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P R O G R A M



PROGRAM

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Fig. 4.1 Existing Grain Drop off Area (Urban Vision Group, 2017)



Fig. 4.2 End Production line (Urban Vision Group, 2017)



Fig. 4.3 Fresh Produce Being sold at the train station (Urban Vision Group, 2017)

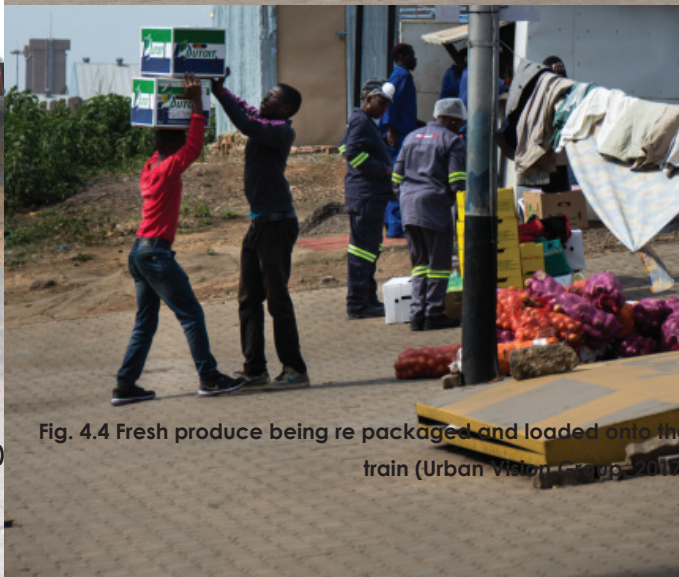


Fig. 4.4 Fresh produce being re packaged and loaded onto the train (Urban Vision Group, 2017)



Fig. 4.5 On Site Grain Storage Silos (Urban Vision Group, 2017)

CROSS PROGRAMMING THE LOSS OF PUBLIC SPACE

Empty and unused spaces within the city are often difficult to address due to the lack of activity. Bernard Tschumi's proposes that through heavy programming (cross-programming and deprogramming) that these spaces can become revitalised (Komarzyńska-Świeściak, 2010).

"New contexts for architecture of contemporary city – apart from physical (infrastructure layer, city roofs, ect.) – are the cultural and sociological conditions like dynamic and interlaced life patterns (living/working/leisure) mobile and flexible life style. Density (concentrated layouts of functions) and integration/cooperation of preciously separated functions are the tools to deal with all these contexts." (Komarzyńska-Świeściak E. 2013)

Infrastructure often poses a specific challenge to cities as it occupies large pieces of land through a singular function. Within these areas the individual becomes alienated whilst the city itself is fragmented by it. Highways, Railway lines and industrial infrastructure all contribute to this condition, and all are necessary to the overall function of the city.

Elzbieta Komarzynska-Swiesciak (2010) proposes that these neglected spaces can become a new kind of public space. This movement relies directly on Tschumi's theories on cross-programming, and has proven to be successful in regenerating lost space within the cities such as areas below railways, roads with heavy vehicular traffic and projects such as the NY Highline linear park project. (Komarzyńska-Świeściak 2013)

These projects are a result of a shift towards continuous architecture, wherein we have become aware of the quality of the entirety of the built environment instead of singular/isolated pockets of architectural quality within the built environment. As a result of this shift, Komarzynska-Swiesciak concludes that streets, although public in nature, can no longer be considered as being public spaces.

"Mobility and high-car dependence are signs of modern lifestyle. As a result car traffic takes over the city. Streets and many old squares which in the past were part of public realm became just necessary links to get from point A to B. Street is no more public as it's used mostly by cars instead of people. In well-known Nolli plan of Rome from 1748 private spaces such as dwellings are rendered as black solids and public spaces such as streets and squares, church interiors as white. If we would draw Nolli Plan of contemporary Rome, there would be much less white voids than before- the heavy-traffic streets would have to be rendered as solid blocks. Part of public realm was taken." (Komarzyńska-Świeściak 2013)

From these theories, it can thus be concluded that heavy cross programming of the space, it would be possible to reinvigorate a lost piece of the overall public capital of the city. Within the Pretoria West precinct, it is possible to extract existing programs – although these are heavily isolated currently. Although the industrial presence for instance is segregated from the streetscape, it is possible to extend the function towards the street and thus the public realm. The informal presence and trade environment should be amplified and incorporated as it brings with it the social and cultural richness that would allow public space (and entire development) to thrive.



Figure 4.6: New York Highline Areal view (Open Projects, 2001)



Fig 4.7: New York Highline Linear Park: (OPEN PROJECTS, 2001)



Fig 4.8 New York Highline, Section: (Rosenfield, K. 2014)

The reimagining of the train-station holds the key to a successful intervention as it brings an influx of pedestrian movement and as a result-the potential to reclaim the lost streetscape that has been dominated by heavy motor vehicles. Poor design of the existing station has led to the dispersal of the potential pedestrian energy and the overwhelming dominance of the heavy motor vehicles. By utilising the train station as an ingress of the public back into a lost space, it is possible to activate and invigorate this space.

Furthermore, as the specific proposal relies on the densification that would result from the West Capital development as proposed by the Tshwane Town planning scheme (Tswane vision 2055) The design solution would exist within the outline of an increased residential fabric (largely student accommodation for UNISA and Tshwane University of Technology). The Bus Rapid Transit system (Areyeng) will include increased pedestrian movement in conjunction with the train station.

The influx of residents would ultimately lead to an increase of amenities to serve the growing population including restaurants and commerce. By creating a platform for a unique trade system, these restaurants could be included in the planning scheme and character of the new development. Giving rise to economic and spatial potential.

CROSS PROGRAMMING PRECEDENT

LE FRESNOY NATIONAL STUDIO FOR CONTEMPORARY ARTS, TOURCOING, FRANCE 1997 By Bernard Tschumi
The relationship between old and new exists harmoniously and the formal integrity of the old is kept intact whilst the contrast between these states is clearly expressed (Astrup, 2005).

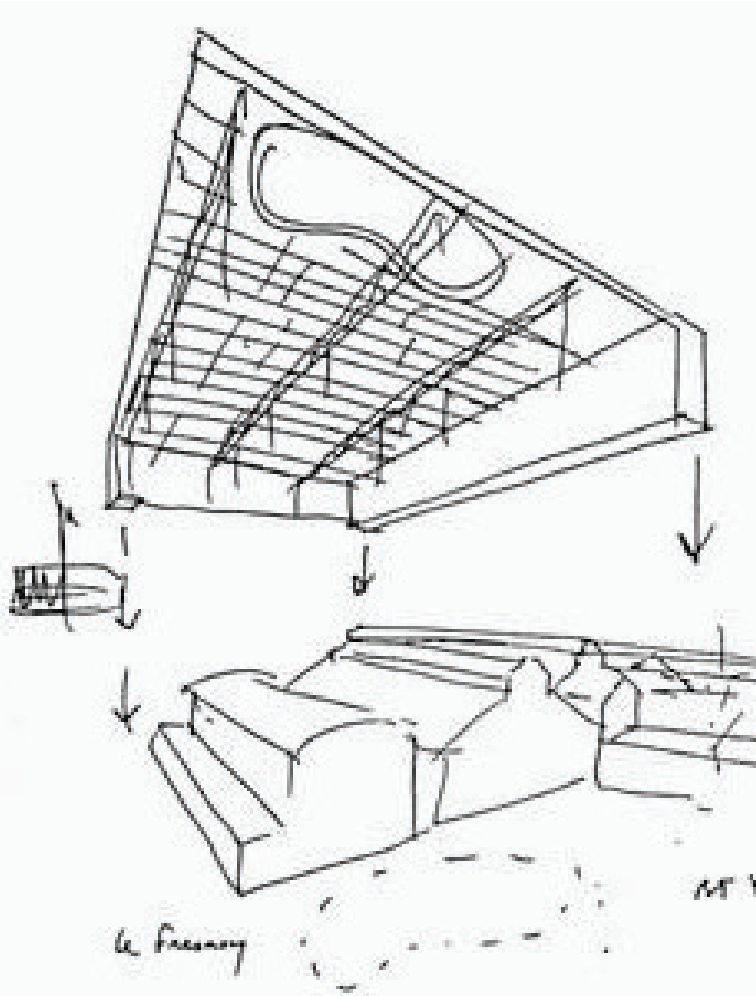


Figure 4.9: Conceptual Sketch of Le Fresnoy National Studio for Contemporary Arts (Tschumi, 1991-1997)

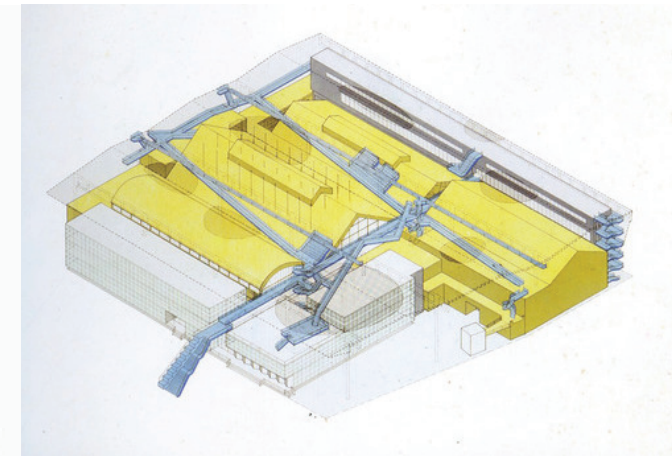


Figure 4.10: Added Movement Between Existing Structures and New Roof: (TSCHUMI, 1991-1997)



4.11: Occupying the Space Between the Existing and the New (Tschumi, 1991-1997)

The building, through heavily de-programmed space and its transition through architectural programme and art forms, exists without a central/descriptive categorization. Great emphasis is placed on the "in between" spaces, with area such as the zone between the old roofs and the new technologically advanced being disrobed as a cloud. (Astrup 2005) The Le Fresnoy building by Tschumi is based on his theories relating to Events City (Ebert, Carola, 2008).

"Many empty and unused zones in contemporary cities can be heavily programmed in order to fill the urban fabric with diversity and missing integrated services. There is a huge potential in (cross programming these spaces as it could lead directly to higher efficiency and lower costs."

-(Komarżyńska-Świeściak, 2010)

Superimposition plays a large role in Tschumi's decision making as each "layer" adds a blanket of complexity and program with it. Separating these layers out during the design process creates a simplified understanding of each of the programs in isolation before consolidating them into a unified whole. Only after the consolidation of these layers can the junctions between them be addressed.

Thereafter a constant feedback loop between isolation and consolidation leads to the resolution of the program. The post-modern deconstructive architect's critique on modernism is that due to its mono-functional design it eradicates all but a singular program. This results in a stale and bland environment that does not allow for accidental programs to be achieved in the in-between spaces of the built-environment.

Where Modernists relied on a single coherent thought, Tschumi re-lies on a multitude of influences, programs, geometric collisions and artistic expression to catalyse a rich and vibrant social and cultural environment. Within this post-modernistic environment precedence is given to the activities of people instead of the perfect realization of a building. He thus relies on the notion that if one aspect of the program or architecture fails the overly sufficient complexity of the project would not allow the entire project to fail-rather the other programs would take over that specific space as the building evolves and as the user's natural incentive to take ownership of a space and adapt it according to their needs ultimately overrides the architect's original intent.

The success of the cross-programming theory is directly reliant on this complexity and the implications that it has on the in-between spaces as an outflow for program into unprogrammed spaces. In this instance Tschumi relies on this outflow of program in order for the artists/actors to "take over" the clouds in between the old and new roofs. (Astrup, 2005)

EXTENDING PROGRAM TO ENCLUDE INFORMAL PRODUCTION

By Cross-Programming the informal (Public) production with the formal (Private) production waste products can be combined into innumerable products that adds a layer of flexibility to the existing rigid production. The Formal Production line would supply raw materials to the informal market whilst the informal market produces a variety of products and shortens the proximity to the consumer drastically. The divide between production (industry) and consumer (city) thus starts to dissolve.

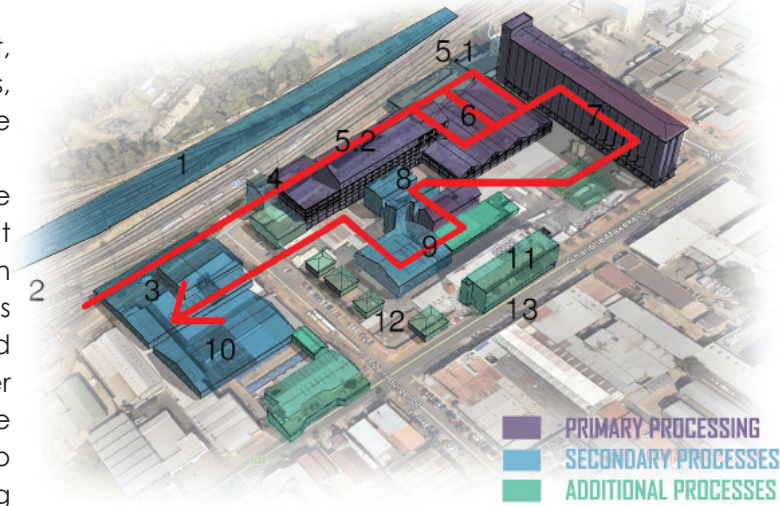


Fig. 4.12: Current Milling Site (Author, 2017)

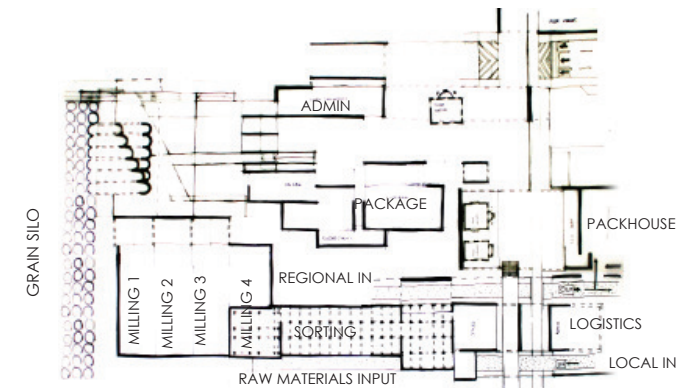


Fig. 4.13: Current Milling Site usage diagram (Author, 2017)

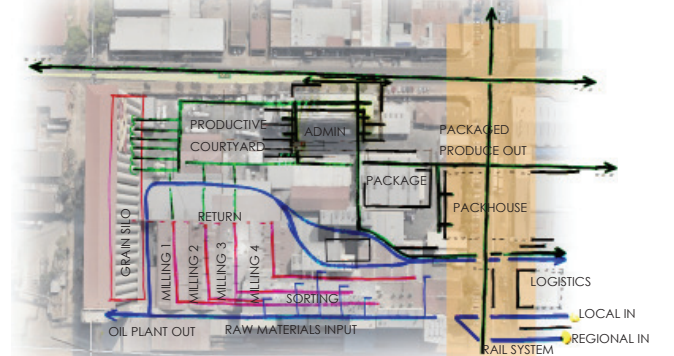


Fig. 4.14: Current Milling Site usage diagram (Author, 2017)

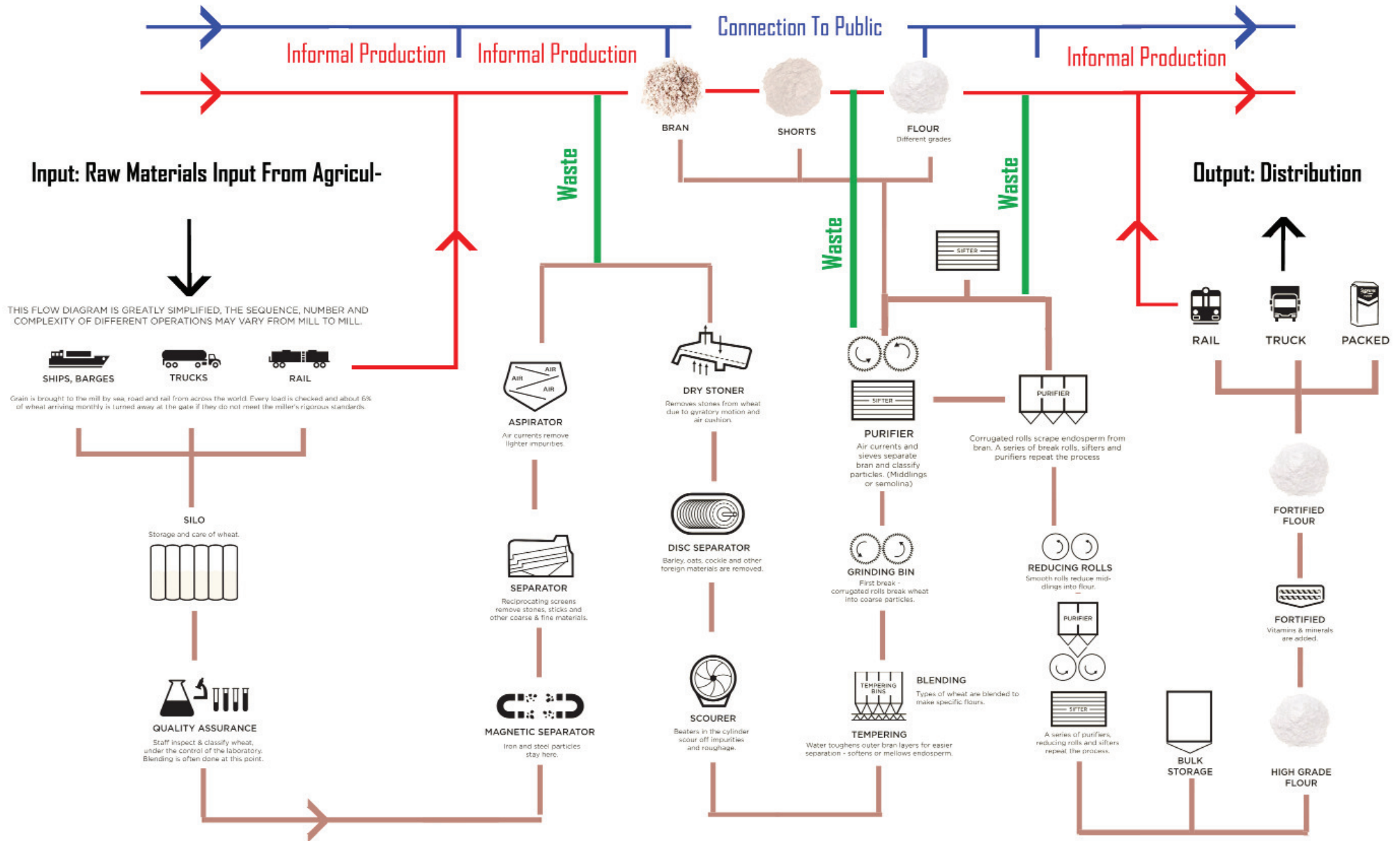


Fig. 4.15: Industrial Flour Milling Process (Supreme Flour, 2017) Adapted by Author

EXTENDING EXISTING PROGRAMS

The site boasts the largest single site milling operation in the Southern Hemisphere. The Ruto Mill heritage article> and due to the historic development and the monumental scale of the silos as a defining element in the skyline, the relevance of industrial heritage should be analysed. According to SAHRA buildings that express technological advancement should be preserved and thus qualifies this site as a prime example for food production during the 19th and 20th centuries. Although various inner city milling operations throughout the country have shut down as these industries re-establish elsewhere, the Pretoria West site is still operational and functions 24 hours a day.

Although these industrial relics are being repurposed, their adapted uses do not utilize the supporting infrastructure, do not fulfil the original purpose and in no way reflects the heritage of the involved structures. I conclude then, that because of the above mentioned facts, these re-appropriations are unsuitable.

PRIMARY (EXISTING) PROGRAM

Anchor Programs

Although the existing model for food production and its impacts on urban life has been thoroughly scrutinized throughout this dissertation the intention is not to reimagine, remove or replace this model but rather to adapt industries to rather attach onto outdated industries in a way that future objectives can be achieved through the relationship between old and new.

Industrial Maize Meal Production

Large scale existing refinement of maize meal through

an established milling operation. The current milling complex falls under the ownership of RCL Foods Brand PTY Ltd and is the largest of its kind in the Southern Hemisphere and one of the largest in the world.

Industrial Logistics

Inflow and outflow of raw materials and processed goods to the industrial processes. Includes vast rail and HMV fleet networks across South Africa and serves as the physical (albeit distant) connection between farming and refinement enterprises.

Public Transport

Areyeng BRT

Prasa Train Station

Secondary (connective) Program

Industrial Mague production

Indigenous, slightly alcoholic, maize food drink originated in Latin America (known as Maguey) and became a prevalent source of fibre and made significant cultural impact in South Africa. (Holzapfel, W.H. and Taljaard, J.L., 2004)

Tertiary (Infill) Programs

Informal, on foot, street traders

Semi-formalised, established street traders

EXISTING ROLE-PLAYERS

RCL FOODS

The instigating client is the owner of the industrial milling operation in Pretoria West, the RCL Foods company. With the realization of industrial abandonment evident all around the land-mark milling operation (The largest single site milling operation in the Southern Hemisphere) the directors are forced to consider the viability of their current operations. Multiple food

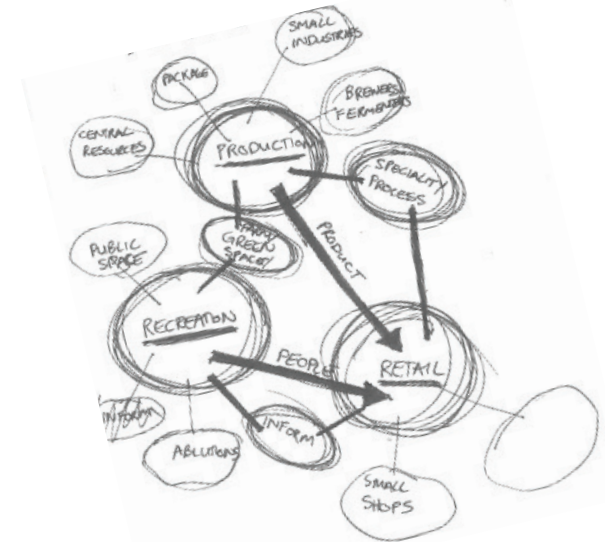


Fig. 4.16: Initial anchored program linkages sketch (Author, 2017)

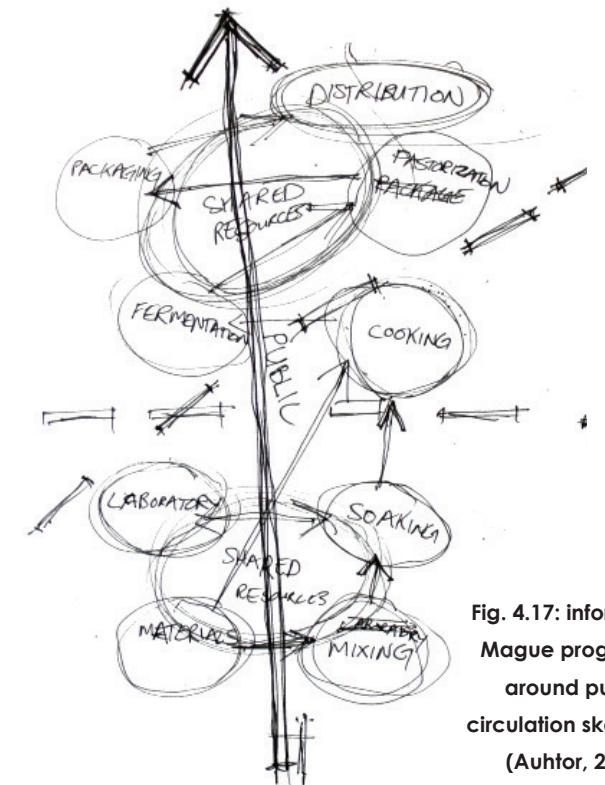


Fig. 4.17: informal Mague program around public circulation sketch (Auhfor, 2017)

EXISTING PROCESS DRIVEN STRUCTURES:

- 1 - TRAIN STATION: PUBLIC TRANSPORT/WORKFORCE COMMUTE
- 2 - CARL STREET: TRUCK STACKING & ACCESS
- 3 - LOGISTICS: GRAIN SUPPLY & DISTRIBUTION CENTRE
- 4 - INDUSTRIAL RAIL: TRAIN CAR STACKING & GRAIN SUPPLY
- 5.1 - SORTING PLANT: GRAIN DROP-OFF
- 5.2 - SORTING PLANT: GRAIN SORTING/HUSKING
- 6 - MILLING PLANT: GRAIN PROCESSING/SEPARATION
- 7 - SILO: PROCESSED GRAIN STORAGE
- 8 - FEEDER STACKS: PREPACKAGE OPERATION
- 9 - PACKAGING STATION:
- 10 - PACK HOUSING: PACKAGED PRODUCE STORAGE

NON PROCESS DRIVEN STRUCTURES:

- 11 - ADMINISTRATION
- 12 - OFFICE SPACE
- 13 - TAKEAWAY OUTLET
- 14 - BOUNDARY WALL
- 15 - PARKING SPACES

INTRODUCED PROCESSES:

- 16 - WASTE PRODUCTS INDUSTRIES
- 17 - PRIVATE INDUSTRY PRODUCTION
- 18 - PRIVATE INDUSTRY SHOPFRONTS
- 19 - LABOURER'S DWELLINGS
- 20 - PACKHOUSE DEPOT
- 21 - PRETORIA COLD STORAGE (EXISTING)
- 22 - THERON'S MEAT MARKET (EXISTING)
- 23 - EXTENDED MEAT MARKET (CURRENTLY UNOCCUPIED)

*INCLUDING INFORMAL STREET VENDORS

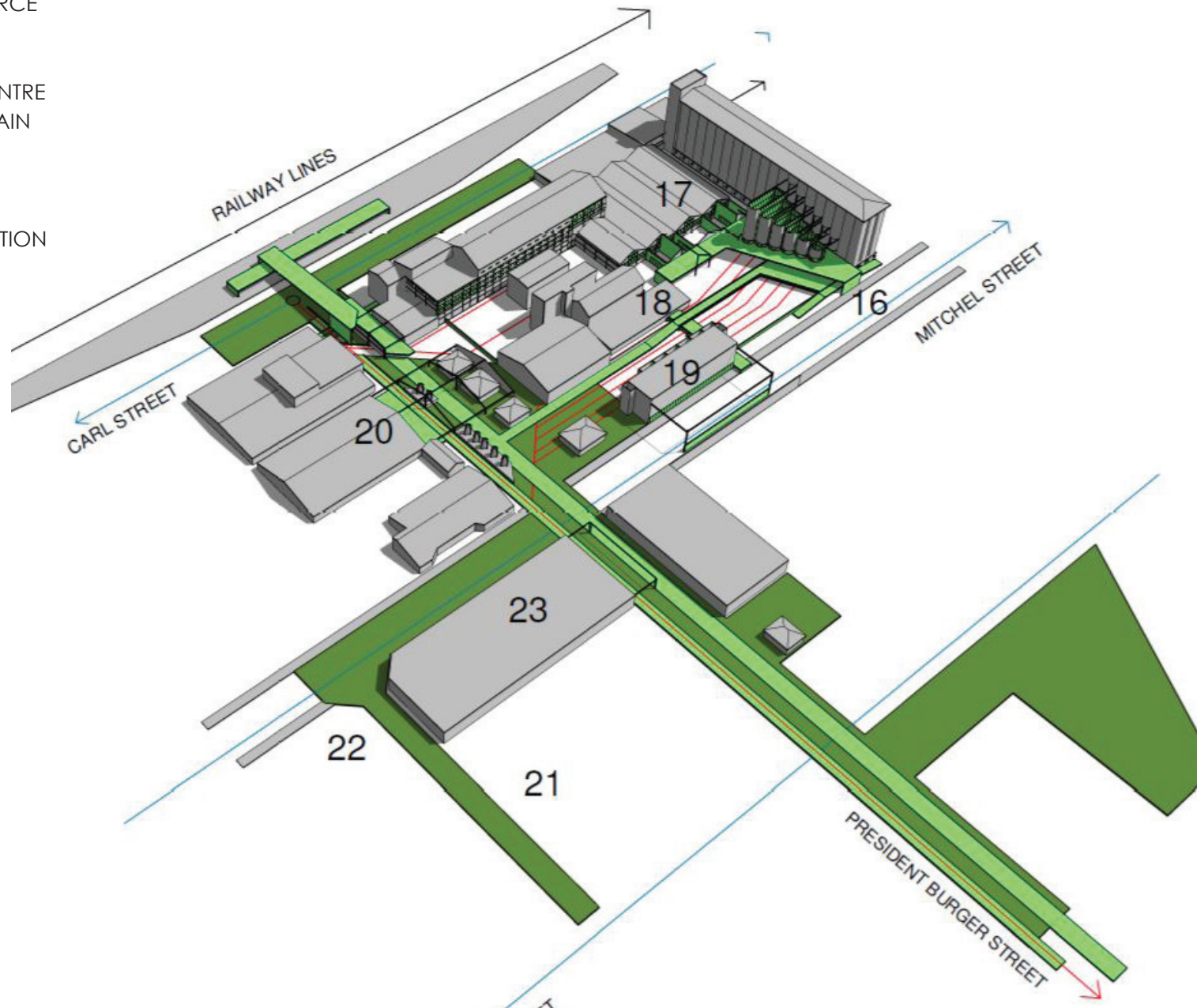


Fig. 4.18: Introduced Programs and Spaces diagram (Author, 2017)

brands exist under the umbrella of RCL FOODS PTY LTD, and it is thus necessary to view the concerns of the individual brands as well as the company as a whole.

Stakeholders

Tshwane Municipality

Firstly, the spatial planning and development outline for Pretoria West is currently uncertain, as the Tshwane 2055 vision proposes a nonspecific "intense development" for the area surrounding the Pretoria showgrounds. A master plan for the development of this area needs to be compiled.

Secondly, the abandonment of large industries in the city (and the costs that result) needs to be addressed in order to attract investment and mitigate costs towards new infrastructure by rather upgrading existing infrastructure. Multiple stakeholders are present in a wide spectrum of formality. The variety and diversity of stakeholders is evident on all scales ranging from urban to the final design proposal.

Although this proposal serves to catalyse further (non-industry-based) development these stakeholders fall outside the scope of the specific intentions of this dissertation.

New Food Industries

The establishment of the Industrial Street Market should attract smaller food industries to attach to existing infrastructure through discounted bulk produce and the proximity to suppliers and traders. These industries will be of varying scale and forms the mitigator between the RCL Foods group and the informal traders.

Individual street vendors and the Public

As a concern for public safety the existing public transport facilities need to be upgraded as it is currently unsafe, requiring that pedestrians cross the industrial rail and a dangerous road dominated by trucks to reach their workplace. Accessibility issues are also of concern and labour relations should be addressed as we shift from the notion that labourers should be segregated and transported into the city by train, bus or taxi-towards the notion that the city should be accessible to all. The events of everyday activities should be amplified and a public space for community and economic opportunities is desperately required.

CONCLUSION:

By intensely programming a series of nodes with interactions between, informal programs could be catalysed to settle along the interactions between these nodes. The informal process is then free to change as the requirements of production change, whilst the formal (existing) nodes remain stagnant. By incorporating spill out spaces for informal programs that cannot be predicted, the existing programmes can serve as a host and be activated by the informal programs in a symbiotic relationship.

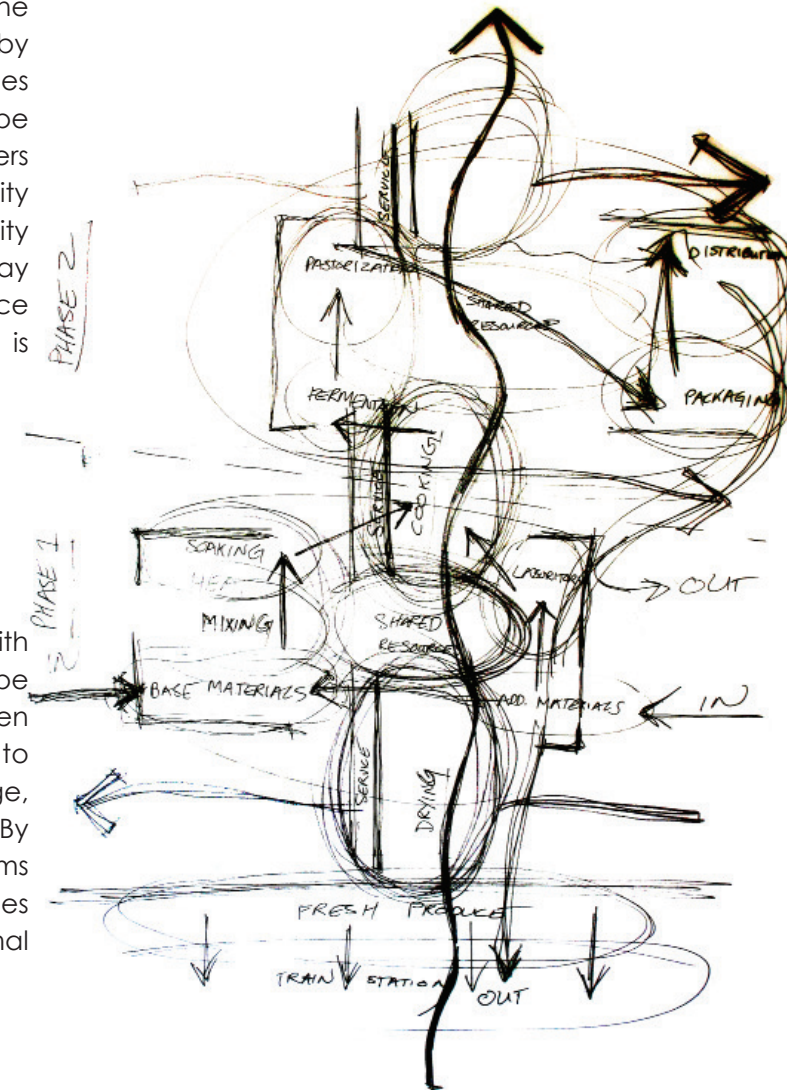


Fig. 4.19: Cross programming and over population of route (Author, 2017)

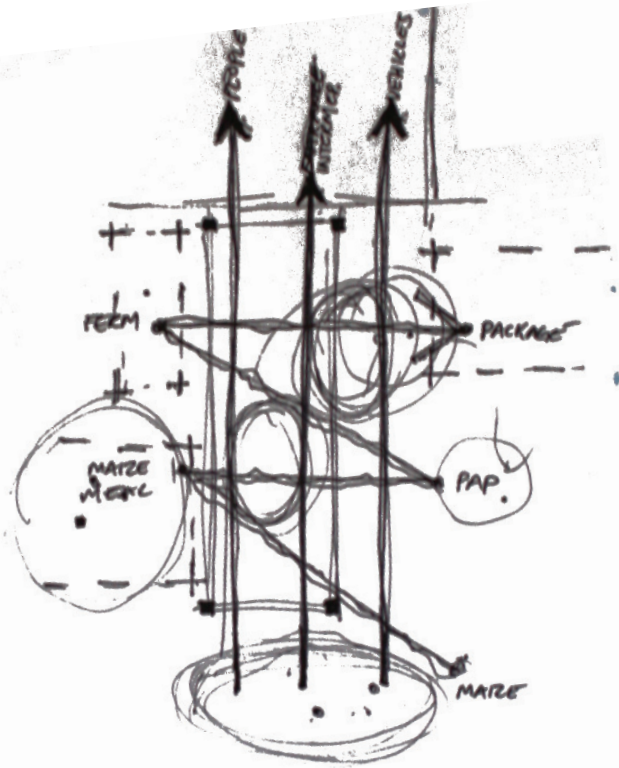


Fig. 4.20: Spaces for collision between circulation and program
(Author, 2017)

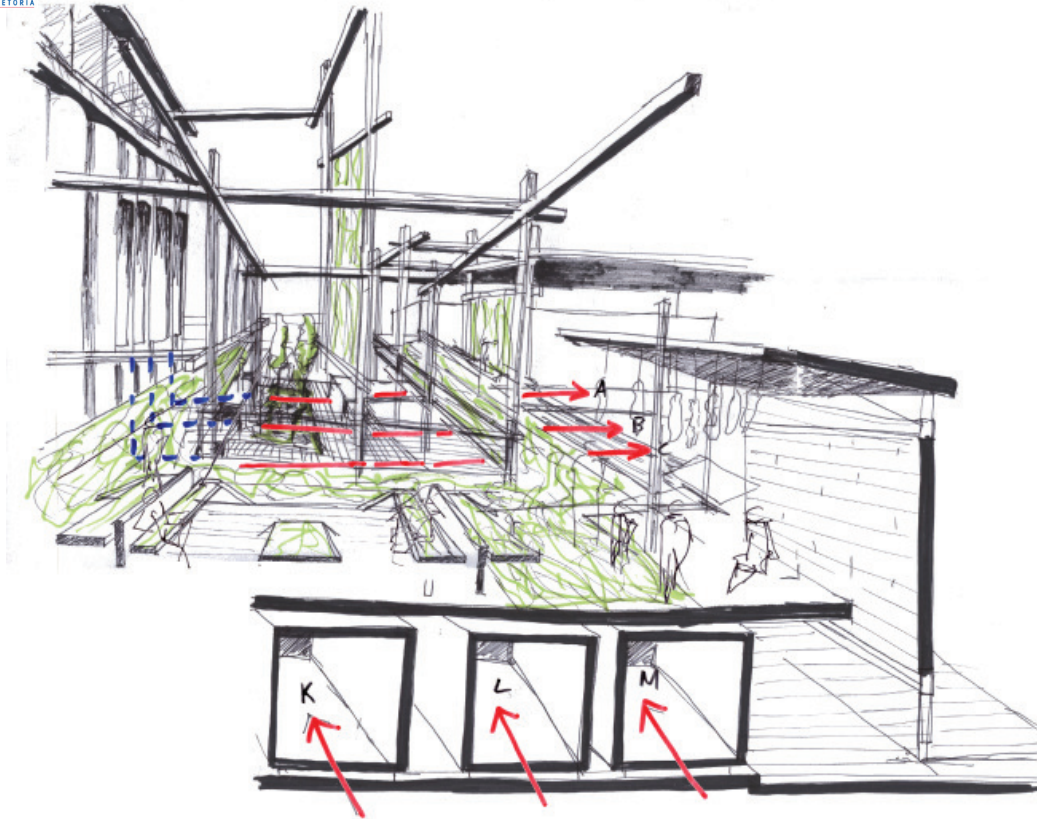


Fig. 4.21: Sketch design for space making around Industrial process and movement (Author, 2017)

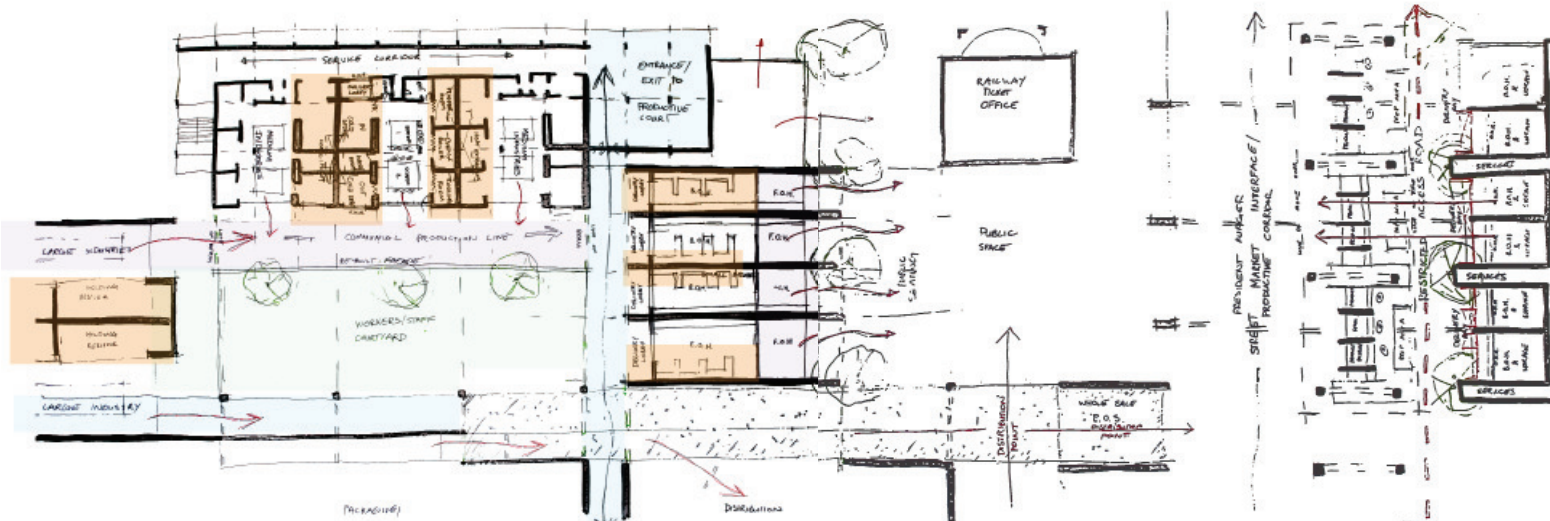


Fig. 4.22: Sketch plan for productive courtyards as spill out spaces (Author, 2017)