

However, in order to gain a deeper understanding of the lower-level activities within a certain urban context and the connection of these activities with the greater whole, an in-depth investigation of the social activities in the specific area is required. These activities not only include day-to-day interaction between city inhabitants, but also interaction between inhabitant and environment (feedback into the self-organizing system). On a human scale this feedback can be seen in the adaptation of specific environments and establishment of context sensitive activities in order to fulfill a certain need.

This study will look at these activities, their impact on the environment and the emergent products produced. This knowledge will be utilized to identify activities or strategies, based on the emergent quality of the city as self-organizing system, in order to guide or regulate an emergent design process.

physical
context



Orientation

The Central Business District (CBD) of Tshwane comprises of roughly nine city blocks in the east-west direction and eleven in the north-south direction. As indicated by figure 004 on page 17, the boundaries to the south and west are the southern railway line and D. F. Malan drive respectively. Boom Street acts as northern boundary and Nelson Mandela Drive as eastern edge (The eastern edge can also be seen as the Apies River).

Currently there exists seven major access points into and out of the Tshwane CBD. Nelson Mandela Drive and the Ben Schoeman Freeway enter the CBD from Centurion and Johannesburg in the south. The N4 toll road connects with Hartbeespoort dam and Rustenburg in the west as well as with Bronkhorstspuit and Witbank in the east. The other three access points connect to the north via D. F. Malan Drive in the north-west, Soutpansberg road/Dr. Savage road in the north-east, and Paul Kruger Street, originating in Church Square, directly north. Refer to figure 006 on page 17 for illustration.

Vehicular movement through the CBD is mainly focused in certain areas as illustrated by figure 005 on page 17. Main arteries for public transport north of Church Square include Boom and Struben streets in the east-west direction and Nelson Mandela Drive in the north-south direction. Soutpansberg/Dr. Savage Road access route is also extensively used.

page 14: figure 002
View of the Tshwane CBD around 1960 with the site under investigation visible north of the circle in the lower part of the photo (Academic Information Service Africana, University of Pretoria)

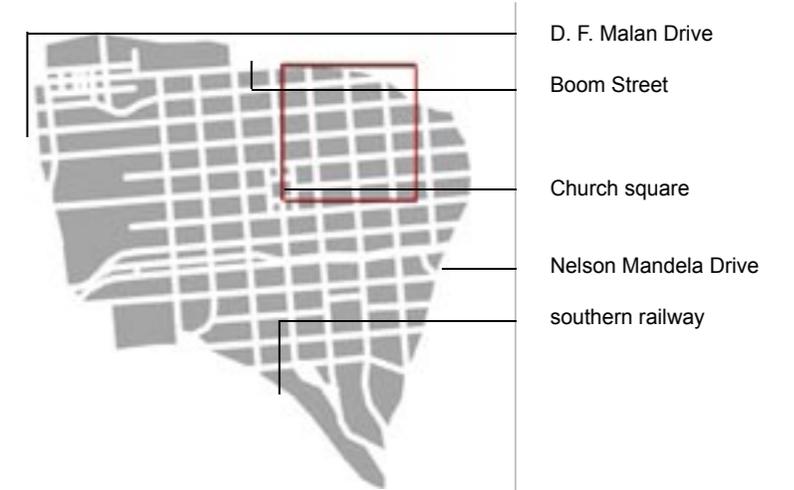
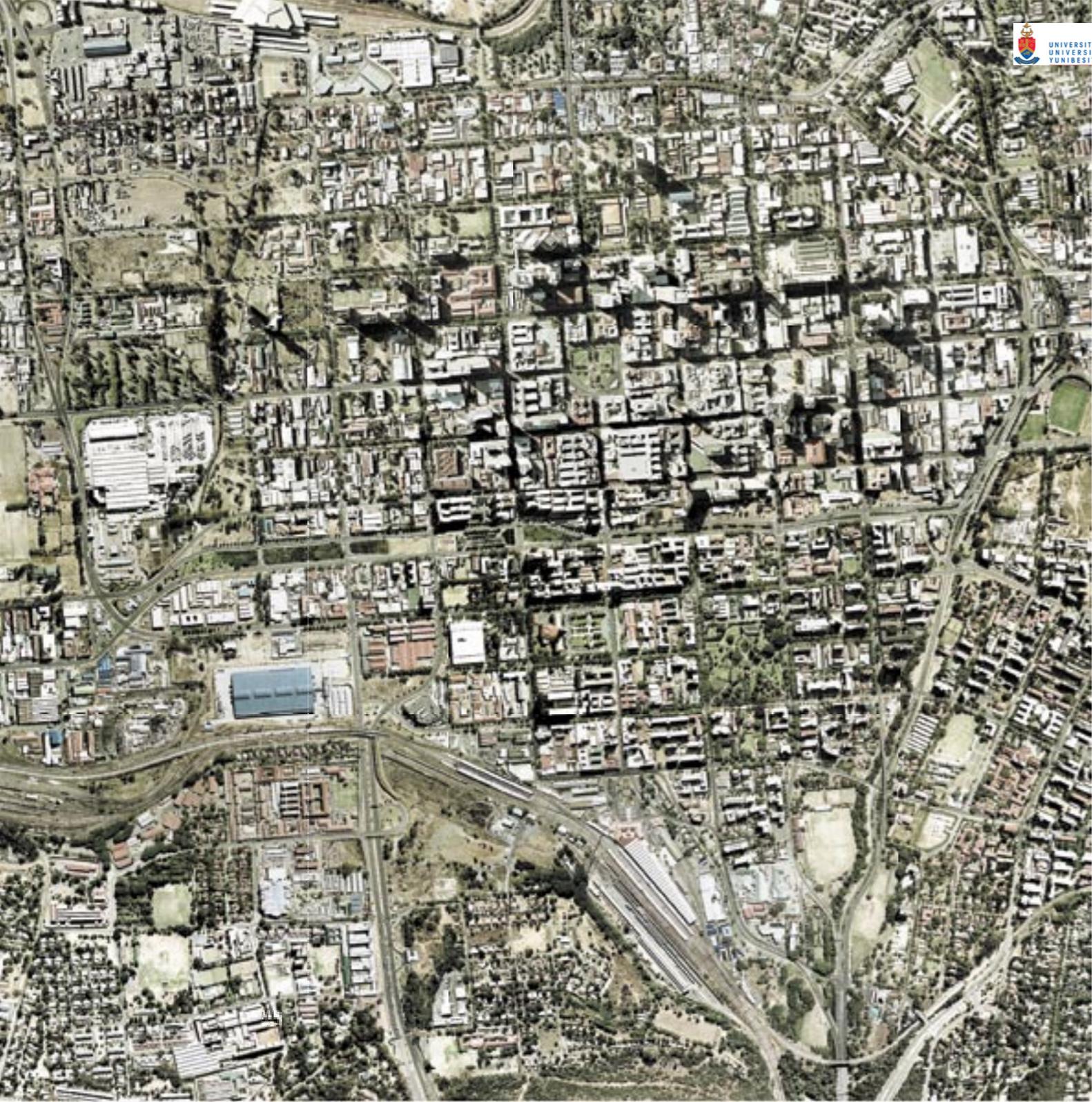


Figure 004: boundaries

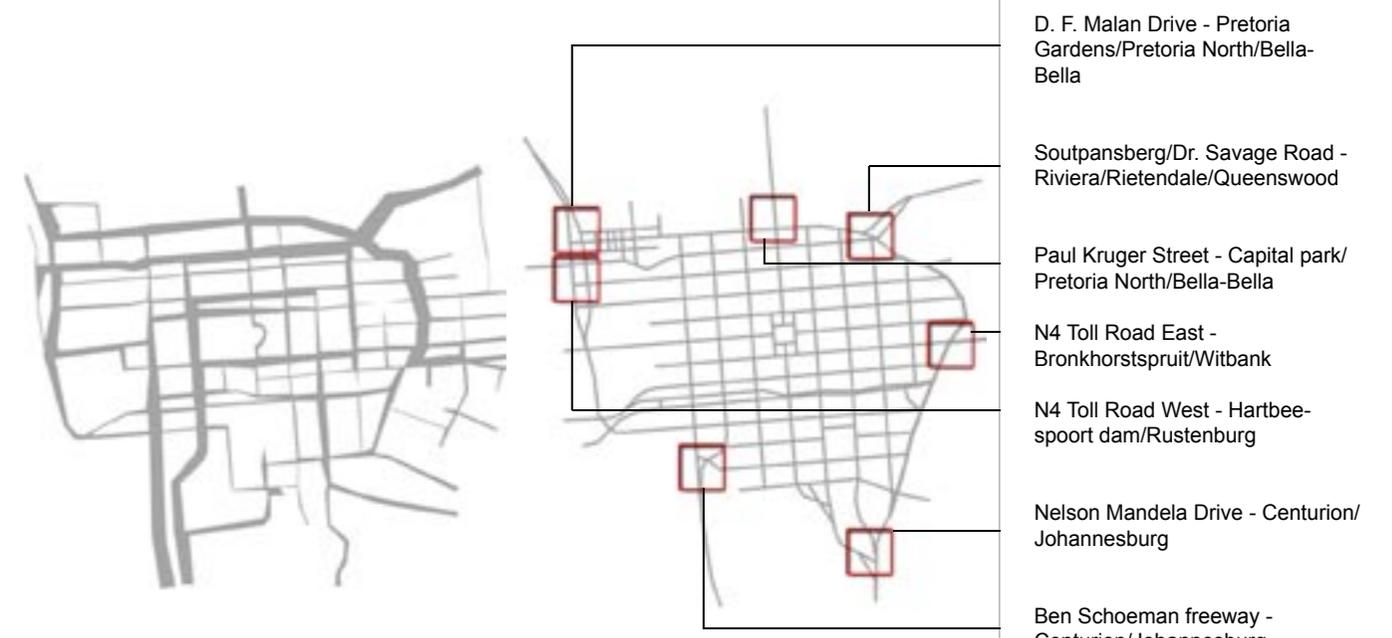
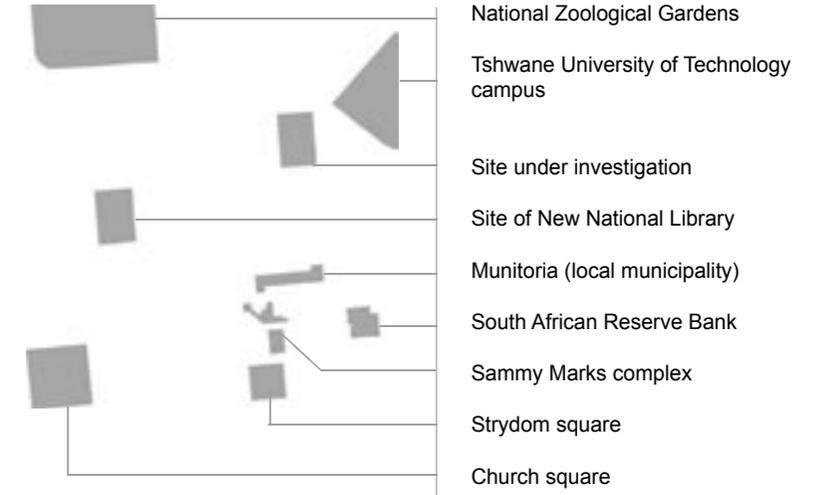


Figure 005: movement arteries

Figure 006: access points



Located within the north-eastern quadrant of the CBD the area identified for further investigation forms an integral part of the workings of the Tshwane CBD: it is located along major arterial routes and forms part of the north-eastern gateway into the city. The area is mainly zoned for commercial use with some residential, institutional, governmental and light industrial land use. Figure 007 indicates areas of interest in the quadrant.

page 18: figure 007
North-eastern quadrant of the Tshwane CBD.



figure 008: figure ground study

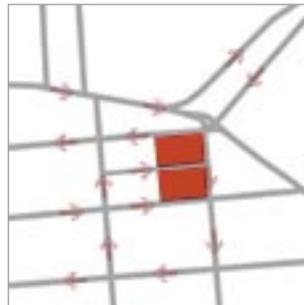


figure 009: traffic orientation

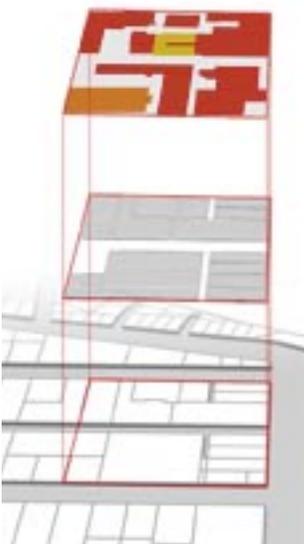


figure 010: zoning and current land use

The site under investigation lies at the corner of Bloed and Prinsloo Streets, with the southern edge defined by Struben Street (refer to figure 007 on page 18). As the figure ground study (figure 008) illustrates, the site lies at the end of the city grid. As described earlier, Boom Street acts as the northern edge of the CBD and Soutpansberg and Dr. Savage Roads constitutes one of the access points into the city from the north. Thus, the site can be seen as a gateway (entering the city via Dr. Savage road focus is directly on the north-eastern corner of the site). As shown by figure 009 most of the roads surrounding the site have been changed into one-way routes thus allowing for very specific viewpoints of and access points onto the site with regards to vehicular movement.

The site covers half a standard Tshwane city block (130m x 220), and is roughly 15 200m² (1.5ha). Brown Street cuts through the site in the east-west direction, decreasing the overall erf sizes but allowing for rear access. The site is divided into 13 erfs with usage zoned for general business. According to the official definition for this use zone, the following activities can be accommodated:

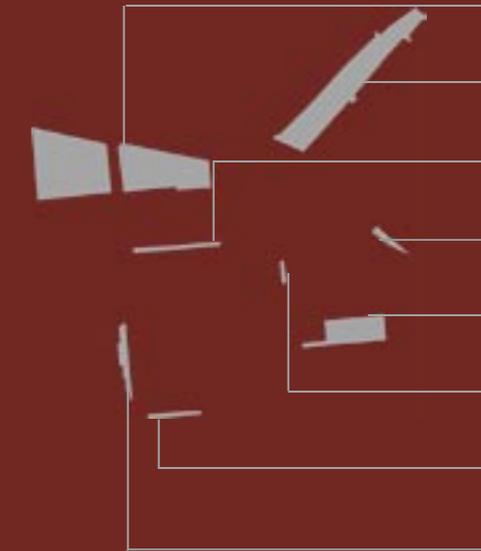
- Business buildings
- Government buildings
- Parking garages
- Places of institution
- Places of public worship
- Places of refreshment
- Residential buildings
- Restricted industries
- Shops
- Social Halls
- Vehicle sales marts.

Current land use is mainly commercial with isolated residential buildings (as per figure 010).

Mobility/activity mapping

Movement on and around the site can be divided into two categories: vehicular movement and pedestrian movement. With the Boom street taxi rank located just north of the site, public transport plays a vital role in the determination of pedestrian movement routes. The site acts as a route rather than a destination for most pedestrians: people move from the taxi rank into the city during the morning rush hours, which is mainly between 08:00 and 10:00, and out of the city toward the rank between 16:00 and 18:00.

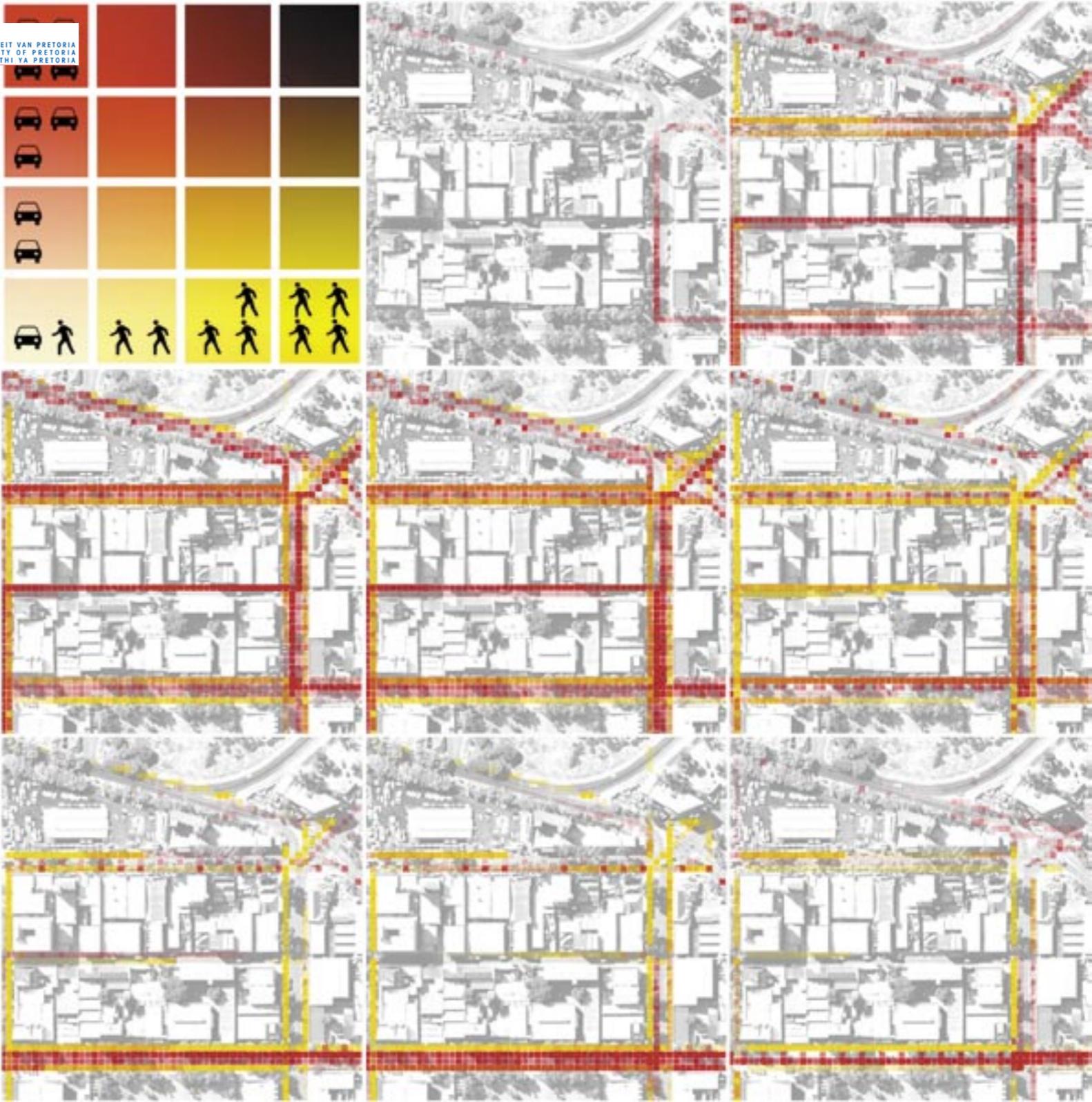
There is also an increase of pedestrian movement between 12:00 and 14:00, when people buy lunch from the various food vendors. With zoning in the area mainly pertaining to offices and institutional usage, the need for street food vendors exists and makes out a major part of the social interaction.



- Boom Street taxi rank (formal)
- Dr. Savage Road taxi rank (formal)
- Brown Street taxi waiting area (informal)
- Edward Street taxi rank (informal)
- Shepherd Street taxi rank (informal)
- Du Toit Street taxi rank (informal)
- Proes Street taxi rank (informal)
- Van Der Walt Street taxi drop-off zone (formal)

The Dr. Savage road taxi rank to the north-east of the site also contributes to pedestrian activity on and around the site. These two formalized ranks are not the only public transport interchanges in the area with Brown Street, Shepard Street and parts of Struben, Prinsloo and Du Toit streets housing informal taxi stops. These taxis enter the city in the mornings from various locations, including Bronkhortspruit and Mpumalanga. Drivers will wait until the evening and return with mostly the same commuters.

Private vehicles mainly move in the East-West direction down Bloed Street (into the city) and Boom Street (out of the city). Dr. Savage road also carries a fair amount of private vehicles as it connects to the north of the greater Tshwane via Soutpansberg road. Activity northbound mainly takes place between 16:00 and 18:00. An increase in vehicular movement southbound down Dr. Savage road and consequently Prinsloo Street take place between 07:00 and 09:00, with people moving into the city from the north.



As can be seen from the activity mapping figures (012, page 24 and 013, page 25), some streets clearly separates vehicular and pedestrian movements. Sidewalks are wide and covered with informal trading stall creating a barrier between high speed traffic and more calm pedestrian movement.

However, there are some points where no clear distinction can be made between vehicular and pedestrian moving zones, thus the activity mapping indicating a chaotic activity scheme. One such area falls within the direct scope of this investigation. The junction directly north-east of the site under investigation, where Boom, Bloed, Dr. Savage, Edmond and Du Toit streets intersects, poses an interesting challenge in terms of movement and accessibility on both a pedestrian and vehicular scale.

Emergence in the self-organizing city

Relationships

The northern sidewalk of Du Toit Street is walled of from the Tshwane University of Technology campus, thus creating a less active street frontage. This, and the comfortably wide sidewalk, has created the opportunity for informal street kitchens to develop. These traders buy their stock from one of the local stores, Ratanama butchery, and the butchery in return stores their equipment there at night. These stalls consisting of steel tables and canopies are set up around 10:00 in the morning, prior to lunch when people will move out of the city to buy food. The stalls are disassembled around 18:00 as patrons buy food prior to embarking on the journey home. The mutual relationship between Ratanama butchery and the informal kitchens and its consequential influence on the environment and movement patterns have created a pedestrian link along the city edge as indicated on figure 014.



figure 014
Du Toit Street informal kitchens



Brown Street cuts through the site in the east-west direction. This allows for service entrance and loading zones for most of the buildings on the site. Orientated as a one way travelling east, this ally is used by taxis as an aid in navigating the one way streets surrounding the site. The proximity of buildings in this narrow street creates a shaded environment thus informal ranking takes place there during the day. Pedestrian activity is limited: the back side of buildings limit visibility and thus the area becomes unsafe; there are only two access points, thus movement is limited with only one possible escape route.

The corner of Bloed and Prinsloo Street is defined by a one storey building with a canopy covering the sidewalk held up by concrete columns. This building forms a landmark when accessing the city via Dr. Savage road with the focus on this corner. The building has a unique bazaar quality which adds greatly to the spirit of the area. The main uses located within the structure include a typical corner convenience store, a fitment centre and a doctor. The canopy and amount of pedestrian movement (to and from the Bloed Street Taxi Rank) allows for informal trade to take place, which also creates a barrier between pedestrian and vehicular movement. The stalls trade in food, snacks and traditional remedial products.

The pedestrian activity in Struben Street is in direct contrast to that of Bloed and Du Toit Street as there exists no relationship between the building frontages, the sidewalk or the street. Where Du Toit Street sidewalk allows for relaxing while having lunch, and Bloed Street sidewalk facilitates movement and trading, Struben Street sidewalk infrastructure creates an unpleasant, car and parking orientated zone. The building facades are set back with no canopy or overhang and some are fenced off for security reasons. The southern sidewalk is defined by a palisade fence overlooking a parking lot. There are no informal trading as pedestrian movement is almost non existing.

figure 015: View down Du Toit Street sidewalk with the informal kitchens acting as barrier between pedestrian and vehicular movement (by author)

figure 016: Bloed Street telephone box

figure 017: Corner of Bloed and Du Toit Streets. The corner is defined by the canopy held up by red columns. This building adds to the character of the area

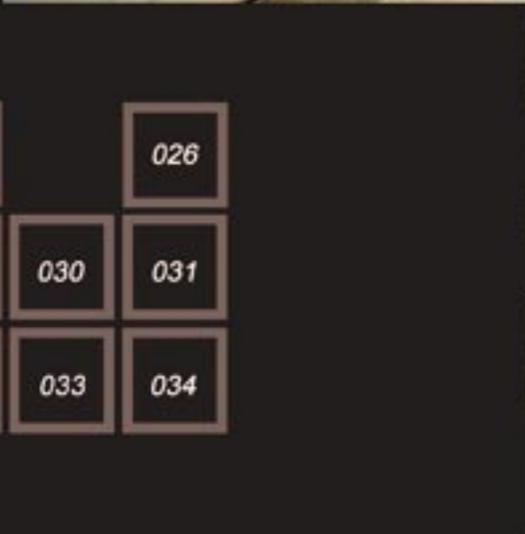
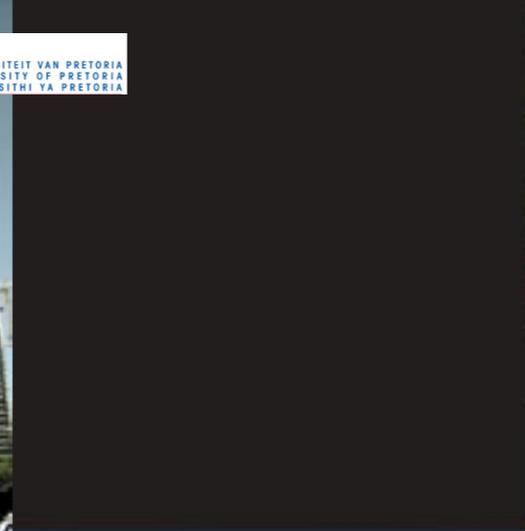
figure 018: Du Toit Street with informal kitchens on sidewalk

figure 019: Ratanama butchery sidewalk (Bloed Street)

figure 020: Prinsloo Street with the corner shop in the background.

figure 021: Prinsloo Street sidewalk. The edge of the sidewalk is used for trade of food and remedial products. This created a barrier between pedestrian and vehicular movement.

figure 022: Ratanama butchery, Bloed street.



023	024	025	026
027	028	029	030
	031	032	033
		034	

Figure 023: Brown Street urban fabric (Author)

Figure 024: Brown Street informal taxi rank (Author)

Figure 025: Existing building canopies create roof for informal ranking in Brown Street (Autor)

Figure 026: View over parking terrain from Struben Street (author)

Figure 027: Prinsloo Street informal trading under existing building canopy (author)

Figure 028: Soutpansperg road: exit route to the North-east (author)

Figure 029: Existing building canopies create roof for informal ranking in Brown Street (Autor)

Figure 030: Urban fabric along Struben Street (author)

Figure 031: Urban fabric along Struben Street (author)

Figure 032: Existing building canopies create roof for informal ranking in Brown Street (Autor)

Figure 033: Urban fabric along Struben Street (author)

Figure 034: Fenced off sidewalk in Struben Street (author)

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