June 9, 2020 & July 28, 2020 – Virtual Public Information Centre (PIC) 4
Transcript of Overview Presentation
First Posted on June 9, 2020

This document provides documentation of the verbal content of the Virtual PIC 4 first posted on June 9, 2020. Each section starts with an indication of a slide number followed by a time stamp. The time stamp may be used to advance the video to sections of greater interest.

Slide 1 – Introduction - 00:0:00,00

Welcome to the Virtual Public Information Center for the City of Brantford's Transportation Master Plan Update.

My name is Paul Bumstead and I am the project manager for Dillon Consulting Limited. Dillon has been retained by the City of Brantford to undertake this strategic review of the long-term transportation needs of the City.

I will be providing a slide by slide overview of the information contained in this Public Information Center material.

Slide 2 – Welcome - 00:0:25,00

Why are we here?

The City is updating the 2014 Water, Wastewater and Stormwater Master Servicing Plan (MSP) and the 2014 Transportation Master Plan (TMP)

These updates will develop long term servicing and transportation strategies to ensure the maintenance of services for existing residents and business as well as support future growth of the community

This Virtual Public Information Centre is presenting the preferred future network recommendations for:

- Public Transit Strategy
- Active Transportation System (cycling and walking)
- Roadway Network Infrastructure
- Water Servicing
- Wastewater Servicing
- Stormwater Servicing

We need your help to review content, ask questions, and provide comments and feedback on the direction and preliminary outcomes of the study!

The purpose of this Public Information Centre, or PIC for short, is to introduce the study to stakeholders and the public, and offer an opportunity for interested parties to review and provide comments to the Project Team.

Slide 3 – Virtual Public Information Centre (PIC) - 00:1:16,00

In response to the advice of public health officials to limit in-person gatherings due to COVID-19, this Virtual Public Information Centre (PIC) has been developed. Through this Virtual PIC, you will be able to learn more about the Master Servicing Plan and Transportation Master Plan projects and provide comments on the study findings.

The Virtual PIC will roll out over the next eight weeks, beginning with the posting of these PIC boards on June, 9 for review and comment and ending July 28 with the posting of Frequently Asked Questions at the end of the second question period. These PIC Boards will remain on line throughout the eight weeks.

Slide 4 – Municipal Class EA Process - 00:1:57,00

The Master Servicing Plan and Transportation Master Plan are being undertaken in accordance with Phases 1 and 2 of the Municipal Class Environmental Assessment Process.

Phase 1 is the identification of the Problems and the Opportunities to address the problems.

Phase 2 is the Alternative Solutions phase where strategies and preferred planning alternatives are identified and evaluated to come up with a preferred implementation plan. At this stage of project, we are providing an overview of the alternatives assessed and the preliminary recommended plan for comment and feedback.

Slide 5 – Consultation Overview - TMP - 00:2:31,00

The purpose of this public consultation event as it relates to the Transportation Master Plan is to present the preferred and preliminary future recommendations for the public

transit strategy, active transportation system (that includes cycling and walking), and the road network infrastructure requirements for the 2041 horizon.

This virtual public information center represents the fifth time over the course of the Transportation Master Plan study that information has been brought to stakeholders for information and discussion.

The study was formally initiated October 19, 2017.

Public Meeting Number One, which addressed the vision for City took place, November 16th 2017.

An Active Transportation workshop on April 5th, 2018 hosted members of public, city staff, and council members to map out thoughts and strategies to enhance the cycling and walking provisions in the City's transportation system.

Public Meeting Number 2, on May 17, 2018, identified the foundation elements and strategies to be used to assess the problems and needs of community with respect to transportation.

Public Meeting Number 3 on February 10th, 2020, identified the constraints and opportunities for the City in 2041.

Slide 6 – 2018 Network Performance, Existing Network - 00:3:52,00

This map highlights specific areas in the existing transportation network that are experiencing roadway capacity issues during the typical weekday peak hour of travel (afternoon peak hour). As displayed, the color of the road segment indicates how the section is operating. RED sections are congested or at capacity; ORANGE segments are operating within capacity but may have some short periods of congestion; and the remaining GREY segments are operating well within capacity

Overall existing network is operating well. There are three areas of concern: King George Rd and Wayne Gretzky Parkway in the vicinity of Highway 403, and the Veterans Memorial Parkway crossing of the Grand River.

Slide 7 – Growth Management Assumptions - 00:4:38,00

The Growth Plan for the Greater Golden Horseshoe identifies the growth directions for population and employment growth within the City.

Ultimately the City's population is expected to grow from 101,700 people in 2016 to 163,000 people by 2041. Employment is expected to grow from 44,890 in 2016 to 79,000 people by 2041.

The new growth of 61,300 people and 34,110 jobs is anticipated to be distributed throughout the City, in a combination of intensification within the Built-up Area and growth in the city's new and existing designated Greenfield and Employment Areas.

Slide 8 – 2041 Network Performance, Do Minimal Network - 00:5:29,00

This map identifies the capacity constraints by 2041 accounting for proposed growth under a transportation network scenario with minimal improvements over today's condition. The changes to the road network include only short term committed projects (e.g. The Oak Park Road/Highway 403 interchange upgrade) and collector roads required to support the expansion growth areas (required to provide access to future development)

As with the existing conditions assessment, the color of the road segment indicates how the section is operating. RED sections are congested or at capacity; ORANGE segments are operating within capacity but may have some short periods of congestion; and the remaining GREY segments are operating well within capacity

Overall, by 2041 do-minimal network assessment shows that many of the arterial roads will be operating at or above capacity in the afternoon peak hour. Existing issues crossing Highway 403 and the Grand River are exacerbated by growth, and new issues have emerged along the north-south roadways connecting the downtown area to Highway 403.

Slide 9 – Alternative Strategies to Address Network Needs - 00:6:43,00

The 2020 TMP builds on 3 basic principles:

Reduce the number of vehicle trips using the network through Travel Demand Management. This strategy focuses on the modification of travel behaviour. For example: increased use of transit, increased use of bicycle, more walking for shorter distance trips, and taking advantage of ride sharing opportunities.

Manage the existing system elements more efficiently through Transportation System Management. This strategy targets the optimization of available existing infrastructure through management of space and time. For example: Traffic signal coordination, provision of auxiliary turning lanes at major intersections, and implementing turning movement and on-road parking restrictions during busiest periods.

Increase the system capacity through provision of improved, enhanced, or new infrastructure. This is typically done through road widenings, extensions, and/or additions.

Slide 10 – Transit Opportunities – Approach - 00:7:52,00

Travel Demand Management relies heavily on the use of transit. Today approximately 3% of weekday peak hour trips are made by transit. The success of transit depends on the availability of service and the proximity of that service to people and jobs. The more people that have good access to transit, the higher the potential for transit ridership.

Achieving these increases requires an expansion of existing service (new routes) and service frequency (more buses, smaller headways between buses).

A review of existing mode splits was undertaken to established the penetration of the transit market. Population and employment densities in the 2041 condition were reviewed to identify areas where transit service would have the most impact. New mode share targets were identified and applied to future trip generation to establish new transit ridership levels and make corresponding adjustments to the auto trip making.

Slide 11 – Transit Opportunities - 00:8:52,00

The application of the new transit mode share targets results in a significant increase in transit ridership. Overall city-wide travel changes from 2.7% transit in 2016 to 5.9% transit in 2041.

The impact of this increased focus on transit is a tripling of route ridership (remembering that route ridership includes transfers between multiple routes by a single rider to facilitate their trip). Such a service expansion will require significant investment. The current transit system comprises 175km of route coverage, which needs to expand to over 220km to access growth areas. This reflects a 25% increase.

Slide 12 – Transit Opportunities – Partnership Opportunities - 00:9:38,00

In addition to the City-to-City transit service, there are opportunities to partner with other agencies to connect communities outside the City limits by public transit. Providing transit connectivity will result in benefits to the City's road system performance. Travel markets to/from the County, the GTA, and the Cambridge/Kitchener/Waterloo area are significant, as shown in this slide. Not all these trips are divertible to transit but even achieving 2%-5% market penetration could result in significant auto trip reduction on critical roadways.

The development of such service has the potential to reduce auto volumes on the critical north-south arterials in the City but will require inter-agency collaboration to implement (e.g. planning and funding).

Slide 13 – 2041 Network Performance, Manage Travel Demand - 00:10:28,00

The effect of the 5.9% transit mode share, in combination with an additional 10% mode share to Active Modes (walking and cycling) significantly reduces the 2041 vehicle demand on the network. This TDM scenario, as assigned to the Do Minimal network, results in a noticeable improvement in network operations across the city compared with the 2041 Do Minimal forecasts. The network is working much more reliably in the downtown area and crossing Highway 403.

However, specific problem areas still remain: Paris Road between Highway 403 and Golf Rd., King George Road crossing Highway 403, and the Grand River Crossings.

A TDM strategy alone does not address all of the transportation network system constraints.

Slide 14 – 2041 Network Performance, Increased Network Infrastructure - 00:11:19,00

This map highlights the capacity constraints by 2041 with an Increased Infrastructure scenario (i.e. road network expansion), This scenario includes short term committed improvements, as well as a full program of infrastructure projects as was identified in the 2014 Transportation Master Plan.

The increased infrastructure network will operate significantly better than a 2041 do minimal scenario as it:

Reduces congestion along Hardy Road in Brant Avenue as a result of the Oak Park Road extension

Eliminates congestion on Wayne Gretzky Parkway, a result of a widening to six lanes.

However, the two main crossings of the Grand River are still anticipated to be significantly overcapacity even with the addition of the Oak Park Road river crossing and a widening of the Veteran's Memorial Parkway crossing.

In short, the network still has capacity issues even with significant investment in infrastructure improvements.

Slide 15 – Constraints and Opportunities – Assessment Approach - 00:12:21,00

While the TDM and Increased Network Infrastructure scenarios show significant potential to reduce congestion and delay in the network, neither strategy completely addresses the needs of the 2041 condition in isolation.

The next step in the transportation analysis was to assess the need for improvements in each of the constrained corridors, and consider the impact of each strategy (TDM, TSM, Increased Supply) on the constraint. This was done by assessing the 2041 Do Minimal

scenario network performance to determine the magnitude performance issue (volume to capacity) and the travel characteristics of the demand in the corridor (origin and destination markets for future users).

Problem Identification - The volume to capacity is assessed using the city's strategic travel demand forecasting model. This model accounts for land-use trip generation, trip distribution, and mode split in assigning travel demands to the transportation network.

This tool also allows for the detailed evaluation of the trips using specific infrastructure. This assessment is called Select Link analysis that provides estimates of the origins and destinations of travelers in the corridor.

Assessment - Travel demands are used to identify the impacts of the alternative strategies on the corridor performance and assist in the identification of the impact of alternatives considered to address the constraint.

For each constraint in the network, the alternative strategies are evaluated. High-level screening of the opportunities is undertaken based on the impacts on performance (i.e. benefits) and the impacts of implementing them (i.e. disadvantages). The outcomes of this assessment help determine the appropriateness of each strategy for the long-term plan.

Evaluation - The evaluation table identified is an example of the decision made to either carry a specific strategy forward or to eliminated from the long-term plan. In some cases, a strategy is not required in the near- to mid- term but is considered potentially important beyond the 2041 horizon for this study. In these cases, this potential should be protected.

Once all of the constraints and alternatives have been identified and assessed, the preferred alternatives for each corridor are used in a system test to identify the performance of the entire network.

The next 15 slides provide a summary of the individual corridor capacity issues and the assessment undertaken to identify the preferred mitigation approach for each.

Slide 16 – Constraints and Opportunities – Inter-Regional - 00:14:50,00

Brant Avenue - St Paul Avenue to Colborne Street

Brant Avenue between St Paul Avenue and Colborne Street has significant auto demand in both directions, however southbound is the critical direction during the p.m. peak hour.

Overall, the volumes forecast do not significantly exceed capacity (the v/c ratio fluctuates around 1.00), as much of the over flow demand for the corridor uses the adjacent and parallel one-way pair of William Street and Albion Street.

The capacity issue on Brant Avenue is strategic in nature. The lack of a direct connection between Northwest Brantford (commercial/industrial use) and Southwest Brantford (residential use) appears to be one of the main issues. A considerable amount of traffic traveling between these two areas is forced to travel east towards downtown in order to cross the Grand River to travel back to the west to reach their destination.

With regard to TDM - Transit has the potential to reduce vehicle travel in the corridor by an approximate 175-350 vehicle in the peak hour.

With regard to TSM – The parking that occurs during peak hours and peak hour shoulders, coupled with turning movements can create impediments to the continuous flow of the two lanes in each direction. Additional parking restrictions and turn restrictions that would optimize the operational efficiency of Brant Ave are proposed to occur in the near term. The by-law amendments required to implement these operational improvements are subject to approval of funding from the 2020 operating budget process.

With regard to Road Widening - Brant Avenue between St. Paul Avenue and the Lorne Bridge is part of the Brant Avenue Heritage Conservation District. A widening of the road to provide 6 lanes (three in each direction) or to provide 5-lanes (the addition of a center left turn lane) would have a significant property impact, thereby contradicting the Heritage Conservation District designation.

With regard to New Roads - Oak Park Road extension over the Grand River has potential to divert 300-500 peak hour vehicles in the peak hour from Brant Ave.

Slide 17 – Constraints and Opportunities – Inter-Regional - 00:17:05,00

Wayne Gretzky Parkway - Henry Street to Highway 403

Wayne Gretzky Parkway between Henry Street and Highway 403 is forecast to have significant auto demand in both directions, reaching highs of 2,000 to 2,200 vehicle trips. Both directions (northbound and southbound) have similar volumes and would appear to be equally critical during the p.m. peak hour.

Overall, Wayne Gretzky Parkway is expected to operate just over capacity throughout this area, with the exception of the short section between Morton Avenue/Holiday Drive and Highway 403 where the volume to capacity ratios equal or exceed 1.10

The capacity issues on Wayne Gretzky Parkway between Henry Street and Highway 403 are strategic in nature, focusing on the immediate corridor. i.e. the demand south of Highway 403 originates or is destined to areas within the corridor.

With regard to TDM - Transit service enhancement in the form of bus route additions or modifications, has the potential to improve the corridor transit share from 5% today to 14% in the future. This increase in mode share would result in an approximate 100-200 vehicle reduction on Wayne Gretzky Parkway in the peak hour.

With regard to TSM - As a Major Arterial the network provisions, i.e. limited access, intersection configurations, traffic control, are significant / maximized already.

With regard to Road Widening - Widening Wayne Gretzky Parkway from 4 lanes to 6 lanes between Henry Street and Highway 403 would provide the additional capacity required to meet 2041 demands.

With regard to New Roads - As a majority of the demands on Wayne Gretzky Parkway are focused on accessing land use in the corridor primarily to/from Highway 403, improving a parallel roadway like Garden Avenue would have little impact on the future volume demand on Wayne Gretzky Parkway.

Slide 18 Constraints and Opportunities – Inter-Regional - 00:19:09,00

Wayne Gretzky Parkway - North of Highway 403Volumes on Wayne Gretzky Parkway north of Highway 403 are forecast to reach highs of 1,800 to 1,900 vehicle trips, which reflects full capacity conditions. Both directions (northbound and southbound) have similar volumes and would appear to be equally critical during the p.m. peak hour.

Wayne Gretzky Parkway serves ad major north-south connection for development in north expansion areas.

With regard to TDM - Transit service enhancement in the form of bus route additions or modifications (Route2, Route 4A/4C, Route 9, or new route) has the potential to improve the Wayne Gretzky Parkway corridor transit share from 0% today to 8% in the future. This increase in mode share would result in an approximate 80-160 vehicle reduction on Wayne Gretzky Parkway in the peak hour.

With regard to TSM - As a Major Arterial the network provisions, i.e. limited access, intersection configurations, traffic control, are significant / maximized already.

With regard to Road Widening - Road widening across the Highway 403 bridge and north of Fairview is not considered a necessity to accommodate adequate levels of service in 2041. However, protection for future widening is advisable depending on the future potential/opportunity for a provincial corridor (Highway 24).

With regard to New Roads - As a majority of the demands on Wayne Gretzky Parkway are focused on accessing land use in the corridor primarily to/from Highway 403, improving a parallel roadway like Garden Avenue would have little impact on the future volume demand on Wayne Gretzky Parkway.

Slide 19 – Constraints and Opportunities – Inter-Regional - 00:21:04,00

King George Road - Crossing Highway 403

King George Road crossing Highway 403 is forecast to have significant auto demand in both directions, reaching highs of roughly 1,700 to 1,800 vehicle trips. Both directions (northbound and southbound) have similar volumes and would appear to be equally critical during the p.m. peak hour.

More than 60% of the traffic using King George Road to cross Highway 403 does so as a result of regional travel on Highway 403 or Highway 24.

With regard to TDM - Transit service enhancement in the form of bus route additions or modifications (Route 4A/4C) has the potential to improve the King George Road corridor transit share from 5% today to 12% in the future. This increase in mode share would result in an approximate 75-150 vehicle reduction on King George Road in the peak hour.

With regard to TSM - Access management review and optimizing efficiency across the Highway 403 should be a priority.

With regard to Road Widening - Providing an additional lane in each direction would have significant property impacts.

With regard to New Roads – Diverting long distance trips from King George to a parallel route would provide relief to the forecast capacity issue in the area of Highway 403. The Wayne Gretzky Parkway extension north of Powerline Road has the potential to provide this alternative capacity.

Slide 20 – Constraints and Opportunities – Inter-Regional - 00:22:36,00

Paris Road - Highway 403 to Powerline Road

The capacity issues on Paris Road between Highway 403 and Powerline Road strategic in nature. The 2-lane, from 500 m north of Golf Road to beyond Powerline Road, will be insufficient to accommodate the demand in 2041.

The p.m. peak hour, peak direction demands on this section of Paris Road can be broken down as follows: 25% of vehicles are destined to south of the Grand River via

Lorne Bridge; 50% of vehicles are destined to Highway 403 eastbound, and 25% of the vehicles are destined for downtown/central.

With regard to TDM - The provision of new service to connect the future employment areas with the residential areas south of Highway 403, as well as to commercial areas into the downtown has the potential to improve the Paris Road corridor transit share from 0% today to 25% in the future. This increase in mode share would result in an approximate 175-350 vehicle reduction on Paris Road in the peak hour.

With regard to TSM - This area is currently rural in nature, with gravel shoulders. As development occurs the area will transition to an urban environment. Signalization of the intersections of Paris Road with Golf Road and Oak Park Road may be required, and lane allocation at the current signalized intersection with Powerline Road may have to be revisited to provide a separate left turn lane northbound.

With regard to Road Widening - A widened Paris Road north of about 500m north of Golf Road to Oak Park Road would alleviate the remaining capacity constraint.

With regard to New Roads - Approximately 350 vehicles use Paris Road for north-south travel to connect across the river into Southwest Brantford. The extension of Oak Park Road to Colborne Street West would provide a north-south connection in west Brantford and an additional crossing of the Grand River. This would potentially alleviate some capacity on Paris Road.

Slide 21 – Constraints and Opportunities – Intra-Regional - 00:24:42,00

Lorne Bridge - Grand River Crossing

Lorne Bridge has significant auto demand in both directions, however during the PM peak hour, westbound is the critical direction. The volume in the westbound direction is forecast to reach almost 2,700 vehicle trips which will exceed capacity by 68% (v/c ratio of 1.68).

The distribution of trips shows that a significant amount of traffic originating in/destined the southwest area of Brantford is destined to/originating in areas north of Highway 403.

With regard to TDM – Transit service enhancement in the form of route additions or modifications (Route 5 and Route 6) has the potential to improve the Lorne Bridge transit share from 3% today to 16% in the future. This increase in mode share would result in an approximate 75-150 vehicle reduction on Lorne Bridge in the peak hour.

With regard to TSM – Given the strategic nature of the demand, i.e. trips trying to cross the river, and the order of magnitude of the deficiency, minor tweaks in the system operation will not significantly improve the actual carrying capacity of the bridge. However, alternative intersection control, in the form of a roundabout, at the intersection

of Colborne Street East/Colbourne Street West/Brant Avenue/Icomm Drive could improve the efficiency of the intersection such that the significant eastbound left turn lane length could be reduced, allowing for alternative lane allocation across the bridge

With regard to Road Widening - A widening of the bridge to 6-lanes would address the issue but operational constraints either side of the bridge would limit the effectiveness of the widening.

With regard to New Road - Widening of the Veterans Memorial Parkway while it provides some crossing capacity relief, does not address the primary origin-destination pattern for Lorne Bridge users.

With regard to New Roads - Oak Park Road extension has the potential to divert some 300 to 500 trips from Lorne Bridge.

Slide 22 – Constraints and Opportunities – Intra-Regional - 00:26:52,00

West Street - Charing Cross Street to Henry Street

West Street between Charing Cross Street and Henry Street has significant auto demand in both directions, however the critical direction during the p.m. peak hour is northbound. The West Street capacity issue is confined to the short 500m section between Charing Cross Street and Harris Street.

There are approximately 130 southbound vehicle trips and 150 northbound vehicle trips that could be diverted from West Street between Charing Cross Street and Henry Street with the provision of a continuous east-west connection in the vicinity.

With regard to TDM – Transit service enhancement in the form of bus route additions or modifications (Route 6) has the potential to improve the West Street transit share from 6% today to 14% in the future. This increase in mode share would result in an approximate 75-150 vehicle reduction on West Street in the peak hour.

With regard to TSM – While its basic cross section is limited by the right of way and the adjacent land use, there are some design features could be enhanced to more closely align with its role and function. Currently there are no prohibited turns on West Street between Henry Street and Charing Cross Street. Consideration could be given to prohibiting left turns at minor roadways. As well, where left turn storage could be provided for the southbound left from West Street to Henry Street.

With regard to Road Widening - A widening of West Street would address the capacity shortfall between Charing Cross Street and Henry Street, but there would be significant property impacts on West Street, as well as property and secondary infrastructure impacts on Henry Street and Harris Street that would also require mitigation.

With regard to New Roads - There are approximately 200-300 peak hour trips in the peak direction (150 trips from Harris Street alone) that are using West Street to facilitate a broader east-west trip. The extension of Charing Cross Street from West Street to Henry Street (approximately 850m) would provide that continuous east-west connection and would also provide additional capacity across the rail corridor for all modes. The diversion of 200-300 trips in the peak direction would reduce the volume to capacity on west street to less than 1.00.

Slide 23 – Constraints and Opportunities – Intra-Regional - 00:29:24,00

Veterans Memorial Parkway - Mt. Pleasant Street to Market Street

The Veterans Memorial Parkway crossing of the Grand River has significant auto demand in both directions, however during the p.m. peak hour, westbound is the critical direction. The volume in the westbound direction is forecast to surpass 1,350 vehicle trips which will exceed capacity by over 35% (v/c ratio of 1.35).

The distribution of p.m. peak hour trips on the bridge reveals the following: 15% of trips originate from the east (Hamilton/GTA) via Highway 403; 20% of trips originate from north of Highway 403; and 65% originate from Central / Downton Brantford.

With regard to TDM - Transit service enhancement in the form of bus route additions or modifications (Route 6) has the potential to improve the Veterans Memorial Parkway crossing transit share from 8% today to 23% in the future. This increase in mode share would result in an approximate 150-300 vehicle reduction on the bridge in the peak hour.

With regard to TSM – Of the 1,350 westbound vehicles that are forecast to cross the bridge, approximately 200 originate from Highway 403 east of Garden Avenue. With appropriate signage and modest route upgrades, these vehicles could be encouraged to divert to a Garden Avenue-County Road 18 route from the current Dalhousie/Colborne-Wayne Gretzky Parkway route.

With regard to Road Widening - Providing additional width on the bridge to accommodate an additional lane (such that both directions have 2 carrying lanes) while providing adequately design space for the shoulder and any future active mode considerations would require either an extension or replacement of the bridge deck.

With regard to New Roads – Alternative crossings of the Grand River that would serve the origin-destination patterns observed for the Veterans Memorial Parkway are limited.

Slide 24 – Constraints and Opportunities – Intra-Regional - 00:31:35,00

Paris Road - South of Highway 403

Paris Road south of Highway 403 has significant auto demand in both directions, however southbound is the critical direction during the p.m. peak hour. While v/c ratios do not exceed capacity, they are approaching capacity.

The lack of a direct connection between Northwest Brantford (commercial/industrial) and Southwest Brantford (residential) results in a significant number of vehicles traveling between these two areas using Paris Road towards downtown in order to cross the Grand River.

With regard to TDM - Transit service enhancement in the form of bus route additions or modifications (Route 8) has the potential to improve the Paris Road transit share from 12% today to 40% in the future. This increase in mode share would result in an approximate 300 vehicle reduction on Paris Road in the peak hour.

With regard to TSM - Paris Road south of Highway 403 is a 4-lane roadway all the way to St. Paul Avenue (a distance of 3km) with only one signalized intersection, at Hardy Road/Toll Gate Road. Auxiliary lanes are provided at key intersections with the NS-E Hwy 403 ramp, Hardy Road/Toll Gate Road, Terrace Hill Street, and St Paul Avenue. As Paris Road parallels the rail corridor for most of this section, access to and from Paris Road is from the east side only. The overpass just south of Terrace Hill Street provides uninterrupted flow across the rail line. Given these conditions, Paris Road is an extremely attractive road for travel with very little more than can be done from a TSM perspective.

With regard to Road Widening - As the roadway is only just approaching capacity, there is not a compelling reason to add an additional lane of capacity in each direction. Such a widening would have significant impacts in on utilities (i.e. relocation).

With regard to New Roads - Oak Park Road extension has the potential to divert some 300 to 500 trips from the Paris Road corridor.

Slide 25 – Constraints and Opportunities – Intra-Regional - 00:33:45,00

Powerline Road - Paris Road to Wayne Gretzky Parkway

Powerline Road between Paris Road and Wayne Gretzky Parkway is forecast to experience significant growth in traffic as a result of the urban expansion to the north. Powerline Road has considerable auto demand in both directions, however the critical direction during the p.m. peak hour is eastbound.

The trip distribution patterns demonstrate the corridor specific nature of the demand issues on Powerline Road.

With regard to TDM - Transit service enhancement in the form of bus route additions has the potential to improve the Powerline Road transit share from 0% today to 25% in

the future. This increase in mode share would result in an approximate 200-300 vehicle reduction on Powerline Road in the peak hour.

With regard to TSM - As a two-lane rural route today, upgrades to the road are required to urbanize and provide appropriate traffic control at mid-block locations between major arterials (signalized today). With the move to an urban cross section, appropriate auxiliary lanes should be provided to maximize the efficiency of the basic lanes.

With regard to Road Widening - Widening Powerline Road from 2 lanes to 4 lanes between Paris Road and Wayne Gretzky Parkway would provide the additional capacity that is required to meet the remaining 2041 demands. Given the classification of the roadway (major arterial), the growth in residential and commercial/industrial development, and the anticipated truck traffic associated with commercial/industrial development, the widening of Powerline Road is critical.

With regard to New Roads – As the growth in volume on Powerline Road is directly related to the adjacent future development, alternative corridors would not address the basic transportation need fulfilled by Powerline Road.

Slide 26 – Constraints and Opportunities – Intra-Regional - 00:35:36,00

Hardy Road - Ferrero Boulevard to Paris Road

Hardy Road between Ferrero Boulevard to Paris Road is forecast to experience significant growth in traffic by 2041. The increases in traffic volumes are a result of the planned development within the Oak Park Road corridor and Northwest Business Park.

The lack of a direct connection between Northwest Brantford (commercial/industrial) and Southwest Brantford (residential) is the main reason for growth in traffic as it provides a connection to Paris Road.

With regard to TDM - Transit service enhancement in the form of bus route additions or enhancement has the potential to improve the transit mode share from 18% today to 55% in the future. While 55% is a very high mode share, this is based on future ridership targets that would conceivably be split over two corridors (i.e. Hardy Road and future Oak Park Road extension). This increase in mode share would result in an approximate 200-300 vehicle reduction on Hardy Road in the peak hour.

With regard to TSM – The section of Hardy Road to Ferrero Boulevard is approximately 2.5km of uninterrupted arterial flow. In-road bike lanes are provided in both directions, adjacent to intermittent paved and unpaved, narrow shoulders. An upgrade of the road to provide wider bikes lanes and wider formal paved shoulders throughout would provide for a more comfortable user experience for all modes. This would improve the efficiency of the existing two vehicle lanes.

With regard to Road Widening - A widening of Hardy Road to 2-lanes in each direction would address the emerging long-term capacity issue. However, this widening would have significant impacts on property, utilities (i.e. relocation), and the adjacent natural heritage system.

With regard to New Roads - Oak Park Road extension has the potential to divert some 300 to 500 trips from Hardy Road.

Slide 27 – Constraints and Opportunities – Intra-Regional - 00:37:39,00

Erie Avenue - Veterans Memorial Parkway to Birkett Lane

Erie Avenue between Veterans Memorial Parkway and Birkett Lane is forecast to have modest auto demand in both directions, reaching highs of roughly 600 to 800 vehicle trips, however the critical direction during the p.m. peak hour is southbound. Overall, the capacity constraints forecast for Erie Avenue are indicative of an emerging issue, as v/c ratios do not generally exceed capacity, and tend to decrease to the south towards Brant County.

Erie Avenue provides both a local and regional function. Locally, Erie Avenue is the main north-south corridor in south Brantford, providing a connection between Eagle Place and the rest of Brantford, while regionally it provides a connection to/from Brant County as one of only three roadways that cross the Grand River.

With regard to TDM - Transit service enhancement in the form of bus route additions or enhancement has the potential to improve transit mode share from 24% today to 52% in the future (note that this is based on area trip generation rather that link share, as service on Erie Avenue is limited to short section where service crosses over the road). This increase in mode share would result in an approximate 300-400 vehicle reduction from the area in the peak hour.

With regard to TSM - Erie Avenue is classified as a Minor Arterial road. There are opportunities to enhance its design features to align with the high vehicle demand expected in the long-term future. Currently there are no prohibited turns on Erie Avenue between Veterans Memorial Parkway/Clarence Street and Birkett Lane. Consideration should be given prohibiting left turns where left turn storage is not provided during the peak periods

With regard to Road Widening - Providing an additional lane in each direction would address the emerging capacity issue. However, this widening would have significant impacts on property and utilities (i.e. relocation). As the roadway is only just approaching capacity and therefore considered a marginal issue. As such, there is not a compelling reason to add a lane of capacity in each direction.

With regard to New Roads - The Veterans Memorial Parkway widening and extension would provide additional river crossing capacity and alternative east-west connectivity to Murray Avenue and Wayne Gretzky Parkway. From a review of the volume market for Erie Avenue it was identified that there are relatively few trips that would divert to this facility (approximately 50-100 vehicles, to/from the southwest). Trips destined for central Brantford could easily divert from Erie Avenue to Murray Street or Wayne Gretzky Parkway today by using Mohawk Street. The analysis of long-term volume forecasts suggests that the Veterans Memorial Parkway widening and extension has limited potential to reduce volumes on Erie Avenue.

Slide 28 – Constraints and Opportunities - Local Systems - 00:40:45,00

Clarence Street – Dalhousie Street to Icomm Drive

Clarence Street is forecast to be operating at approximately 5-10% over capacity by 2041. The critical direction in the p.m. peak hour is southbound.

A majority of trips on Clarence Street are travelling from Central Brantford to the south side of the river via West Street.

With regard to TDM - Transit service enhancement in the form of bus route additions has the potential to improve transit mode share on Clarence Street from 7% today to 22% in the future.

With regard to TSM - The provision of auxiliary turn lanes on Clarence Street could result in a 10% improvement in the carrying capacity of the roadway.

With regard to Road Widening – a widening of Clarence Street would result in significant property impacts.

With regard to New Roads – The Veterans Memorial Parkway Extension provides an opportunity for an alternative route out of downtown via Murray Avenue or Wayne Gretzky Parkway. The TDM and TSM initiatives are expected to resolve the prevailing future capacity concern. However, this situation should be monitored. A partial or full extension of the Veterans Memorial Parkway could be considered beyond 2041 to address potential long-term issues and should be protected for. Even a partial extension to Murray Avenue could provide an alternative Clarence Street.

Slide 29 – Constraints and Opportunities - Local Systems - 00:42:08,00

Colbourne Street West – County Road 7 to D'Aubigny Road

Colborne Street West between County Road 7 and the existing 4-lane section is forecast to be an emerging issue in 2041. The nature of this section's 2 lanes

westbound and 1 lane eastbound results in poorer operating conditions in the morning peak hour than the evening peak hour.

A majority of trips using Colborne Street are to/from the west via Rest Acres Road to access the downtown.

With regard to TDM - Transit service enhancement in the form of bus route additions has the potential to improve the transit mode share from 0% today to 13% in the future. This corridor transit route would serve the airport as well as a future potential route on Oak Park Road Extension. This route could draw 100-150 riders to the corridor.

With regard to TSM - This area is currently rural in nature. As development occurs the area will transition to an urban environment. Signalization of the intersections of Colborne Street with County Road 7 and future Oak Park Road extension may be required, and lane allocation at the current intersections may need to be considered.

With regard to Road Widening - With the potential for an Oak Park Road Extension connection and an additional influx of approximately 300-500 peak hour peak direction volumes, a widening is required, to accommodate the forecast volumes, both with and without the Oak Park Extension.

With regard to New Roads – Colborne Street West play as significant role in moving trips from the west into Brantford downtown. As Colborne Street connects to the Lorne Bridge, effective opportunities to provide parallel capacity are limited.

Slide 30 – Active Transportation Opportunities - 00:44:01,00

Active Transportation includes walking and cycling modes of travel. For these modes to reach their full potential, the network and user environment must be planned and implements with specific goals and objectives in place.

The principles of Complete Streets have been applied to define the goals and objectives for each mode.

The established goal for Walk mode is as follows: Be a complete, pedestrian-friendly community with networks that integrate with transit, paths and trails, neighbourhood amenities, parks, open space, and schools. This will be achieved through providing high level of connectivity, ensuring a safe environment, and support accessibility.

The established goal for Cycling mode is as follows: Provide safe and convenient bicycle routes suitable for all user types: utilitarian (commuting), recreational (personal or family discretionary), and sport (advanced, high level recreational). This will be achieved through facility continuity, ensuring ease of navigation, providing end of trip facilities, ensuring a safe environment, provide appropriate environments for different user types.

Slide 31 – Active Transportation Opportunities - 00:45:20,00

A key objective of the TMP is to work towards becoming a Bicycle Friendly Community by providing a clear, concise roadmap towards a more bicycle friendly future. Achieving this goal is dependent on providing full connectivity and the right environment to promote use and foster confidence in the system. This means addressing the needs of both recreational and utilitarian users. Full connectivity makes active transportation a feasible choice for any trip in the City. Providing the right space allows users of all skill to feel comfortable and choose routes that satisfy their safety and efficiency concerns by removing barriers to use.

Barriers to active transportation modes include highway crossings, traversing large urban intersections, travelling in close proximity to high volumes of fast-moving vehicles, and the provision of user amenities (bike racks, lockers, shower facilities, rest areas).

The active transportation network identified provides a mix of on-road (cycle track, bike lanes, sharrows) and off- road (MUP, trails) that provide full connectivity for a full range of origins and destinations, and full range of user types/skills.

Slide 32 – Active Transportation – Roadway Design - Collector - 00:46:40,00

The goals and objective for each mode (walk, cycle, and vehicle) have been established using the Complete Streets framework.

As it relates to specific road design, the cross-section elements have been defined for each roadway functional class to address the needs of all users. These design elements are part of the City's Linear Infrastructure Design Guidelines.

The cross section for a major collector with a 27.5m ROW includes provisions for 1.8m sidewalk on both sides, with dedicated 1.6m cycle lanes on both sides.

Slide 33 – Active Transportation – Roadway Design – Collector - 00:47:19,00

The cross section for a major collector with a 30.5m ROW includes provisions for median and 3.0m MUP on both sides, no cycle lanes.

Slide 34 – Active Transportation – Roadway Design - Arterial - 00:47:32,00

The cross section for a major arterial with a 40m ROW with median and 1.9m dedicated cycle lanes provides for 1.8m sidewalk on both sides.

Slide 35 – Active Transportation – Roadway Design - Arterial - 00:47:44,00

The cross section for a major arterial with median and a 3.0m MUP on one side, provides for 1.8m sidewalk and buffered cycle lane of 1.9m on the other side.

Slide 36 – Goods Movement Opportunities - 00:47:58,00

The transportation system is not only used for moving people but also for moving goods. It is important that access and mobility for trucks be accommodated in appropriate environments. This means restricting truck movements to roadways and places that are designed for them.

The existing truck routes identified in the City's Traffic By-Law are comprehensive. This map highlights the existing truck route designations with modifications to reflect future potential changes. Specific changes include:

- Addition of the future Charing Cross Street Extension
- Additions of the future Oak Park Road Extension.

Slide 37 – 2041 Preliminary Recommended Plan - 00:48:35,00

From the transportation assessment, the road infrastructure improvements for the 2041 horizon year have been identified as shown on the map.

The enhancements include infrastructure widening on:

- Wayne Gretzky Parkway between Grey and Fairview;
- Veterans Memorial Parkway between Mount Pleasant and Market Street South;
- Colborne Street West from County Road 7 to its existing 4-lane section;
- Paris Road from Golf Road to Oak Park Road;
- Oak Park Road from Hardy to Powerline Road; and
- Powerline Road Oak Park Road to the City east limits.

New road additions include:

- Oak Park Road extension to Colborne Road West;
- Wayne Gretzky Parkway extension to connect with Park Road;
- and Charing Cross Street extension to Henry Street.

TSM improvements to enhance the existing capacity (through urbanization, parking restrictions, operational improvements) are proposed for several corridors including:

- Golf Road;
- Paris Road;
- Brant Ave;
- Hardy Road;

- West Street;
- King George Road;
- Erie Avenue;
- Clarence Street; and
- County Road 18.

Slide 38 – 2041 Preliminary Recommended Plan - Performance - 00:50:05,00

The recommended plan is a combined scenario of transit service improvement/enhancements to promote increased transit use; provision of active mode infrastructure to promote increased cycling and walking; and network infrastructure improvements to address the capacity constraints in the network.

The performance of the 2041 Recommended Plan shows that almost all of the anticipated capacity issues identified for 2041 Do-Minimal condition (where no long-term investment was made in transit service or infrastructure) are resolved.

A few operational issues remain: Lorne Bridge, Clarence Avenue between Icomm Drive and Colborne Street East, and Paris Road. The transportation assessment suggests that while these are identified as capacity constraints in the long term, the magnitude of the issue has been significantly reduced. These issues are now forecast to be marginal issues and can be successfully managed in the near- and mid-term. These locations should continue to be monitored to confirm the significance of any emerging issue.

Slide 39 – Constraints and Opportunities – Inter-Regional - 00:51:13,00

Following receipt of comments and feedback as part of this Public Open House, a final recommended plan will be identified. Over the course of June/July/August, an implementation plan will be developed, including high level cost estimates and the prioritization of plan elements (policies, programs, service, and infrastructure).

The draft Transportation Master Plan will be presented to Council in September and then issued for 30-day public review. The goal is to have a final TMP submitted in November 2020.

Slide 40 – Thank You! - 00:51:49,00

Thank you for your time and interest in this Virtual Pubic Information Center. If you wish to submit comments, ask questions, or would like to be added to the project mailing list, please contact the Project Managers listed here.