



ABSTRACT

Through urban design a number of spatial and developmental challenges can be mitigated or completely eradicated, thus appropriating urban spaces in order to create robust urban environments for humans to work, live, shop and play. In so doing, a number of urban design tools and urban design principles are applied in transforming undesirable urban environments. Economic stimulation, through the optimisation of public transport infrastructure is also possible. This research aims to establish what constitutes a robust urban environment, identify the key urban design principles that can be used to transform an undesirable urban precinct to desirable and robust urban precincts. These principles are then applied to the study area, which is bounded by Lenchen Avenue, Jean Avenue, Gerhard Street and John Vorster Avenue. Though this precinct is highly accessible with a wide range of land uses, it is relatively underdeveloped. The precinct is inundated with development challenges that include, fragmented development, lack of essential public amenities, unsafe public spaces and vehicular/ pedestrian conflict to mention but a few. This precinct is a business core for the City of Tshwane and is highly connected with easy access to the major national roads like the N1 and the N14. It was developed with the main aim of decongesting the congested commercial activities in the Pretoria CBD. Owing to its strategic location, the study area has potential to be commercially viable, and a thriving hub with mixed economies that can be safely used by people. The theme for this research is "The application of Urban Design Principles to Create Habitable, Safe and Self-sustainable Urban Precinct: The Case of Centurion Gautrain Station Precinct". The main research question being "What role can urban design principles play in transforming undesirable urban spaces to desirable urban spaces?". Key concepts from Responsive Environments relating to permeability, variety, legibility, robustness, visual appropriateness richness and, personalization will be applied to the study area through design.