

TERMS OF REFERENCE FOR A FULL TRAFFIC IMPACT ASSESSMENT

The below ToR as supplied by Burmeister and Partners on the 16th November 2020 below refers:

Lighthouse Properties Development Trust plans to do a tourism development project on Erf 4747, Strand Street, Swakopmund. For this proposed business development, a TIA is required with further details on the traffic circulation around the development.

This Development will further contribute to traffic volumes, which means some road and traffic systems upgrades might be required in the vicinity of the Development.

The focus would be to do a traffic impact assessment for Erf 4747, Strand Street based on the intended use of the new development, to determine what infrastructural and control measures would be required. The subject site is shown on the erf layout below:

Approach

Site visit:

The site will be visited just to familiarise ourselves with the current road infrastructure and the current geometry of the adjacent roads and possible accesses as well as any other conditions that need to be taken into consideration. It should be noted that we are already well acquainted with the site having a coastal office in Swakopmund.

Data collection:

We will obtain the following data, but not limited to:

- Any planned upgrading or improvements of the adjacent roads;
- Previous traffic counts done at the intersections of Theo Ben Gurirab Avenue and Strand Street, as well as Theo Ben Gurirab Avenue and Tobias Hainyeko Street as well as Strand Street and Sam Nujoma Avenue as well as Strand Street and Ludwig Koch Street;

Traffic counts:

- Traffic counts will be conducted at the intersections of Theo Ben Gurirab Avenue and Strand Street, Theo Ben Gurirab Avenue and Tobias Hainyeko Street, Strand Street and Sam Nujoma Avenue as well as Strand Street and Ludwig Koch Street;
- The traffic counts will be conducted on a week day over twelve hour period, i.e. 6AM to 6PM. The morning peak, the midday peak and the afternoon peak will be included. All traffic movements will be counted with a distinction between light and heavy vehicles. Traffic volumes will be recorded in 15 minute intervals. The traffic count date should be done on a typical week day;
- The traffic counts should preferably be done during November 2020 or January 2021.

Traffic and parking demand

Trip generation for the new development will be made, based on TMH17 Trip Data Manual. Based on the different land uses, the required parking will be determined (confirmed). Important to note that the traffic impact should be based on the increase in traffic, based on the consent use and/or change in land uses. The property is entitled to traffic based on the current permissible uses, however the capacity requirement will be made on the total traffic demand.

Traffic Analysis

The additional traffic is estimated to impact Strand Street and Theo Ben Gurirab Avenue, Theo Ben Gurirab Avenue and Tobias Hainyeko Street and Strand Street and Sam Nujoma Avenue. Traffic data will be analysed with Auto J, traffic engineering software used to analyse traffic flow and control options at intersections. The intersections will be analysed to determine the current Level of Service [LoS], as this will be used as basis to compare the impact of newly induced/generated traffic.

With the new trip generation data, the intersections will be analysed. If there is a significant drop in the LoS, geometric and control options will be tested in the Auto-J with the aim to maintain the current LoS.

As part of the analysis, background traffic growth will be included in the analysis. The expected growth rate to be used will be verified with Swakopmund Municipality.

Concept Solutions:

Intersection geometry:

The current intersections will be tested for whether it will meet the demand of the new traffic volumes. If necessary, concept geometric changes/improvements will be proposed.

Traffic control measures:

Traffic signals at the intersections might be considered as part of the mitigation solution. In our assessment, we will also determine if the traffic control at Theo Ben Gurirab Avenue and Tobias Hainyeko Streets have an optimal traffic light phasing and time setting.