EXECUTIVE SUMMARY

Identification of Pilot Projects within the North Public Transport Corridor

NOVEMBER 2017
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<tr>
<td>Project Number:</td>
<td>DD0090</td>
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<tr>
<td>Report for:</td>
<td>Ethekwini Strategic Spatial Planning</td>
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**REVISIONS**

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<th>Change Overview</th>
<th>Prepared by</th>
<th>Reviewed by</th>
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<tr>
<td>Revision 0</td>
<td>Nov 2017</td>
<td>Revision 0</td>
<td>R Moodley</td>
<td>M Van Der Meulen</td>
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**SMEC COMPANY DETAILS**

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[www.smec.com](http://www.smec.com)

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<td>4</td>
<td>Umgeni layout</td>
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1. INTRODUCTION

The SMEC team was appointed by the eThekwini Municipality for the Identification of Pilot Projects within the Northern Public Transport Corridor (NPTC) in 2016, i.e. the northern part of the Corridor C2 from Bridge City and KwaMashu via Berea Road to Umlazi and Isipingo. This corridor focuses on rail transport supported by the bus rapid transport network and the taxi feeder system. The focus of the study has therefore been the development of Transit Oriented Development (TOD) opportunities around the rail stations between Umgeni station and Duffs Road. Through various project meetings it was agreed that this project would focus on the following stations:

1. Umgeni
2. Temple
3. Kenville
4. Effingham
5. Duffs Road
6. Briardene
7. Greenwood Park
8. Redhill
9. Avoca

Phase 6 of the study, was to highlight the main project delivery options and to assess the projects in terms of the overall market viability, cost-efficiency and alignment to city goals. Furthermore, the report considers implementation phasing options.

Phase 7 & 8 is a summary of the above phases and conclusion of the project. This report highlights the outcomes, strength and weaknesses as well as further recommendations for future TOD projects of similar nature.

The purpose of this report is to detail the key outcomes of all the phases and recommendations for implementing purposes.
2. PHASE 2 – PILOT PROJECT SITE IDENTIFICATION AND DETAILED ANALYSIS

2.1 Objectives

In Phase 2 of the study, the team was to develop a set of site selection criteria and a scoring system that was applied to each station precinct and associated sites and those that were scored the highest were selected for further consideration.

2.2 Outcome

The following site/station criteria (Refer Table 1) were identified by the team with a scoring system (Refer Table 2) that was applied to these criteria to guide selection of pilot project stations/sites. The result of this analysis is summarised in Table 3 below.

The stations with the highest scoring potential were Umgeni, Greenwood Park.

Table 1: Site Selection Criteria

<table>
<thead>
<tr>
<th>Context</th>
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<tbody>
<tr>
<td></td>
<td>Relationship of station with precinct</td>
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<tr>
<td></td>
<td>Character of area able to assimilate higher densities</td>
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<table>
<thead>
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<th>Transport/Access</th>
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<tr>
<td>Rail access – quality of rail service available to support increased development density and rail ridership; proposed improvements to rail service during plan period</td>
<td></td>
</tr>
<tr>
<td>Bus and taxi access – availability and quality of competing road-based PT services</td>
<td></td>
</tr>
<tr>
<td>NMT access</td>
<td></td>
</tr>
<tr>
<td>Road access</td>
<td></td>
</tr>
<tr>
<td>Intermodal potential</td>
<td></td>
</tr>
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<td>Visual access</td>
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<table>
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<tr>
<th>Development Opportunities</th>
<th></th>
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<tbody>
<tr>
<td>Vacant/undeveloped land vs developed land</td>
<td></td>
</tr>
<tr>
<td>Public vs private land ownership</td>
<td></td>
</tr>
<tr>
<td>Large consolidated site size vs small individual plots</td>
<td></td>
</tr>
<tr>
<td>Existing land development proposals or commitments</td>
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<table>
<thead>
<tr>
<th>TOD/Densification Opportunities</th>
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<tr>
<td>Greenfields, infill, redevelopment and/or densification opportunities</td>
<td></td>
</tr>
<tr>
<td>Public realm upgrades</td>
<td></td>
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<td>Ability of proposed development to increase rail ridership. i.e. TOD</td>
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<th>Development Constraints</th>
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<td>Environmental – D’MOSS, wetlands, etc.</td>
<td></td>
</tr>
<tr>
<td>Topography – steep slopes</td>
<td></td>
</tr>
<tr>
<td>Heritage</td>
<td></td>
</tr>
<tr>
<td>Geotechnical – unstable areas, etc.</td>
<td></td>
</tr>
<tr>
<td>Infrastructure, etc.</td>
<td></td>
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### Table 2: Scoring System

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<th>0 (generally moderate)</th>
<th>neutral/</th>
<th>– (generally negative)</th>
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<td></td>
</tr>
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<td>TOD Impact on PT/Rail Use</td>
<td>High quality rail service with good station access</td>
<td>High quality rail service with poor station access</td>
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<td>Low quality rail service</td>
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<tr>
<td>Availability of Other PT (and planned BRT)</td>
<td>Other PT available within walking distance</td>
<td>Other PT potentially available in future</td>
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<td>Other PT not available</td>
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<td>Connectivity to Main Road Network and Spare Capacity</td>
<td>Good connectivity to main road network and spare capacity</td>
<td>Limited access to main road network and/or limited spare capacity</td>
<td></td>
<td>No direct access to main road network and/or no spare capacity</td>
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<td>NMT Suitability</td>
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<td>Moderate NMT access</td>
<td></td>
<td>Poor NMT access</td>
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<td>Development Opportunities</td>
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<td></td>
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<td>Infill Opportunity</td>
<td>Medium to larger undeveloped lands available</td>
<td>Small undeveloped lands available</td>
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<td>No undeveloped lands available</td>
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<td>Redevelopment Opportunity</td>
<td>Medium to larger redevelopment sites available</td>
<td>Small or limited redevelopment sites available</td>
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<td>Established development area unlikely to be redeveloped</td>
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<td>Intensification/ Rezoning Opportunity</td>
<td>Station precinct has good potential for land use intensification</td>
<td>Station precinct has moderate potential for land use intensification</td>
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<td>Some potential development lands subject to existing proposals</td>
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<tr>
<td>Public Realm Upgrade Opportunity</td>
<td>Good opportunity for station and precinct upgrade</td>
<td>Moderate opportunity for station and precinct upgrade</td>
<td></td>
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<tr>
<td>Development Constraints</td>
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<td>Potential development lands partially covered by floodplain</td>
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<td>Steep Slopes</td>
<td>Potential development lands with no areas steeper than 1:3</td>
<td>Potential development lands with small areas steeper than 1:3</td>
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<th>Temple</th>
<th>Kenville</th>
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<td>Geotechnical</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>4</td>
<td>-2</td>
<td>7</td>
<td>-1</td>
<td>9</td>
<td>1</td>
<td>2</td>
<td>7</td>
</tr>
</tbody>
</table>
3. PHASE 3 – CONCEPTUAL SITE DEVELOPMENT PLANS FOR EACH PILOT SITE

3.1 Objective

The objective of this phase was to refine selection of the stations. Thereafter prepares conceptual layouts and designs for the selected sites.

3.2 Outcome

All stations/sites were further assessed with regard to their TOD potential and development yields that could be generated on the identified sites within each station precinct. This led to Umgeni and Greenwood Park being selected as the two stations with the greatest TOD potential within the 10-year timeframe of the project. The team then developed conceptual site layout plans for each of the pilot project sites in these station precincts for consideration by the client. A public realm and access upgrade project was also identified providing guidance for all of the rail stations within the study.

Based on Table 4 below, Umgeni and Greenwood Park stations have the highest potential for TOD Development. Conceptual Layouts for both these stations were prepared.

### Table 4: TOD Potential identified for each station/site

<table>
<thead>
<tr>
<th>Precinct</th>
<th>TOD Score</th>
<th>Station Context</th>
<th>TOD Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western Rail Line</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Umgeni Station</td>
<td>12</td>
<td>• High quality rail service</td>
<td>Full TOD potential</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Existing pedestrian access to station at grade</td>
<td>• Dual sided station</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Proposed BRT in close proximity</td>
<td>• Mix of residential and commercial uses</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Lack of access to Umgeni Road from adjoining lands</td>
<td>• Phased development approach</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• One-sided development with poor relationship to station</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Number of development opportunities available, including undeveloped lands and</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>re-development potential</td>
<td></td>
</tr>
<tr>
<td>Duffs Road Station</td>
<td>7</td>
<td>• High quality rail service</td>
<td>Full TOD potential</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Steep topography constrains pedestrian access to station from east (ramp) and</td>
<td>• Dual sided station</td>
</tr>
<tr>
<td></td>
<td></td>
<td>west (narrow pedestrian bridge)</td>
<td>• Residential and mixed use development</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Development opportunities available, including large undeveloped site to</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>northeast of station (part of existing development initiative)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Flooding area in southeast portion of large undeveloped site to northeast</td>
<td></td>
</tr>
<tr>
<td>Effingham Station</td>
<td>7</td>
<td>• High quality rail service</td>
<td>TOD potential</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Some redevelopment potential associated with existing industrial/logistics</td>
<td>• Long term high potential</td>
</tr>
<tr>
<td></td>
<td></td>
<td>site to west</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Rail reserve strip to accommodate rapid rail,</td>
<td></td>
</tr>
<tr>
<td>Station</td>
<td>Railway Quality</td>
<td>Station Access</td>
<td>Development Opportunities</td>
</tr>
<tr>
<td>---------------</td>
<td>----------------</td>
<td>----------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>Temple Station</td>
<td>High quality</td>
<td>High quality</td>
<td>Development opportunities available for residential uses to north and industrial uses to south</td>
</tr>
<tr>
<td></td>
<td>rail service</td>
<td>development</td>
<td>Existing initiative underway in relation to upgrading of existing informal settlements</td>
</tr>
<tr>
<td>Kenville Station</td>
<td>Low quality</td>
<td>Limited station access and expansion potential to west</td>
<td>Limited station access and expansion potential to west</td>
</tr>
<tr>
<td></td>
<td>rail service</td>
<td>residential area to east with upgrading and potentially some densification opportunities</td>
<td>Residential area to east with upgrading and potentially some densification opportunities</td>
</tr>
<tr>
<td>Greenwood Park Station</td>
<td>Low quality</td>
<td>Inadequate existing pedestrian access to station from east (tunnel) and west (lane)</td>
<td>Inadequate existing pedestrian access to station from east (tunnel) and west (lane)</td>
</tr>
<tr>
<td></td>
<td>rail service</td>
<td>Some redevelopment opportunities available</td>
<td>Some redevelopment opportunities available</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>mixed use development</td>
</tr>
<tr>
<td>Avoca Station</td>
<td>Low quality</td>
<td>Low quality</td>
<td>Significant undeveloped lands available to north and northwest of station</td>
</tr>
<tr>
<td></td>
<td>rail service</td>
<td>significant undeveloped lands available to north and northwest of station</td>
<td>Significant undeveloped lands available to north and northwest of station</td>
</tr>
<tr>
<td></td>
<td></td>
<td>undeveloped lands north of station already allocated for industrial/logistics developments</td>
<td>Undeveloped lands north of station already allocated for industrial/logistics developments</td>
</tr>
<tr>
<td></td>
<td></td>
<td>flood plain and flooding issues for rail station and surrounding development, including sites to south of station</td>
<td>Flood plain and flooding issues for rail station and surrounding development, including sites to south of station</td>
</tr>
<tr>
<td></td>
<td></td>
<td>existing church and cemetery to south constrains station redevelopment</td>
<td>Existing church and cemetery to south constrains station redevelopment</td>
</tr>
<tr>
<td>Red Hill Station</td>
<td>Low quality</td>
<td>Low quality</td>
<td>Limited development opportunities available</td>
</tr>
<tr>
<td></td>
<td>rail service</td>
<td>limited development opportunities available</td>
<td>Limited development opportunities available</td>
</tr>
<tr>
<td>Briardene Station</td>
<td>Low quality</td>
<td>Low quality</td>
<td>Limited development opportunities available</td>
</tr>
</tbody>
</table>
### Table 5: Opportunities for stations with low TOD opportunity

<table>
<thead>
<tr>
<th>Precinct</th>
<th>TOD Opportunities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Western/Effingham Rail Line</strong></td>
<td></td>
</tr>
</tbody>
</table>
| Temple Station            | - Public realm upgrade – PRASA station improvements and eThekwini public space improvements  
                          |   - Residential densification and infill north of station                            
                          |   - Industrial intensification and infill south of station                           
                          |   - New pedestrian link north of station with new northern station access and potential for dual sided development  
                          |   - New road link north of station to Kenville Road                                   
                          |   - Upgrade pedestrian link and park south of station                                
                          |   - Potential for small market/hawker stalls in park south of station                  |
| Kenville Station          | - Public realm upgrade – PRASA station improvements and eThekwini public space improvements  
                          |   - In situ housing upgrade and infill development at medium to higher densities     
                          |   - New high quality pedestrian link to station with improved taxi access            |
| **Eastern/Avoca Rail Line** |                                                                                     |
| Avoca Station             | - Public realm upgrade – PRASA station improvements and eThekwini public space improvements  
                          |   - Existing development proposals to north                                          
                          |   - Incremental densification and infill of undeveloped properties to south          
                          |   - Upgrade and possible development of park to south                                
                          |   - Reconfiguration of rail station building and platforms – widening of station with an extra track and wider platform, possible new station building integrated with platforms  
                          |   - Improved pedestrian access to station from Chris Hani Road, North Coast Road and Prince Mhlangana Road |
| Red Hill Station          | - Public realm upgrade – PRASA station improvements and eThekwini public space improvements  
                          |   - Incremental densification                                                         |
| Briardene Station         | - Public realm upgrade – PRASA station improvements and eThekwini public space improvements  
                          |   - Incremental densification                                                         |

While the above station precincts have lower TOD potential, there are still nonetheless some TOD opportunities, including upgrading the rail stations, improving public transport and NMT access, upgrading the public realm and encouraging incremental densification around the stations.

### 3.3 Development Principles and Guidelines

The following principles have helped inform the conceptual proposals this phase.
### Table 6: TOD Key Design Elements

<table>
<thead>
<tr>
<th>Element</th>
<th>Outline</th>
</tr>
</thead>
</table>
| **High Quality PT Service and NMT Access** | - High quality PT service, such as a frequent, reliable and rapid rail service  
- PT stops and stations that are convenient, comfortable and secure with features such as comfortable waiting areas, vendors selling refreshments, washrooms, wayfinding and multi-modal navigation tools  
- Neighbourhoods designed for cycling and walking with adequate NMT facilities and supportive street conditions  
- Streets with good connectivity and traffic calming features to control vehicle traffic speeds and prioritise pedestrian, cyclist and PT movements  
- Reduced need for car ownership and increased intermodal transport options  
- Limited surface parking and efficient parking management to reduce the amount of land devoted to parking compared with conventional development |
| **Intensive Mixed Land Uses** | - Clustering and mix of land uses within convenient walking distance of the PT station (typically 5 min for minor stations and 10 min for major stations offering a high speed service) to reduce the distance required for car trips, to allow a greater number of trips to be made by walking and cycling and to generate 24-hour ridership  
- A balanced mix of land uses would include places to work, live, learn, relax and shop for daily needs in each neighbourhood  
- Mixed use would include horizontal (side-by-side) and vertical (within the same building) mixed use  
- Office and retail developments, particularly on main streets and in commercial/mixed use centres  
- High residential densities for housing developments (suggested minimum average densities of around 30 units/ha or preferably greater in the surrounding catchment area and higher densities in the core areas of the node)  
- High employment densities for commercial/mixed use areas (suggested minimum average job densities of around 120 employees/ha in commercial centres)  
- Mixed housing types, including multi-family and single-family  
- Regional facilities that attract high numbers of users  
- Land uses should be able to change over time to meet changing socio-economic needs and demands |
| **High Quality Public Realm and Responsive Built Form** | - Fine-grained urban block structure with an interconnected street network, such as a grid street pattern, to facilitate walkability, disperse traffic and allow for the development of a range of street conditions from busy, vibrant main streets to quiet and intimate thoroughfares  
- High quality public spaces to support higher densities and create more livable communities, including well-designed public squares, markets and streets, active and responsive adjoining land uses and built form and high levels of public space use and street activity  
- Built form and housing design needs to focus on shaping and defining memorable public spaces and streets and creating accessible and walkable communities with high levels of interaction, overlooking and passive surveillance of adjoining public spaces  
- Commercial/mixed use developments should ideally be structured around active urban streets  
- Space extensive regional facilities need to be carefully designed to ensure that they integrate with the (fine-grained) urban structure and do not reduce walkability and permeability  
- Built form should allow for land uses to change over time to meet changing socio-economic needs and demands |
Figure 1: Conceptual Layout for Umgeni Station

Figure 2: Conceptual Layout for Greenwood Park
4. PHASE 4 – DETAILED SITE DEVELOPMENT FOR EACH PILOT SITE

4.1 Objective

The project proposals for the Umgeni and Greenwood Park station precincts were then tested through client and stakeholder engagement and further refined to inform this phase of the project. Phase 4 focused on developing the conceptual site plans into more detailed site development proposals for implementation.

4.2 Outcome

4.2.1 Stakeholder Engagement

These formed an integral part of the project process and assisted to refine the conceptual layout. Key Stakeholders Engagements Issues and responses are summarized in the table below:
Table 7: Stakeholder Engagements and Issues

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Project</th>
<th>Issues Raised</th>
<th>Project Response</th>
<th>Block Ref.</th>
</tr>
</thead>
</table>
| Department of Transport/Department of Public Works | U3 | • MLD requirements for single building floor level, adequate parking and secure access  
• Suggestion to relocate to Percy Osborn Road frontage | • Relocated MLD to Percy Osborn Road frontage with direct public access from Percy Osborn Road  
• Single level building (2,700m²) with expansion potential  
• Basement parking (192 spaces) with expansion potential  
• Secure cash collection access at basement level | U3-B2 |
| Stormwater Drainage Department | U2 | • Flood risk low at U2 and can be mitigated through siting and design  
• Updated flood risk areas will be produced based on LIDAR data  
• Include SUDS/WSUD in design | • Buildings avoid flood risk area  
• Report includes guidelines to deal with flood risk at implementation stage  
• SUDS incorporated into stormwater drainage proposals | U2-B1 |
| Department of Education | U2 / U3 | • Strong need for new schools in inner city  
• 2.8ha minimum site requirement  
• DoE may consider proposals on reduced site size given shortfalls, urban context, etc. | • Primary school site proposed in Project U3  
• Reduced site size necessary due to urban location and land shortages and addressed through sharing of facilities, use of innovative design solutions, etc.  
• Existing MLD building converted back to school use (2,216m²)  
• Existing underutilised park proposed for additional classrooms (1,575m²) and open space  
• Vehicular and pedestrian access provided via laneway off Percy Osborn Road  
• Direct access via pedestrian link to upgraded rail station  
• Shared use of public facility (possible indoor sports facility) in U3  
• Potential acquisition of adjoining privately owned site for open space and/or additional parking | U3-B1 |
| eThekwini Transport Authority | U1 / U2 / U3 | • Traffic generation, new site access points and impact on public roads, particularly Umgeni Road, Smisonkwanqana Road and Windsor Avenue  
• Provision for bus and taxi stops | • Reduce extent of retail development and focus in station development  
• Replace retail with service industry uses long Umgeni Road  
• Introduce additional entrance to U3 from Umgeni Road to reduce traffic volume per access | All |
### Stakeholder | Project | Issues Raised | Project Response | Block Ref. 
--- | --- | --- | --- | --- 
**PRASA/Intersite** | U1 | • Parking provision relative to standards  
• Extent of development and application of TOD (e.g. greater than 10,000m² retail may not be considered TOD) | • Provide as much access to U3 as possible from Percy Osborn Road to reduce impact on Umgeni Road  
• Provide a reasonable level of parking for developments, encourage innovative use of parking, e.g. shared parking, and motivate for reduction in standard for TOD elements | 
**Department of Human Settlements** | U1  
U2  
U3 | • Could consider additional platform over rail and significantly increase development bulk  
• Market segment split – LSM in the Umgeni suggests social housing  
• Umgeni location is in Restructuring zone  
• LAP guidelines for densification to be applied  
• Quality of living environment adjacent railway lines  
• Refer to the proposed public sector housing zone for parking recommendations for Greenwood Park sites  
• Potential invasion risks at Greenwood Park if seen as a Government development. Suggest private FLISP development facilitated, rather than social of CRU. | • Bulk proposed considered reasonable within 10 year period of project given market demand projections  
• Potential for medium to longer term intensification of TOD through vertical expansion and additional air rights development, subject to market demand, public transport improvements, traffic and parking requirements, cost implications, etc.  
• Proposed market segments suggested in schedule  
• Social housing is proposed as one potential development type noted  
• noise attenuation to be factored into costs of development next to rail lines  
• Parking ratios are shown on schedules  
• noted – the proposed built form and densities could suit social, FLISP sectional title, or GAP rental development | U1-B1  
All | **Environmental Planning and Climate Protection Department** | U2 | • Indicated that the Umgeni site forms part of the broader open space system and portions of the site fall in the 1:100 flood line. In light of this and the current green fields status of the site EPCPD does not support a very large scale of development on the site.  
• Specific concerns were raised regarding the | • The buildings avoid flood risk area  
• Report includes guidelines to deal with flood risk, provide adequate parking and protect open space amenity at implementation stage  
• A detailed overview of the proposed number of units was presented which had been reduced since previously presented to EPCPD. This scale of development was deemed to be acceptable. | U2-B1
### Stakeholder

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Project</th>
<th>Issues Raised</th>
<th>Project Response</th>
<th>Block Ref.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Parks and Recreation Department</strong></td>
<td>U2 U3</td>
<td>- Management of parking around the site since the proposals did not include a high parking bay ratio and residents may park in the surrounding open space</td>
<td>- Flexibility provided in relation to public facility types/uses</td>
<td>POS</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Provision of public and private open spaces in Project U2 and U3 to address local needs</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Wider urban context provides access to larger public open space and recreational opportunities, e.g. beachfront, Umgeni River, sports facilities, etc.</td>
<td></td>
</tr>
<tr>
<td><strong>Strategic Planning/ LUMS Department/ ETA</strong></td>
<td>U1</td>
<td>- How to Zone TOD areas appropriately</td>
<td>- Use existing Scheme Zones where possible</td>
<td>All</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Overlay of TOD zones required</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Parking reductions/ Phasing and ultimately maximums to be researched</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- PRASA stations – Special Consent applications but with a waiver for additions and alterations that do not result in major impacts to amenity or traffic</td>
<td></td>
</tr>
<tr>
<td><strong>eThekwini Transport Authority</strong></td>
<td>U1 U2 U3</td>
<td>- Generally supportive of TOD objectives and project proposals</td>
<td>- Support for TOD objectives and project proposals welcomed</td>
<td>All</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Need to consider benefits of proposed development in terms of increased rail/PT ridership, including during off peak times</td>
<td>- Transport team to address benefits for rail/PT ridership in report</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Ensure that future doubling of rail tracks by PRASA can be accommodated in the development of site U1</td>
<td>- Transport team to confirm that future doubling of rail tracks by PRASA can be accommodated in the development of site U1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Show linkages to pedestrian/cycling networks in the broader urban area</td>
<td>- Planning/design team to include a drawing showing the linkages to the wider pedestrian/cycling network</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Indicate how short, medium and longer term rail/PT proposals will be accommodated in Umgeni</td>
<td>- Include guidance/proposals on short (kerbside taxis), medium (kerbside buss) and longer term PT (centre median BRT) can be accommodated in Umgeni</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Shared/adjacent parking can be considered as an option for the development</td>
<td>- Shared/adjacent parking options included in proposals</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Transport team to check trip generation with relevant staff at ETA</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Include support for future conversion of structured parking to other uses in report</td>
<td></td>
</tr>
</tbody>
</table>
These engagements have refined in the detailed plans and land uses for Greenwood Park and Umgeni Stations as depicted below:

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Project</th>
<th>Issues Raised</th>
<th>Project Response</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>• Check trip generation with relevant staff at ETA</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Allow for future conversion of structured parking to other uses</td>
<td></td>
</tr>
</tbody>
</table>
Figure 3: Greenwood Park Layout

Figure 4: Umgeni layout
### EThekwini Strategic Spatial Planning

#### Executive Summary

Identification of Pilot Projects within Northern Public Transport Corridor

---

#### Table 8: Potential Development Yields for Greenwood Park Station

<table>
<thead>
<tr>
<th>Project</th>
<th>Block Area (ha)/Land Use</th>
<th>No. of Floors</th>
<th>GLA / Area</th>
<th>Res Units</th>
<th>Parking Bays</th>
<th>Description/Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1</td>
<td></td>
<td>0.14</td>
<td>3</td>
<td>432</td>
<td>0</td>
<td>0 Greenwood Park Station, PT and NMT Upgrade with Associated Commercial Development</td>
</tr>
<tr>
<td></td>
<td>Office</td>
<td>1</td>
<td>1</td>
<td>85</td>
<td>0</td>
<td>2 storey offices above new station building for PRASA</td>
</tr>
<tr>
<td></td>
<td>Public Concourse</td>
<td>1</td>
<td>1</td>
<td>81</td>
<td>0</td>
<td>Public concourse over rail line linked to pedestrian bridge over Chris Hani Road</td>
</tr>
<tr>
<td></td>
<td>New Station Building</td>
<td>1</td>
<td>1</td>
<td>266</td>
<td>0</td>
<td>Commercial development of air rights not considered viable at this location. Some small scale retail uses could be provided serving commuters using the station</td>
</tr>
<tr>
<td></td>
<td>Parking at Grade</td>
<td></td>
<td>GF</td>
<td></td>
<td>0</td>
<td>Parking at grade, subject to BRT bus/taxi parking requirements</td>
</tr>
<tr>
<td>G2</td>
<td></td>
<td>0.61</td>
<td>3 to 4</td>
<td>5,807</td>
<td>141</td>
<td>Redevelopment of Sites west of Station for Medium Density Residential Development</td>
</tr>
<tr>
<td></td>
<td>Residential (southern site)</td>
<td>4 &amp; 5</td>
<td>3,227</td>
<td>81</td>
<td></td>
<td>4 and 5 storey walk-up residential units. Average unit size of 40m². Pedestrian link to new station</td>
</tr>
<tr>
<td></td>
<td>Residential (northern site)</td>
<td>4</td>
<td>2,407</td>
<td>60</td>
<td></td>
<td>4 storey walk-up residential units. Average unit size of 40m². Pedestrian link to new station</td>
</tr>
<tr>
<td></td>
<td>Parking at Grade</td>
<td></td>
<td>GF</td>
<td></td>
<td>0</td>
<td>Parking at grade, subject to BRT bus/taxi parking requirements</td>
</tr>
<tr>
<td>G3</td>
<td></td>
<td>0.35</td>
<td>4</td>
<td>5,270</td>
<td>0</td>
<td>Redevelopment of Site east of Station for Mixed Use/Commercial Development</td>
</tr>
<tr>
<td></td>
<td>Office</td>
<td>2</td>
<td>2,635</td>
<td></td>
<td></td>
<td>Commercial development most likely a mix of retail/service industry on lower floors and office on upper floors. Entry off Chris Hani Road and exit onto Orange Grove. Linked to BRT and new station</td>
</tr>
<tr>
<td></td>
<td>Retail/Service Industry</td>
<td>2</td>
<td>2,635</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Parking at Grade</td>
<td></td>
<td>GF</td>
<td></td>
<td>0</td>
<td>Parking at grade, subject to BRT bus/taxi parking requirements</td>
</tr>
<tr>
<td>POS</td>
<td></td>
<td></td>
<td>GF</td>
<td>835</td>
<td>30</td>
<td>Key Public Spaces providing access to new station building, public concourse and pedestrian bridge</td>
</tr>
<tr>
<td>POS 1</td>
<td>Public Space</td>
<td></td>
<td>GF</td>
<td>205</td>
<td></td>
<td>Public hard surface space at western entrance to new station building and public concourse</td>
</tr>
<tr>
<td>POS 2</td>
<td>Public Space</td>
<td></td>
<td>GF</td>
<td>90</td>
<td></td>
<td>Public hard surface space at western entrance to new station building and public concourse</td>
</tr>
<tr>
<td>POS 3</td>
<td>Public Space</td>
<td></td>
<td>GF</td>
<td>540</td>
<td></td>
<td>Public hard surface space at western entrance to new station building and public concourse</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>1.10</td>
<td>3 to 5</td>
<td>11,335</td>
<td>141</td>
<td>110</td>
</tr>
<tr>
<td></td>
<td>Residential</td>
<td>4 &amp; 5</td>
<td>5,634</td>
<td>141</td>
<td></td>
<td>Could be Social housing, although 150 units is more feasible. Could be sectional title FLISP units</td>
</tr>
<tr>
<td></td>
<td>Office</td>
<td>2 to 4</td>
<td>2,720</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Public Concourse</td>
<td>1</td>
<td>1</td>
<td>81</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>New Station Building</td>
<td>1</td>
<td>1</td>
<td>266</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Retail/Service Industry</td>
<td>1 to 2</td>
<td>2,635</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Parking at Grade</td>
<td></td>
<td>GF</td>
<td></td>
<td>0</td>
<td>Parking at grade, subject to BRT bus/taxi parking requirements</td>
</tr>
<tr>
<td>POS</td>
<td>Public Space</td>
<td></td>
<td>GF</td>
<td></td>
<td></td>
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</tbody>
</table>
Table 9: Potential Development Yields for Umgeni Station

<table>
<thead>
<tr>
<th>Blocks</th>
<th>Block Area (ha) / Land Use</th>
<th>No. of Floors</th>
<th>GLA / Area</th>
<th>Residential Units</th>
<th>Parking Bays</th>
</tr>
</thead>
<tbody>
<tr>
<td>U1</td>
<td>Residential (in Mixed Use)</td>
<td>1.76</td>
<td>4 to 8</td>
<td>20,780</td>
<td>175</td>
</tr>
<tr>
<td></td>
<td>Public Concourse</td>
<td>1</td>
<td></td>
<td>6,659</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Office</td>
<td>2 to 8</td>
<td></td>
<td>4,369</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Retail</td>
<td>1</td>
<td></td>
<td>3,137</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Service Industry</td>
<td>2</td>
<td></td>
<td>5,797</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Structured Parking</td>
<td>1</td>
<td></td>
<td>5,172</td>
<td></td>
</tr>
<tr>
<td>POS</td>
<td>Public Space</td>
<td></td>
<td></td>
<td>500</td>
<td></td>
</tr>
<tr>
<td>U2</td>
<td>Residential - Affordable</td>
<td>1.50</td>
<td>3 to 12</td>
<td>33,431</td>
<td>453</td>
</tr>
<tr>
<td></td>
<td>Residential - Market</td>
<td></td>
<td></td>
<td>20,260</td>
<td>338</td>
</tr>
<tr>
<td></td>
<td>Office</td>
<td>9</td>
<td></td>
<td>8,186</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Community</td>
<td>1</td>
<td></td>
<td>370</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Structured Parking</td>
<td>1 to 3</td>
<td></td>
<td>11,949</td>
<td></td>
</tr>
<tr>
<td>POS</td>
<td>Public Space</td>
<td>GF</td>
<td></td>
<td>1,070</td>
<td></td>
</tr>
<tr>
<td>OS</td>
<td>Private Open Space</td>
<td></td>
<td></td>
<td>1,520</td>
<td></td>
</tr>
<tr>
<td>U3</td>
<td>Residential (in Mixed Use)</td>
<td>2.20</td>
<td>2 to 9</td>
<td>20,595</td>
<td>265</td>
</tr>
<tr>
<td></td>
<td>Residential</td>
<td>3</td>
<td>to 8</td>
<td>4,352</td>
<td>79</td>
</tr>
<tr>
<td></td>
<td>Community/Institutional</td>
<td>1 to 2</td>
<td></td>
<td>6,846</td>
<td></td>
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<tr>
<td></td>
<td>Retail</td>
<td>1</td>
<td></td>
<td>289</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Service Industry</td>
<td>1</td>
<td></td>
<td>1,692</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Structured Parking</td>
<td>1 to 2</td>
<td></td>
<td>13,066</td>
<td></td>
</tr>
<tr>
<td>POS</td>
<td>Public Space</td>
<td>GF</td>
<td></td>
<td>1,260</td>
<td></td>
</tr>
<tr>
<td>POS</td>
<td>Public Open Space</td>
<td>GF</td>
<td></td>
<td>340</td>
<td></td>
</tr>
<tr>
<td>OS</td>
<td>Private Open Space</td>
<td>GF</td>
<td></td>
<td>1,795</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>5.46</td>
<td>2 to 12</td>
<td>74,806</td>
<td>893</td>
</tr>
<tr>
<td></td>
<td>Residential (in Mixed Use)</td>
<td></td>
<td>1.5 to 5</td>
<td>14,075</td>
<td>415</td>
</tr>
<tr>
<td></td>
<td>Residential</td>
<td>3 to 9</td>
<td></td>
<td>29,227</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Office</td>
<td>2 to 9</td>
<td></td>
<td>12,555</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Public Concourse</td>
<td>1</td>
<td></td>
<td>819</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Community/Institutional</td>
<td>1 to 2</td>
<td></td>
<td>7,216</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Retail</td>
<td>1</td>
<td></td>
<td>3,426</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Service Industry</td>
<td>1 to 2</td>
<td></td>
<td>7,489</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Structured Parking</td>
<td>1 to 3</td>
<td></td>
<td>30,187</td>
<td></td>
</tr>
<tr>
<td>POS</td>
<td>Public Space</td>
<td>GF</td>
<td></td>
<td>2,830</td>
<td></td>
</tr>
<tr>
<td>POS</td>
<td>Public Open Space</td>
<td>GF</td>
<td></td>
<td>340</td>
<td></td>
</tr>
<tr>
<td>OS</td>
<td>Private Open Space</td>
<td></td>
<td></td>
<td>3,315</td>
<td></td>
</tr>
</tbody>
</table>
5. PHASE 5 – REZONING FOR EACH SITE

The purpose of Phase 5 was to package the Statutory Planning and Land Assembly Applications that would be necessary to facilitate the release of land for the TOD development proposed around the Umgeni Park and Greenwood Park stations. The Municipality (or identified agency) will then undertake the actual Statutory Application process.

The applications procedures and details for both Greenwood Park and Umgeni are as indicated below:

5.1 Greenwood Park – Statutory Applications

- **Application 1: Project G1** – Greenwood Park Station, Public Transport and NMT Upgrade with Associated Commercial Development- SPECIAL CONSENT APPLICATION and POSSIBLE REZONING

- **Application 2: Project G2** – Redevelopment of Underutilised Sites west of Greenwood Park Station for Medium Density Residential Development- REZONING APPLICATION, SUBDIVISION AND CONSOLIDATION

- **Application 3: Project G3** – Redevelopment of Underutilised Site East of Greenwood Park Station For Mixed Use/Commercial Development - REZONING APPLICATION

5.2 Umgeni Station - Statutory Applications

- **Application 1: Project U1** – Umgeni Station, Public Transport and NMT Upgrade with Air Rights and Mixed Use Development- SPECIAL CONSENT APPLICATION

- **Application 2: Project U2** – Mixed Use Development on Windsor Driving Range Site, East of Station, including Public, Residential and Commercial Uses- CLOSURE OF PUBLIC OPEN SPACE AND REZONING APPLICATION

- **Application 3: Project U3** (B1, B2 and B3, POS3_1, POS3_2) Primary School, New Motor Licensing Bureau, new Multi-purpose Hall, and Open Space next to MLB and next to Multi-purpose Hall,- REZONING APPLICATION, SUBDIVISION AND CONSOLIDATION

- **Application 4: Project U3 (B4 and B5)** Mixed Use Development Along Umgeni Road (Residential, Retail, Service Industry, Structured Parking)- REZONING APPLICATION, SUBDIVISION

- **Application 5: Project U3 (B6, B7 and B8)** Residential Development along Smiso Nkwanyana Road- REZONING APPLICATION, SUBDIVISION
## 6. PHASE 6 - IMPLEMENTATION, BUDGETING AND PHASING

A summary of the costs for Greenwood Park and Umgeni are summarized below as indicated below:

### 6.1 Greenwood Park Development Costs (Includes provision for external bulk and public realm)

#### 6.1.1 Project G1
- Construction: R32 236 023.48
- Professional Fees: R7 414 285.40
- Total: R45 201 352.13

#### 6.1.2 Project G2
- Construction: R181 016 294.66
- Professional Fees: R41 633 747.77
- Total: R253 821 048.37

#### 6.1.3 Project G3
- Construction: R162 748 671.62
- Professional Fees: R37 432 194.47
- Total: R228 206 187.35
6.2 Umgeni Station Development Costs *(includes provision for external bulk and public realm)*

### 6.2.1 Project U1
- Construction: R764 028 033.48
- Professional Fees: R169 972 753.15
- Total: R1 064 760 896.75

### 6.2.2 Project U2
- Construction: R1 272 286 728.54
- Professional Fees: R292 625 947.57
- Total: R1 784 000 450.76

### 6.2.3 Project U3
- Construction: R381 036 228.25
- Professional Fees: R78 493 463.02
- Total: R523 863 848.05

6.3 Residential Market Demand

#### 6.3.1 Greenwood Park Station

**Table 10: Projected Residential Demand**

<table>
<thead>
<tr>
<th>Year</th>
<th>Projected number of households in market area</th>
<th>Additional / incremental demand per year</th>
<th>Accumulated demand for residential units</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>1 538</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2022</td>
<td>1 639</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>2027</td>
<td>1 745</td>
<td>107</td>
<td>207</td>
</tr>
<tr>
<td>2030</td>
<td>1 812</td>
<td>67</td>
<td>274</td>
</tr>
</tbody>
</table>
Table 11: Residential demand per Income Group

<table>
<thead>
<tr>
<th>Annual income category</th>
<th>Affordability classification</th>
<th>Percentage</th>
<th>Number of residential units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>2022</td>
<td>2027</td>
</tr>
<tr>
<td>No Income</td>
<td>BNG Low</td>
<td>10.7%</td>
<td>11</td>
</tr>
<tr>
<td>&lt; R4,800</td>
<td>BNG Low</td>
<td>4.3%</td>
<td>4</td>
</tr>
<tr>
<td>R4,800 - R9,600</td>
<td>BNG Middle</td>
<td>5.3%</td>
<td>5</td>
</tr>
<tr>
<td>R9,600 - R19,600</td>
<td>BNG Upper</td>
<td>8.8%</td>
<td>9</td>
</tr>
<tr>
<td>R19,600 - R38,200</td>
<td>BNG Enhanced, FUISP Low, Social Housing</td>
<td>7.2%</td>
<td>7</td>
</tr>
<tr>
<td>R38,200 - R76,400</td>
<td>BNG Enhanced, FUISP Low, Social Housing</td>
<td>8.0%</td>
<td>8</td>
</tr>
<tr>
<td>R76,400 - R153,800</td>
<td>FUISP High, Bonded Low, Social Housing</td>
<td>14.8%</td>
<td>15</td>
</tr>
<tr>
<td>R153,800 - R307,600</td>
<td>Bonded Low</td>
<td>18.1%</td>
<td>18</td>
</tr>
<tr>
<td>R307,600 - R614,000</td>
<td>Bonded Medium - High</td>
<td>16.8%</td>
<td>17</td>
</tr>
<tr>
<td>R614,000 - R1,228,800</td>
<td>Bonded Medium - High</td>
<td>4.5%</td>
<td>4</td>
</tr>
<tr>
<td>R1,228,800 - R2,457,600</td>
<td>Bonded High</td>
<td>0.8%</td>
<td>1</td>
</tr>
<tr>
<td>&gt; R2,457,600</td>
<td>Bonded High</td>
<td>0.7%</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>100.0%</td>
<td>100</td>
</tr>
</tbody>
</table>

BNG = Breaking New Ground  
FUISP = Finance Linked Individual Subsidy Programme

6.3.2 Umgeni Station

Table 12: Projected Residential demand

<table>
<thead>
<tr>
<th>Year</th>
<th>Projected number of households in market area</th>
<th>Additional / incremental demand per year</th>
<th>Accumulated demand for residential units</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>3 972</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2022</td>
<td>4 389</td>
<td>417</td>
<td>417</td>
</tr>
<tr>
<td>2027</td>
<td>4 849</td>
<td>460</td>
<td>877</td>
</tr>
<tr>
<td>2030</td>
<td>5 148</td>
<td>299</td>
<td>1 176</td>
</tr>
</tbody>
</table>
Table 13: Residential demand per income group

<table>
<thead>
<tr>
<th>Annual income category</th>
<th>Affordability classification</th>
<th>Percentage</th>
<th>2022</th>
<th>2027</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Income</td>
<td>BNG Low</td>
<td>13.5%</td>
<td>45</td>
<td>94</td>
<td>126</td>
</tr>
<tr>
<td>&lt; R4,800</td>
<td>BNG Low</td>
<td>1.6%</td>
<td>18</td>
<td>38</td>
<td>51</td>
</tr>
<tr>
<td>R4,800-R9,600</td>
<td>BNG Middle</td>
<td>2.1%</td>
<td>22</td>
<td>47</td>
<td>62</td>
</tr>
<tr>
<td>R9,600-R19,600</td>
<td>BNG Upper</td>
<td>6.8%</td>
<td>37</td>
<td>77</td>
<td>103</td>
</tr>
<tr>
<td>R19,600-R38,200</td>
<td>BNG Enhanced, FISP Low, Social Housing</td>
<td>9.7%</td>
<td>30</td>
<td>63</td>
<td>85</td>
</tr>
<tr>
<td>R38,200-R76,400</td>
<td>BNG Enhanced, FISP Low, Social Housing</td>
<td>11.9%</td>
<td>33</td>
<td>70</td>
<td>94</td>
</tr>
<tr>
<td>R76,400-R153,800</td>
<td>FISP High, Bonded Low, Social Housing</td>
<td>16.1%</td>
<td>62</td>
<td>130</td>
<td>174</td>
</tr>
<tr>
<td>R153,800-R307,600</td>
<td>Bonded Low</td>
<td>17.7%</td>
<td>75</td>
<td>158</td>
<td>212</td>
</tr>
<tr>
<td>R307,600-R614,000</td>
<td>Bonded Medium - High</td>
<td>12.7%</td>
<td>70</td>
<td>148</td>
<td>198</td>
</tr>
<tr>
<td>R614,000-R1,228,800</td>
<td>Bonded Medium - High</td>
<td>5.5%</td>
<td>19</td>
<td>39</td>
<td>53</td>
</tr>
<tr>
<td>R1,228,800-R2,457,600</td>
<td>Bonded High</td>
<td>1.5%</td>
<td>3</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td>&gt; R2,457,600</td>
<td>Bonded High</td>
<td>0.8%</td>
<td>3</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>100.0%</td>
<td>417</td>
<td>877</td>
<td>1176</td>
</tr>
</tbody>
</table>

BNG = Breaking New Ground
FISP = Finance Linked Individual Subsidy Programme

6.4 Commercial Demand

6.4.1 Greenwood Park Station & TOD

Table 14: Office Demand – Greenwood Park

<table>
<thead>
<tr>
<th>Year</th>
<th>2017</th>
<th>2022</th>
<th>2027</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office GLA (m²)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>5 491</td>
<td>5 795</td>
<td>6 118</td>
<td>6 322</td>
</tr>
<tr>
<td>2022</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
6.4.2 Umgeni Station & TOD

Table 15: Retail Demand – Greenwood Park

<table>
<thead>
<tr>
<th>Expenditure Category</th>
<th>GLA Demanded 2017 (m²)</th>
<th>Future GLA demand projections (m²)</th>
<th>2022</th>
<th>2027</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>Durable goods</td>
<td>1 141</td>
<td></td>
<td>1 399</td>
<td>1 595</td>
<td>1 727</td>
</tr>
<tr>
<td>Semi-durable goods</td>
<td>1 959</td>
<td></td>
<td>2 380</td>
<td>2 763</td>
<td>3 023</td>
</tr>
<tr>
<td>Non-durable goods</td>
<td>5 172</td>
<td></td>
<td>5 229</td>
<td>5 332</td>
<td>5 395</td>
</tr>
<tr>
<td>Services</td>
<td>5 677</td>
<td></td>
<td>6 531</td>
<td>7 233</td>
<td>7 690</td>
</tr>
<tr>
<td>Total GLA Demanded from Market Area</td>
<td>13 948</td>
<td></td>
<td>15 538</td>
<td>16 924</td>
<td>17 834</td>
</tr>
</tbody>
</table>

Table 16: Retail Demand – Umgeni Station

<table>
<thead>
<tr>
<th>Expenditure Category</th>
<th>GLA Demanded 2017 (m²)</th>
<th>Future GLA demand projections (m²)</th>
<th>2022</th>
<th>2027</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>Durable goods</td>
<td>565</td>
<td></td>
<td>693</td>
<td>790</td>
<td>855</td>
</tr>
<tr>
<td>Semi-durable goods</td>
<td>970</td>
<td></td>
<td>1 179</td>
<td>1 369</td>
<td>1 497</td>
</tr>
<tr>
<td>Non-durable goods</td>
<td>2 562</td>
<td></td>
<td>2 590</td>
<td>2 641</td>
<td>2 672</td>
</tr>
<tr>
<td>Services</td>
<td>2 812</td>
<td></td>
<td>3 235</td>
<td>3 583</td>
<td>3 809</td>
</tr>
<tr>
<td>Total GLA Demanded from Market Area</td>
<td>6 909</td>
<td></td>
<td>7 697</td>
<td>8 383</td>
<td>8 834</td>
</tr>
</tbody>
</table>

Table 17: Office Demand – Umgeni Station

<table>
<thead>
<tr>
<th>Year</th>
<th>2017</th>
<th>2022</th>
<th>2027</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office GLA (m²)</td>
<td>12 331</td>
<td>13 013</td>
<td>13 739</td>
<td>14 197</td>
</tr>
</tbody>
</table>
6.5 **Increase in property Market Value and Project Increase in Rates Revenue**

### 6.5.1 Greenwood Park Summary of Market Value

**G1 Greenwood Park Station, Public Transport (PT) and NMT Upgrade**

<table>
<thead>
<tr>
<th></th>
<th>0-5 YEARS</th>
<th>5-10 YEARS</th>
<th>10-15 YEARS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Future Value</td>
<td>R 2 493 750</td>
<td>R 3 352 971</td>
<td>R 4 508 237</td>
</tr>
</tbody>
</table>

**G2 Redevelopment of Under-utilised Sites West of Greenwood Park Station for Medium Density Residential**

<table>
<thead>
<tr>
<th></th>
<th>0-5 YEARS</th>
<th>5-10 YEARS</th>
<th>10-15 YEARS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Future Value- Direct Method</td>
<td>R 56 338 000</td>
<td>R 75 749 251</td>
<td>R 101 848 647</td>
</tr>
<tr>
<td>Future Value-Income Method</td>
<td>R 58 307 211</td>
<td>R 78 396 953</td>
<td>R 105 408 614</td>
</tr>
</tbody>
</table>

**G3 Redevelopment of Under-utilised Site East of Greenwood Park Station for Mixed Use/Commercial Development**

<table>
<thead>
<tr>
<th></th>
<th>0-5 YEARS</th>
<th>5-10 YEARS</th>
<th>10-15 YEARS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Future Value</td>
<td>R 35 703 257</td>
<td>R 49 977 611</td>
<td>R 66 706 182</td>
</tr>
</tbody>
</table>

**Total for Greenwood Park TOD**

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Future Market Value</td>
<td>R 94 535 007</td>
<td>R 129 079 833</td>
<td>R 173 063 066</td>
</tr>
</tbody>
</table>

### 6.5.2 Umgeni Station Summary of Market Values

**Summary of Market Values**

<table>
<thead>
<tr>
<th></th>
<th>0-5 YEARS</th>
<th>5-10 YEARS</th>
<th>10-15 YEARS</th>
</tr>
</thead>
<tbody>
<tr>
<td>U1</td>
<td>R 109 188 210</td>
<td>R 207 078 618</td>
<td>R 269 552 214</td>
</tr>
<tr>
<td>U2</td>
<td>R 376 140 24</td>
<td>R 508 908 998</td>
<td>R 675 604 618</td>
</tr>
<tr>
<td>U3</td>
<td>R 148 933 89</td>
<td>R 202 808 174</td>
<td>R 272 048 509</td>
</tr>
</tbody>
</table>

**Total Umgeni Station TOD**

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Future Market Values</td>
<td>R 634 262 351</td>
<td>R 918 795 791</td>
<td>R 1 217 205 341</td>
</tr>
</tbody>
</table>
7. **LESSONS LEARNED**

- The current constraints to developing and implementing innovative TOD proposals and projects and the need for a move away from business as usual in order to develop more appropriate, responsive and viable approaches to urban restructuring.
- This highlights the need for various municipal departments and other key stakeholders, such as PRASA, to engage and collaborate around the complex issues raised by innovative urban restructuring projects and to develop appropriate multi-agency and multi-sectoral responses that will facilitate the delivery of such projects.
- The importance of using an urban design based approach to develop appropriate context sensitive proposals for TOD and other forms of urban restructuring at the precinct / site development scale. This scale of project allows for broader spatial planning policies and objectives (spatial transformation, TOD, etc.) to be unpacked and tested at the local precinct level and for more informed and realistic approaches and responses to be developed that can achieve broader spatial planning policies and objectives.
- It is recommended that eThekwini Municipality consider undertaking further such pilot projects with a strong urban design focus at the precinct / site development scale to give effect to, and help to realize, broader spatial planning policies and objectives within the metro area.
- The NPTC pilot project has also highlighted the need to undertake a city-wide TOD study/project, with associated changes to the planning scheme, to facilitate and support the implementation of innovative TOD proposals, such as that proposed for the Umgeni station precinct, in other suitable locations within the metro area. A key component of this will be to review and develop guidance for determining the appropriate level/s of parking reductions and/or increased development rights for TOD projects in different contexts and for different types of land use development.
8. **RECOMMENDATIONS**

At a city-wide level, it is proposed that the Municipality embark on a TOD project to clearly define the nature of, and requirements for, unlocking and realising the TOD potential and opportunities within the eThekwini metropolitan area. This will include the following key aspects:

- Criteria for selecting spatial locations that are suitable for TOD
- Identification of suitable TOD locations using these criteria
- Development controls that will facilitate TOD, including more intensive built forms integrated with public transport and NMT, such as the nature and extent of reduced parking requirements, increased development rights, increased heights, etc.
- Implementation strategies that will unlock TOD opportunities in the identified locations
- Operational requirements required to ensure that TOD projects will be operated and managed effectively, including public access, safety and security, traffic calming, parking, ongoing maintenance etc.

It is recommended that a TOD overlay be developed and incorporated within the planning scheme to avoid the creation of new land use zones and to provide sufficient guidance and flexibility in the application of TOD proposals appropriate to different contexts. This TOD overlay would provide the basis for the Municipality to consider the following options:

- Increased development rights from those proposed in the base land use zoning, for example reduced building lines and increased height, coverage and FAR to promote increased densities and to support perimeter block development and other innovative built forms that support TOD and a high quality public realm
- Reduced parking requirements from those proposed in the base land use zoning, to encourage a shift to public transport and to increase the viability of TOD and the development yields that can be achieved in the identified TOD locations

The TOD project and the development of a TOD overlay zone would need to include all relevant Municipal departments, including Strategic Planning, LUMS and ETA, as well as other key stakeholders, such as PRASA and KZN DoT. The project would need to develop clear guidelines and proposals to provide certainty to the Municipality, state agencies, private developers, property owners and residents in developing, regulating and operating TOD proposals.

**Overall Scheme Amendment for Reduced Parking Ratios in TOD areas as identified in the TOD overlay**

Introduce a new Clause into the Planning Schemes Parking Clause to accommodate the reduced parking ratio. This aspect may be phased as follows:

- Phase 1 – a reduction in parking standards of 50% for the Umgeni Station Precinct and the Greenwood Park Station Precinct as per the precinct plans prepared and adopted in 2017.
8.1 General Priority Interventions

- **NPTC Project Approval** – put forward the NPTC for adoption by Council and encourage other key stakeholders to provide in principle support for the NPTC vision and overall TOD proposals.
- **Project Lead/Champion/Vehicle** – identify municipal project lead/champion and implementation vehicle, preferably through the Inner City regeneration committee/agency.
- **Environmental/Heritage Requirements** – address any Environmental or AMAFA requirements.
- **Planning Scheme Review** – review the planning scheme to support TOD, including provision for reduced parking requirements and increased development rights in appropriate locations (refer to proposed TOD project).
- **Project Implementation** – develop project sites in accordance with agreed and approved site development plans and detailed design proposals.
- **Project Monitoring and Review** – monitor and review progress in implementing projects and achieving the TOD objectives for the developments and, where required, introduce measures to improve project performance.

8.2 Specific Priority Intervention

8.2.1 Project U1 – Short Term (0-5 years)

**Public Transport:**
ETA to provide dedicated bus/taxi stops either side of Umgeni Road.

**Land Release/Project Packaging:**
PRASA/Intersite to prepare master plan for rail station upgrade and associated lands.

Prepare building plans for the first phases of the station upgrade and concourse development; and Special Consent Application for public comment and approval by the Municipal Planning Tribunal.
8.2.2 Project U1 (5 – 10 years)

**Public Transport/NMT:**
- ETA to provide BRT facility, bus lanes along Umgeni Road and pedestrian bridge over Umgeni Road
- PRASA to upgrade rail station access and develop public concourse over platforms in alignment with NPTC proposals (short to medium term)

**Project Implementation (Block U1-B1, U1-B2):**
- Develop mixed use along Umgeni Road (block U1-B2), including public realm improvements along Umgeni Road (sidewalks, landscaping, public lighting, trading facilities, etc.)
- Develop a retail component (block U1-B1) as part of the rail station access and public concourse (medium to long term)

8.2.3 Project U1 (Long Term +10 years)

**Project Implementation (Block U1-B1, U1-B3):**
- Develop residential uses as part of the station development (block U1-B1), or as otherwise proposed within the PRASA/Intersite master plan
- Consider development of commercial/mixed use on block U1-B3, subject to market demand, traffic and parking requirements, etc.

8.2.4 Project U3 (0-5 years)

**Public Transport:**
- Provide dedicated bus/taxi stops either side of Umgeni Road

**Land Release:**
- Obtain agreement with Department of Public Works to release lands at U3 for mixed use development

**Project Packaging:**
- Address environmental (indigenous trees) or AMAFA (historical buildings) issues identified
- Prepare sub-divisions, and rezoning applications for public comment and approval by the Municipal Planning Tribunal
- Publish RFP for land parcels in site U3 providing clear guidelines to developers regarding TOD, land use, built form and public realm objectives
- Develop proposals for site U3 and identify requirements to implement proposals
8.2.5 Project U3 (5-10 years)

Project Implementation (Block U3-B4, U3-B5):

- Develop mixed use along Umgeni Road (block U3-B4 and U3-B5), including public realm improvements along Umgeni Road (sidewalks, landscaping, public lighting, trading facilities, etc.) (short to medium term)
- Develop new MLD and associated mixed use development on most of remainder of U3 site (block U3-B1, U3-B2, U3-B6, U3-B7), including school site, public facility site, public open spaces and residential sites

8.2.6 Project U3 (long Term 10+ years)

Project Implementation (Block U3-B2, U3-B8):

- Consider development of residential uses on block U3-B8, subject to agreement on relocation of Shembe site, environmental and traffic requirements, etc.
- 

Project Monitoring and Review/ Project Implementation:

- Monitor needs of MLD (block U3-B2) and consider any expansion requirements to meet growing demands, including additional floor area and/or parking bays