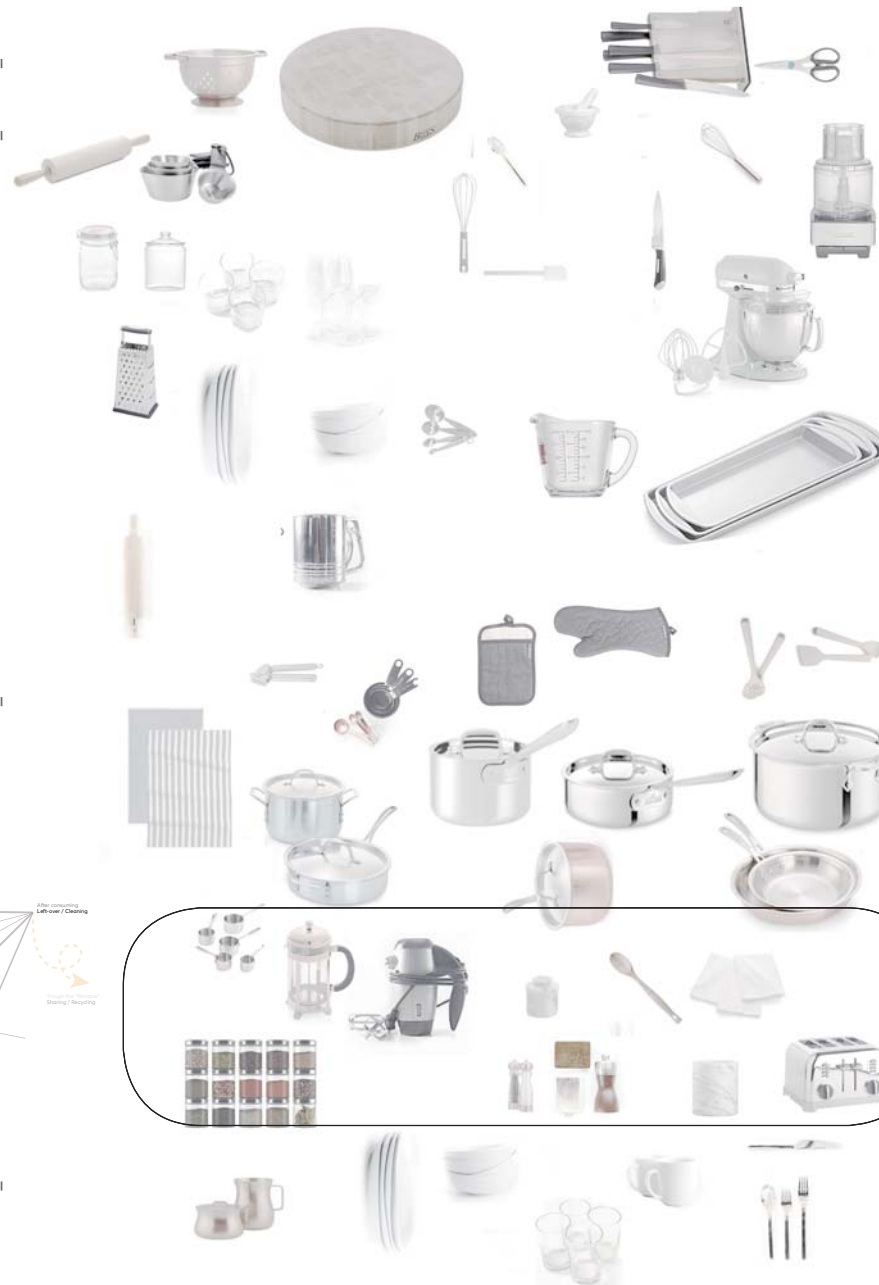


Raw material Shopping

Preparation 

Cooking |||||

After-cooking and Storage



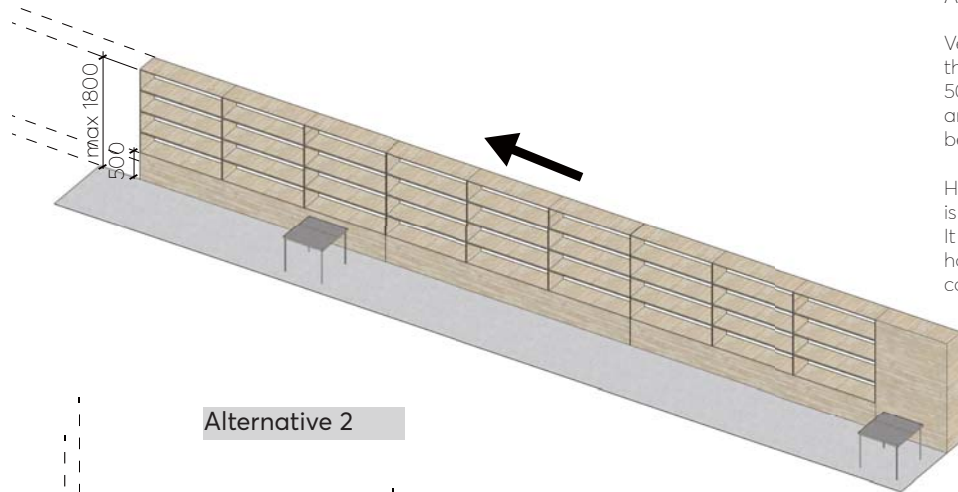
Alternative 1

Collective Storage

Alternative 1: vertical

Vertical storage has very much limits from the body's dimensions. Lower than the 500mm height is technically unfriendly to any body conditions in natural working behaviours.

However, the main focus of desexualisation is barely dealt with in this alternative. It provides a similar circumstance from home with fixed dimensions but in a public context.



Alternative 2

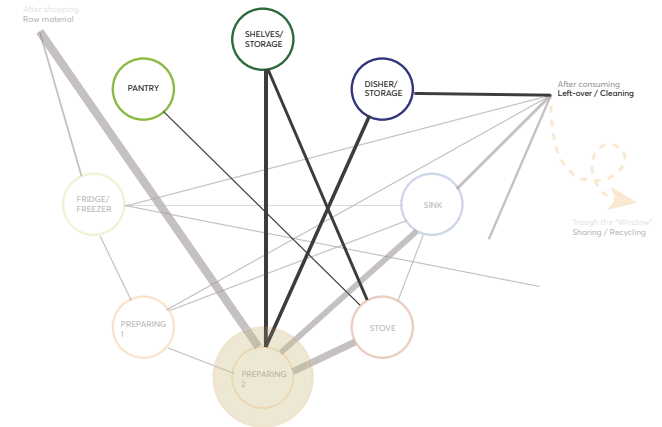
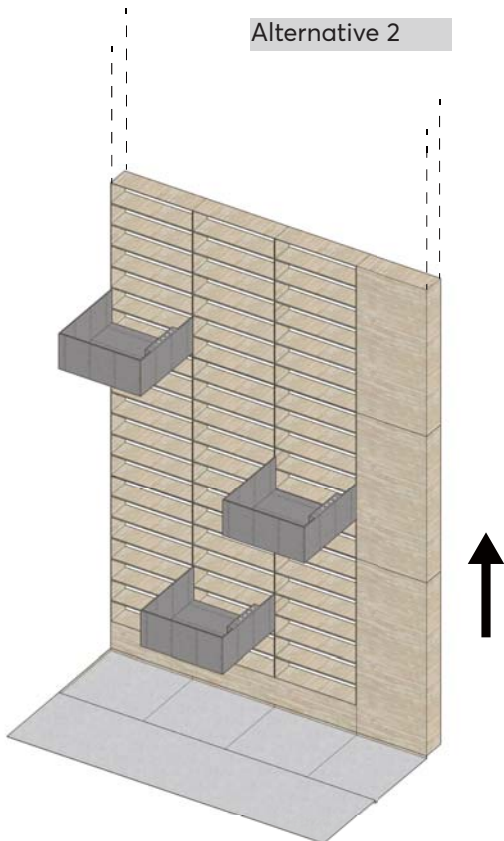
Collective Storage

Alternative 2: horizontal

Horizontal storage is straightforwardly in dealing with the target problem. People regardless of physical condition will have the same access with the help of vertical lifts. So the vertical dimensions are no longer restrictions in this alternative. At the same time, it has a better possibility for expansion for larger capacity.

However, the technical difficulty is sorting after cleaning. It could be solved transporting-lift in principle but it requires relatively inevitable physical labour.

Therefore at lower capacity alt.2 has reasonable feasibility. In a larger complex, it is recommended to combine with alt.1 at individual floor level.



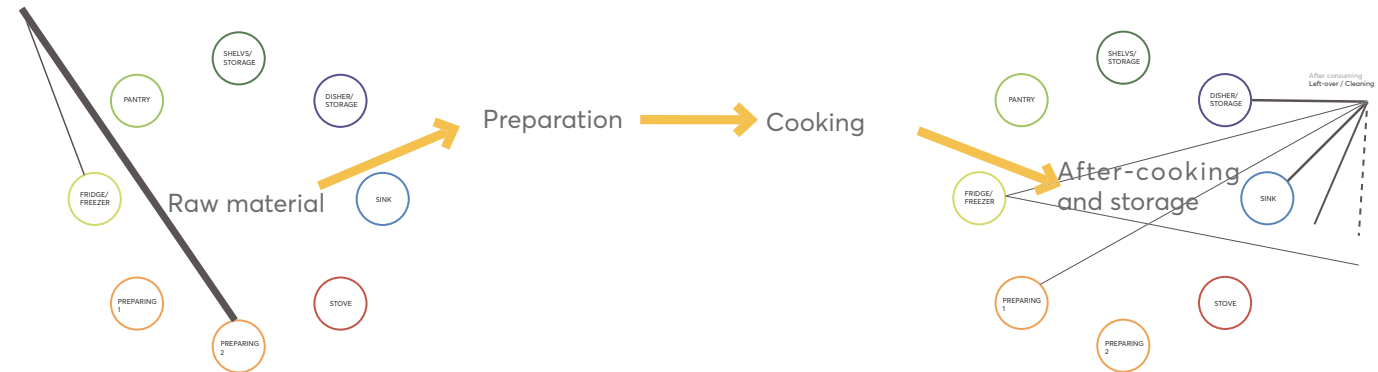
Preparing 2: As A Bound

A collective and separated storage will bring a dramatic change in this moving pattern. But as the diagram above marked out, they are somehow connected to the stove by the element **Preparing 2**, which in the traditional kitchen condition is a working area next to the stove, and will be discussed in the coming chapter. As a bound, it will be urged to be rethought in this new circumstance.

1 - 3 DISHER / STORAGE & FRIDGE / FREEZER

"Compulsory" Equal Labour

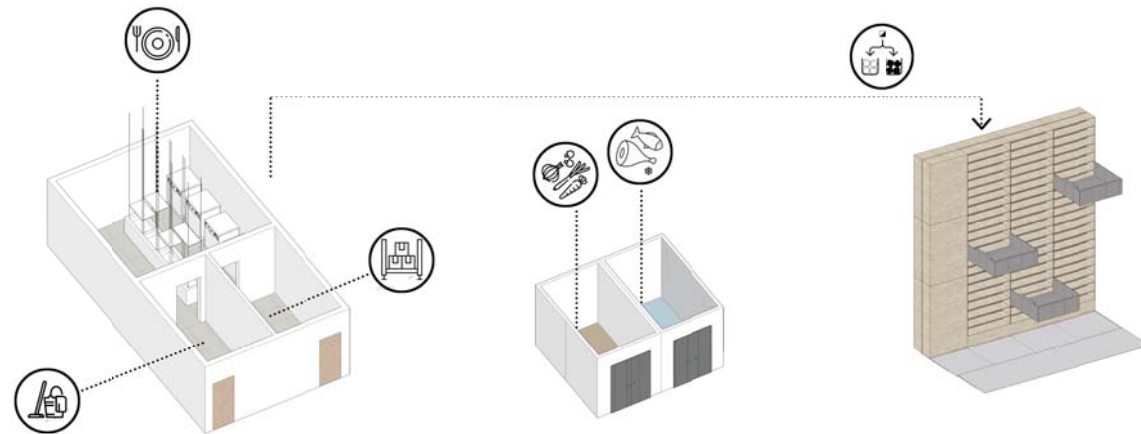
The chores in this living-room include dishing, categorising equipment, running food storage, etc. So a "compulsory" equal labour will be defined by a common flow for all of the residence and the keepers of this facility. There is a change for contributing to this facility on the way to use it and after using it. And it's regardless of sex and body features.



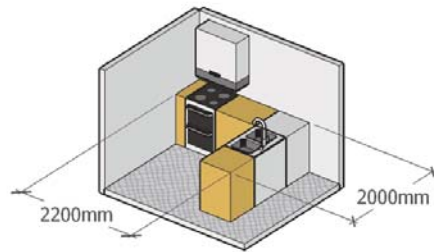
Maintenance

The maintenance of the facility is relatively high because of the collectiveness. But it also benefits from this, too. The main principle is that users enjoying the convenience of the sharing and taking responsibility for sharing at the same time.

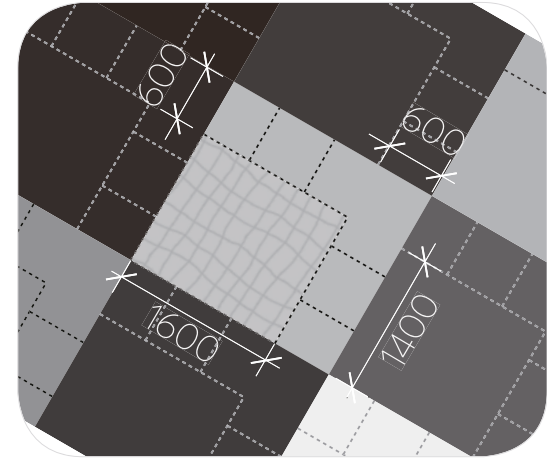
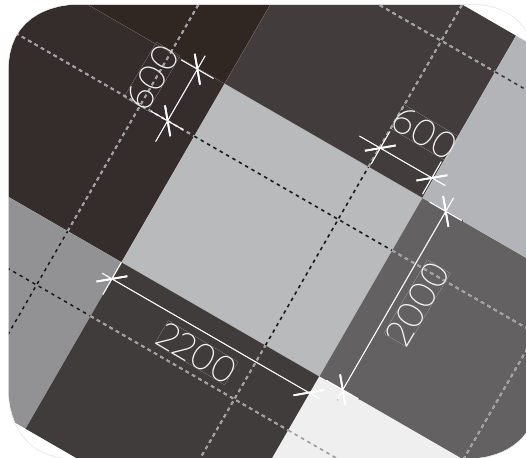
Dishing, cleaning, sorting are the main maintaining works in the facility. Everyone should in principle help with maintenance for getting into a new circle of using. For the groups who don't have the possibility to participate maintenance is ought to pay for the equivalent labour in the form of "membership". It is a closed cycle and will theoretically work in a trusting and self-disciplined circumstance.



1 - 4 PREPARING 1



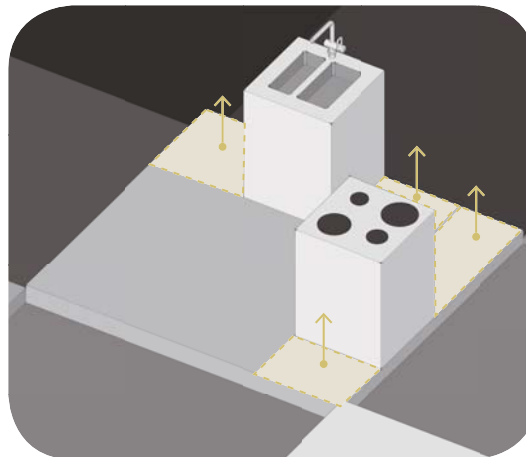
Alternative 1



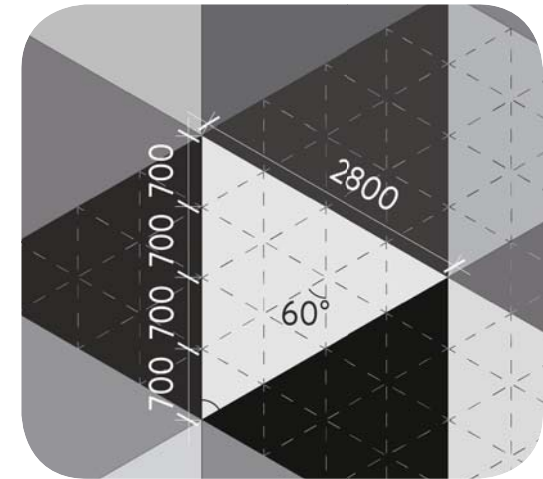
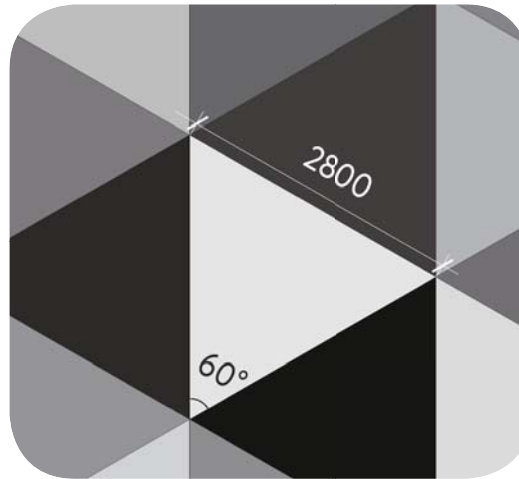
One Unit / pers

The using area is assigned per person equally. The data bases on the daily Swedish Standard (SS) which indicates the minimum requirements for one person preparing, cooking and moving around with consideration of basic physical needs and safety.

Group users of several will be assigned the same amounts of people regardless of age, physical condition or relations. Basing on this framework, a binding possibility will be discussed in a later chapter.



Alternative 2

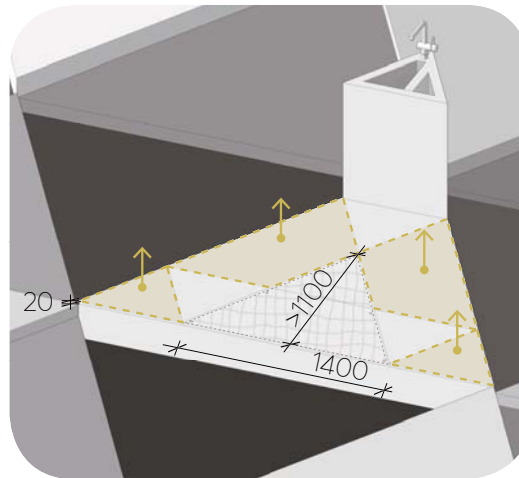


Preparing 1

In both of the alternatives, which geographically base on early formation, regardless of the shape of the base unit, flexibility and multi-usage of **Preparing 1** are introduced.

In the first 3 phases (after shopping storage, preparing and cooking), **Preparing 1** is functioning as the operating platform. Aiming at desexualisation and concluding from **Case study 2**, it has furthermore needs of flexibility, for a different type of preparing work and the spontaneity of users' choices of the plot.

Including the 4th phase (eating and after cooking) into the whole moving pattern package, the "living room" movements require height flexibility at the same expression of height flexibility. Therefore, **Preparing 1** is proposed with a raiseable platform on every unit with possibility from its unit base to maximum 1100mm high from the lowest unit base.



EMBEDDED: HETERO / NUCLEAR



Figure 30, Heterosexual family oriented kitchen advertisement, 1960



Figure 31, A mapping of possible family structures.

Heterosexual Advertising

Beside female has been predefined as a main target group, the image of a kitchen as a meaningful centre for a family, furthermore, even bonding of a healthy family relation, development of children, has been promoted for centuries. Social arguments base on this early image, which was built by commercial to boost masculinity on deciding to buy big and expensive types of equipment while female taking care of household and kids, somehow still continue to be quoted, despite the huge amount of different family structures grow and experience differently even opposite from this image.

An example of this to the left, 1953 White Arkitekter won the competition in Örebro by lifting up new experimental apartment plans in a new residential area. Which applied directly as a heterosexual family structure in this invention, mom could prepare food for the husband meanwhile have an outlook on her kid taking a shower in the bathroom. This model won much reputation and been imitated in lots of housing project, late as some 80s reconstructions in Stockholm.

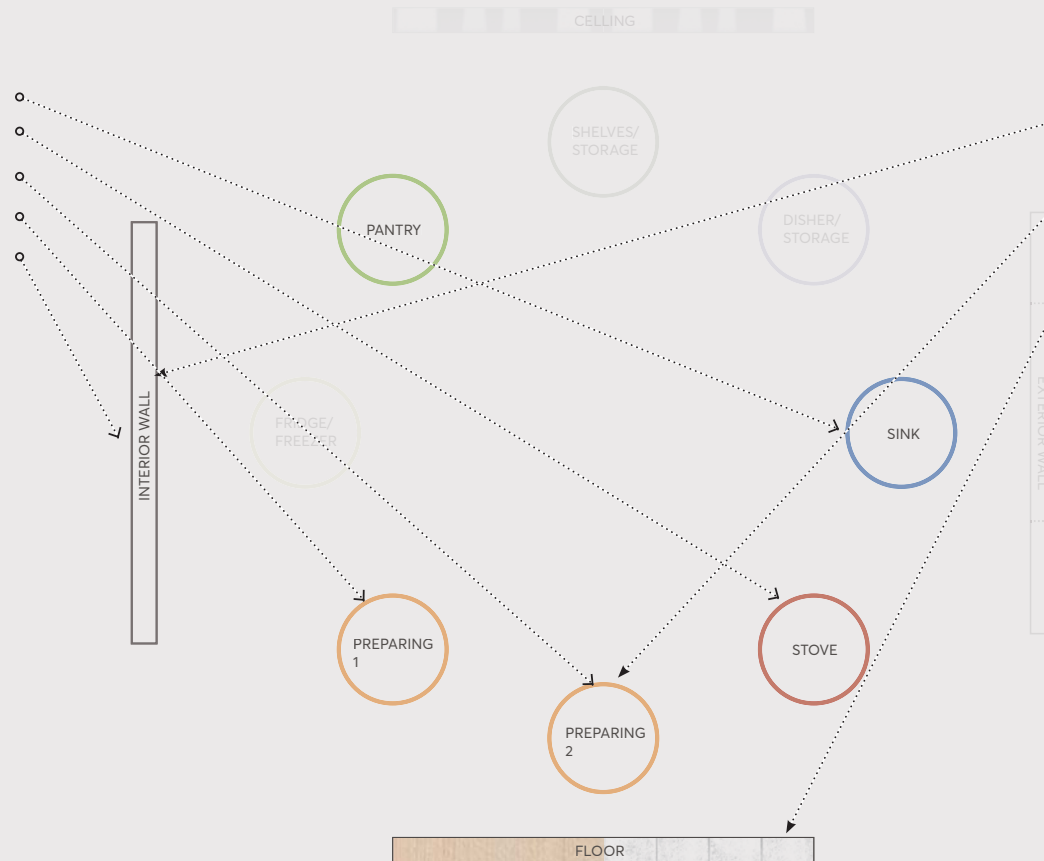
DECOMPOSITION 2: VARIANT IN FAMILY STRUCTURES

Divorced, Singles, Non-heterosexual nuclear



Flexibility

Flexibility includes several aspects. It contains the full possibility for different choice-making in term of different family types, which relates to **Interior wall** and **Preparing 1**. Also physical flexibility for constructing an environment for different family types with a common solution, which relates to **Preparing 2**, **Stove** and **Sink**.

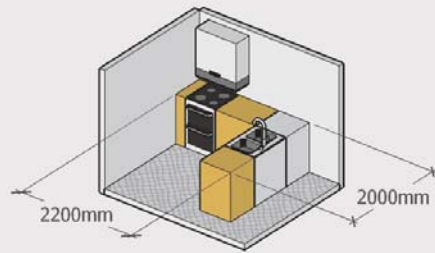


Spatiality

Spatially in this facility, "privacy" or "intimacy" contradicts to the collective circumstances. However, dining-related activities still require new approaches to create appropriate space.

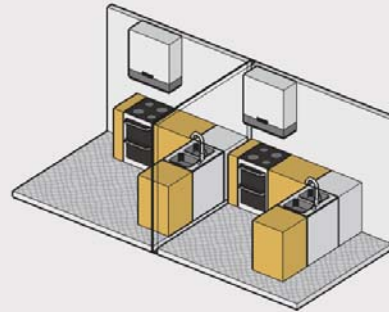
Sharing and socialising base on fundamental satisfaction of functional dimensions where **Floor**, **Preparing 1** and **Preparing 2** are most relevant. That is to say, dimensions concluded from the contemporary kitchen still needs to be taken into consideration.

And within this structure, the feeling of space division should still be considered. Therefore, **Interior wall** together with **Preparing 1** and **Preparing 2** should be rethought to ensure a division of "comfort zone" within one household if required.



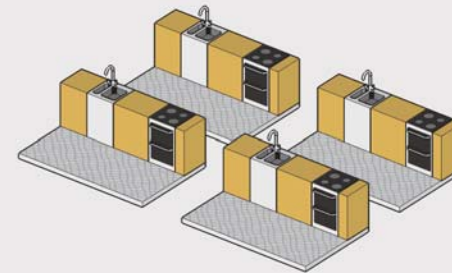
Flexibility

In the condition of providing single booths equally, these units should provide a possibility to be connected. Which is, also in this case, most promoted or encouraged to participate in the sharing culture.



Single / Divorced

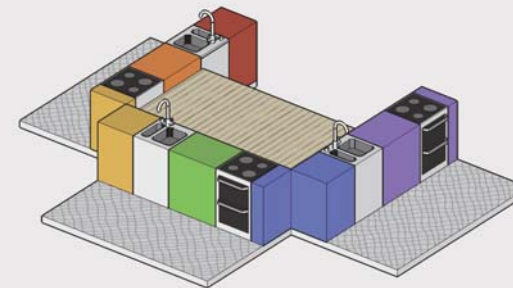
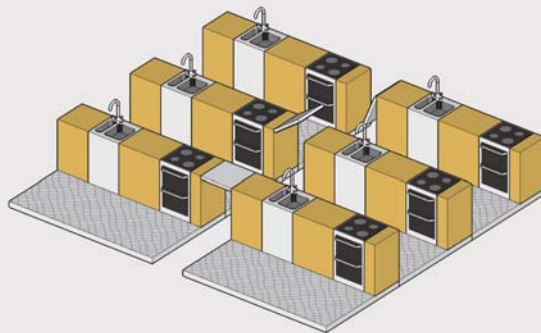
Single or divorces family require less connection between the kitchen and living room, they even enjoy cooking alone without being disturbed.



Collectiveness and Openness in Non-heterosexual Family

In the interviews of some lesbian and gay couples from the book "Home and Sexuality - the Other Side of the Kitchen", the author described the collectiveness has especially meaning to them. Especially the elder couples, they feel the responsibility to show a positive kin relation, for example,

being neighbour kids' "lovely aunties" could be taken very seriously in their lives. Also according to the long campaign of equal rights for LGBTQ groups, the non-heterosexual family has fewer requirements of keeping privacy in their household. Even the opposite, to show their private life has been a goal and pursuit of us.

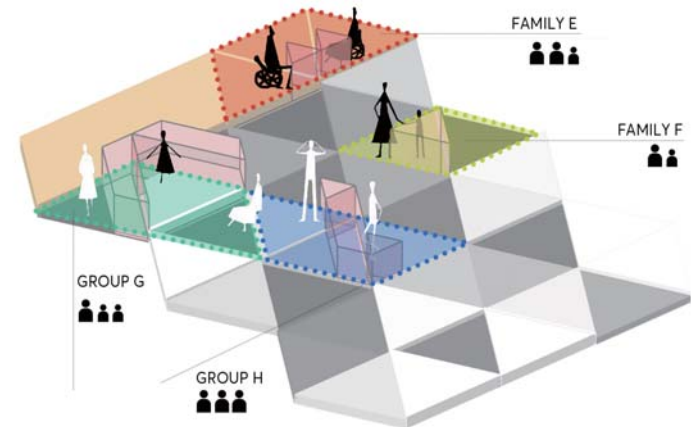
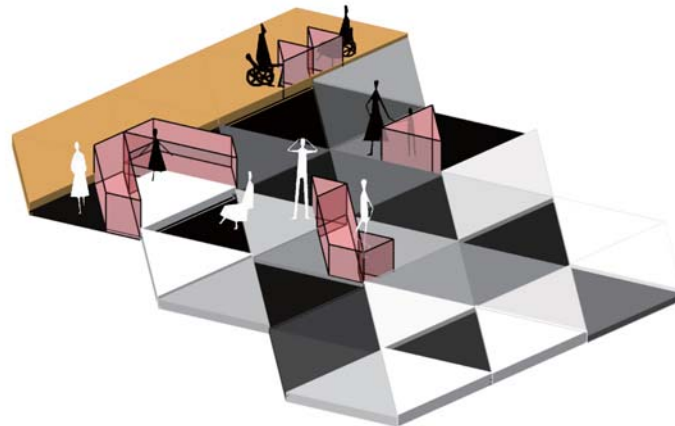
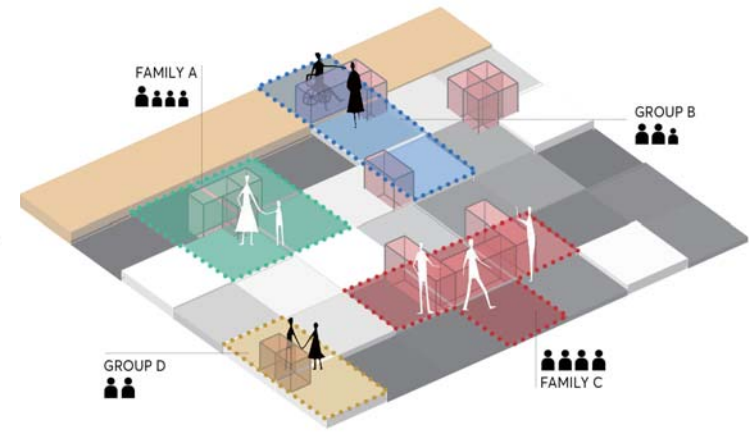
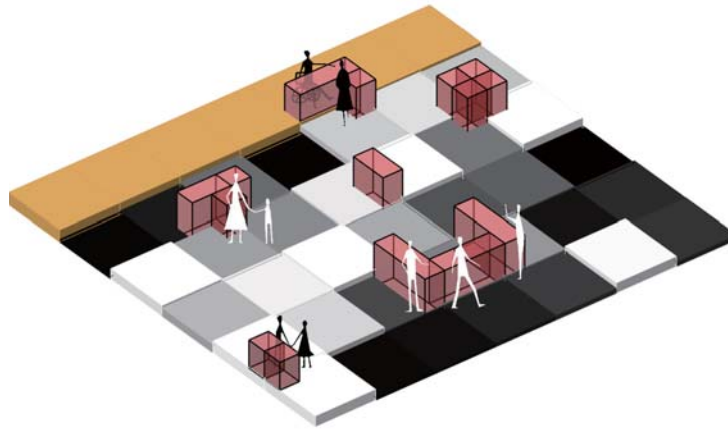


2 - 1 FLOOR

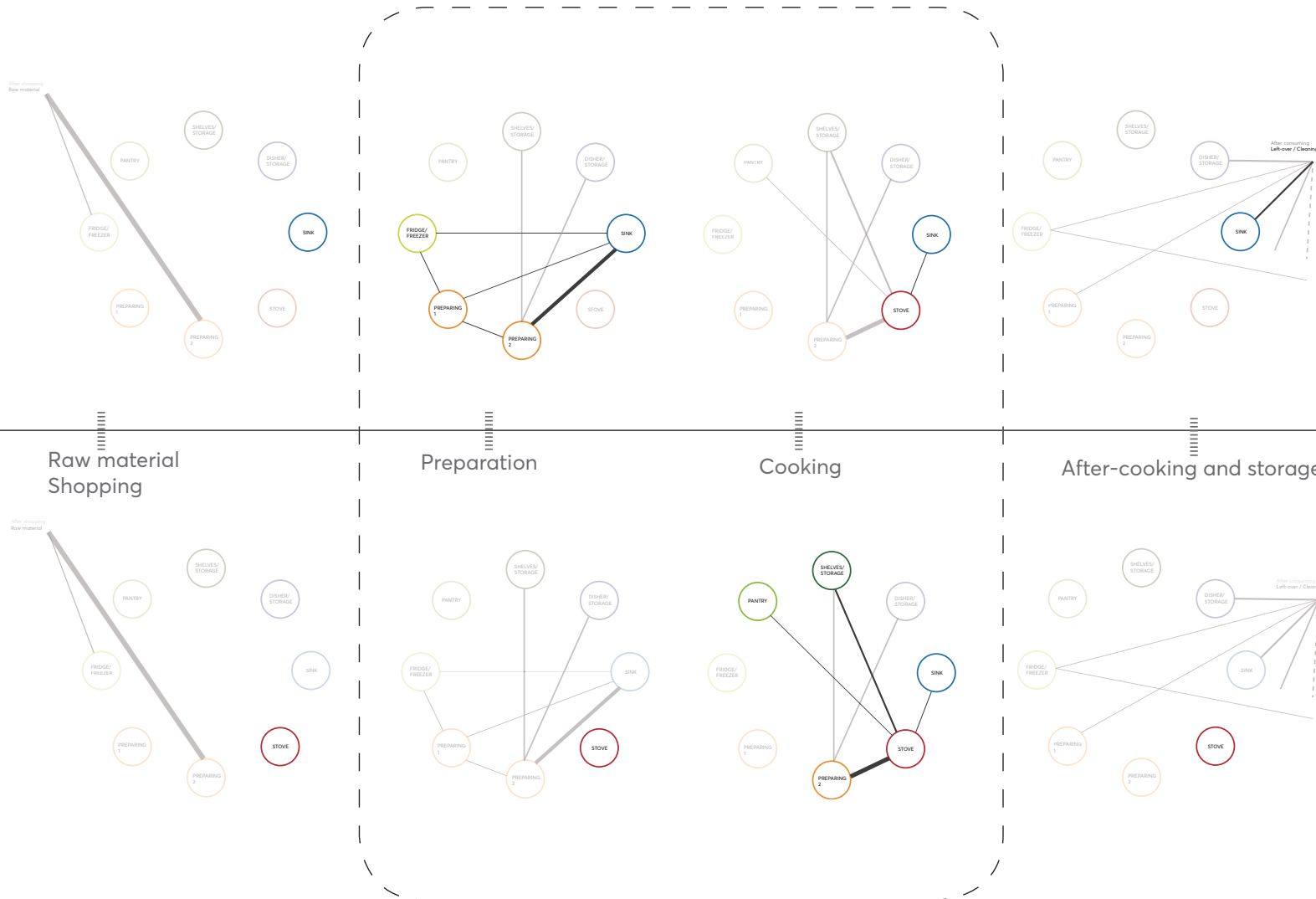
Free-binding

Basing on the principle discussed in the early chapter, a group of users will be distributed equivalent amounts of units as the number of the users, regardless of age, gender, physical condition, etc.

The previously defined floor type will have the flexibility for free-binding for the group to choose where to locate themselves. Which means the adjacent units of each unit should have a range of different floor height from the referred one, to accommodate free-binding possibility in all directions and shapes.



2 - 2 SINK & STOVE

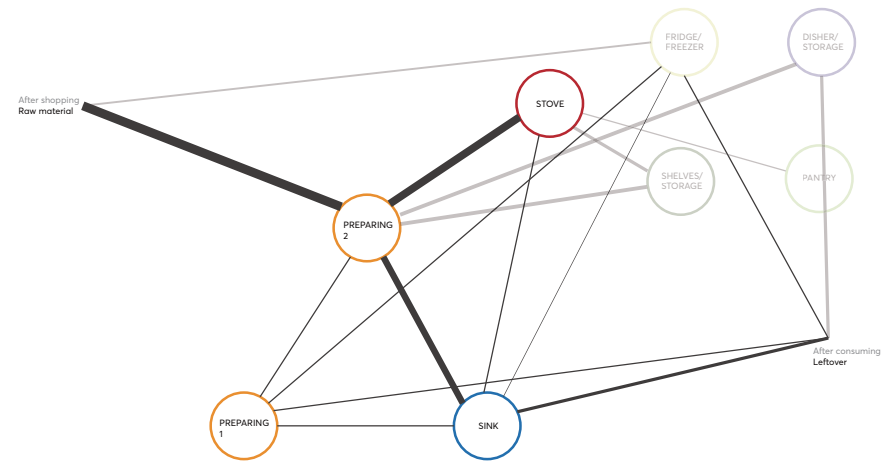
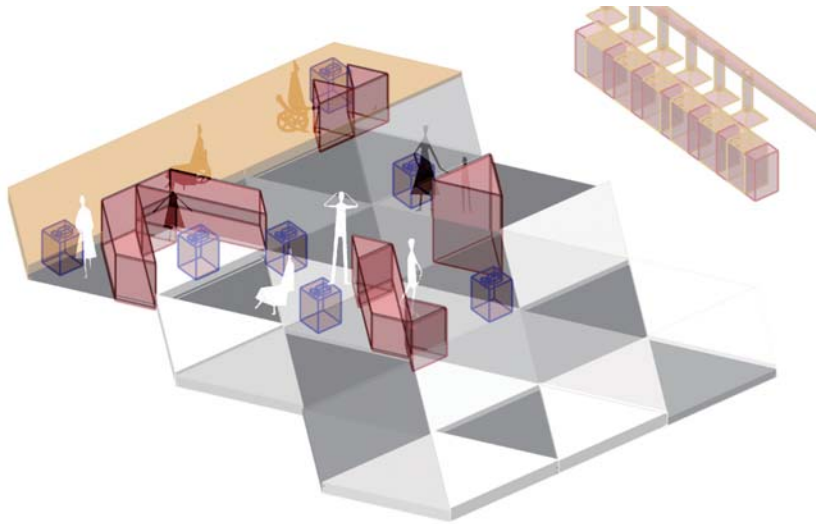
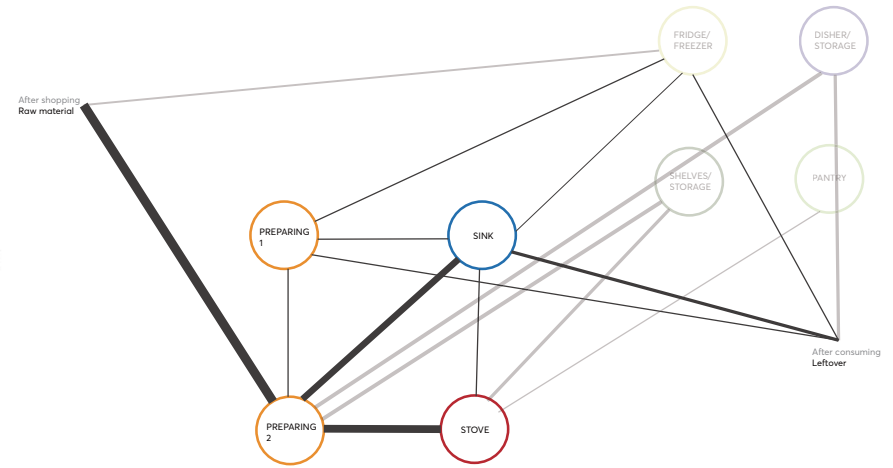
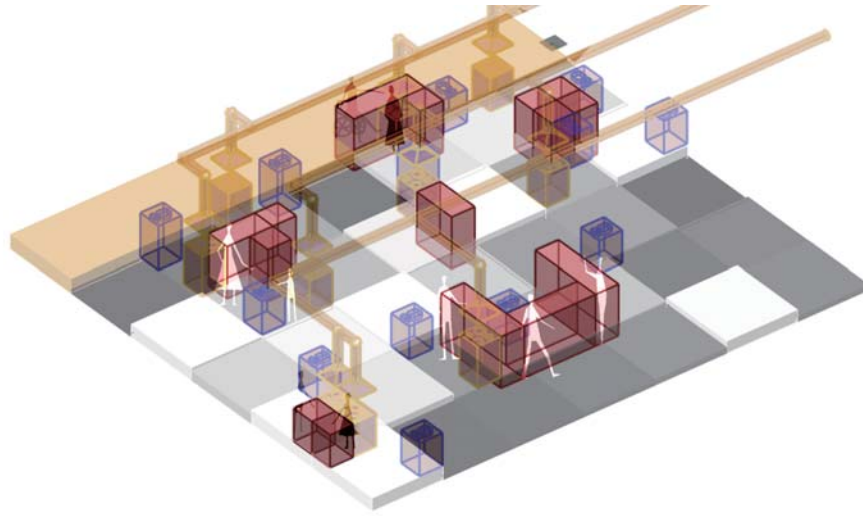


Water / Sink

In moving pattern study shows that it has centred use in Phase 2 and 3. Mostly the connections are to the preparing units. After cooking and eating it has a significant bond to the cleaning movements, however, it is a substitutional usage of **Dishwasher/Storage**.

Stove

Stove has very limited usage in other phases but only in **Cooking**. In the daily residential condition, it is proposed mostly aligned to **Sink** which between them have seldom direct connections. In this chapter will discuss the position of **Sink** and **Stove** basing on the moving patterns and the changes of it in a separated position.



2 - 3 INTERIOR WALL & PREPARING 2

Interior Wall between Living-room and Kitchen

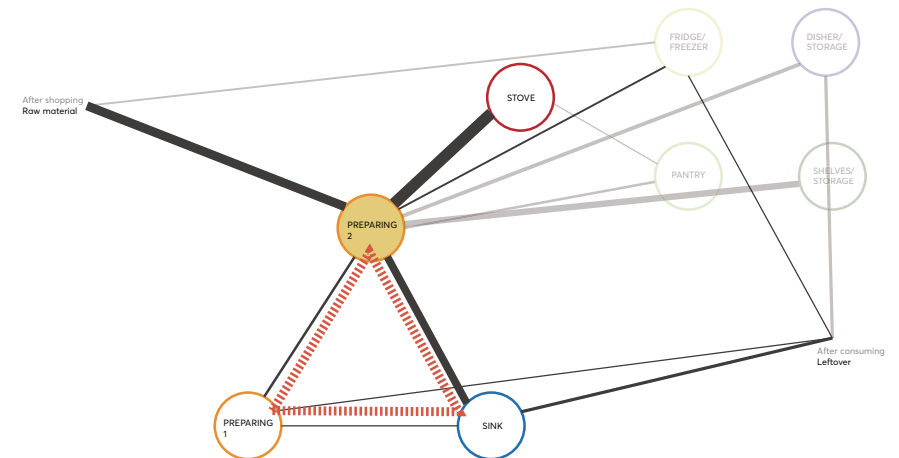
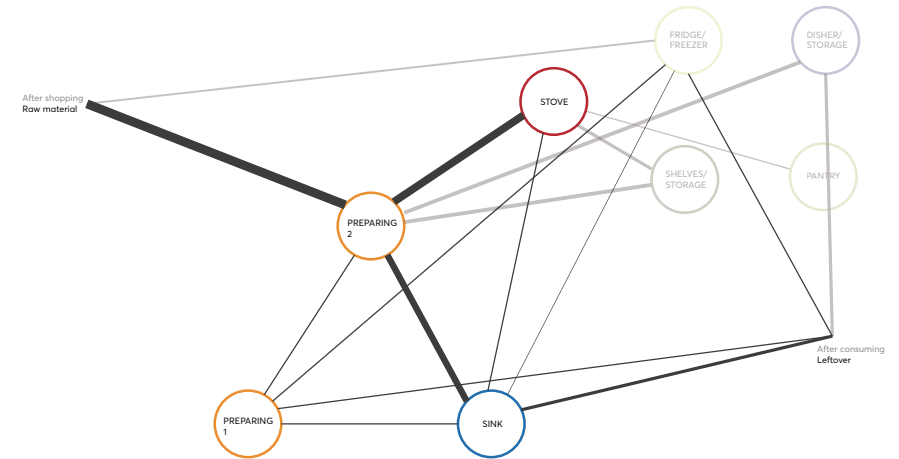
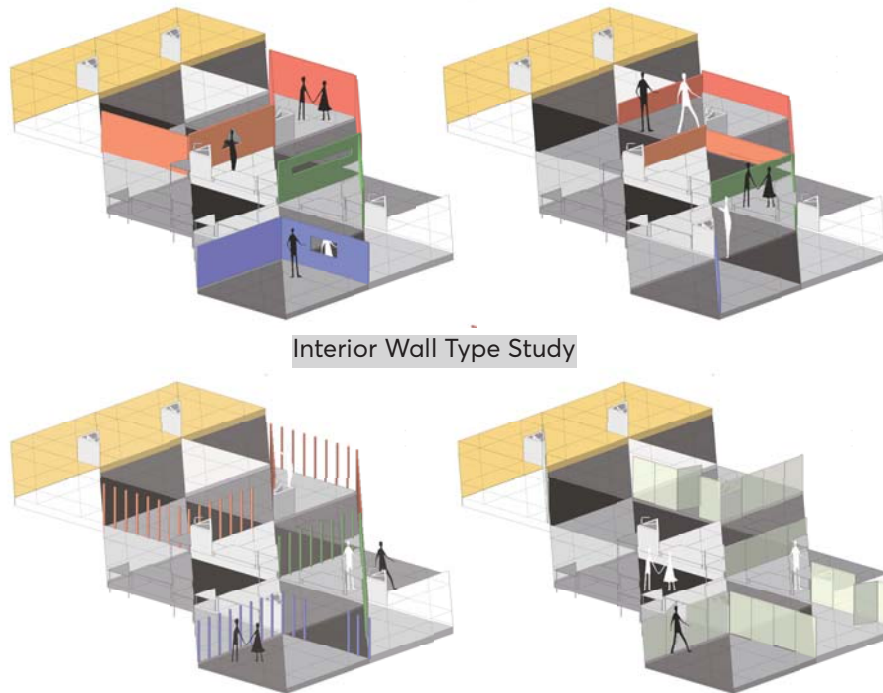
Within an apartment, the interior wall is a separation between the kitchen with other rooms. Residential comfort conditionally requires separation in a bigger apartment.

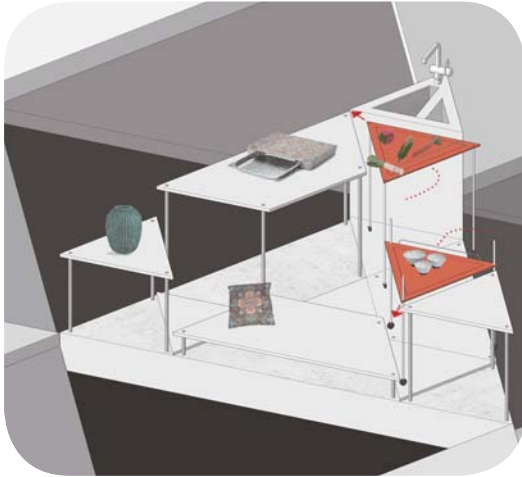
It is more common to have an open kitchen in a contemporary design which has subverted the human's instinctive reflections which had earlier led to social class and behaviour gaps in different groups. In some cultures, it is still regarded essential to enclose kitchen with walls. In a way, open kitchen was one of the great rebels in kitchen history.

Interior Wall between Different Households

In a collective circumstance, the interior wall is a separator of different households. In a way, it is also a compromise to human's instinct.

But to which degree of separation is necessary for this circumstance? Obviously, it should be different from a wall dividing up apartments in a private context. In the following, several interior walls as separation are tested. Not an ideal solution leads to another approach in the coming chapter.

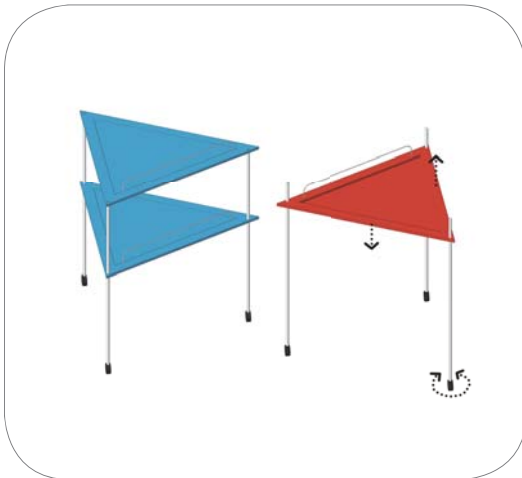




Preparation 2: Mobilised

As mentioned above, different from the "Preparing 1", "Preparing 2" has a more substantial function as an unloading and buffering area between the stove and the storage. So hereby a mobilised variant is suggested to adapt to the new circumstances in this facility. Since "Preparing 2" shows up in different phases of kitchen usage, it will be maximum utilised by mobilisation.

Itself is a portable table with adjustable platforms which could be raised or sunk down, added and piled up according to users needs and physical condition. They will be stored by the entrance and will go along almost all the using time in this facility. By the food material/tool collecting, it is used as an unloading table. At preparation and cooking area, it could meet the flexibility of the space too. In the daily living-room, it can also be used as a piece of normal furniture.



Preparation 2: Room Separator

At the same time, these easy-assemble platforms are provided in different colours to achieve division between different household in the aspect of the sense of "declared area".

As the early study illustrated, **Interior Wall** in the any proposed alternatives of the concretely physical border is not feasible in an open collective room. Therefore, colours help to distinguish between different groups in a less intrusive way. In respect of openness, people will still enjoy the open platform without any inclosures or hurdles. But this instinct of human being is still taken into consideration, which helps users to feel more comfortable and secure to share and trust in the "fully-exposed" environment.



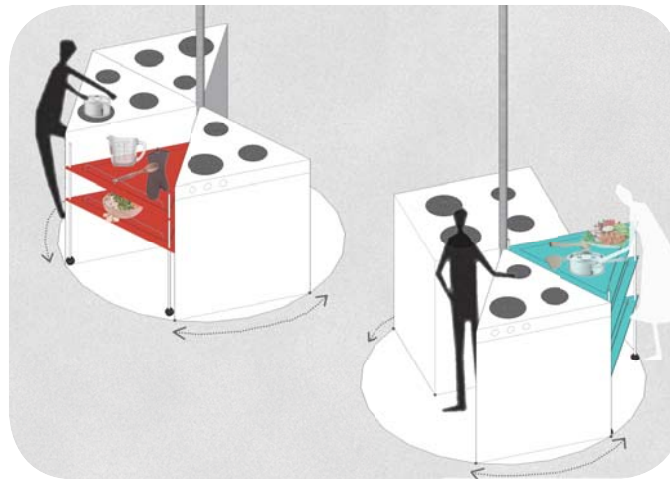
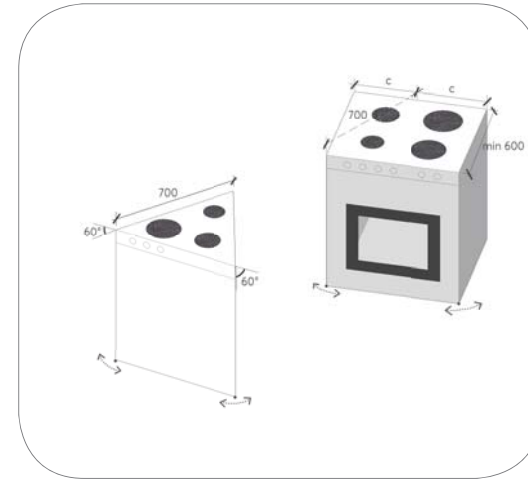
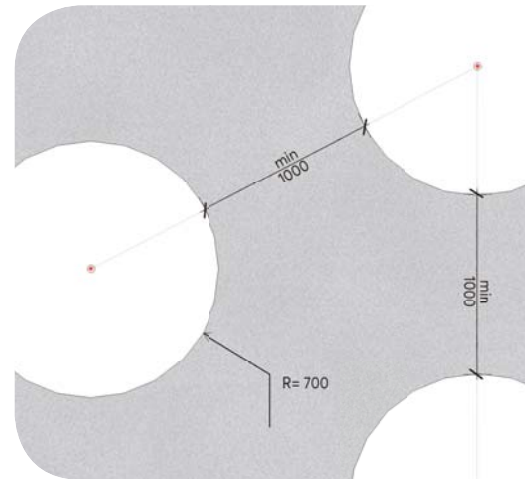
2 - 4 STOVE & PENTRY

Stove

Basing on the earlier evidence, separated stove from other units will have a better possibility to provide flexibility for varied family structure.

Taking the basic measurements into consideration, which helps to minimise the risk among the heat resources. For instance, minimum distance 1000m between two heating stoves, no larger than 700m units minimises the long reach, and direct unloading place near high placed heat resources, e.g. microwave, water boiler.

Rest of the units are designed rotatable with the possibility to suit in **Preparation 2** which enables a family to choose how to bind cooking positions freely.

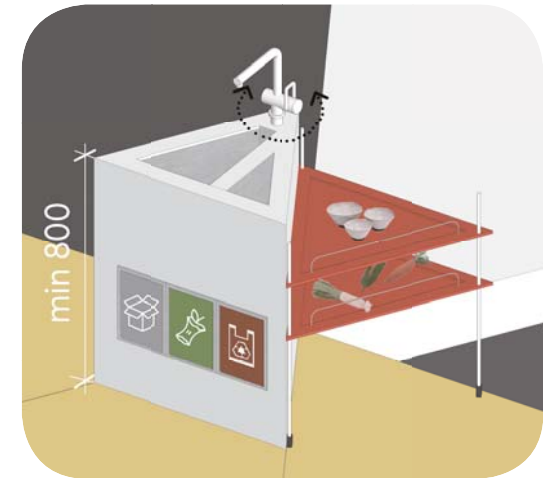
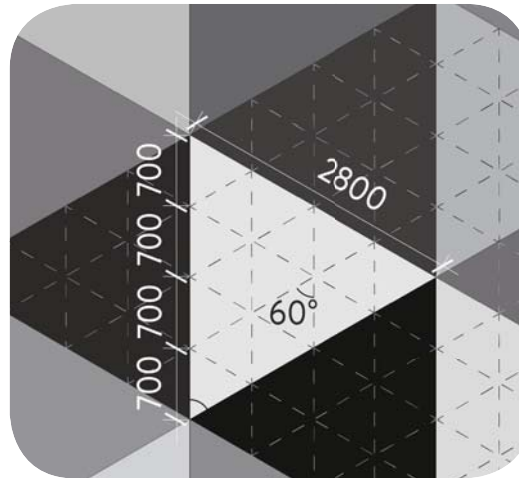


2 - 5 SINK

Water / Sink

Placement of water resource should ideally be suggested at every single booth. But because of the inflexibility of the pipe system, so here it is suggested 1 sink/4-6 booth.

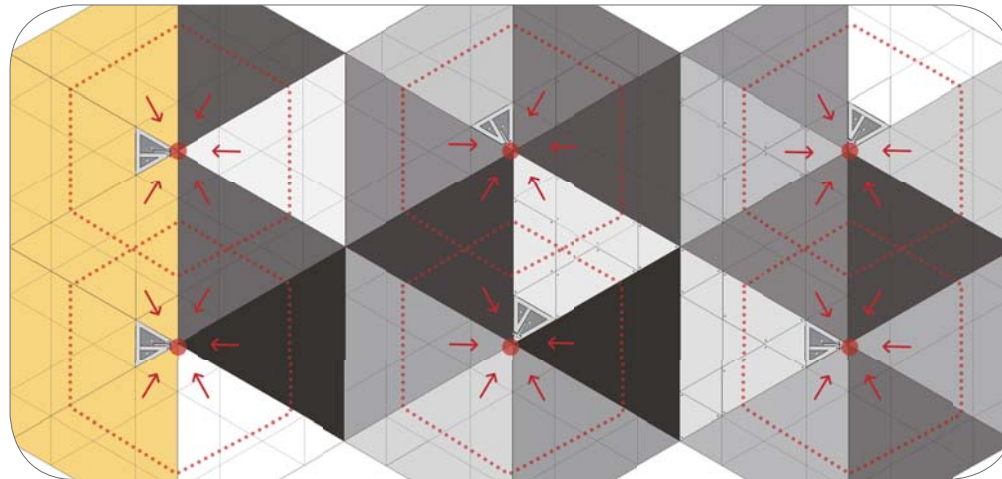
To adapt the triangular floor pattern, the sink is designed into a triangle with integrated trash sorting canals from each water supplying point.



Integration

Because of the suggested separation of **Sink** and **Stove**, **Sink** is now physical bonds to the movements in **Preparation** and **After cooking**, where also most of the food waste and other household waste are produced and collected.

The daily sink has a mature model that is integrated with free space under it which can be used for storage but mostly used for the collection of waste. Therefore this integration is kept as well as the potential of connected canalisation directly from there to the urban infrastructures of waste and recycling canal.



INTEGRATION: SOCIALISATION

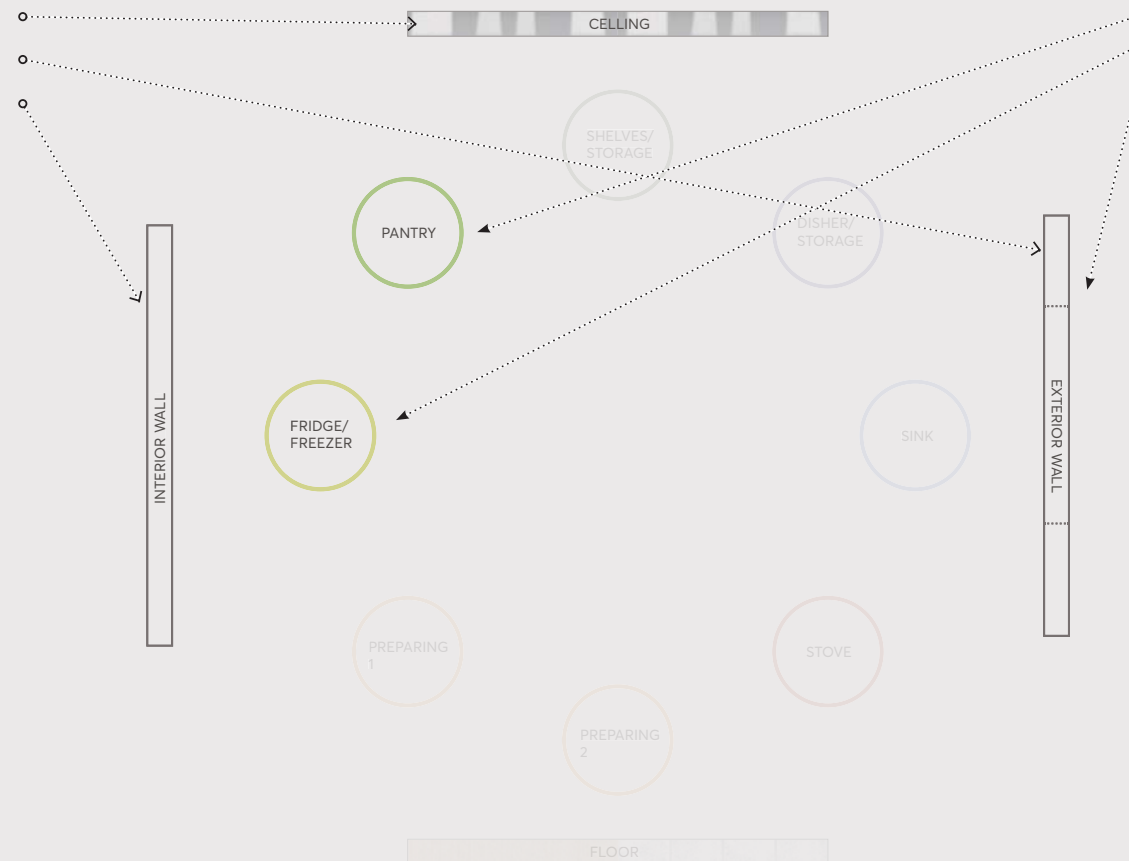


Conversations

In completion to a facility which aims at bringing people together, the spatiality bearing the roll in a larger scale. After the material conditions grounded, in a less concrete way this thesis will try to bring up the conversations to happen in this room.

The subjective surfaces of this facility which haven't directly been reflected on in early chapters will be discussed here. For example, **Interior Wall**, **Exterior Wall** and **Ceiling** which don't have evidential per-study to directly base on but as indirect elements still influence on users' experiences.

Among them, **Interior Wall** has earlier clearly proposed down and another approach is proposed to achieve the separation between households. However, another function remains unsolved, the separation between the cooking and preparation area. In combination with **Ceiling**, this function will be discussed in this chapter.



Everything about Food

In this chapter of completion, food material as a factor should be discussed as well after the users and the media - tools have been discussed.

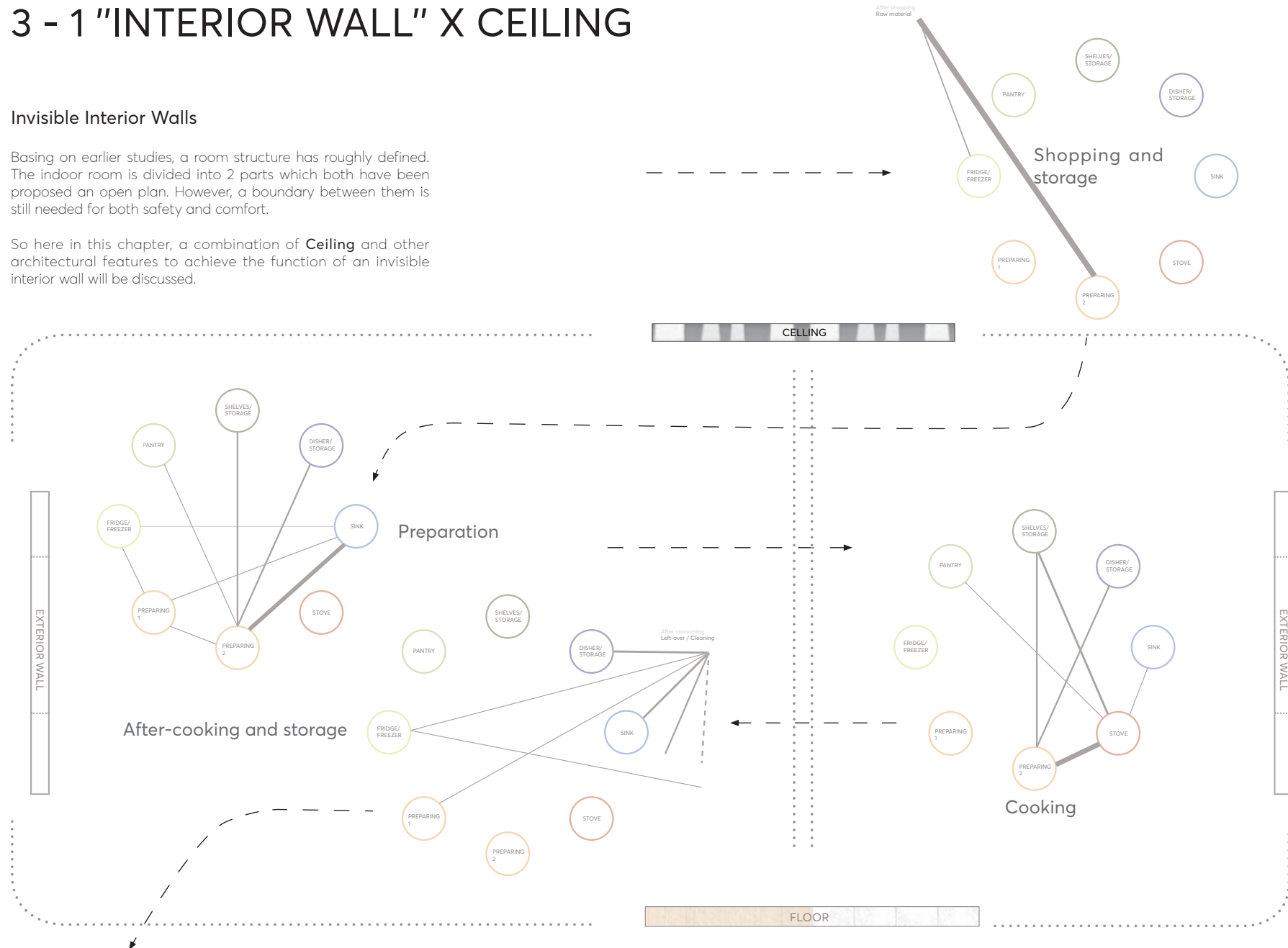
In the **Preparation** and **Cooking** phases, food waste is integrated into the latest chapter. Apart from these phases, the food material is also much relevant in **Shopping and Storage** and **After-cooking** in the form of raw material and food waste / leftovers. Therefore in the former one, **Pantry** and **Fridge/Freezer** are supporting factors, in the latter one, an interface of upcycling leftover will be discussed, which is in the location between inner and outer environments, that is to say, **Exterior Wall** will be a carriage of this potential.

3 - 1 "INTERIOR WALL" X CEILING

Invisible Interior Walls

Basing on earlier studies, a room structure has roughly defined. The indoor room is divided into 2 parts which both have been proposed an open plan. However, a boundary between them is still needed for both safety and comfort.

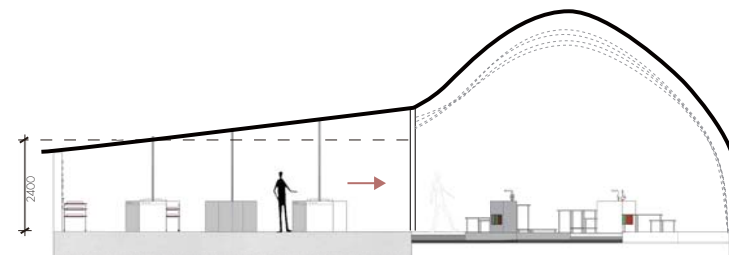
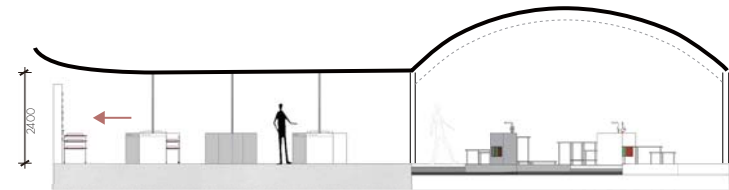
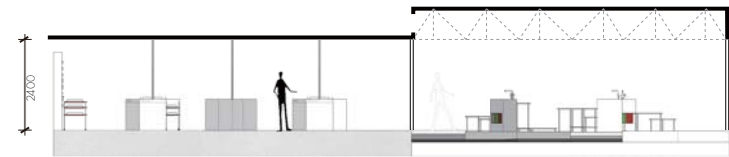
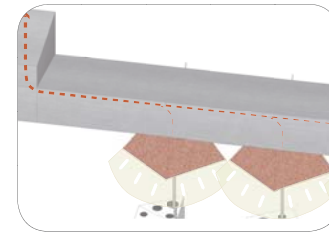
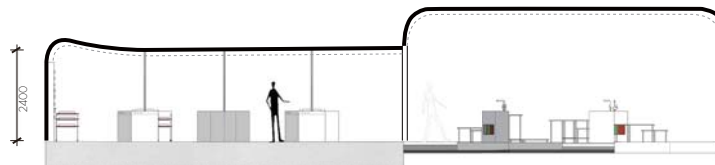
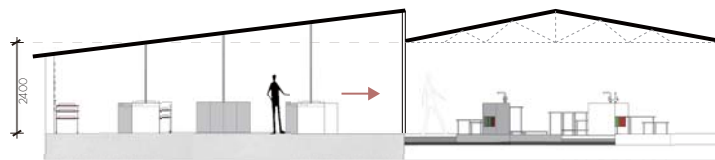
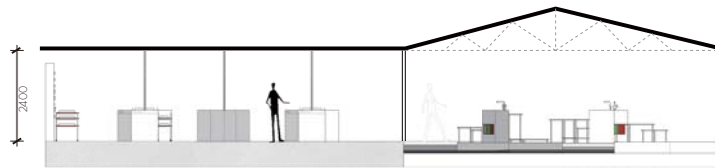
So here in this chapter, a combination of **Ceiling** and other architectural features to achieve the function of an invisible interior wall will be discussed.



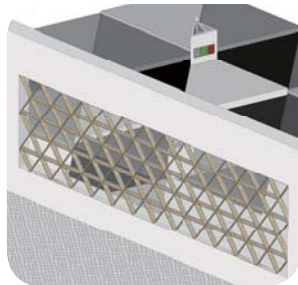
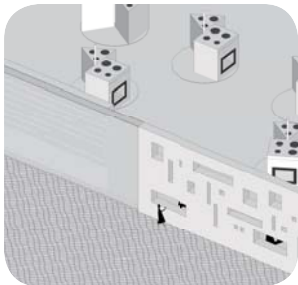
Inclined Roof and Headroom

The different heights of headroom are contributing most to the division of the rooms. 2400mm which is mentioned earlier was the lowest ceiling height for the cooking area, which refers to where has heat resources and ventilation needs.

And the inclined roof indicates a physical orientation. In connection of higher ceiling height, the higher room keeps people stay longer. In this model, users stay obviously shorter time in the cooking area than the other part where people preparing food and eating. And that's also when people spend most time mingling and socialising.



3 - 2 EXTERIOR WALL



Extroverting Narrative

Under the same roof, there are different surfaces opening towards outside. Inside of the surfaces, there are dramatic expressions which people may not be familiar with and could change the people lifestyle significantly. As a public node with the influence of the neighbourhood, even if residents are not ready to be fully involved, but these new languages should still be seen by the neighbourhood.

In the discovery try to extrovert the new languages from inside. They are superficial extraction of the new architectural inventions inside of the facility. And by letting people see, touch and feel the new environments, this facility will involve more indirect people in a way to experience the pioneer users' experience inside this new type of urban complexity.

Alternatives for Cooking / Dinning

Under the "Kitchenless City" circumstances, more alternatives for dining are taken into consideration in term of respecting different kinds of family structures and food cultures. People should be able to choose where to cook, what to cook also to cook or not. Apart from cooking home which is not discussed in this thesis, people can be satisfied with other options in this facility. Cooking in the city or eating out.

For the people who choose to cook, buying raw material from the market will not be the only choice. This facility provides an opportunity for people who will enjoy being part of the communal culture. Collective urban farming run and used by the residence will provide a lot of possible food material year around, even for the climate

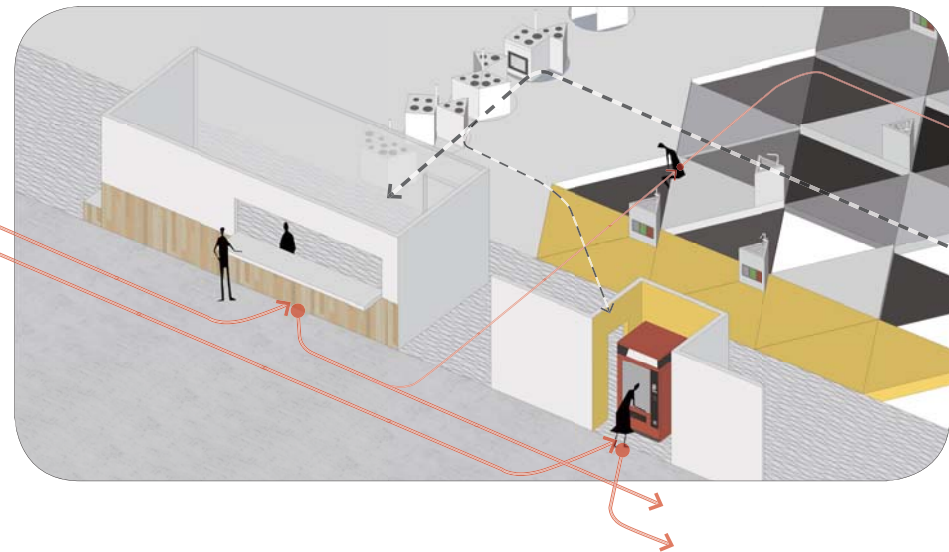
in Nordic countries. The harvest could be stored in collective fridge/freezer for longer usage or even profit for the community.

For the family don't want to cook at all, this facility provides a possibility for them to "eat out". It differs significantly from a restaurant, food is made by the cooks from every normal family, every culture. Primarily the consumed food is non-profitable, from smaller households which have cooked too much or with left-over to give out. These foods can be bought without going into the facility, like a street-food stand, also the families who don't want to cook can also trade for the food then enjoy them in the living room without going back home.

ALT. 1

ALT. 3

ALT. 2

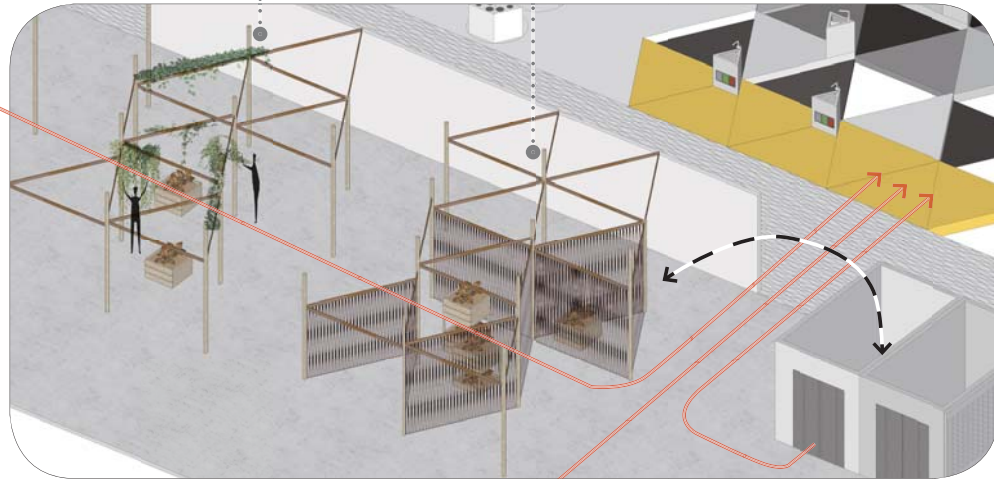




SPRING SUMMER

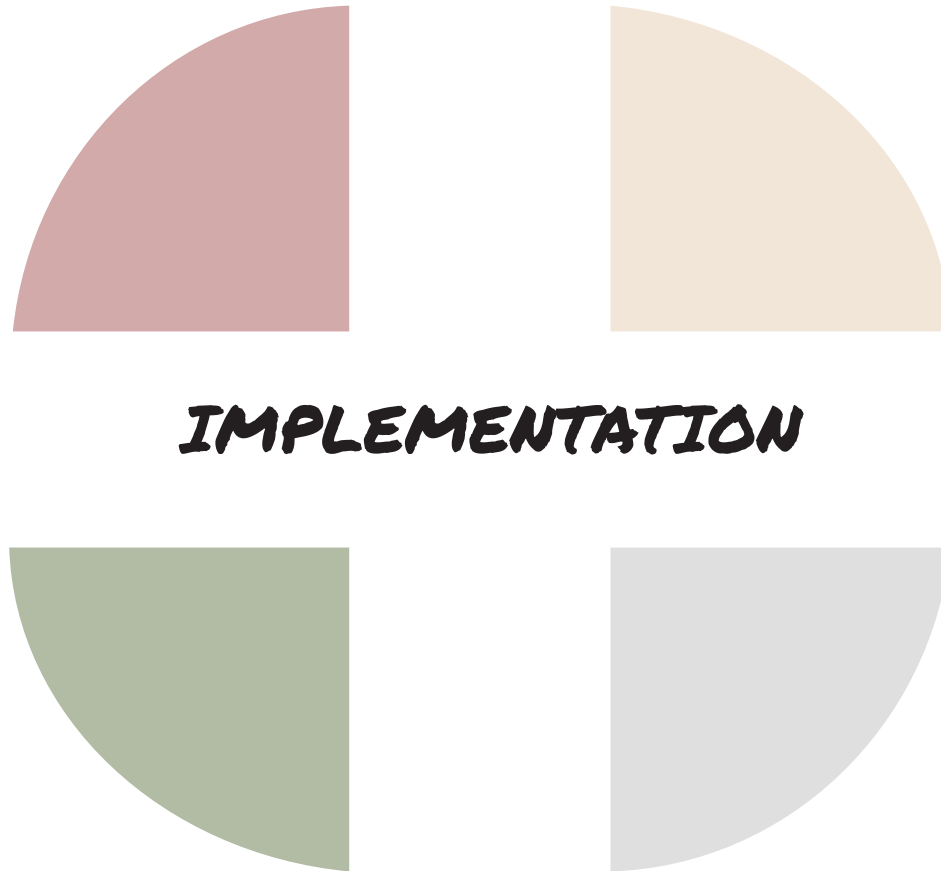
AUTUMN WINTER

ALT. 1



ALT. 2

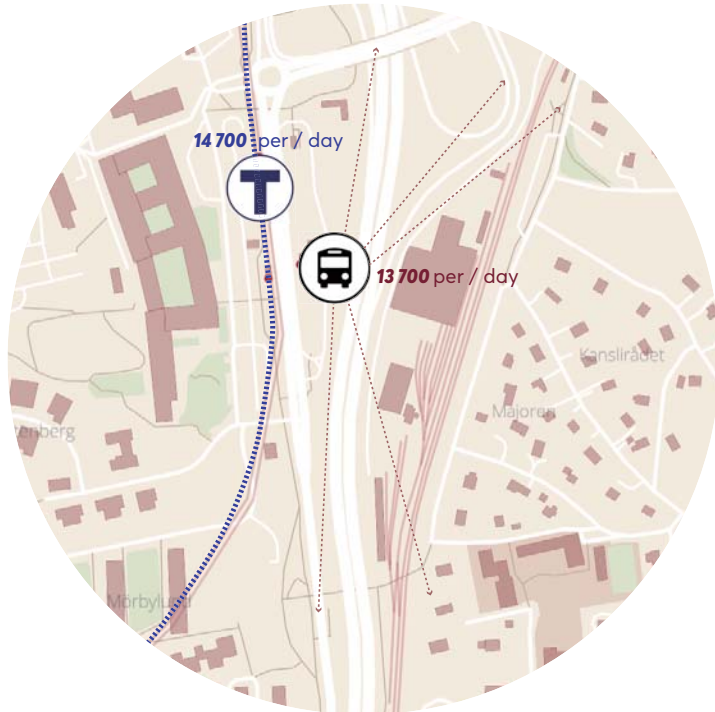
ALT. 3



SITE : DANDERYDS SJUKHUS



CHANCES: TRANSPORTATION NODE



User Group 1

Transferring passengers brought by the massive transport.

Passers-by using the adjacent facilities, e.g. shopping centre, commercial, hospital.



User Group 2-1

Residence in the new kitchenless apartments live in neighbourhood.

Residence in existing apartments with free will to use.



User Group 2-2

Residence in the new kitchenless apartments commuting with massive transport.

CHALLENGES: SEGREGATED HOUSING CONDITIONS



Mörbydal Quarter

Building Year: 1963-1965
Character: Early Miljonprogrammet Period
5-10 storey

Kevinge Quarter

Building Year: 1956-1958
Character: Folkhemmet Period
3-5 storey
Long facades, star-house

Centre-Danderyd / Djursholm / Stocksund

Building Year: 1910-1930
Character: Villa Area
Scattered, small houses

Mörbylund Quarter

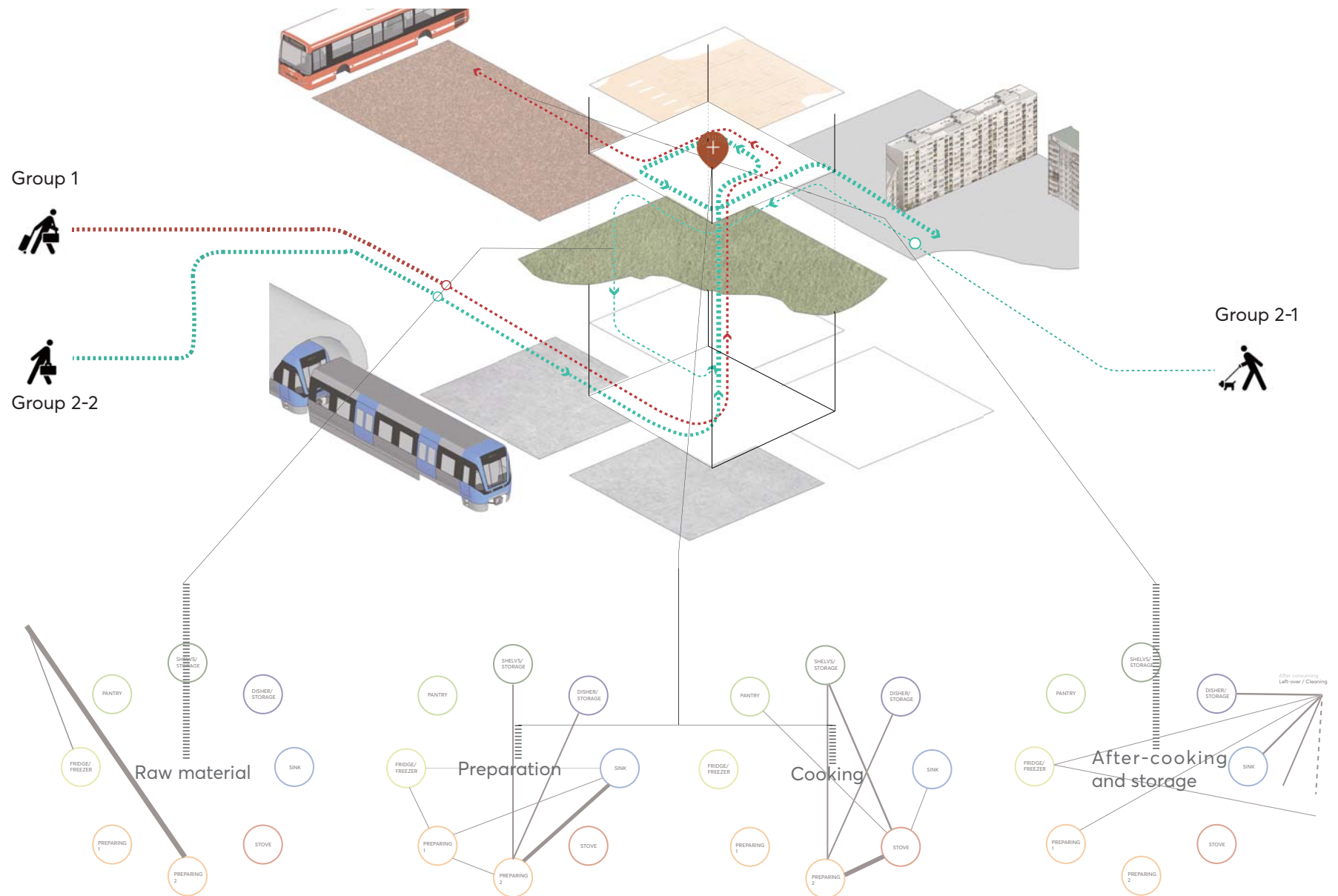
Building Year: 1972-1973
Character: Late Miljonprogrammet Period
9-10 storey
"Kitchenless" apartments with only kitchennett
28 kvm and 55 kvm 2 flat types

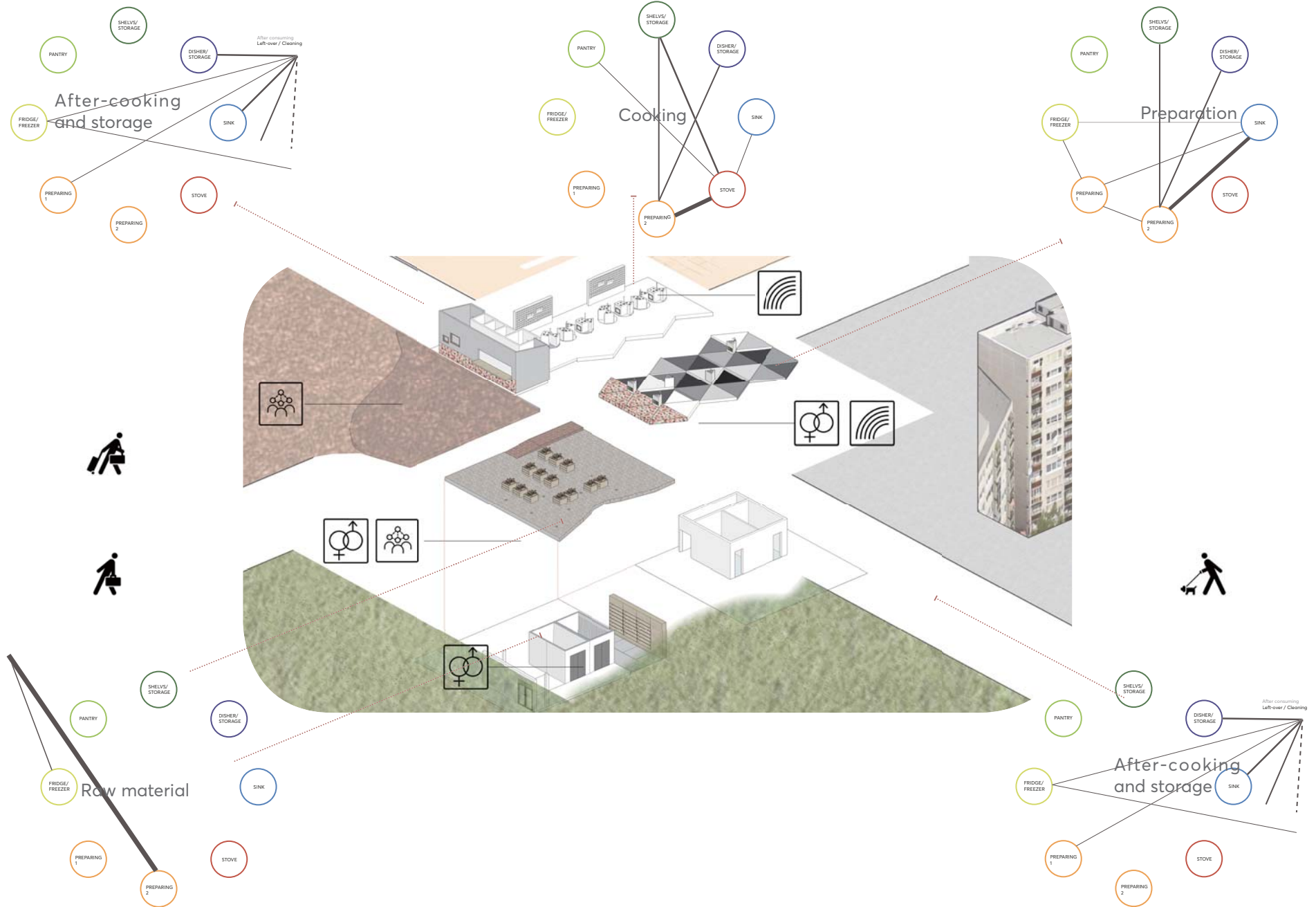
Inverness Quarter

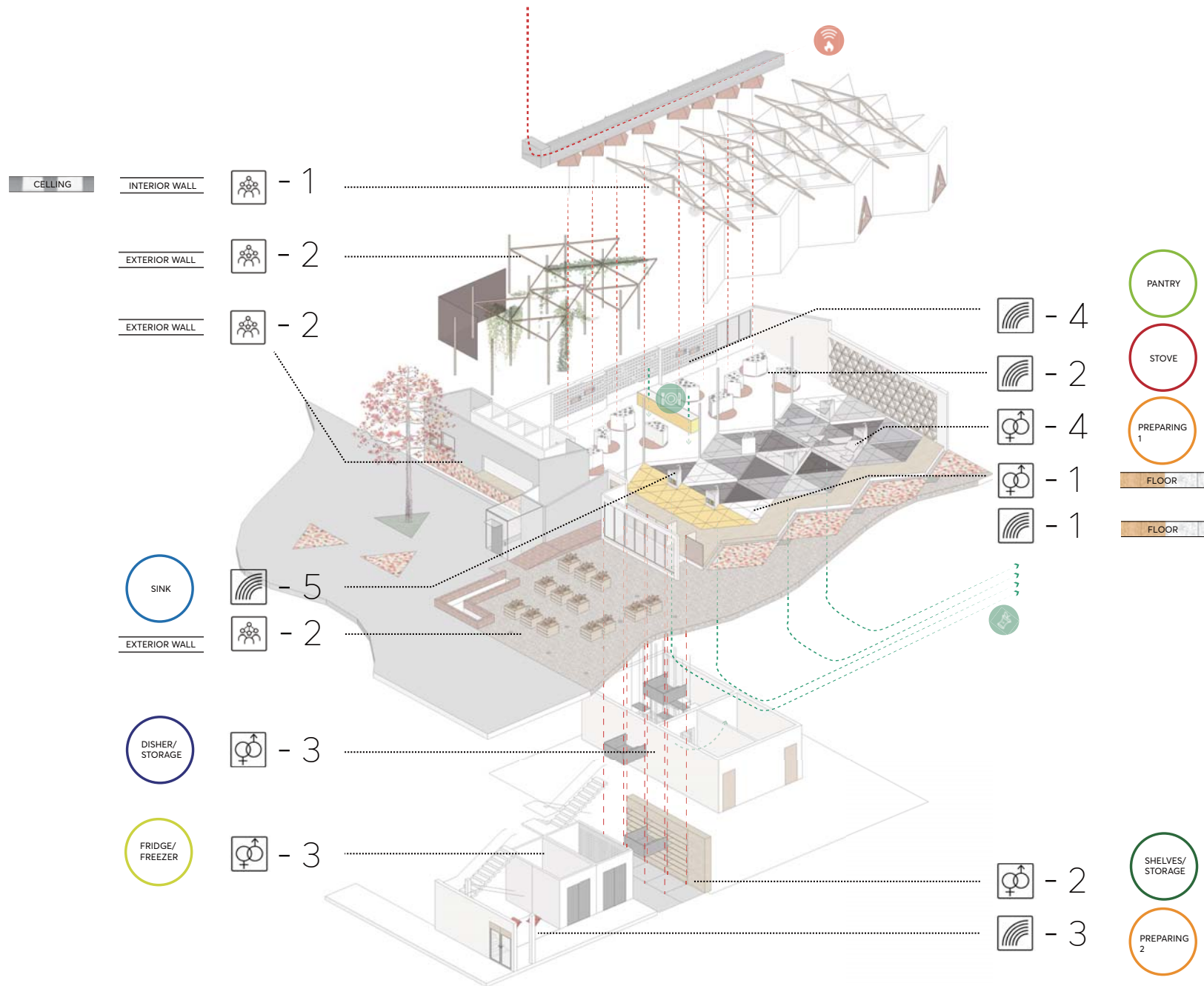
Building Year: ca. 1940
Character: Early Folkhemmet Period
3-5 storey

FORMATION

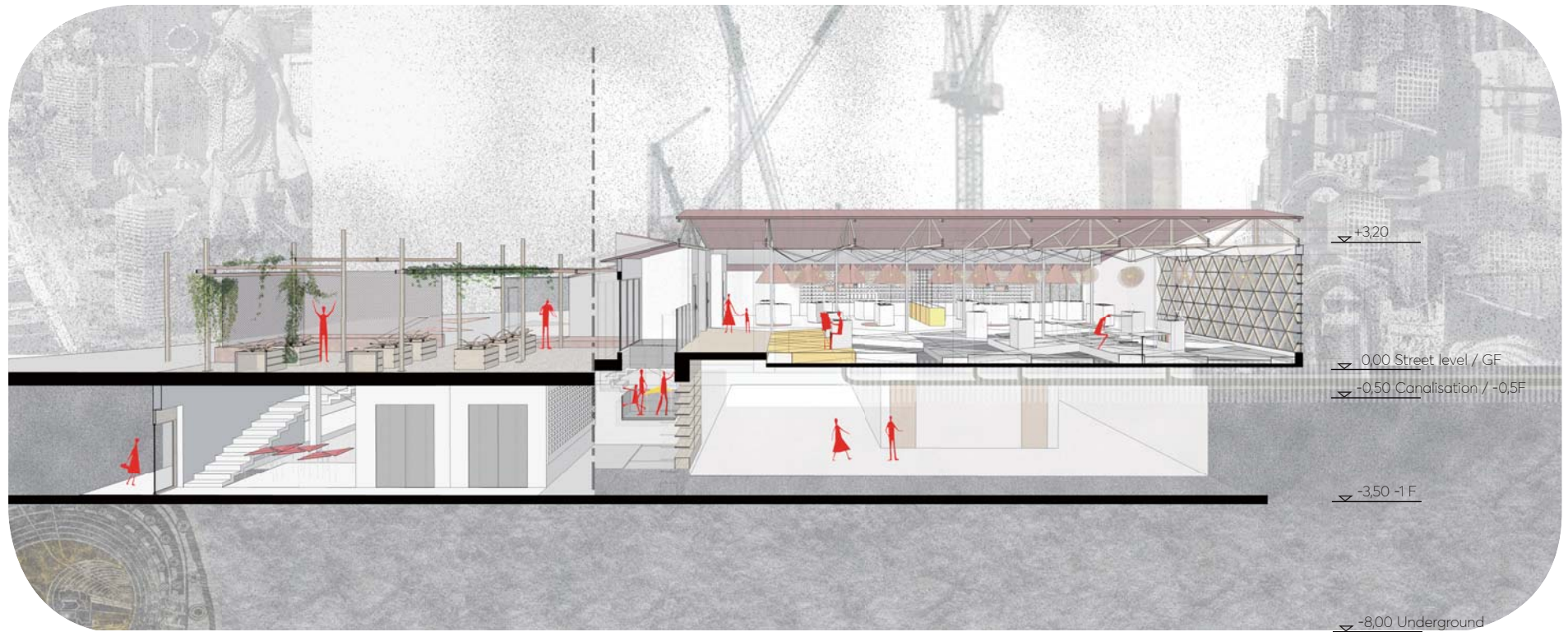








SECTIONS



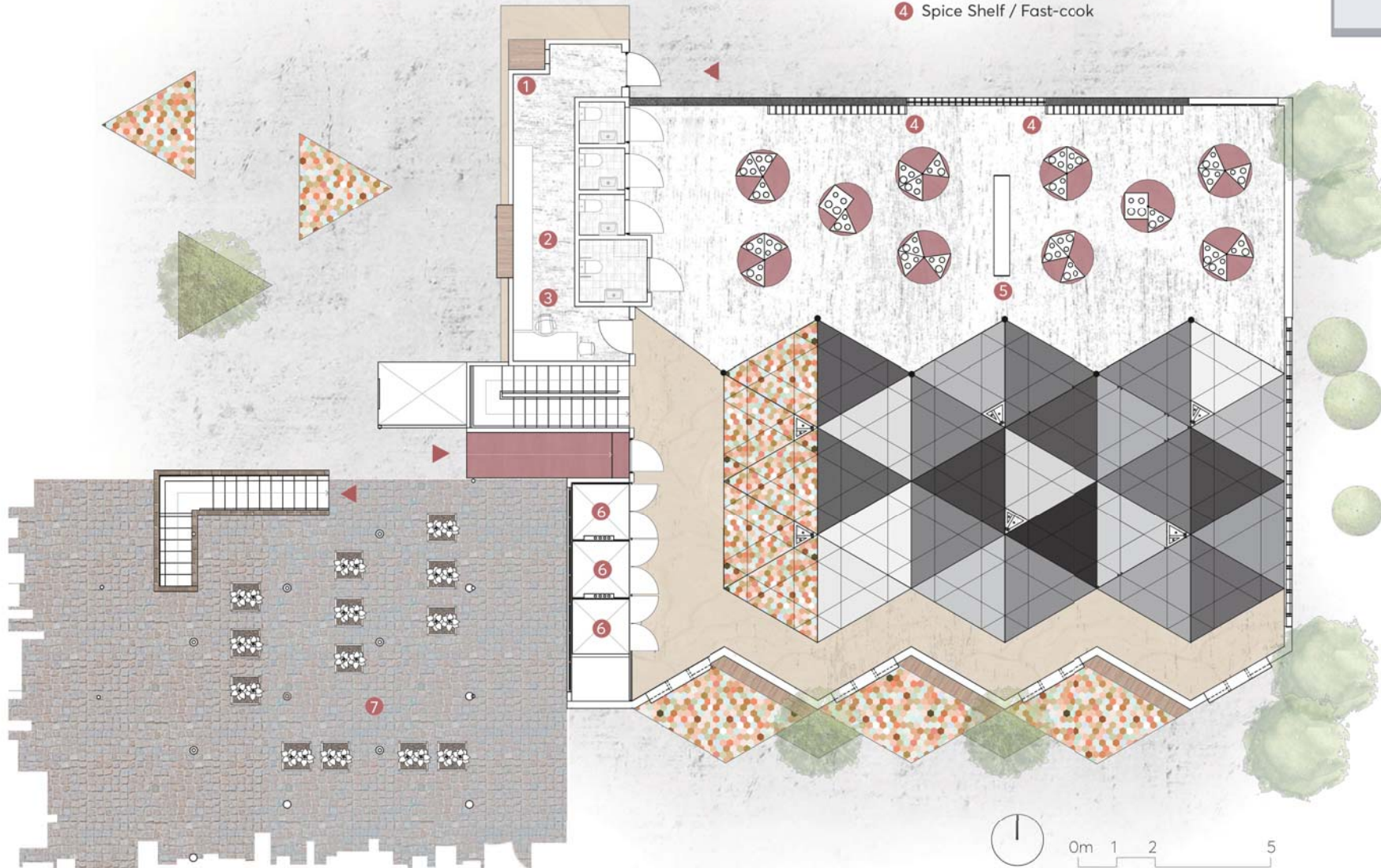
PLANS / PERSPECTIVES

GF / Street Level

To Underground Exit
←.....→

To Bus Terminal
.....→

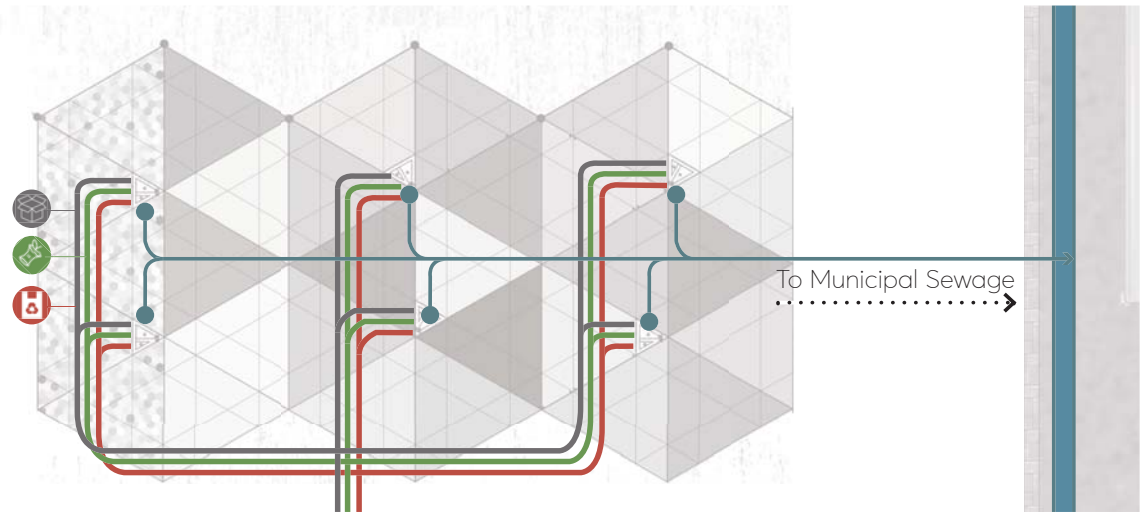
- 1 Food-recycle automat
- 2 Soup Shop / Café
- 3 Staff Room
- 4 Spice Shelf / Fast-cook
- 5 Dish Collection
- 6 Lifts
- 7 Communal Farm





-0,5F / Canalisation

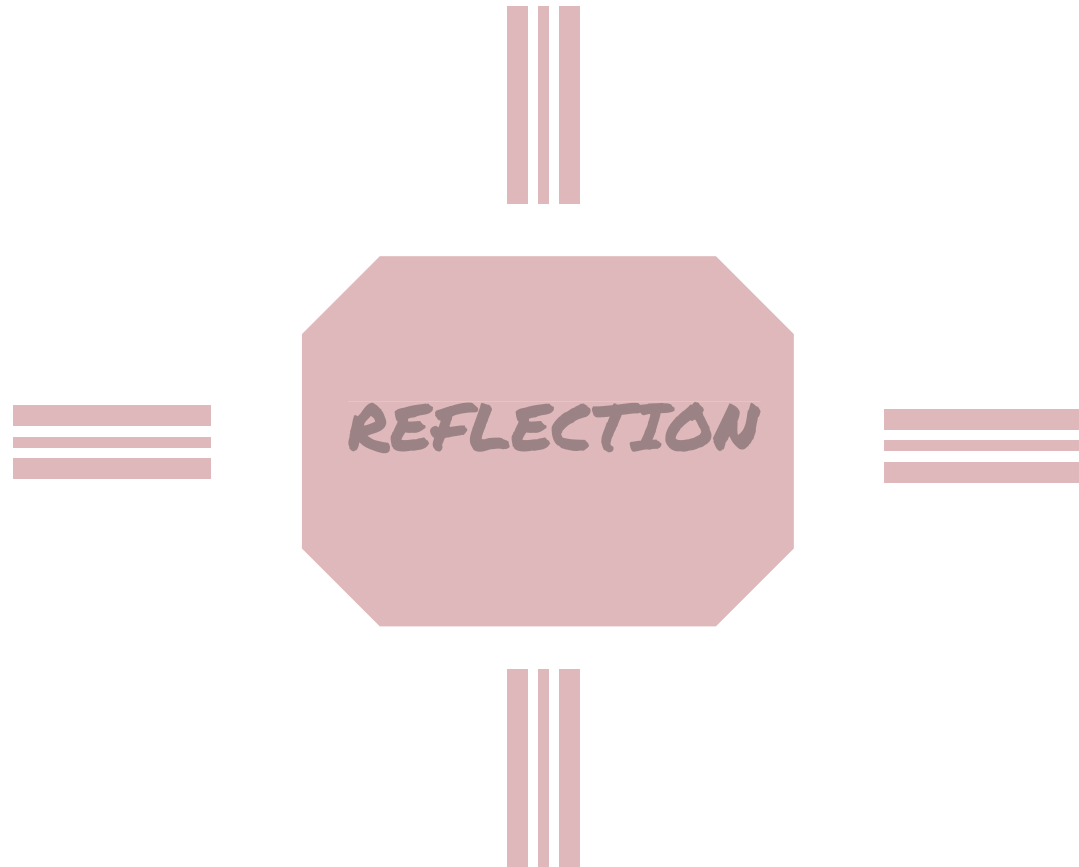
To Neighbourhood
Environment Station



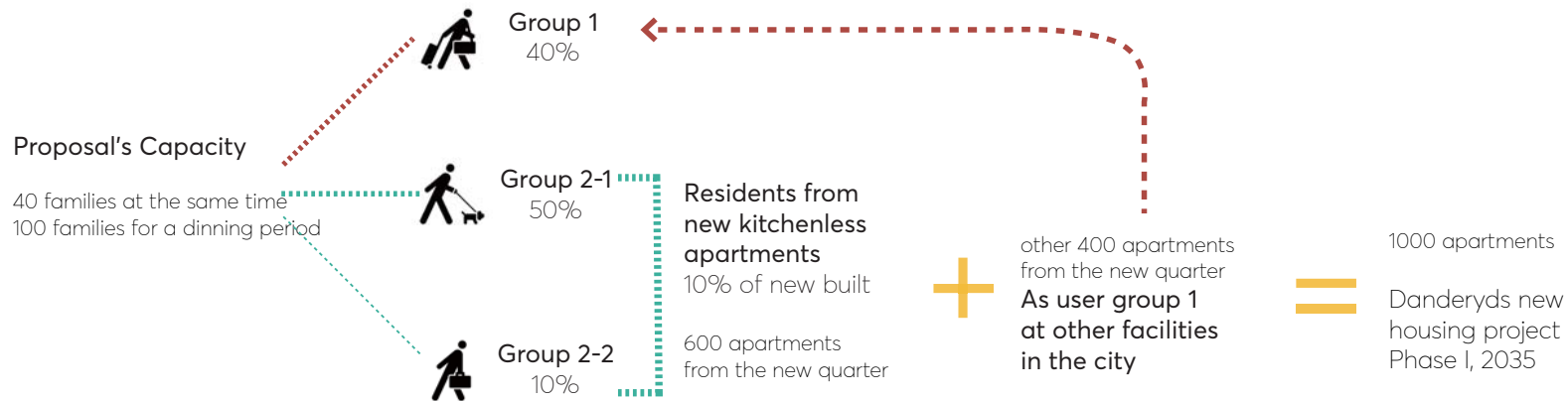
-1F / Ground Entrance Level

- 8 Table Storage
- 9 Common Fridge
- 10 Common Freezer
- 11 Pentry Tower
- 12 Waste Room
- 13 Cleaning Storage
- 14 Dishers
- 15 Equipment Centres etc.





FLEXIBILITY ON SITE



Extension

For every phase with a count of 1000 new apartments, a storey of the former proposed plan will be added on the vertical extension.

Because of the **Storage/shelves** and **Disher/storage** have reserved verticle transport so it will adapt the extension on this dimension. However other additional verticle transport needs to be researched, as well as the building complexity in connection to the adjacent buildings and contexts.

OUTLOOK



Transportation nodes in Stockholm with similar transferring needs.

Urban Kitchen On the Move

In the map above demonstrates all the bus terminals in Stockholm in the underlay of underground and rail network. And colours indicate the different characters of them as follow:

1. **Massive transport node:** which the transportations of bigger capacity drive the needs, in order to scatter the bigger floods brought by trains, underground, etc., bus terminals are designed. e.g: *Cityterminalen, Slussen, Södertälje Syd, Danderyds sjö*

2. **Public facility node:** which the floods of big facilities as hospitals, shopping centres, universities, etc. drive the need. e.g: *Karolinska sjö, Solna Station, Universitetet*

3. **Residential node:** which the residential masses' domestic movements drive the needs. They are close to the rail network, and themselves are meeting-points for people bonding to neighbour smaller living quarters. In general, these stops locate outside of condensed city centres where a lot of them are typical Miljonprogram's quarter facing similar conflicts or

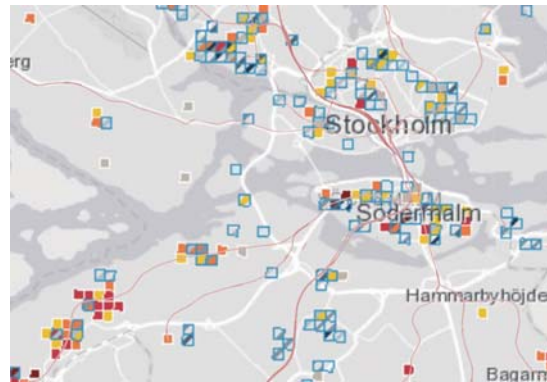


Fig 32, Miljonprogrammet residential area and Stockholm mass-transport network

problems as with the proposed area. e.g: *Högdalen, Vällingby, Täby, Orminge.*

Principally, all of the nodes from **Type 1** and **Type 3** are potential locations for placements of this infrastructure because the rail system moves people in mass and speed, and transferring to the bus they have the circumstances for the commuting people

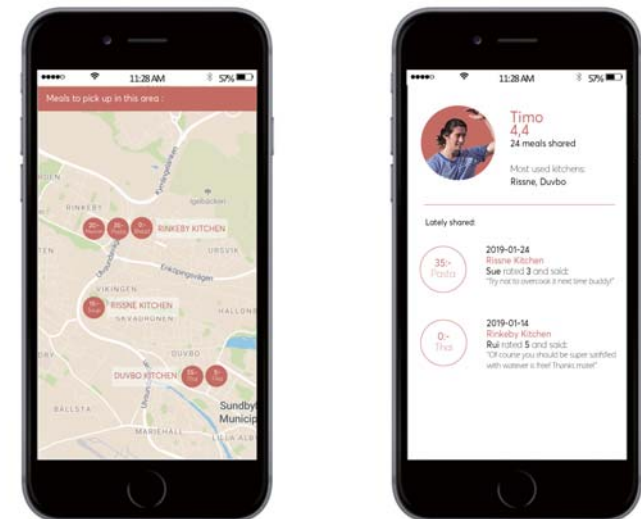
This Urban kitchen will function even better when more nodes join the system. The node provides people with an alternative other than eating home and cooking home. And the nodes along the way could all be available, they are all proposed for both residents in the neighbourhood and for the people on the move.

When the system comes into formation, there will be even more freedom for experimental housing projects developing in more places. In the renovating old residential area, in the city centre, even at the far end of the city outskirts so long as the public transportation will reach.

Activating the "No-go Zone"

Contributing to the solution-atlas of the problematic post-Miljonprogram residential areas, bringing people to join the movement is a reasonable approach. Throughout this system, people will be brought together by the common benefits and interests: whoever doesn't want to cook home, doesn't want to cook alone, wants to share that the things you cooked too much, or can't cook but can't afford high price eating out at restaurants every day.

It's a system basing on trust and sharing. People using this don't necessarily have to stick to one place. It's like social network basing on eating and cooking that people will go with the groups that interest them most. Then people will no longer see any places as "no-go zones" but only places with food cultures haven't been discovered.



A possible application platform for the collective kitchen users for buying "leftovers" from the food-upcycle.

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