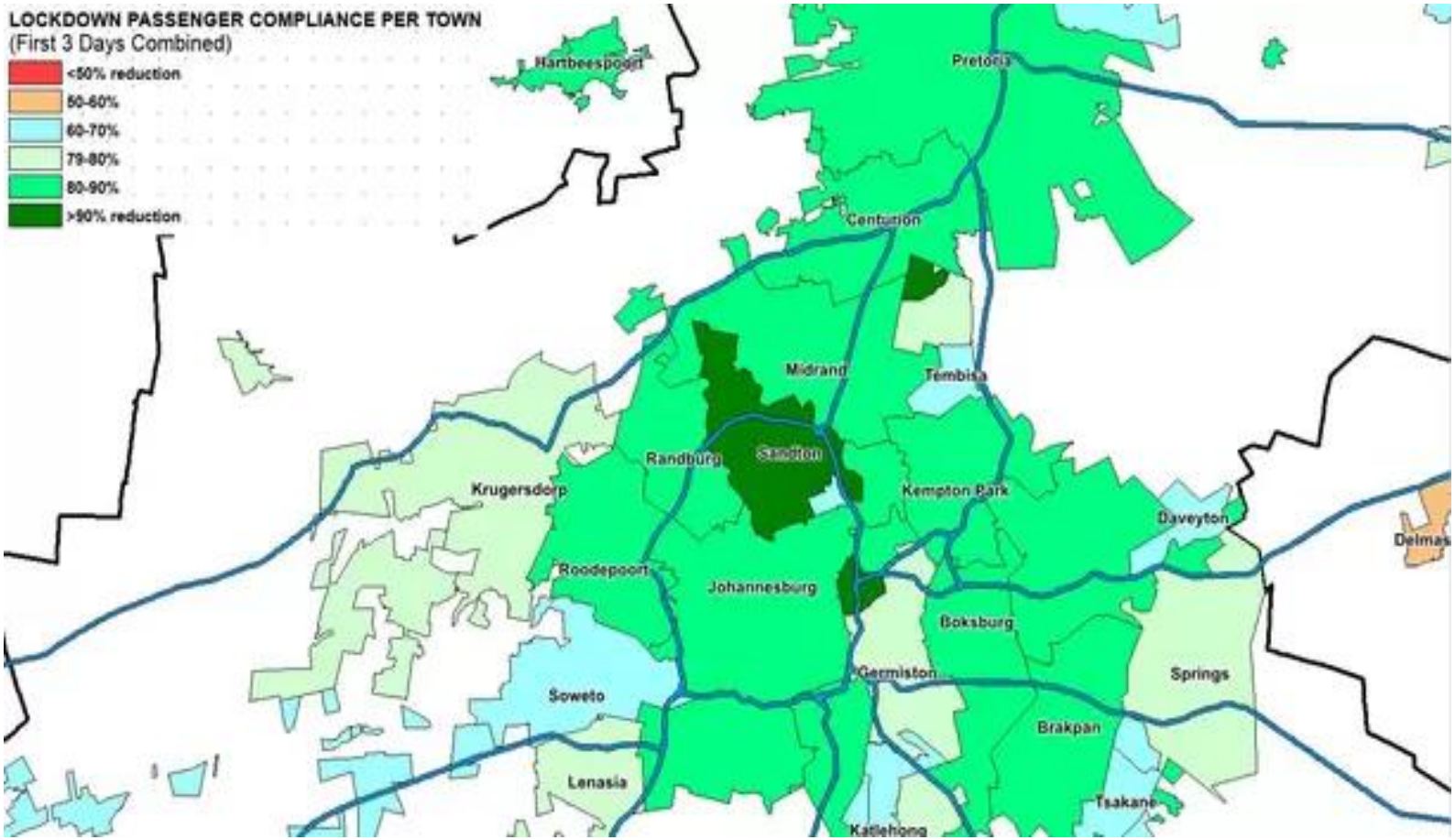
How should the Transport Engineering Sector undertake and assess Traffic Impact Studies during and post the COVID-19 lockdown period

Challenges

Challenges for transportation professionals:

- Important field-based data collection activities will not yield usable estimates of non-pandemic traffic conditions during this period of disruption.
- Some amount of permanent travel demand/pattern change seems likely to remain under various lockdown levels. Both individuals and institutions can be expected to try to minimize their future risks by implementing some permanent behavioral changes with respect to when, where, why, and how they travel.
- The pandemic has already been so disruptive to the national and world economies that a recession of some duration is expected. Recessions as well as overheated economies probably have little effect on 20-year forecasts, but they can significantly affect travel demand forecasts within the 0-5 year timeframe.
- Progress is necessary even on projects that rely on field-collected volume data and short-term volume forecasts. Credible methods and procedures are needed that will allow transportation professional to achieve this objective.

Impact of COVID-19



LEVEL 5

Impact of COVID-19

TOMTOM Overview Traffic Index ranking Press About

Find your city...

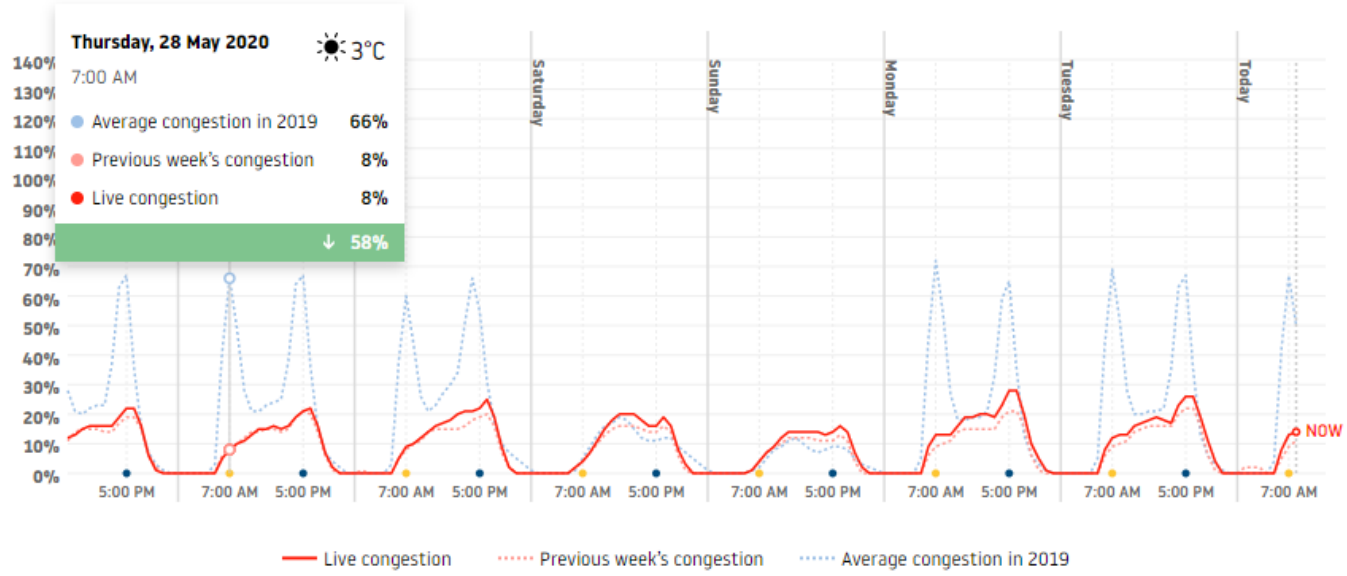
Johannesburg traffic

LOCAL TIME

9:14 AM

LEVEL 4

LAST 48 HOURS LAST 7 DAYS



Impact of COVID-19

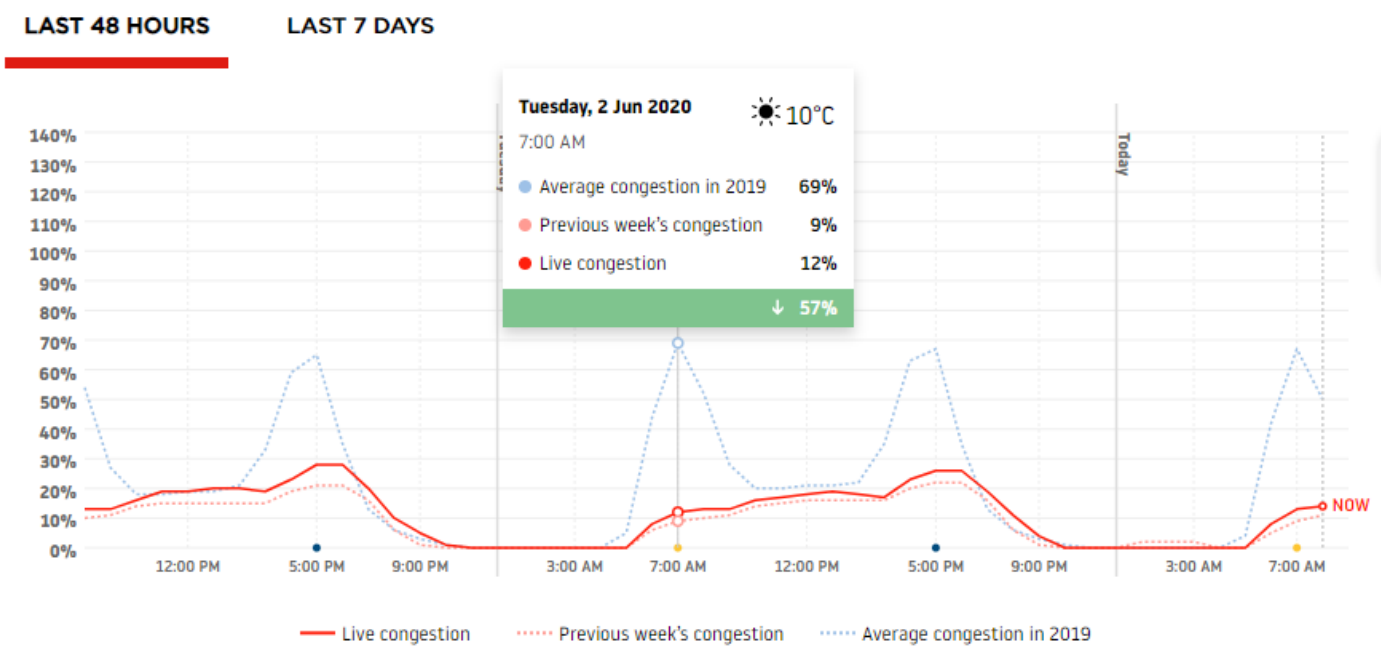
TOMTOM Overview Traffic Index ranking Press About Find your city...

Johannesburg traffic

LOCAL TIME

9:16 AM

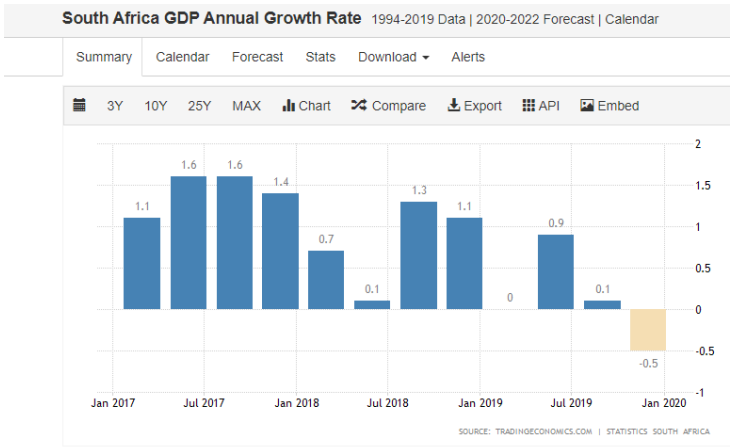
LEVEL 3



Traffic Counts

Historical data:

Relationship between traffic volumes and the status of the South African economy: In January 2020 average increase in traffic volumes year-on-year on the national road corridors was at 1% percent above the gross domestic product (GDP) growth rate of the country. Research is required to quantify the relationship between GDP and traffic growth.



Traffic Counts

- Background traffic - historic data adjustment: 2.5% annual adjust
- Historic data adjustment (How far back can we go?): ideally 2 years, older counts (2-5 years) to be discussed with local authority
- When will counts be regarded to be representative again / when do we think the current counts will become acceptable again: Authority will monitor traffic counts (Tomtom) and advise industry
- Background traffic - what would be realistic growth rates: 2.5% (for counts not older than 2 years) growth rate for older counts to be discussed with authority
- Value of doing counts now (for all modes, peds, etc) and what would be an acceptable adjustment? will not yield usable results
- Adjusting current counts or historic counts, what is better? Preferably historic counts
- What are regarded as acceptable data sources, e.g. signal detectors, drones, camera footage, historic databases? Authority will accept any source that is based on sound engineering judgment and yields result that can justified
- Should TIAs be delayed while no reliable data is available: Phased approach, with a provision for an updated TIA when counts are normalised to provide the authority with an opportunity to amends its conditions

Traffic Impact Studies

While the current situation is in many ways unprecedented, the transportation industry has long relied on **sound engineering judgment**, a look to the past, and creative technology applications to chart new paths forward.

1. **Establish Project Context and Data Needs**: what modal considerations need to be addressed; what type of data is needed; what are the critical analysis time periods
2. **Coordinate with Appropriate Agencies**: Develop a scope-of-work to secure agency consensus with the process before performing analyses. (case-by-case)
3. **Identify Available Data Resources**: Traffic counting companies, agencies, previous studies etc.
4. **Develop Volume Estimates**: historical trends, if count data is beyond 2 years old, evaluate changes in nearby land use over the years, adjust historic counts to approximate current year conditions

Traffic Impact Studies

- How the non-normal patterns affect requirements for approval of TIAs: Professionals to discuss scope of work with authority prior to undertaking any analysis
- Threshold changes for TIA requirements: Not anticipated at this stage
- Public transport plans in TIAs - how should they be handled?: Same as before
- TIAs and promoting Active Travel (walking & Cycling) and Public Transport (general): balance the "ideal" with the "realistic" and adopt a phased approach to such developments where the "basket of rights" is developed in such a manner that it supports the principles - adapted in accordance to the available NMT and public transport network available at different phase - phased in such a manner that it relates to the realistic road and transit services anticipated to be available as well as the anticipated origin-destination trip patterns. Hope I'm making sense
- For a road closure study - will a description of operations based on prior knowledge suffice, or should the study be delayed? Acceptable for renewals but study for new applications to be discussed with authority

Way forward

Some of these changes will be temporary (for example, the effects of an anticipated recession) while others are likely to be permanent (for example, a higher proportion of distance learning and work-at-home activities).

In both cases the effects are expected to have a dampening effect on pre-pandemic vehicular and transit demand levels. The estimation methods using historical trends are more likely to overestimate than to underestimate post-pandemic and short-term demand levels.

Because of this, it will be desirable wherever possible to incorporate into each project a post-pandemic data collection and assessment component so the analysis results, findings and recommendations can be adjusted and fine-tuned as appropriate (phased approach to traffic studies).

Post Lockdown

- Research in understanding the relationship between traffic (and travel behaviour) and indicators such as GDP, home-based-educational trips, home-based-work trips etc. that is most likely affected by similar events before any changes to TIA requirements can be made

- Guideline on estimating traffic volume adjustments under different situation (school holidays, lockdown, etc)

- Collaborate to move the transportation industry forward