



Allen Road and Dufferin Street "Diamond" Lanes - Change of Use Update

Date: February 12, 2018

To: Public Works and Infrastructure Committee

From: General Manager, Transportation Services

Wards: Ward 8-York West, Ward 10-York Centre

SUMMARY

The Toronto-York Spadina Subway Extension (TYSSE), completed in December 2017, provides an 8.6 km extension of the University Branch of the Line 1 - Yonge-University Subway - an important connection in the northwest of the City, linking the Vaughan Metropolitan Centre and York University to the existing subway network.

In conjunction with the opening of the TYSSE, the operation of various TTC bus routes in the area were changed to promote new connections and improve subway access for customers. Changes to TTC bus routes included rerouting, modifications to the frequency of service, and the replacement of some routes by the subway.

In September 2017, Transportation Services was requested by the Public Works and Infrastructure Committee to evaluate the continued operation of the existing "Diamond Lanes" - reserved bus lanes on Allen Road and Dufferin Street between Sheppard Avenue and the York University Busway. Three scenarios were evaluated:

- Scenario 1 - Maintain existing reserved bus lane
- Scenario 2 - Convert existing reserved bus lane to general purpose lane (GPL)
- Scenario 3 - Convert existing reserved bus lane to High Occupancy Vehicle (HOV 3+) lane

Based on modelling work undertaken, this report recommends Scenario 3 - the conversion to a reserved lane for vehicles containing a minimum of three persons (HOV 3+) - as this best optimises both the movement of people and overall traffic performance. The recommended changes would permit public transit vehicles (PTVs), bicycles, plated motorcycles and taxicabs to use the HOV 3+ lanes.

RECOMMENDATIONS

The General Manager, Transportation Services recommends that:

1. City Council amend the existing easterly northbound through reserved lane designation in effect at all times for public transit vehicles on Dufferin Street between Finch Avenue West and a point 60 metres south, to be in effect at all times for public transit vehicles, high occupancy vehicles containing a minimum of 3 persons (HOV 3+), bicycles, plated motorcycles and taxicabs.
2. City Council amend the existing easterly northbound reserved lane designation in effect at all times for public transit vehicles on Dufferin Street between Finch Avenue West and the York University Busway (Finch Hydro Corridor) located 340 metres north of Finch Avenue West, to be in effect at all times for public transit vehicles, high occupancy vehicles containing a minimum of 3 persons (HOV 3+), bicycles, plated motorcycles and taxicabs.
3. City Council amend the existing westerly southbound reserved lane designation in effect at all times for public transit vehicles on Dufferin Street between York University Busway (Finch Hydro Corridor), located 340 metres north of Finch Avenue West, and a point 70 metres north of Finch Avenue West, to be in effect at all times for public transit vehicles, high occupancy vehicles containing a minimum of 3 persons (HOV 3+), bicycles, plated motorcycles and taxicabs.
4. City Council amend the existing westerly southbound reserved lane designation in effect at all times for public transit vehicles on Dufferin Street/William R. Allen Road between Finch Avenue West and Rimrock Road, to be in effect at all times for public transit vehicles, high occupancy vehicles containing a minimum of 3 persons (HOV 3+), bicycles, plated motorcycles and taxicabs.
5. City Council amend the existing easterly northbound reserved lane designation in effect at all times for public transit vehicles on Dufferin Street/William R. Allen Road between Sheppard Avenue West and a point 60 metres south of Finch Avenue West, to be in effect at all times for public transit vehicles, high occupancy vehicles containing a minimum of 3 persons (HOV 3+), bicycles, plated motorcycles and taxicabs.
6. City Council rescind the existing bicycle prohibition on William R. Allen Road between Sheppard Avenue West and Kennard Road.

FINANCIAL IMPACT

The estimated cost associated with signage replacement is \$9,600 and is available within the 2018 Operating Budget for Transportation Services.

The Acting Chief Financial Officer has reviewed this report and agrees with the financial impact information.

DECISION HISTORY

At its meeting on September 19, 2017, Public Works and Infrastructure Committee requested the General Manager, Transportation Services to report back on amending the north- and south-bound diamond lanes on Dufferin Street between Steeprock Drive/Overbrook Place and Finch Avenue West and William R. Allen Rd between Sheppard Avenue West and Steeprock Drive/Overbrook Place to designate for all multi-passenger vehicles as a standard high occupancy vehicle (HOV) lane, maintain it as a transit only lane or designate it as a general purpose lane once the Toronto-York Spadina Subway Extension is operating.

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2017.PW23.15>

At its meeting May 26, 2008, City Council directed the City to permit the construction of the York University Busway from Downsview Station to York University via William R. Allen road, Finch Hydro Corridor and York University Campus Lands. City Council also rescinded the existing lane designation for High Occupancy Vehicles on the northbound and southbound curb lanes of William R. Allen Road/Dufferin Street, between Sheppard Avenue West and Finch Ave West, and designate the same northbound and southbound curb lanes as Public Transit Vehicles only.

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2008.NY15.1>

COMMENTS

The existing "Diamond Lanes" (reserved bus lanes) on Allen Road and Dufferin Street between Sheppard Avenue and north of Finch Avenue West were approved for implementation in 2008, as part of the York University Busway. Allen Road and Dufferin Street are arterial roads with traffic volumes of approximately 53,000 vehicles daily (2012). Prior to 2008, the lanes had been designated for High Occupancy Vehicles since before amalgamation.

Following the opening of the TYSSE, the operation of various TTC bus routes in the area were changed to promote new connections and improve subway access for customers. The TTC 105 Dufferin North and the York Region Transit Dufferin North continue to run along the existing "Diamond Lanes" reserved bus lanes, with morning peak frequencies of 11 and 15 minutes, respectively.

The Official Plan supports the use of measures that are aimed at using available road space more efficiently, such as HOV Lanes. Chapter 2, Section 2.4, identifies that the City will actively pursue measures which will increase the average automobile occupancy rate (Policy 3.b.ii). HOV lanes are reserved lanes on arterial roads designated for buses, taxis and cars, generally with three or more occupants.

First implemented in the City of Toronto in 1992, and expanded over time, the HOV lane network was developed to achieve the following objectives:

- To increase the person movement capability of road links;
- To improve the operation of surface transit routes;
- To increase the overall vehicle occupancy rate;

- To contribute to a net improvement in air quality; and
- To contribute to a net reduction in energy use.

A review of the City's HOV network will be initiated in 2018. This will include a review of the existing locations and assess the impact of relaxing the 3+ vehicle occupancy designation to 2+ (i.e. the same as the MTO highway HOV lanes).

Transportation Services has reviewed three potential scenarios for the future use of the existing reserved bus lanes on Allen Road and Dufferin Street:

- Scenario 1 - Maintain existing reserved bus lane - This reflects the existing on-street conditions where general traffic is permitted to use the reserved bus lanes for right turn movements only.
- Scenario 2 - Convert existing reserved bus lane to general purpose lane - this would enable all vehicle to use the existing six-lane cross-section (excluding left-turn lanes) along Allen Road and Dufferin Street between Sheppard Avenue West and Finch Avenue West.
- Scenario 3 - Convert existing reserved bus lane to HOV 3+ lane - only vehicles carrying three (3) or more people would be permitted to use the lane.

Figure 1 illustrates the limits of the existing reserved bus lanes along Allen Road and Dufferin Street between Sheppard Avenue West and the York University Busway.

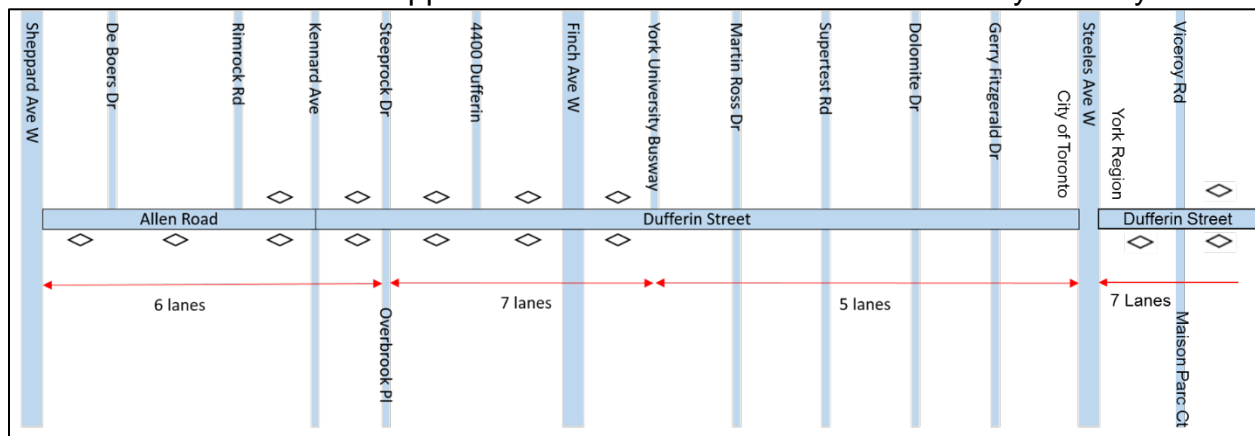


Figure 1. Existing Limits of Allen Road and Dufferin Street Reserved Bus Lanes

Modelling and Traffic Analysis

To provide a comparative assessment of the three scenarios, traffic modeling was undertaken in two phases:

1. A traffic demand model (EMME) was used to estimate traffic attraction or diversion to the corridor and account for the route changes to TTC 105 Dufferin North and YRT 105 Dufferin routes upon opening of the TYSSE.
2. Based on the estimated traffic volumes, a traffic analysis (Synchro) was conducted for all three scenarios to determine traffic impacts at various intersections. This analysis provided a high level overview of the difference in vehicle delays and person delays amongst scenarios, especially when some movements will show improvement, while others will worsen.

Results of Traffic Analysis

The traffic modelling work suggested that the general purpose lane scenario would attract additional traffic to the corridor which will further increase delays at key intersections. In particular, this scenario would result in considerable delays at Finch Avenue West where intersection capacity would be constrained by the existing number of lanes of Dufferin Street north of this intersection (six lanes south of Finch Avenue West reduced to a four-lane cross section).

Converting the existing reserved bus lane to a high occupancy vehicle (HOV 3+) lane is the preferred scenario based on the following reasons:

- This scenario demonstrates the best overall traffic performance (least amount of vehicle and person delays) compared to the reserved bus lane and general purpose lane scenarios.
- An HOV 3+ lane will adequately serve all existing and projected future HOV 3+ traffic volumes along Allen Road and Dufferin Street.
- An HOV 3+ lane configuration will protect for the possibility of a continuous HOV lane along Dufferin Street in conjunction with potential road widening of the corridor between Finch Avenue West and Steeles Avenue West, and finally connecting with York Region's HOV lanes north of Steeles Avenue West.

CONTACT

Jacquelyn Hayward Gulati
Acting Director, Transportation Infrastructure Management
Transportation Services Division
Telephone: 416 392-5348
Email: Jacquelyn.haywardgulati@toronto.ca

SIGNATURE

Barbara Gray
General Manager, Transportation Services