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Sent: October 26, 2020 2:14 PM
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Subject: Regional Council Decision - Update on Travel Patterns in York Region During COVID-19 Pandemic

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On October 22, 2020 Regional Council made the following decision:

1. **Council support continued monitoring of travel patterns as the Region continues in Stage 3 of re-opening and incorporate observations and findings into the 2021 budget.**
2. The Regional Clerk circulate this report to the Clerks of the local municipalities.

The original staff report is attached for your information.

Please contact Brian Titherington, Director Transportation Infrastructure and Planning at 1-877-464-9675 ext. 75901 if you have any questions with respect to this matter.

Regards,

Christopher Raynor | Regional Clerk, Regional Clerk's Office, Corporate Services

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Our Mission: **Working together to serve our thriving communities – today and tomorrow**

The Regional Municipality of York

Committee of the Whole
Transportation Services
October 8, 2020

Report of the Commissioner of Transportation Services

Update on Travel Patterns in York Region during COVID-19 Pandemic

1. Recommendations

1. Council support continued monitoring of travel patterns as the Region continues in Stage 3 of re-opening and incorporate observations and findings into the 2021 budget
2. The Regional Clerk circulate this report to the Clerks of the local municipalities.

2. Summary

This report summarizes observed travel patterns during summer 2020 as the Region followed provincial guidelines while maintaining public health measures to mitigate the spread of the COVID-19 virus. It further identifies direction to adapt levels of service for road and transit operations to meet observed demand and changing travel patterns as part of the 2021 budget.

Key Points:

- Daily traffic volumes on Regional roads have been gradually increasing since re-opening of businesses and services in early May, although travel during peak hours is still below pre-pandemic conditions.
- As a result of lower traffic volumes during peak hours, contractors have been permitted to close traffic lanes on Regional roads outside of typical off-peak hours. As traffic volumes increase, staff is monitoring the impacts of longer lane closures on the movement of travellers in areas of construction.
- The number of travellers using York Region Transit (YRT) services significantly decreased as a result of the COVID-19 pandemic. With the gradual re-opening of businesses, YRT Viva and Base routes are recovering more quickly than local routes. Base routes refer to services that are not Viva but run frequently on Regional roads, such as Major Mackenzie Drive and Keele Street. Local routes refer to services that operate less frequently providing connections within communities. Staff continues to monitor ridership trends and examine alternative service options including micro-transit.

- Staff continues to monitor and assess travel patterns through expanded data collection. Partnerships with the Ministry of Transportation Ontario and other Greater Toronto Area (GTA) municipalities will assist in the collection and assessment of region-wide travel data to better understand the long-term impacts of COVID-19 on travel patterns.

3. Background

During the initial months of the COVID-19 pandemic travel reduced significantly in York Region

In [June 2020](#), staff summarized the initial impacts on travel in the Region as a result of public health and physical distancing measures at the beginning of the COVID-19 pandemic.

4. Analysis

Travel across all transportation modes is gradually increasing with the Regional transition into Stage 3 of re-opening

York Region is now in Stage 3 of re-opening. Recent travel patterns reflect increased travel due to the gradual re-opening of nearly all businesses and public spaces compared to observations in June. A summary of road and transit travel changes compared to pre-COVID conditions is shown in Table 1.

Table 1
Travel Patterns Before and During Re-opening

| Modes | Before COVID-19 | Summer 2020 | Change (%) |
|---------------------|-----------------|-------------|------------|
| Roads: | | | |
| Commuters/day | 600,000 | 510,000 | -15 |
| Traffic speed | 44 km/h | 48 km/h | 10 |
| Collisions/month | 1,106 | 744 | -33 |
| Heavy trucks/day | 29,000 | 29,000 | 0 |
| YRT boardings/week: | | | |
| Viva | 170,000 | 75,000 | -56 |
| Base | 300,000 | 142,000 | -53 |

| Modes | Before COVID-19 | Summer 2020 | Change (%) |
|----------------------------------|-----------------|-------------|------------|
| Local | 66,200 | 16,500 | -75 |
| Mobility On-Request Paratransit | 8,000 | 1,800 | -78 |
| Mobility On-Request Conventional | 800 | 700 | -13 |
| Go Rail ridership/day | 46,300 | 7,800 | -83 |

Notes:

- YRT ridership compares weekly total boarding pre COVID-19 (August 2019) to weekly boarding during COVID-19 (August 2020) and are rounded. Percent change reflects actual (unrounded) ridership numbers.
- GO Rail ridership represents two-way travel (i.e. on and off) at GO rail stations in York Region

Road operations are planned to be maintained at pre-pandemic service levels as daily traffic volumes increase to pre-pandemic conditions

Since early May, typical weekday traffic volumes have increased in step with the gradual phases of reopening businesses in Ontario. Attachment 1 includes daily travel volume trends during the COVID-19 pandemic, a comparison of traffic volumes profiles by time of day before and during the pandemic and data on changes in travel delay and traffic speed.

In early September 2020, daily traffic volumes reached approximately 88% of September 2019 volumes; however, the pattern over the day has changed. Traffic volumes during peak hours are approximately 15 to 30% below pre-pandemic conditions, with the largest decreases being observed during the morning peak hour. Traffic volumes during midday hours are back to pre-pandemic levels.

Based on these observations, road operations service levels, which include winter maintenance, pothole repair and grass cutting, are planned to be maintained at comparable levels for 2021.

As traffic volumes increase, staff is monitoring the working hours for construction projects

With fewer vehicles travelling on Regional roads during the pandemic, temporary lane closure hours to allow for construction were extended beginning in March. The extended lane closure hours have provided more time to allow construction activities to advance and to support modified on-site practices to protect construction staff. Extended working hours have been used on approximately 40 to 50 projects across the Region.

As traffic volumes have been increasing, staff is assessing the need to impose limits on lane closures during peak hours on a project by project basis. This includes reviewing hourly

traffic volumes, impacts to traffic on parallel routes and whether there are essential service connections to hospitals, EMS stations and major transit corridors.

Transit ridership is down overall but Viva, base routes and Conventional Mobility On-Request services are recovering more quickly

With significant reduced passenger demands during COVID-19, transit service reductions on low-performing routes continue to be in effect to accommodate passenger demand. Service on Viva and base routes are largely maintained as they have the highest ridership and provide necessary connections to essential service providers and businesses. Several Viva and base routes have returned to pre-COVID-19 weekday frequency due to ongoing ridership increases. Base routes refers to services that are not Viva but run frequently on Regional roads such as Major Mackenzie Drive and Keele Street.

Mobility On-Request Conventional services are experiencing ridership close to pre-pandemic levels as customers continue using the service to make connections with Viva and base routes. Mobility On-Request Paratransit ridership is experiencing slower ridership increase as a result of day program cancellations and residents asked to stay home during the pandemic.

Weekly ridership trends on all YRT services are shown in Attachment 1.

Given the significantly reduced passenger demands on certain transit routes as a result of COVID-19, transit service levels are planned to continue to be aligned with reduced ridership demand for 2021.

YRT will continue working towards regaining ridership lost during the COVID-19 pandemic

Under the Safe Restart Agreement, the province, in partnership with the federal government, is providing up to \$2 billion in funding dedicated to public transit across Ontario. While not yet specified, part of the funding may be subject to meeting objectives that could include YRT's continued collaboration with peer GTHA transit agencies in working towards fare and service integration. YRT will continue to implement several strategies tailored to regaining ridership, including:

- **Monitor Route Performance** – Staff regularly monitor ridership at a route level and adjust service levels to accommodate demand. As the economy continues to reopen and ridership continues to increase, staff will continue to focus on routes that make connections to rapid transit, employment centres and key destinations.
- **Explore Micro-Transit Solutions** – In areas where conventional transit service is unavailable or ridership does not warrant a fixed route service, micro-transit services will be considered. The Region already has some micro-transit solutions in place through the Mobility On-Request service.

- Advocate for Fare and Service Integration – YRT continues to work closely with Metrolinx and GTHA peer agencies to implement PRESTO technology as a Regional fare payment solution and adopt strategies to reduce barriers to travel between York Region and area municipalities such as double fares and forced transfers.
- Higher Order Transit – Staff continues to support provincial initiatives to implement higher order transit services such as Yonge Subway North Extension, GO Expansion and the future-planned Highway 407 Transitway. These longer-term transit projects are expected to continue to be critical to meet the future travel demand of residents despite the near and potential long-term impacts of the pandemic.

The Region plans to collaborate with the Ministry of Transportation and other GTA municipalities to monitor and assess region-wide travel patterns

While travel patterns have changed in the Region as a result of COVID-19, it is unknown which changes are temporary, and which are likely to continue long-term as restrictions associated with the pandemic continue to ease. To better understand the long-term impacts on travel patterns, the University of Toronto is managing a survey on behalf of funding partners, including the Regions of York, Peel and Halton, City of Toronto, the Toronto Transit Commission, the Ministry of Transportation of Ontario and Metrolinx/GO Transit. The survey will collect information on how, why and where people travel and will provide insight to understand the impacts of COVID-19 on the travel demand and travel behaviour of residents and commuters within the GTA. The survey will collect travel related data in fall 2020 and spring 2021. Time series data will help to analyse mid to long-term trends including work from home, online shopping, mode shift, etc.

Long-term trends will be incorporated into the planning of the future transportation network as the Transportation Master Plan Update is currently underway.

5. Financial

COVID-19 has significant impacts on travel patterns in the Region. These impacts were observed and analyzed using various data collection programs the Region has in place to support traffic operations and transportation planning. The most significant transportation financial impact has been for transit operations.

In the midst of the COVID-19 pandemic, YRT revenue ridership has been gradually increasing as businesses and services re-open. Revenue ridership for the first two weeks of September is approximately 40% compared to September 2019. A slow and steady increase in ridership is anticipated for the rest of September with more students returning to school.

Staff continues to monitor and assess travel patterns, including traffic volumes, transit ridership, land use changes, work from home changes and status of stage opening (e.g. a second outbreak). Implications of these travel pattern trends for road and transit operations and capital construction will be included as part of the 2021 Budget.

6. Local Impact

Local municipal staff will be informed of the findings from the COVID-19 travel impacts data collection and surveys through standing transportation meetings and committees. Long-term trends will be incorporated into the Transportation Master Plan. Staff will engage local Councils and municipal staff throughout the Transportation Master Plan update process.

7. Conclusion

The COVID-19 pandemic has impacted travel patterns in York Region. Staff continues to monitor and assess travel patterns using a number of in-place data programs and adjust road and transit operations to meet traveller needs. Since the re-opening of businesses and services, daily traffic volumes have been gradually increasing, but the spread of traffic over the day has changed. As traffic volumes continue to increase, it is important to maintain levels of service for road operations and review whether extended working hours for construction projects should be continued.

YRT transit ridership has been gradually increasing on some routes as businesses and services re-open. YRT Viva, Base routes and Mobility On-Request Conventional services are realizing the greatest ridership uptake. YRT is implementing strategies to increase transit ridership and will continue to explore further options to grow ridership with the support of COVID-19 emergency funding provided by the Province.

Detailed travel behaviour data is needed to understand the long-term transportation impacts of COVID-19. York Region is collaborating with other GTA municipalities and agencies to conduct a series of surveys. Data from the surveys will help to understand travel patterns and behaviours to plan for mid to long-term transportation trends, including work from home, online shopping, mode shift and online versus in-class schooling. Identified long-term trends will be incorporated into planning of the future transportation network during the Transportation Master Plan Update, currently underway.

For more information on this report, please contact Brian Titherington, Director Transportation Infrastructure and Planning at 1-877-464-9675 ext. 75901. Accessible formats or communication supports are available upon request.

Recommended by: **Paul Jankowski**
Commissioner of Transportation Services

Approved for Submission: **Bruce Macgregor**
Chief Administrative Officer

September 18, 2020
Attachment (1)
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Update on Travel Patterns in York Region during COVID-19 Pandemic

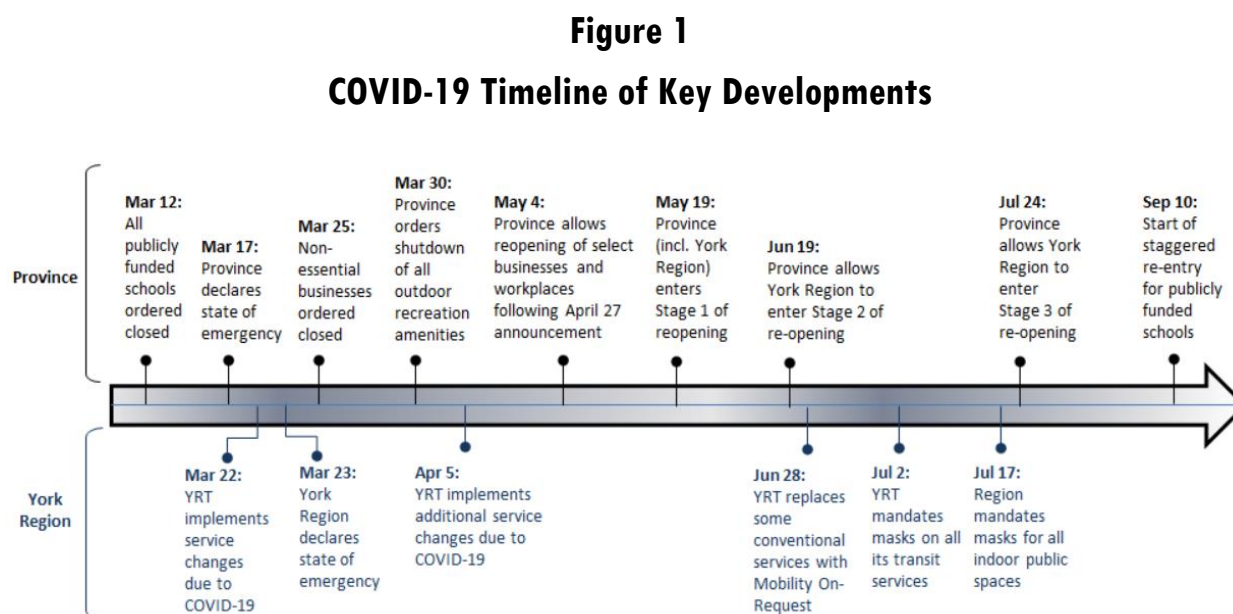
This provides an update on travel patterns observed in the Region during the COVID-19 pandemic further to the update to Council on [June 11, 2020](#).

1.0 Background

As physical distancing and health measures (the lockdown) were put into place at the beginning of the COVID-19 pandemic during late March and early April, daily traffic volumes on the Regional road network initially decreased by 50%. Similarly, transit ridership on York Region Transit services and GO Rail service reduced by 80% and 90% respectively. Truck traffic generally remained consistent during the lockdown.

2.0 COVID-19 Timeline of Key Developments

The timeline of measures implemented at the Provincial and Regional levels is summarized in Figure 1.



Effective July 2, 2020, transit travellers, including YRT/Viva riders, were required to wear a non-medical face mask or covering since transit agencies cannot guarantee physical distancing while using transit vehicles or facilities. On July 17, 2020, Council endorsed a recommendation from the York Region Medical Officer of Health instructing operators of indoor retail establishments and organizations to require their customers, employees and visitors wear a face mask or covering, subject to appropriate exemptions.

On July 24, 2020, York Region entered Stage 3 under the Province's re-opening framework. In Stage 3, nearly all businesses and public spaces were allowed to gradually re-open with public

health and workplace safety restrictions in place. Some higher-risk venues and activities remain closed until operations can be safely resumed.

3.0 Travel Patterns by Road

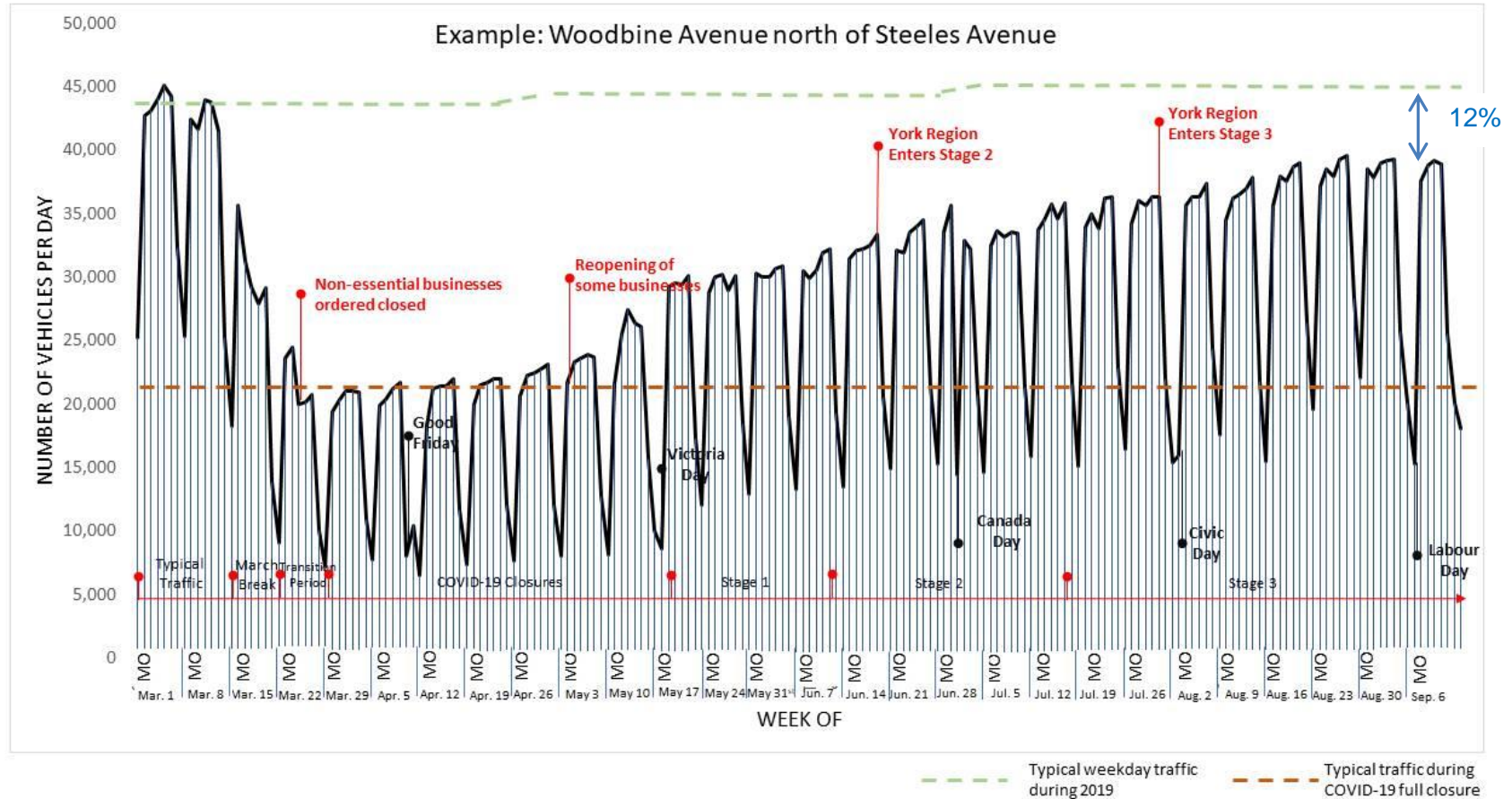
3.1 Daily Traffic Volumes

There are six permanent counting stations located across the Region monitoring daily traffic volumes. Figure 2 shows daily traffic volumes collected from early March to early September on Woodbine Avenue, north of Steeles Avenue, in the City of Markham. The other five counting stations have shown consistent traffic volume patterns.

Since early May, typical weekday traffic volumes have increased, in step with the gradual phases of reopening businesses in Ontario. In early September 2020, traffic volumes reached 88% of September 2019 volumes.

Based on research conducted by University of Toronto, approximately 70% of transit users in the GTA switched to private vehicles during the COVID-19 pandemic. While daily traffic volumes have been returning to normal, the additional traffic due to mode shift from transit may create extra pressure on the Regional road network. This trend is undesirable and needs to be monitored.

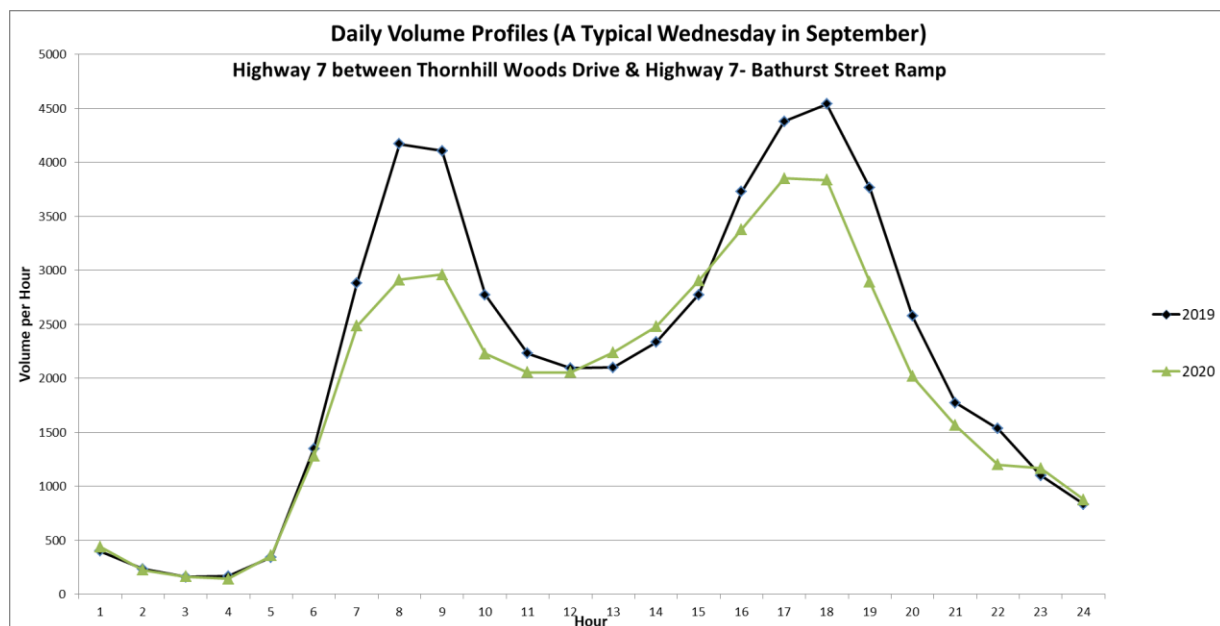
Figure 2
Daily Travel Volume Trend during COVID-19 Pandemic



3.2 Traffic Volumes by Time of Day

Figure 3 shows a comparison of traffic volume profiles by time of day between a typical weekday in September 2019 and September 2020 on Highway 7 from Thornhill Woods Drive to the Bathurst Street on-ramp. In September 2020, while traffic volumes during midday appear to be gradually increasing or even exceeding, travel during rush hours are still well below September 2019 levels. In particular, the morning rush hour volumes in September 2020 are almost 30% lower than in September 2019. This may be the result of large numbers of people working from home during the pandemic.

Figure 3
Volume Profile before vs. during COVID-19 Pandemic



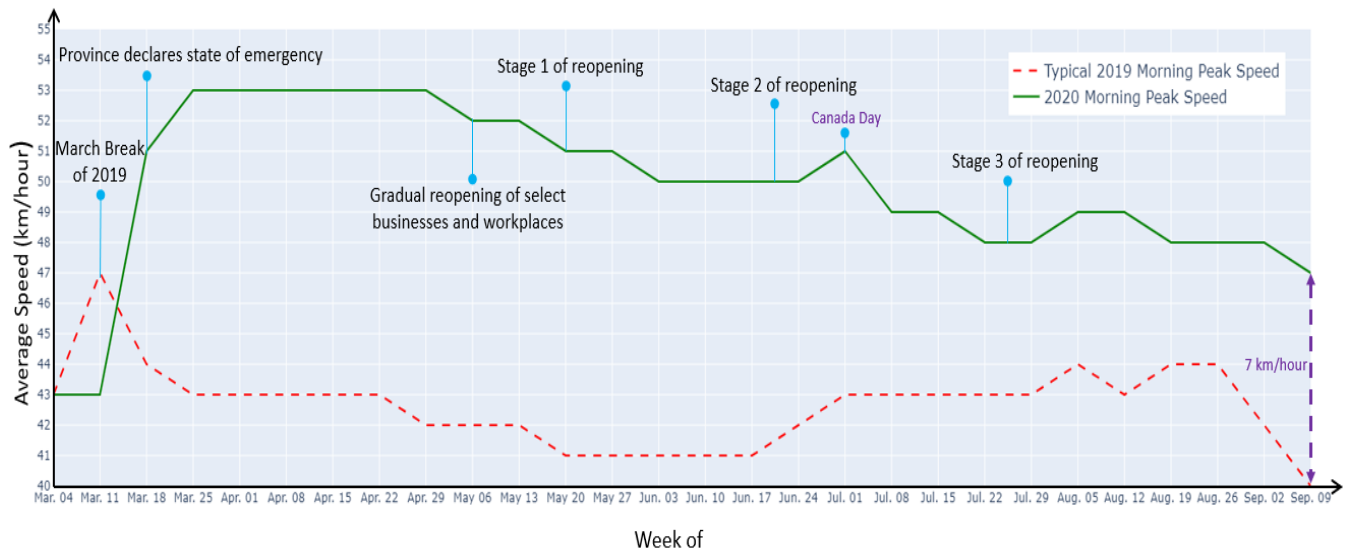
3.3 Average Vehicle Speed

With the Province gradually re-opening, traffic on Regional roads has increased and motorists have begun to experience delays. Based on data from Bluetooth sensors, travel delays during the week of September 9, 2020 have increased travel times by 20% during peak hours. However, delays are still less than the same time in 2019 when motorists would typically experience a 30% increase in travel times during peak hours due to travel delays.

As traffic volumes have changed during the pandemic, motorists have adjusted their vehicle speed. The Bluetooth sensor traffic speed figure (Figure 4) presents the average vehicle speed during the morning peak in the southern municipalities (Markham, Richmond Hill and Vaughan) from early March to early September 2020. The average vehicle speed prior to the pandemic was 43 km/h. Since the re-opening of businesses in early May, travel speed has been gradually decreasing with increased traffic volumes. In early September, the average vehicle speed

reached 47 km/h. The current speed is approximately 7 km/hr or 17% higher than the same time in 2019.

Figure 4
Morning Peak Speed Profile (Before vs. During COVID-19 Pandemic)

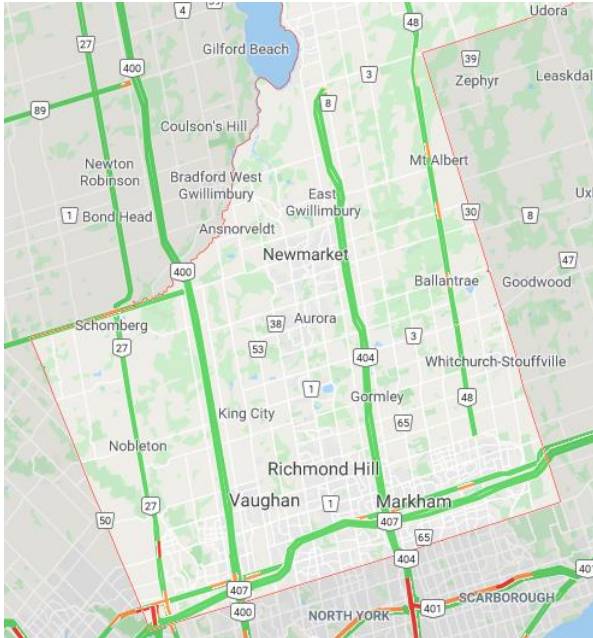


Note: Weekdays refer to Tuesday, Wednesday and Thursday of the week.

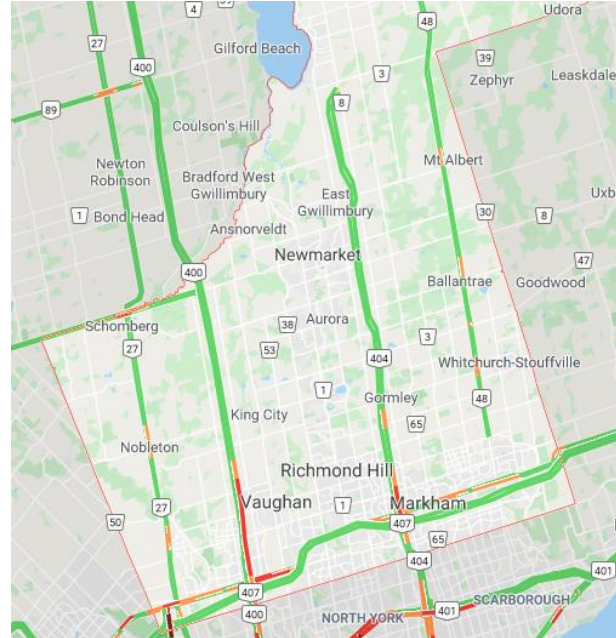
Comparison of vehicle speeds in August 2020 for travel on the highway network across the Region (Figure 5) shows the afternoon rush hour is getting busier than the morning rush hour. This may be attributed to morning rush hour traffic volumes being 30% lower than the pre-pandemic.

Figure 5
Highway Traffic Speed during Stage 3 of Reopening

Morning Peak Hour Traffic (August 25, 2020)



Afternoon Peak Hour Traffic (August 25, 2020)



3.4 Truck Traffic

An assessment of 15 Automatic Traffic Recorder locations across the Region in August 2020 indicates that as daily traffic volumes on Regional roads were returning to normal, daily heavy truck percentage returned to the normal level of 3%.

In addition, truck percentages at individual locations are consistent with observed 2019 daily percentages. This distribution indicates normal truck travel routings have resumed with the re-opening of business across the Region.

3.5 Traffic Collisions

York Regional Police provided traffic collision data between March and June for 2019 and 2020, as summarized in Table 1.

Table 1
Collisions Before and During the COVID-19 Pandemic

| Total Collisions | 2019 | 2020 | Decrease |
|------------------|-------|------|----------|
| March | 983 | 615 | 37% |
| April | 929 | 345 | 63% |
| May | 1,023 | 551 | 46% |
| June | 1,106 | 744 | 33% |

Generally, traffic collisions remain low in York Region during the COVID-19 pandemic compared to the same time last year. However, it has been observed traffic collisions have been increasing as a result of increased traffic volumes on Regional roads. In June 2020, there were 744 reported traffic collisions. This is approximately 33% lower than the same time last year.

While the overall number of collisions remains lower than pre-pandemic conditions, the incidence of dangerous stunt driving has been rising in the Region since the pandemic began. From March 1 to May 11, 2020, York Regional Police laid 306 charges for stunt driving for vehicles travelling in excess of 50 kilometres per hour over the speed limit, compared to 149 during the same period in 2019.

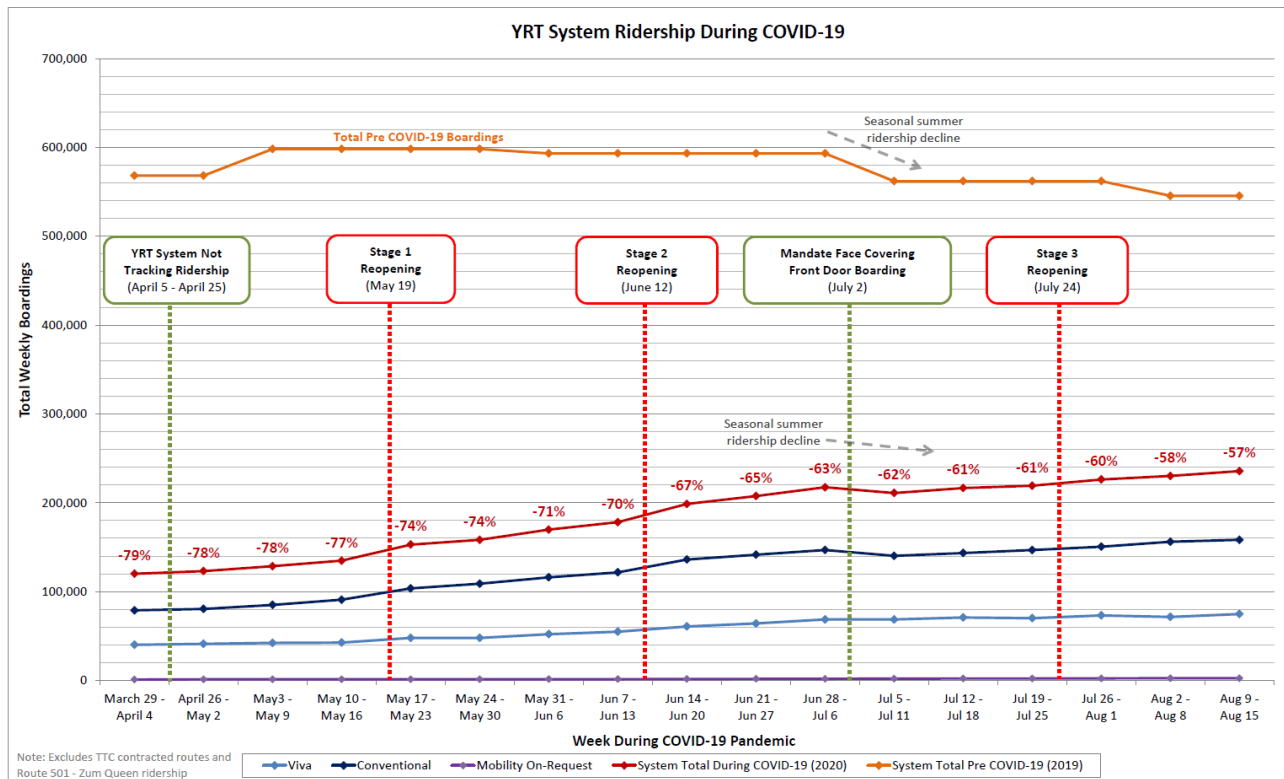
4.0 Travel Patterns by Transit

4.1 York Region Transit Ridership

The number of travellers using YRT services significantly decreased with the closure of all publicly-funded schools and non-essential businesses in March, 2020. Transit ridership decreased by approximately 80% across York Region. As a result, scheduled service changes were implemented to address decreased demand.

Since the phased reopening of the economy beginning May 19, 2020, YRT services have been experiencing a gradual ridership uptake. Weekly ridership trends on all YRT services are shown in Figure 6.

Figure 6
YRT/Viva Weekday Service - Ridership Impact of COVID-19



System ridership on all YRT services in August 2020 reached 43% of August 2019 ridership. Viva and base routes, which operate along key corridors within the Region at a higher frequency, gained the highest increase. Ridership on these routes has reached approximately 50% of last year's level. Local routes, including GO Shuttles and Express buses, are still 75% down.

Mobility On-Request Paratransit ridership was down approximately 80% by mid-August 2020 as day programs were cancelled and residents were asked to stay home during the pandemic.

Due to decreased demand, Mobility On-Request Conventional services continue to be expanded during the COVID-19 pandemic with 10 additional conventional routes replaced by Mobility On-Request services due to decreased demand.

Most Community Bus routes were replaced with Mobility On-Request services with earlier start times to address earlier opening of essential services, such as grocery stores. Mobility On-Request Conventional ridership is currently experiencing an approximate 96% return in weekly ridership over August 2019 as customers continue using the service to make connections with YRT Viva and base routes.

4.2 GO Rail Ridership

During the COVID-19 pandemic I, GO bus and rail ridership is 83% lower than the same time last year. To accommodate reduced passenger demand, all GO train lines in York Region continue to operate with reduced frequency (one train per hour for the peak direction during the peak periods). In addition, all trains are reduced to six coaches in response to reduced ridership.

5.0 Travel Patterns by Walking and Cycling

Increased use of the public road network during the COVID-19 pandemic has prompted municipalities to explore opportunities to re-allocate road space to encourage more walking and cycling at safe physical distances. While data is limited, the ability for pedestrians and cyclists to safely distance from others does not appear to be an issue along Regional corridors. Some local municipalities have considered initiatives on local roads to provide additional space for active transportation and to facilitate access to businesses. The City of Markham, as an example, has implemented various initiatives, such as the closure of Enterprise Boulevard from Andre De Grasse Street to Main Street Unionville on Sundays and statutory holidays for pedestrians and cyclists.

In response to the COVID-19 pandemic, through the Region's Smart Commute Program, in partnership with the Town of Newmarket and the Cities of Markham, Richmond Hill and Vaughan, a series of walking, cycling and teleworking webinars were offered to help guide the community through active travel and healthy living. The focus of the webinars was to provide commuters and residents with the tools to navigate the Region safely using sustainable modes of transportation with a goal of encouraging these travel choices in the future.

The Region continues to work with the local municipalities and regional stakeholders on sustainable mobility initiatives.

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