**Summary of Transport Scenario Runs 15/11/2022**

In summary, at the current parameterization (more details follow below), the Rural Universal Access scenario comes out best in terms of GDP growth, while the Rural CUG scenario comes out worst.[[1]](#footnote-1) The urban scenarios are in-between. The Urban BAU scenario should be considered the new reference scenario, because it takes into account costs which the No Investment baseline scenario does not, while productivity does not change as there is no gain in road or public transport network yet.

Until 2030 the main mechanism at play is the balance between TFP growth (positive impact) and investment in non-productive capital (roads and a part of public transport). After 2030, the additional investment component falls away, and the main impact is maintenance costs. TFP continues to grow, but now according to its reference growth, but from a new (mostly) higher level in 2030. The IRT and ERT scenarios have higher continued O&M expenditure for government, where Rural scenarios rely more on capital investment, which explains the divergence with the Rural UA scenario.

In the Rural UA and Urban IRT scenarios TFP growth causes sufficient income growth to avoid strong tax increases. Urban IRT and ERT scenarios see strong increases of direct taxes to fund investment and O&M.

**Scenario parameterization**

**TFP impact parameters:**  


**And calculation of new Rural scenario TFP impacts, assuming “useful/productive” road increase equivalent to increase in RAI**



**Funding -** The change in closing rule causes the model to have a slightly higher GDP than in the calibration reference which was used to fit the Socio-Economic baseline scenario, and which was used to calibrate non-gov institution saving ratios a(about 1% by 2021, and about 2% by 2030)

*Urban - BAU*



*Urban - IRT*



*Urban ERT*



*Rural UA (combined sparse & dense areas)*



*Rural CUG (only to 2030)*



*More detailed results: C\_YIX equates to total income of domestic institutions; GOVSHRX and INVSHRX are government expenditure and investment shares of total absorption; TINSX (here only for non-energy enterprises and the richest hhd class (9, when the poorest is nr 0). GADJX is index for exogenous government expenditure trajectory, IADJX is exogenous trajectory for total investment, and GSAVX is government net contribution to savings for investment (reference = -12 billion Rand)*



1. For your information:   
   Rural UA has no increased maintenance for gravel post in the (late) 2020’ies… as these years are considered out-of-scope for the report.  
   Investment post 2030 has not been considered for CUG, while government expenditure takes again its reference growth (+2,37%/year) path from the higher level obtained in 2030.)  
   The Rural CUS, CRG and CRS scenarios still need to be run, but their parameterization is very similar to the CUG scenario. The combination scenarios also still need to be run, but probably show an addition of separate scenario impacts. [↑](#footnote-ref-1)