1.0 Overview

TII operates a comprehensive network of over 350 traffic counters and sensors across the national road network incorporating dedicated traffic monitoring units as well as barriers and camera-based sensors at PPP toll plazas, M50 Eflow and the Dublin Tunnel. This network of traffic counters provides a comprehensive overview of traffic movements across all parts of the national road network.

In response to the COVID-19 pandemic, the Government of Ireland imposed restrictions on the movement of people in order to contain the spread of the virus. This commenced with the closure of all schools and colleges from March 13th 2020. Further restrictions involving the retention of essential services only were announced on March 24th 2020. On the evening of Friday March 27th 2020, a Government announcement was made which advised all citizens to stay at home and to only leave their homes for a limited number of reasons.

On the evening of Friday May 1st, the Government published a "*Roadmap for reopening society and business*" outlining Ireland's plan for lifting COVID-19 restrictions. On Tuesday May 5th the distance that people can leave their home for the purposes of exercise was increased from 2km to 5km. In addition people who were cocooning were permitted to go outside for exercise also from this date. Phase 1 of the Government *"Roadmap for reopening of society and business*" commenced on Monday May 18th. This allowed for the re-commencement of work in certain outdoor workplaces notably construction sites and has also allowed people to meet outside in small groups, the reopening of certain retail businesses such as hardware shops.

Phase 2 of the Roadmap commenced on Monday June 8th where personal travel was permitted anywhere within a county or, if crossing county boundaries, anywhere within 20km. This phase also allowed all retail business to reopen and people to visit each other in their homes in groups of no more than 6 people. Phase 3 of the Roadmap commenced on Monday June 29th where all personal travel restrictions were lifted and childcare facilities and pub and restaurant businesses started to reopen.

This note examines the impact of the COVID-19 restrictions on national roads traffic volumes, initially in terms of the reduction in movement as a result of the restrictions. It also examines the subsequent increases in movement on the national road network during the phased easing of restrictions. Previous notes were prepared on March 27th, weekly thereafter up to June 19th and a further note issued on July 3rd, outlining the impacts of these measures on traffic demand on the national road network.

2.0 Reduction in national road traffic volumes in context

The restrictions implemented by Government in order to tackle the spread of the COVID-19 virus have had significant impact on national road traffic volumes. A plot of aggregate daily traffic volumes on multiple traffic counters since February 1st 2020 is shown in Figure 1.

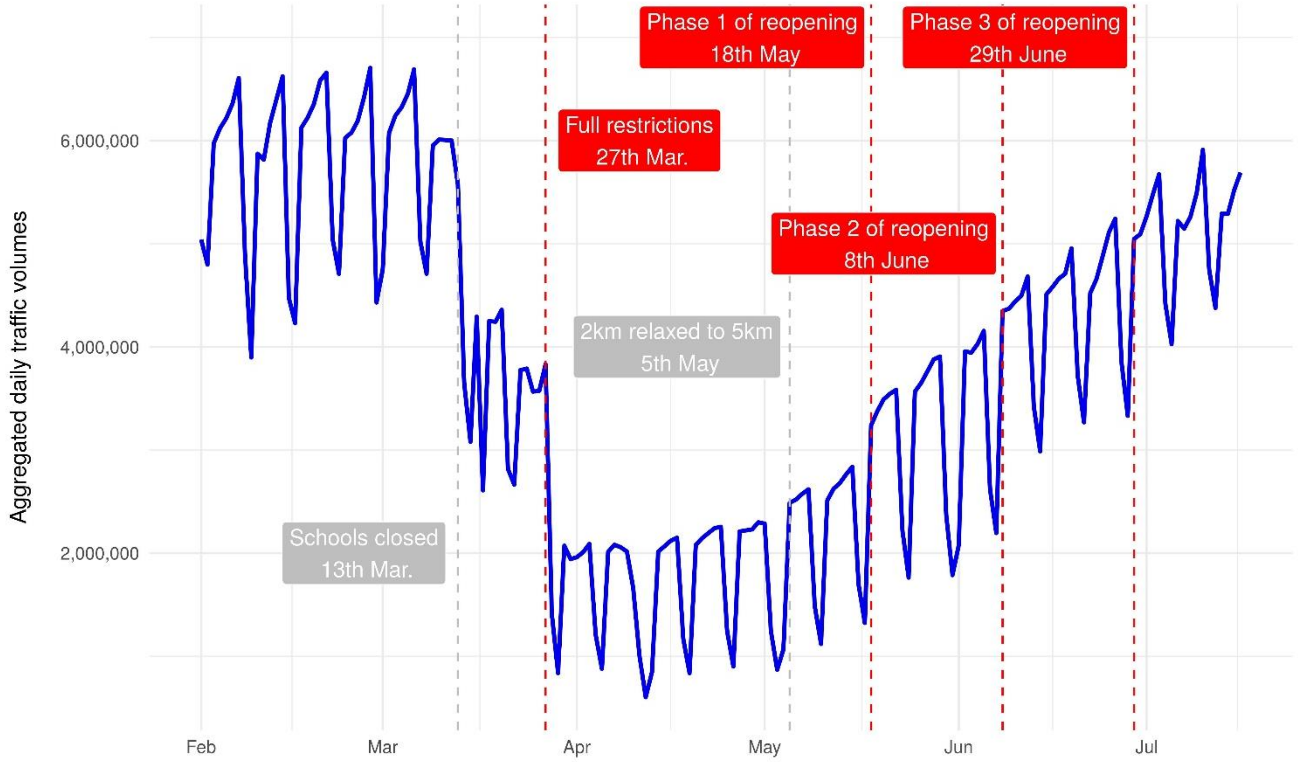

Figure 1: Aggregated traffic volumes on national roads since February 1st 2020

The plot demonstrates the scale of the reduction. Traffic volumes, since the restrictions imposed on March 27th 2020, initially reduced by 60-70%. Volumes have recovered somewhat, but still represent a reduction of 10-20% from typical conditions in 2019. This is described further in the following sections of this note.

It is also worth analysing trends in traffic volumes since the restrictions imposed on March 30th in more detail. This is presented in Figure 2.

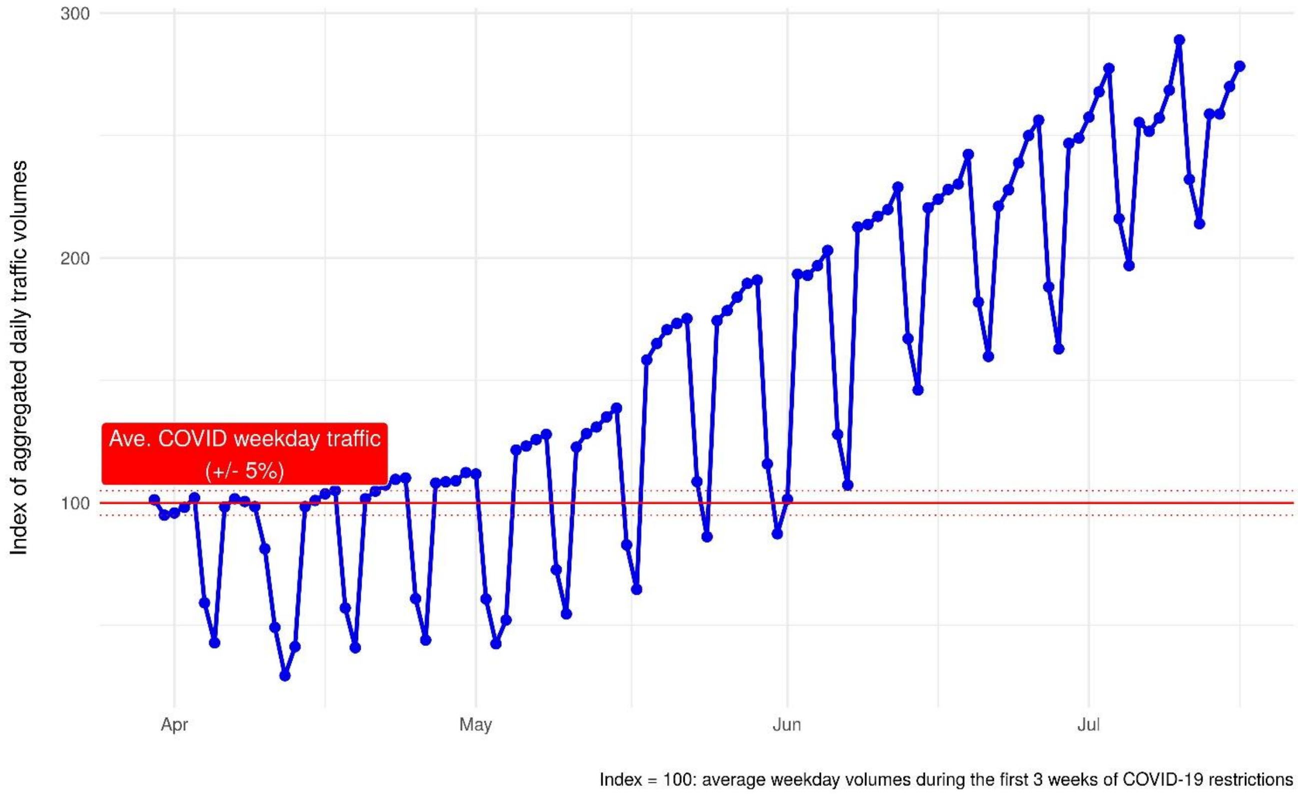

Figure 2: Index of aggregated traffic volumes on national roads since March 30th 2020

The plot shows the variation in daily traffic volumes since March 30th compared with an average of typical working day volumes between March 30th and April 17th 2020, i.e. for the first three weeks of restrictions excluding weekends and public holidays. This average, which represents a baseline of weekday conditions in the period of initial COVID-19 restrictions, is shown as a red horizontal line with the red dotted lines represented a +/- 5% interval around this, and is set to an index of 100. The trend shows that volumes were generally stable over the initial weeks of the restrictions with some increases in movements noted since week beginning April 20th.

On Monday April 20th national traffic volumes were 2% above the average COVID weekday and by Friday May 1st volumes rose to 12% above this average. After Tuesday May 5th, there was a marked increase in traffic volumes on national roads since certain restrictions were eased. By Friday May 15th, volumes were 39% above the average weekday in the initial weeks of the COVID restrictions. As expected there was a very significant rise in traffic volumes on the national road network in the week commencing May 18th, as the economy and society started to reopen.

Phase 1 of the reopening of society and business commenced Monday 18th May. By Friday June 5th, overall traffic volumes were 103% above the average volumes on the network during the first 3 weeks of the COVID restrictions. Phase 2 of commenced on Monday June 8th and by Thursday June 25th, overall traffic volumes were 150% above the average volumes during the full COVID restrictions.

Phase 3 of the reopening of society and business commenced Monday 29th June. By Thursday July 16th, overall traffic volumes were 178% above the average volumes on the network during the full COVID restrictions. This equates to an approximate 11% increase in daily traffic since the implementation of Phase 3 of the reopening. It should be noted that traffic volumes this week are still down 10-20% on the equivalent weekdays in 2019, i.e. they are at 80-90% of 2019 traffic levels. This is set out further in Section 3.0 of this note.

3.0 Comparison to Typical Traffic Levels

3.1. General Traffic

A summary of the impacts of the restrictions on general traffic, i.e. all classes of vehicles, is provided in Figure 3 overleaf. This represents an analysis at selected locations whereby traffic volumes in July 2020 are compared with the equivalent weekday in 2019 and the aggregate percentage change is plotted.

The emerging impacts of the restrictions on vehicular travel can be summarised as follows:

- Prior to the March 27th restrictions, the reduction in general traffic volumes was of the order of 40% on weekdays.
- In the week following the announcement of restrictions on Friday March 27th, there was a reduction in traffic volumes across the network of the order of 65-70%.
- There were gradual increases in traffic since the week beginning April 20th week and this continued through to week beginning April 27th.
- Since the easing of certain restrictions on Tuesday May 5th, there was a marked increase in traffic volumes.
- There was a further significant increase, as expected, since May 18th where Phase 1 of the Government *"Roadmap for reopening society and business"* commenced. This included a step change of an increase in car traffic volumes. The week-on-week increase in car traffic volumes in the week beginning Monday May 18th was approximately three times the rate of increase in any other recent week.
- Phase 2 of the Roadmap commenced on June 8th and led to another 12% week-on-week increase in traffic volumes. The week beginning June 15th there was a further 5% increase in traffic volumes and another 6% increase for the week beginning June 22nd.
- Phase 3 of the Roadmap commenced on June 29th and led to a further 11% increase in traffic volumes to date. Overall traffic is down 10-20% when compared with the equivalent weekday traffic flows in 2019.
- This reduction is broadly consistent across all parts of the country including the motorway corridors and the M50.

A breakdown of the impacts for heavy goods vehicles (HGV), light goods vehicles (LGV) and private cars separately is detailed in the following sections of this note, along with a summary of impacts on national road border crossings.

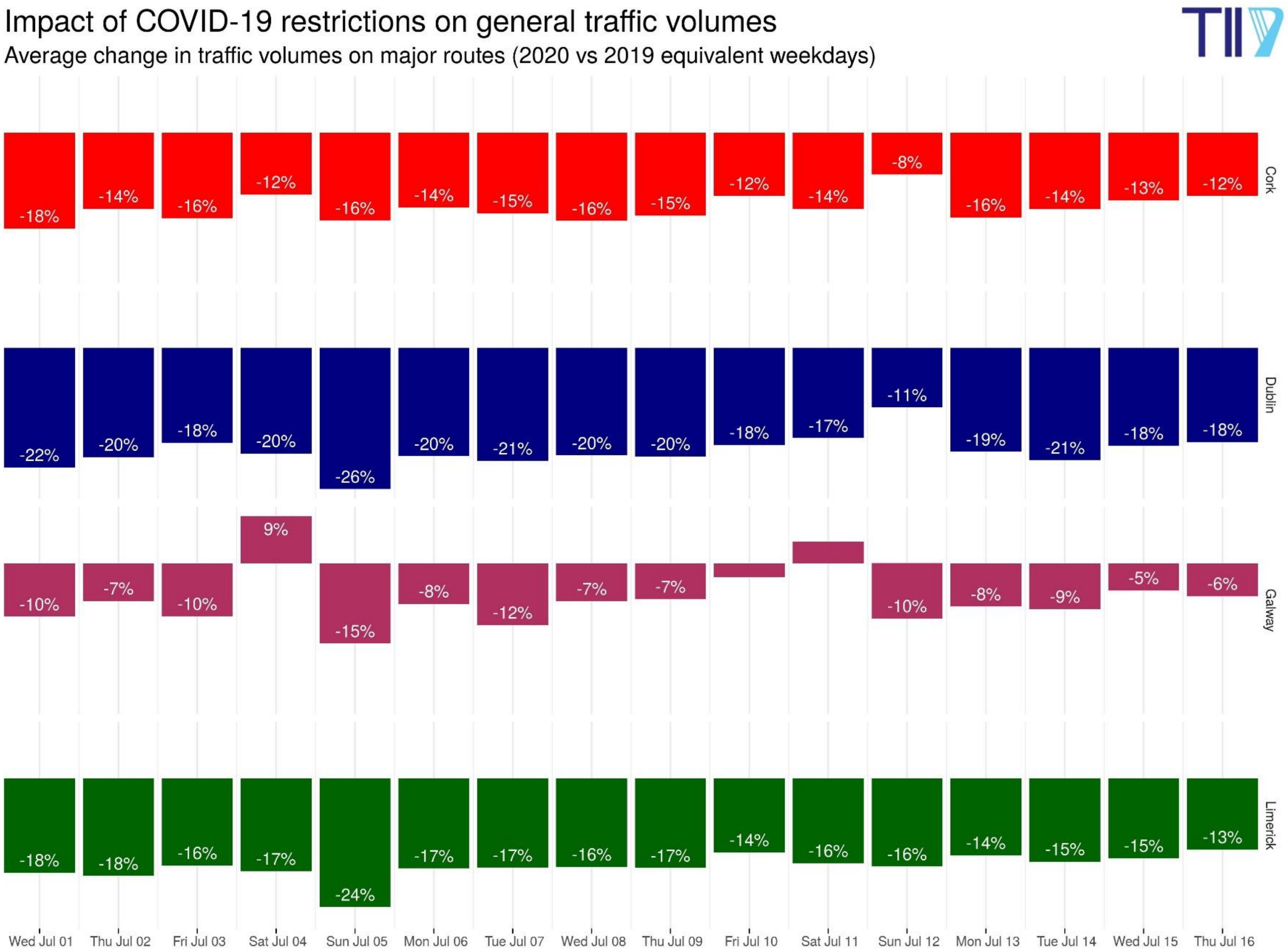

Figure 3: General Traffic

(Based on aggregations of traffic volumes on selected key national roads on approach to each of the major cities.*

** note that traffic data between 24th June and August 6th 2019 is missing at some counters due to technical problems in 2019. This data has been interpolated using 2018, 2019 and 2020 data for comparison with current traffic volumes)*

3.2. Heavy Goods Vehicles (HGVs)

A summary of the impacts of the restrictions on HGVs (>3.5 tonnes) is provided in Figure 4.

- Since March 27th there was a clear reduction in HGV traffic volumes of the order of 30-40% which continued up to the week beginning April 27th.
- Since the easing of certain restrictions on Tuesday May 5th, HGV volumes increased.
- There was a significant increase, as expected, since May 18th where Phase 1 of the Government *"Roadmap for reopening society and business"* commenced and certain retailers and constructions sites reopened.
- There were further increases since June 8th and June 29th where the respective Phase 2 and Phase 3 of the Government *"Roadmap for reopening society and business"* commenced.
- Volumes this week beginning July 13th, ranged between 7% below volumes on the equivalent days in 2019 to 5% above these levels.

3.3. Light Goods Vehicles (LGVs)

A summary of the impacts of the restrictions on LGVs (<3.5 tonnes) is provided in Figure 5.

- Since March 27th volumes of LGVs have reduced by over 50%. These reductions in LGV traffic have continued up to week beginning April 27th.
- Since the easing of certain restrictions on Tuesday May 5th, LGV volumes increased.
- There was a significant increase, as expected, since May 18th where Phase 1 of the Government *"Roadmap for reopening society and business"* commenced and certain retailers and constructions sites reopened.
- There were further increases since June 8th and June 29th where the respective Phase 2 and Phase 3 of the Government *"Roadmap for reopening society and business"* commenced.
- Volumes this week beginning July 13th, ranged between 8% below volumes on the equivalent days in 2019 to 3% above these levels.

3.4. Private Cars

A summary of the impacts of the restrictions on private cars is provided in Figure 6.

As private cars represent approximately 80 to 90% of all traffic, the reduction in private car traffic is very similar to trends for general traffic discussed above, i.e. namely a reduction in the order of 10-25% compared to 2019 figures.

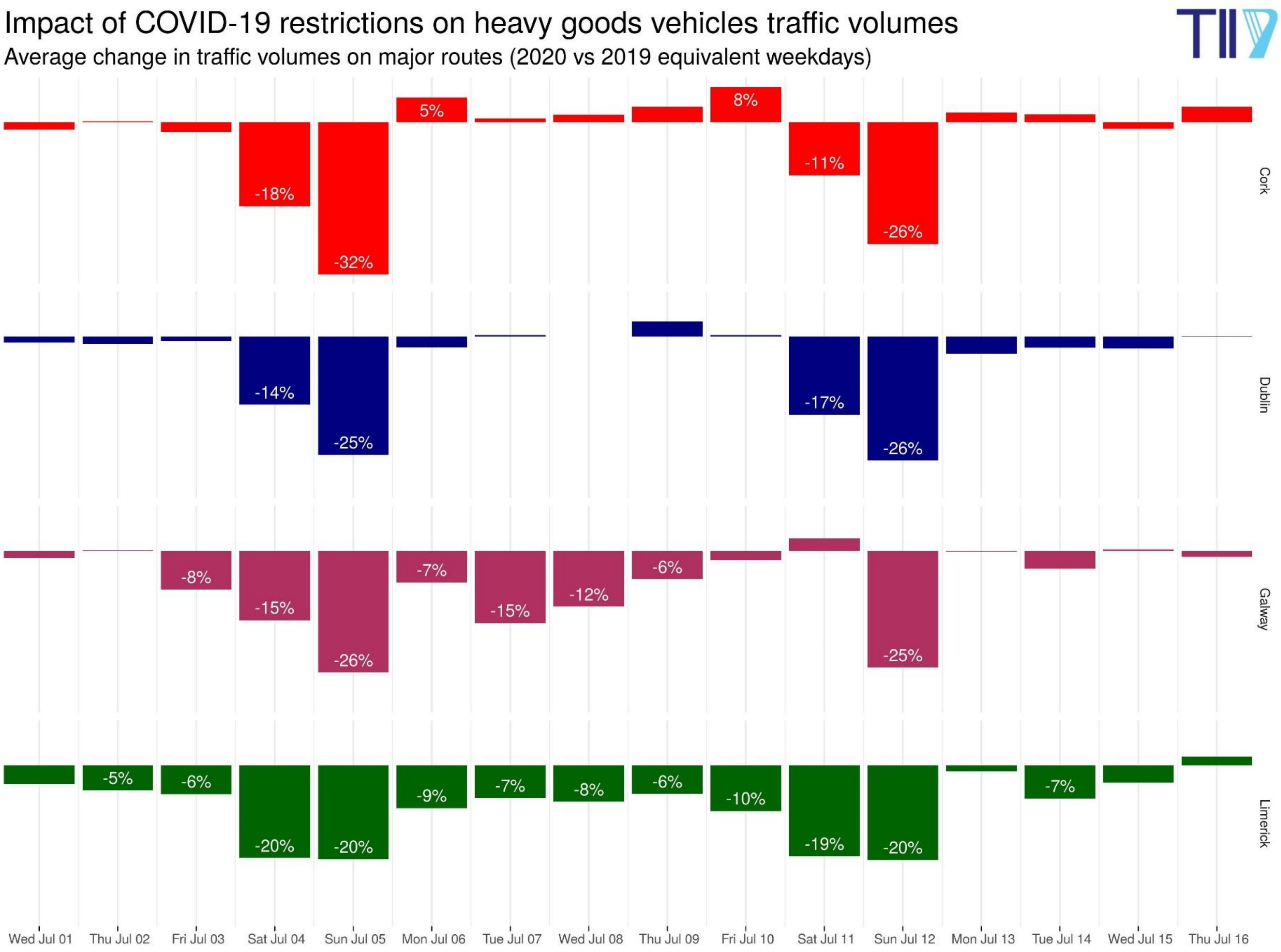

Figure 4: Heavy Goods Vehicles

(Based on aggregations of traffic volumes on selected key national roads on approach to each of the major cities.*

** note that traffic data between 24th June and August 6th 2019 is missing at some counters due to technical problems in 2019. This data has been interpolated using 2018, 2019 and 2020 data for comparison with current traffic volumes)*

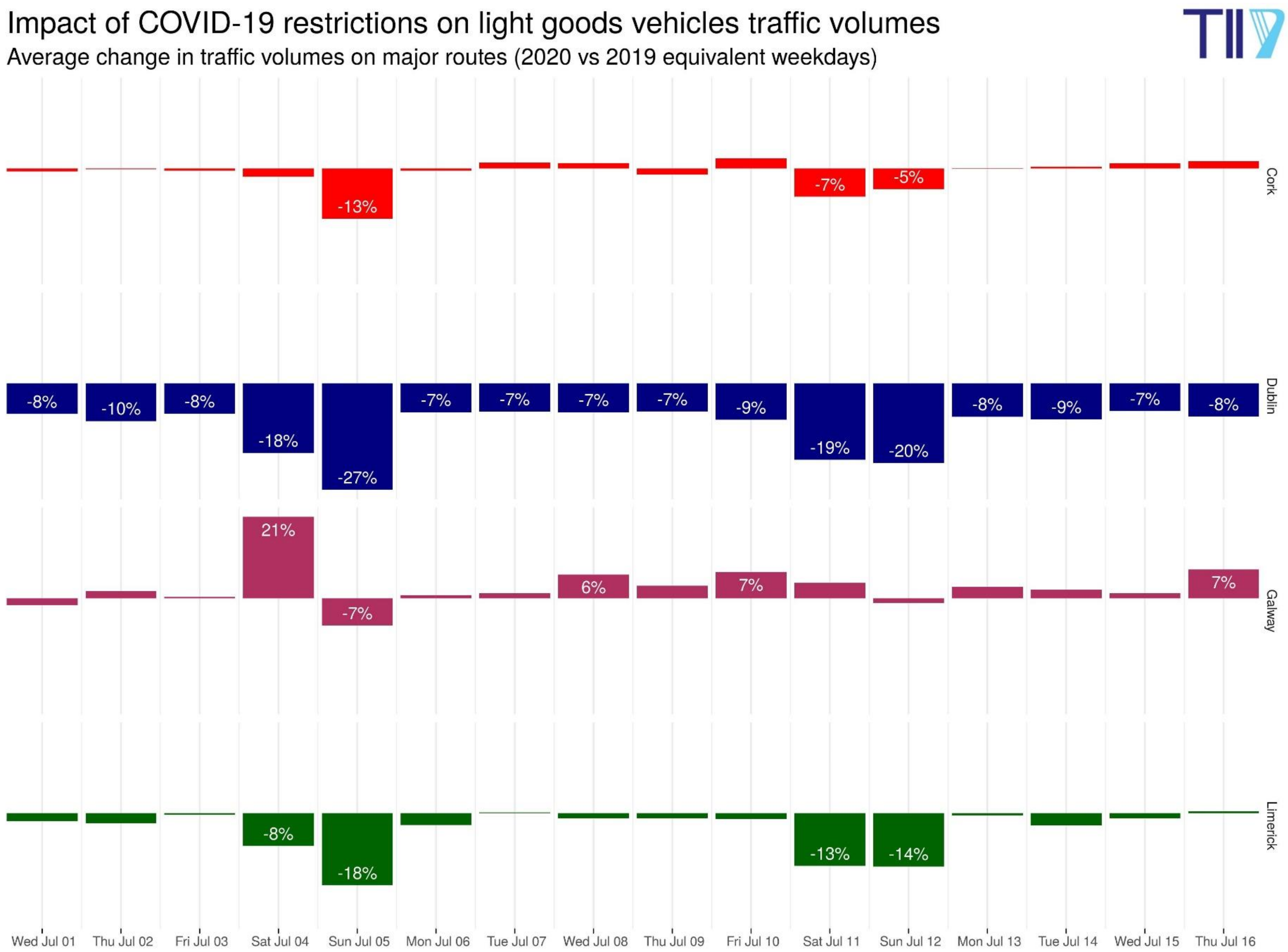

Figure 5: Light Goods Vehicles

(Based on aggregations of traffic volumes on selected key national roads on approach to each of the major cities.*

** note that traffic data between 24th June and August 6th 2019 is missing at some counters due to technical problems in 2019. This data has been interpolated using 2018, 2019 and 2020 data for comparison with current traffic volumes)*

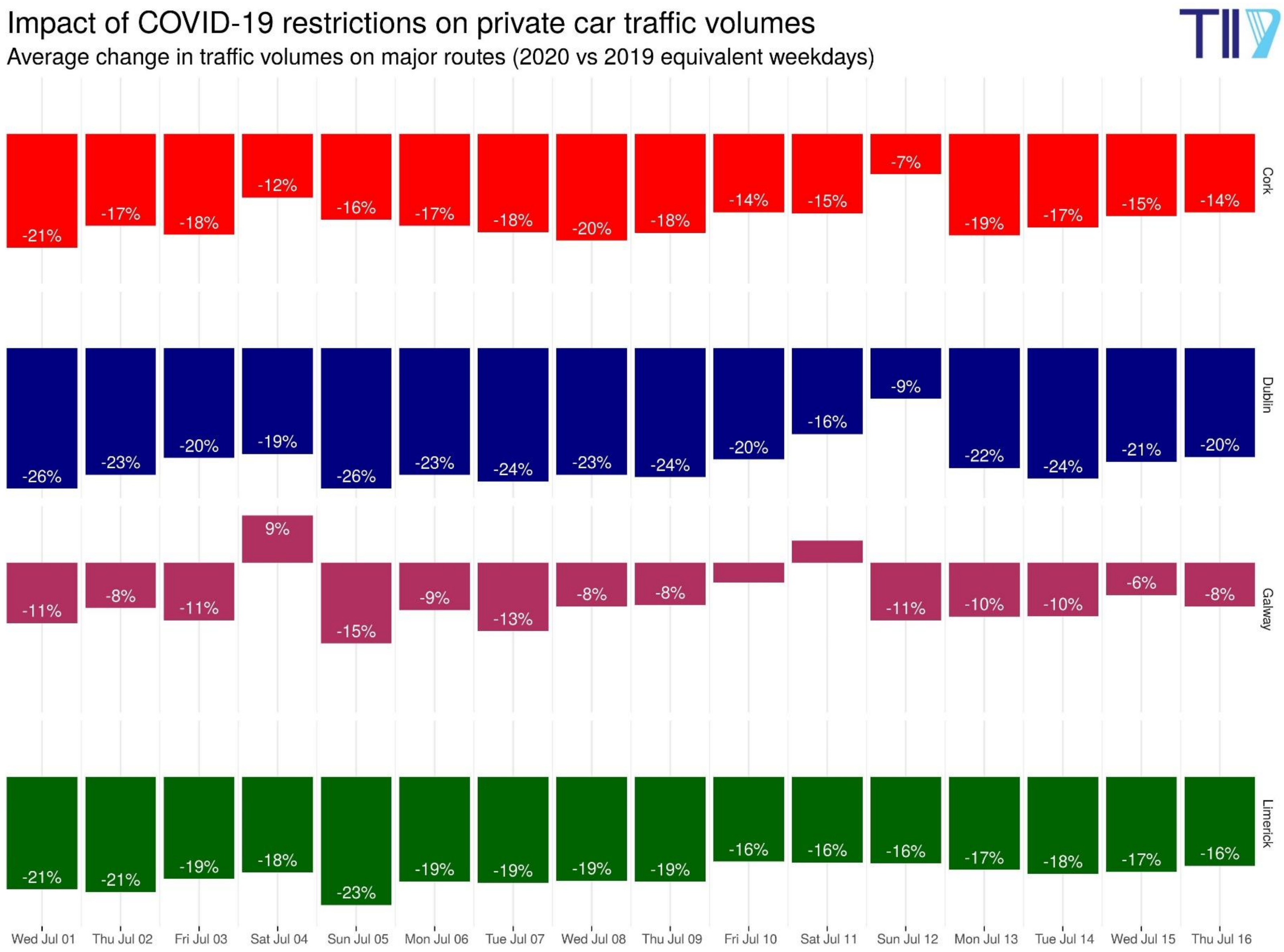

Figure 6: Private Cars

(Based on aggregations of traffic volumes on selected key national roads on approach to each of the major cities.*

** note that traffic data between 24th June and August 6th 2019 is missing at some counters due to technical problems in 2019. This data has been interpolated using 2018, 2019 and 2020 data for comparison with current traffic volumes)*

4.0 The Border

A selection of 12 traffic counter sites on national roads close to the border were analysed. A plot of trends at the border, compared to national traffic, is provided in Figure 7. The trend is developed using an index of a 7 day rolling mean traffic flow from February 7th 2020, in order to smooth seasonal patterns.

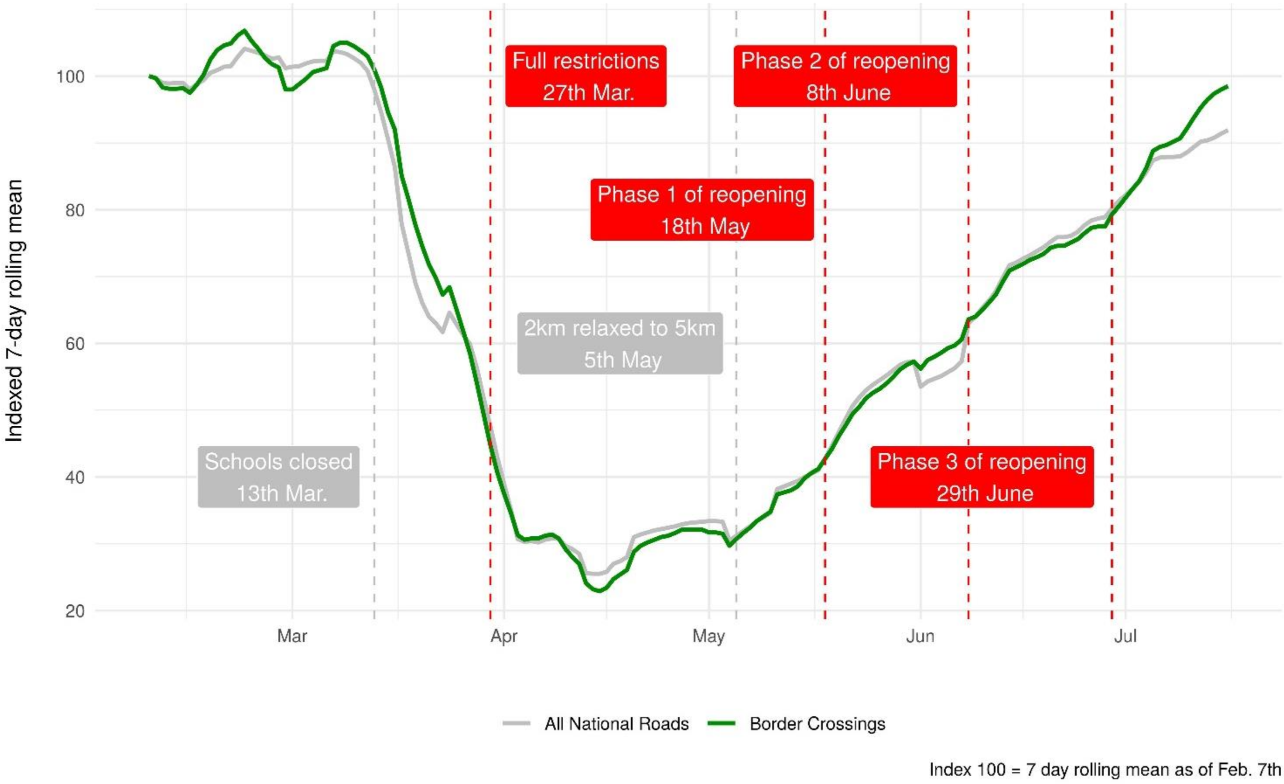

Figure 7: Trends in traffic at national road border crossings compared with all national roads

The plot indicates that trends on vehicles crossing the border via national roads are very similar to the global trend across all national roads with volumes reduced to 60-70% of typical levels, over the period of restrictions between March 27th and May 5th. Since the easing of restrictions on May 5th and the Phase 1 of reopening of society and business on May 18th, volumes of traffic crossing the border were approximately 50-60% of typical levels.

Phase 2 of the reopening commenced on June 8th and by the week beginning June 22nd, volumes of border traffic were approximately 75-80% of typical levels. Phase 3 of the reopening commenced on June 29th and volumes of border traffic are now 95-100% of typical levels. It is worth noting that in recent weeks, increases in vehicles crossing the border via national roads have been greater than those observed on other national roads.

A further comparison between private car and heavy goods vehicle traffic volumes crossing the border is provided in Figure 8. This indicates that during this week, private car volumes are down approximately 15-20% when compared with the equivalent day of last year. Recent trends in heavy goods vehicles crossing the border have fluctated either side of the weekend of the 12th July. Private car traffic levels have generally been further below typical levels when compared to goods vehicles. This can be attributed to the ongoing impacts of the requirements to work from home on private car traffic volumes.

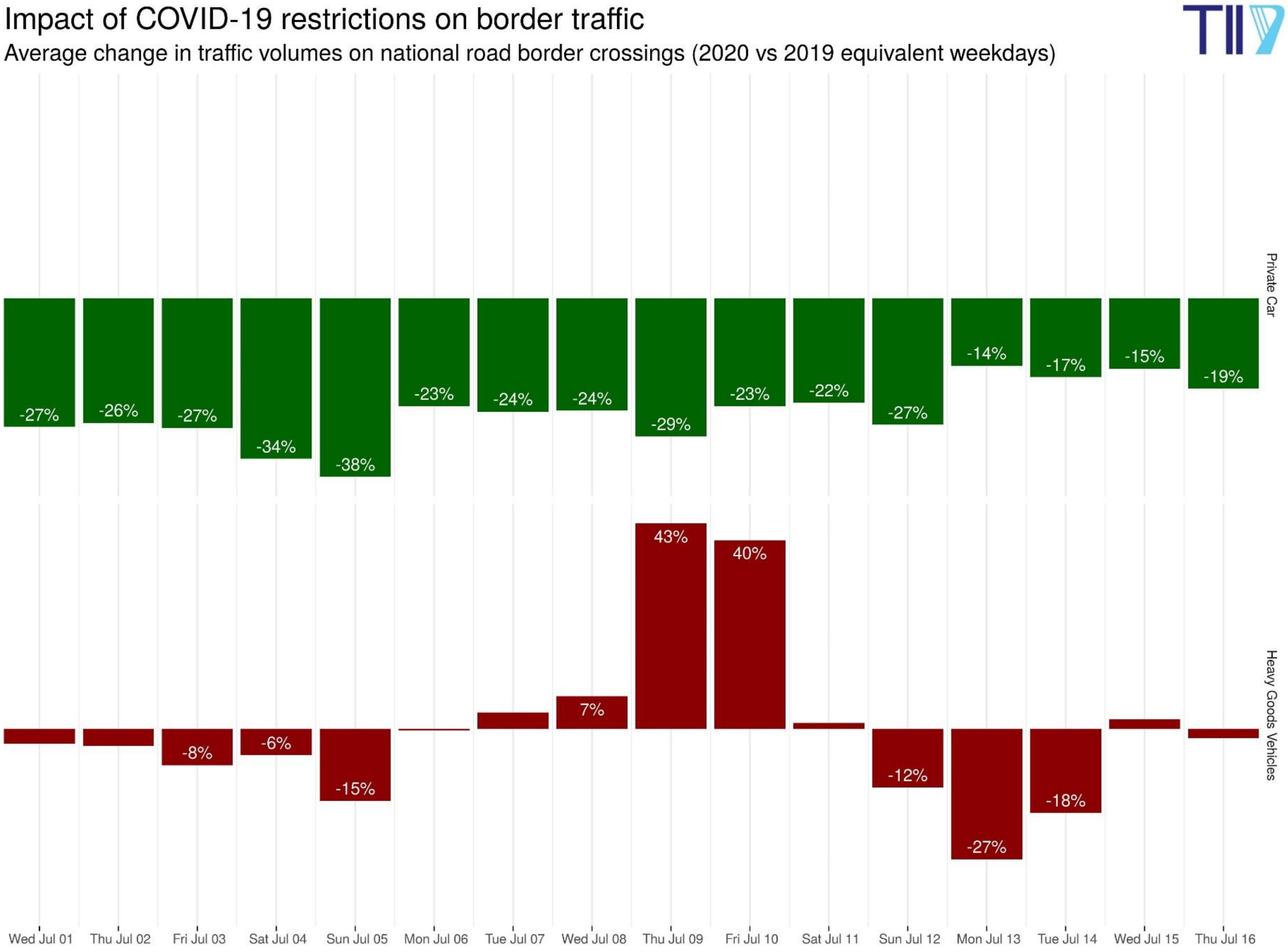

Figure 8: Border Crossings

(Based on aggregations of traffic volumes on national roads near border crossings.*

** note that traffic data between 24th June and August 6th 2019 is missing at some counters due to technical problems in 2019. This data has been interpolated using 2018, 2019 and 2020 data for comparison with current traffic volumes)*