

TRAFFIC STATEMENT FOR THE PROPOSED EXPANSION OF THE TIFFANY'S SHOPPING CENTRE MUNICIPALITY



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1 DEVELOPMENT PARTICULARS

The applicant, JDJ Properties, intends to expand the existing Tiffany's Shopping Centre located in the Salt Rock area, within the KwaDukuza Area in KwaZulu Natal. The site is located on Portion 158 (of 90) of Lot 71 No. 1524. The site is approximately 5.5191 hectares in extent. The final design plans for the proposed expansion of the shopping centre is currently in progress (at the time of writing this statement). Therefore, the exact Gross Leasable Area (GLA) of the new section of the shopping centre cannot be confirmed as this stage. However, it is expected that the GLA of the new section of the Tiffany's Shopping Centre will vary between 18 000m² to 20 000m².

Jinyela (PTY) Ltd was appointed by the applicant to undertake a Traffic Statement in support of the Basic Environmental Application. The primary objective of this traffic statement is for the traffic engineers to provide their *professional opinion* of the expected traffic conditions on the immediate road network and within the site, as a result of the proposed development scheme. It can be confirmed that upon completion and finalisation of the design plans for the expansion, a comprehensive Traffic Impact Assessment (TIA) will be undertaken by the applicant.

The location of the site in relation to the surrounding area and road network is shown in Figure 1 below.

The proposed Site Development Plan (SDP) is shown on Figure 2.

2 PURPOSE OF THIS TRAFFIC STATEMENT

The purpose of this traffic statement is to express the professional opinion of the traffic engineer with regard to the following traffic aspects of the proposed development:

- Trips generated.
- Access intersection.
- Internal circulation.
- Parking

A traffic analysis of the surrounding road network and data collection were not undertaken, as these aspects do not form part of a traffic statement. In essence, a traffic statement solely relies on the professional opinion of the traffic engineer. It must be noted that the traffic analysis of the intersections in the immediate vicinity of the Tiffany's Shopping Centre will be analysed in the full TIA that will be conducted at a later stage.



Figure 1: Locality Plan

3 EXISTING ROAD NETWORK

A description of the immediate road network is tabulated below.

3.1. P330 Salt Rock Road

P330 Salt Rock Road	
Road Authority	KZN Dept Of Transport
Road Width	Approximately 8m
Number of Lanes	1 Lane in each direction
Carriageways	1 Carriageway
Class of Road	RCAM R3
Sidewalks	Sidewalks/ Grass verges present along both road edges
Surface	Asphalt
Surface Condition	Good
Speed Humps	No
Streetlights	No
Speed Limit	60km/hr

3.2. Old Fort Road

Old Fort Road	
Road Authority	KwaDukuza Municipality
Road Width	Approximately 7m
Number of Lanes	1 Lane in each direction
Carriageways	1 Carriageway
Class of Road	RCAM U5a
Sidewalks	Present on one side
Surface	Asphalt
Surface Condition	Good

Speed Humps	No
Streetlights	Yes
Speed Limit	60km/hr

4 TRIP GENERATION

As mentioned in Chapter 1, it is expected that the GLA of the new section of the Tiffany's Shopping Centre will vary between 18 000m² and 20 000m². As a worst-case scenario, the trip generation calculations will be based on 20 000m².

4.1. Trip Generation Rates

The TMH 17 South African Trip Data Manual was used to calculate the maximum potential traffic that will be generated by the proposed expansion of the shopping centre. The TMH 17 Manual provides the following Friday PM and Saturday peak hour trip generation rates and directional splits for the land use type that will be included in the proposed development.

- Saturday peak hour – 4,5 veh/h two-way per 100m² of retail floor area with a 50: 50 directional splits.
- Friday PM peak hour – 3,4 veh/h two-way per 100m² of retail floor area with a 50: 50 directional splits.

For the Saturday peak hour and Friday PM peak hour, the guidelines recommend that 12% and 13% of the total development generated traffic will be pass-by traffic respectively. The remaining traffic will comprise of primary and diverted trips.

4.2. Trip Generation Adjustment Factors

Based on the TMH 17 South African Trip Data Manual, trip generation adjustment factors can be applied to the trip generation calculations for a development to factor in the following aspects of the development:

- P_m = Reduction Factor for a mixed-use development
- P_v = Reduction Factor for a vehicle ownership
- P_t = Reduction Factor for a transit nodes or corridors

It must be noted that only the P_v and P_t reduction factors were used in this TIA.

The trip generation adjustment factors which were applied to the trip generation are shown in the table below.

Commercial Shopping Centre	Enter PM Reduction Factor	0	Enter PV Reduction Factor	0,3	Enter PT Reduction Factor	0,15	PC Combined Reduction Factor =	0,595
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4.3. Trip Generation Calculations

Based on the discussions of the afore-mentioned sections of this chapter, the maximum potential trips that will be generated by the proposed development during the Friday PM and Saturday peak hour are calculated hereafter in Table 1. These calculations include a size adjustment factor for the commercial component of the development.

The development generated traffic according to peak hour, trip type and directional split is shown in Table 2 hereafter.

Saturday AM PEAK HOUR													
	Land Use Code (TMH 17)	Land Use Type	No. of Units/GLA Area (m ²)	Trip Generation Rate	Size Adjustment Factor	Source Document	Unit m ²	Peak Total 2 way (cars/h)	Combined Reduction Factor	Total Discounted Trip Generation	Split (%)		Out
											In (%)	Out (%)	In
Tiffany's Upgrade	820	Shopping	20000	4.5	1.89	TMH 17	100	1704	0.595	1014	50	50	507
TOTAL TRAFFIC										1014			507
AM PEAK HOUR													
	Land Use Code (TMH 17)	Land Use Type	No. of Units/GLA Area (m ²)	Trip Generation Rate	Size Adjustment Factor	Source Document	Unit m ²	Peak Total 2 way (cars/h)	Combined Reduction Factor	Total Discounted Trip Generation	Split (%)		Out
											In (%)	Out (%)	In
Tiffany's Upgrade	820	Shopping	20000	0.6	1.89	TMH 17	100	227	0.595	135	65	35	88
TOTAL TRAFFIC										135			47
Friday PM PEAK HOUR													
	Land Use Code (TMH 17)	Land Use Type	No. of Units/GLA Area (m ²)	Trip Generation Rate	Size Adjustment Factor	Source Document	Unit m ²	Peak Total 2 way (cars/h)	Combined Reduction Factor	Total Discounted Trip Generation	Split (%)		Out
											In (%)	Out (%)	In
Tiffany's Upgrade	820	Shopping	20000	3.4	1.89	TMH 17	100	1288	0.595	766	50	50	383
TOTAL TRAFFIC										766			383

Table 3: Trip Generation Calculations

5 ACCESS INTERSECTION

The existing shopping complex currently takes access of the P330 Salt Rock Road, through one bi-directional access intersection. The total width of this access is approximately 46 metres which comfortably allows for two-way travel. As part of the proposed development scheme, the existing access intersection will be analysed in the new TIA that will follow at a later stage. Should the TIA reveal that the existing access intersection does not provide the capacity required to service the additional trips that will be generated by the expansion, then the access intersection will be upgraded.

6 INTERNAL CIRCULATION WITHIN THE SITE

It must be noted that the internal circulation will be assessed in detail as part of full TIA and the findings thereof will be documented in the TIA report. A cursory review of the internal circulation, shown on the SDP contained in Figure 2, was undertaken as part of this Traffic Statement. Based on our high-level review, the proposed internal circulation is sensible as it permits the seamless movement of vehicles in both directions across the entire development. There are no obvious conflict points noted on the design plans for the proposed development. The aisle widths are 7.5m on all the parking aisles which easily permits the simultaneous movement of vehicles in both directions. As such, there are no conceivable problems with regard to the internal circulation of vehicles within the development in the traffic engineer's opinion.

7 PARKING

The exact parking requirements will only be calculated once the design plans have been finalised. However, it can be confirmed that the dimension of a typical standard parking bay contained in this development will be 2,5m wide and 5m long which exceeds the minimum dimensions prescribed in the TIA guidelines. Therefore, the parking bay dimensions, parking bay configuration and aisle widths that will be provided by the development are to the satisfaction of the traffic engineer.

8 GRADIENTS ON DRIVEWAY AND RAMPS

According to the development plan, the driveway will have a gradient of 1:15 which is far less than the maximum permitted gradient of 1:8 for light vehicles and pedestrians as prescribed in Manual for TIA's and STA's.

According to the development plans, the gradients on all the proposed ramps within the development will range from 1:7 to 1:13 on all the typical parking levels. Furthermore, the width of each ramp will be approximately 8,25m which exceeds the minimum prescribed value of 5,5m in

the manual. As such, there are no foreseeable problems with regard to the proposed geometry of all the ramps within the proposed development.

9 CONCLUSIONS AND RECOMMENDATIONS

Based on the discussions that were presented in the preceding chapters of this traffic statement, the following conclusions can be drawn and recommendations made with regard to the proposed development.

- 1) The applicant, JDJ Properties, intends to expand the existing Tiffany's Shopping Centre located in the Salt Rock area, within the KwaDukuza Area in KwaZulu Natal. The site is located on Portion 158 (of 90) of Lot 71 No. 1524.
- 2) It is expected that the GLA of the new section of the Tiffany's Shopping Centre will vary between 18 000m² to 20 000m².
- 3) The purpose of this traffic statement is to express the professional opinion of the traffic engineer with regard to the following traffic aspects of the proposed development:
 - Trips generated.
 - Access intersection onto the municipal road.
 - Internal circulation.
 - Parking
- 4) It can be confirmed that upon completion and finalisation of the design plans for the expansion, a comprehensive Traffic Impact Assessment (TIA) will be undertaken by the applicant.
- 5) There is no foreseeable problems with the proposed access control within development, in the inbound and outbound directions in the traffic engineer's opinion.
- 6) There are no conceivable problems with regard to the internal circulation and the proposed aisles widths of the parking areas within the development in the traffic engineer's opinion.
- 7) The parking bay dimensions, parking bay configuration and aisle widths that will be provided by the development are to the satisfaction of the traffic engineer.
- 8) In the opinion of the traffic engineer, the proposed geometry on all aisles within the proposed development is acceptable.

Taking all the above points into consideration, it is recommended that from a traffic perspective, the proposed development can be approved.