



## ARPL2000 – ARCHITECTURE DESIGN AND THEORY - URBAN INFILL

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### BUILDING DREAMS UP-ON A ROW

Located on the border of the inner city, Yeoville is one of Johannesburg's oldest suburbs. Since its glory days in the early 1940s, Yeoville has suffered severe neglect. Once home to a handful of privileged white, predominantly Jewish, South Africans, Yeoville now accommodates a diverse range of residents drawn from other parts of South Africa and from the rest of the continent. The desirability of the area as a refuge and "oasis" together with its wealth of amenities (including schools, crèches, shops and major transport routes within walking distance) has resulted in severe overcrowding. Houses which were originally built for a family of four are now occupied by up to thirty people.

Our social housing design aims to alleviate the overcrowding problem in Yeoville but maintain relatively high densities by providing flexible and affordable row housing. Our design is based on existing living patterns in the area – namely the prevalence of shared living spaces. We have therefore developed an "open house system" to accommodate these spontaneous shared living arrangements and to encourage an emerging sense of community. By focusing on both shared spaces and the needs of individuals, and by accommodating diverse households and economic activities, we have attempted to break down the traditions of an exclusionary society.

In order to ground our design within the lived reality of Yeoville, we have focused on three themed units: one for a local mechanic (Axle's Grease); one for a spaza operator (What a Lot I Got); and one which functions purely as residential accommodation (The Lost Boys). The mechanic's unit has a large front yard to accommodate an informal, outdoor workshop with the result that the unit is set back from the street. In contrast, the spaza operator's unit is built close to the street edge, to entice potential customers into her store. The standard residential unit has no commercial function and therefore less relationship with the street. Both "Axle's Grease" and "What a Lot I Got" contribute to the creation of an interesting, interactive and pedestrian-friendly street edge.

"Axle's Grease" and "What a Lot I Got," embody our "*live and work*" concept. The commercial functions of these units provide a sustainable income stream to the residents while providing convenient everyday services to the community.

The structure of each unit is designed around a 12m<sup>2</sup> court yard which brings light and ventilation into the central living spaces. The bathrooms, kitchens and vertical circulation are all clustered around these courtyards which therefore function as service cores. North-facing solar panels, stacked above the bathrooms reduce ongoing operational costs of the units and enhance affordability.

The shell of each unit is made up of two structural walls 5m apart and three stacked floor slabs. Each structural wall is shared by the adjacent apartment and the floor slabs encase the central courtyard at a ratio of 3:2:3. This shell allows for adaptable and interchangeable non-load-bearing walls to define different spaces. It also incorporates additional "plug-on" attachments such as the mechanic's work yard, the shop, balconies and even a roof garden. This simple yet flexible structure allows for an economically affordable and efficient system.

Although these units have been designed specifically for Yeoville, they are flexible enough to be built in other areas - including more affluent neighbourhoods. Here the use of the ground floor might be changed from a mechanic's workshop to a home office. Units have been designed to fit onto a standard Johannesburg plot, which is 15mx30m. The design can thus work as an infill solution on a single plot, a few plots, an entire block, or even an entire neighbourhood.

Our system of tenure is modeled on the existing rental process, (Landlord – Tenant –Sub-Tenant) which exists in Yeoville. This system has an infinite number of permutations. For example "Axle's Grease" unit is rented by a single tenant. "The Lost Boys", by contrast is rented by multiple households: a family, a student and two working class citizens, altogether three different sub-tenants. In the case of "What a Lot I Got", a family occupies the first two floors but rent the top floor to a young couple.

Our design for social housing utilises a simple methodology to create an intricate open house system. This system is adaptable and suited to any situation created within the structural envelope. An economical solution combined with a fun and unique design provides a means to solve the means the growing overcrowding epidemic within Yeoville.