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**Your Ref:** Stellenbosch Western Bypass

**Our Ref:** iCE 1121A **Date:** 30 May 2017

**Consulting Services**

- Civil Engineering Services
- Roads
- Traffic Engineering

Stellenbosch Municipality  
PO Box 17  
STELLENBOSCH  
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**Attention:** Mr Dupré Lombaard

Sir

## STELLENBOSCH WESTERN BYPASS – PROVISIONAL TRAFFIC MODELLING RESULTS

Your request to provide you with the provisional traffic modelling results for the proposed Stellenbosch Western Bypass project, refers.

The provisional traffic modelling based on the existing traffic volumes and land use data has been conducted and the results indicate that it can be anticipated that the bypass will have a considerable impact on traffic volumes on the R44 through Stellenbosch. (Please note that some refinement of the model is currently being conducted and final results of the 2017 Base Network with the present land use should be completed during June 2017)

Two scenarios have been analysed, i.e. a full bypass from south off the Annandale Road where it ties into the R44 to north of the Welgevonden Road-intersection where it ties into the R304 as well as a Phase 1 scenario with only a link from Techno Park to Adam Tas Road (Stellenbosch Arterial). The EMME3-modelling results are attached as "Full Bypass" and "Phase 1". Please note that the analyses for the bypass were conducted with the bypass road as a two-lane road (one lane per direction). Further modelling will include the bypass road as a 4-lane road (two lanes per direction). A 4-lane road will provide more capacity and it can be expected that even more traffic will then be attracted to the bypass road if other roads are still congested.

Also note that the EMME-modelling only considers the AM peak hour.

### Full Bypass (two-lane road)

The modelling of the full bypass road as a two-lane road shows that the section of the bypass road south off the Techno Park Link Road will attract  $\pm 1\ 144$  vehicles (total in both directions) during the AM peak hour, the section between the Techno Park Link Road and Adam Tas Road will attract  $\pm 2\ 152$  vehicles (total in both directions) whilst the section between Adam Tas Road and the R304 will attract  $\pm 1\ 985$  vehicles (total in both directions). These volumes are such that the construction of a dual carriageway (two lanes per direction) should be considered now already for the section from the Techno Park Link Road to the R304. Further analyses will be conducted taking into consideration expected traffic growth and future developments included in the Stellenbosch SDF.

If the traffic volumes, as indicated in the model, north of the R44/Techno Avenue-intersection are compared to recent traffic counts at the intersection, it shows that the traffic volume north

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of the intersection can be expected to decrease by more than 600 vehicles in the AM peak hour when the bypass road is in place.

### **Phase 1 of Bypass**

With the Phase 1 of the bypass in place it can be expected that other traffic than that to/from Techno Park will also make use of the link now created between the R44 and Adam Tas Road.

The modelling of Phase 1 of the bypass road shows that it can be expected that the link road will attract  $\pm 915$  vehicles (total in both directions) during the peak hour. This traffic currently travels to/from Techno Park via the R44.

With the future Eastern Link Road (from the R44/Techno Avenue-intersection through Blaauwklippen, Paradyskloof and Brandwacht to town) it can be expected that the Techno Park Link Road will attract considerably more traffic when the bypass road is in place.

Some information obtained is a survey conducted by Capitec that showed that only 13% of staff resides in Stellenbosch. 63% travel on the R44 from the Somerset West direction with 29% from the Northern Suburbs of Cape Town (Kuilsrivier, Brackenfell, etc) whilst 37% come via Stellenbosch of which 16% are from the Northern Suburbs, 8% from Paarl and 13% from Stellenbosch). Of these staff 83% travel in their own vehicle (driver).

From the above it can be concluded that, based on the initial traffic modelling results, the proposed Stellenbosch Western Bypass Road and the Techno Park Link Road can be expected to have a significant impact on traffic flow on the road network in the area off Stellenbosch. As soon as the final results of the modelling of the 2017 Base Network with the present land use are available it will be forwarded to you.

Please contact the undersigned should you require any additional information.

Yours faithfully



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**Piet van Blerk Pr. Eng**  
**ICE GROUP (STELLENBOSCH)**