TO:	**GENERAL COMMITTEE**
SUBJECT:	**2019 ACTIVE TRANSPORTATION – DEAN AVENUE, LIVINGSTONE STREET EAST, MARSELLUS DRIVE, MAPLETON AVENUE, ST. VINCENT STREET, TIFFIN STREET**
WARD:	**2, 3, 6, 7, 9**
PREPARED BY AND KEY CONTACT:	**J. MACDONALD, C.E.T., SENIOR TRANSPORTATION OPERATIONS TECHNOLOGIST, EXT. 5178**
SUBMITTED BY:	**D. FRIARY, DIRECTOR OF ROADS, PARKS AND FLEET**
GENERAL MANAGER APPROVAL:	**A. MILLER, RPP, GENERAL MANAGER OF INFRASTRUCTURE AND GROWTH MANAGEMENT**
CHIEF ADMINISTRATIVE OFFICER APPROVAL:	**M. PROWSE, CHIEF ADMINISTRATIVE OFFICER**

RECOMMENDED MOTION

1. That the following opportunities and improvements for Active Transportation be implemented:

   a) A road diet along Dean Avenue between Big Bay Point Road and Mapleview Drive East;

   b) A road diet along Livingstone Street East between Cundles Road East and Stanley Street;

   c) An urban shoulder along Marsellus Drive between Mapleton Avenue and Mapleview Drive West;

   d) An urban shoulder along Mapleton Avenue between Ardagh Road and Essa Road;

   e) Bicycle lanes along St. Vincent Street between Hanmer Street East to Livingstone Street East; and

   f) Buffered bicycle lanes along Tiffin Street between Ferndale Drive to Essa Road.

2. That Traffic By-law 80-138 Schedule "A" "No Parking Anytime" be amended by deleting the following:

"Tiffin Street	South side from a point approximately fifty metres southeasterly from Essa Road to Innisfil Street."
"Tiffin Street	Both sides from Anne Street to Patterson Road."
"Tiffin Street	North side from Essa Road to Bradford Street."
"Tiffin Street	North side between Essa Road and Innisfil Street."

"Tiffin Street	Both sides from Essa Road/Bradford Street easterly to Lakeshore Drive."

3. That Traffic By-law 80-138 Schedule "A" "No Parking Any Time" be amended by adding the following:

"Dean Avenue	Both sides from Madelaine Drive to Mapleview Drive West"
"Tiffin Street	Both sides from Ferndale Drive to Essa Road."
"Livingstone Street East	Both sides from Cundles Road East to Stanley Avenue"

PURPOSE & BACKGROUND

4. The City of Barrie has adopted the 2019 Transportation Master Plan (TMP). One objective of this Master Plan is to reduce auto-dependency and to give people increased mobility choices. Active Transportation such as walking and cycling is a key component of the Master Plan.

5. Implementation of the TMP recommendations can occur through capital projects to build new, or reconstruct existing infrastructure, but can also occur through optimizing existing infrastructure.

6. A component of the TMP is a term called "road diet". A road diet is characterized by reallocating space on the roadway to other modes, such as cycling or transit. Implementing road diets has become common practice in many of Ontario's communities, to enhance road safety for all users, improve traffic conditions and speed management, implement active transportation networks and improve livability through streetscape revitalization.

7. Road diets do not necessarily have a negative impact on traffic conditions. The road diet improvements can generate benefits to all modes of transportation including transit, cyclists, pedestrians and motorists. These benefits include reduced vehicle speeds, reduced collisions and injuries, improved mobility and access, and improved livability and quality of life.

8. Typical road diets take an existing four (4) lane cross section and convert the roadway into one (1) lane per direction with a centre two way left turn lane and bicycle lanes. This conversion requires the removal of all on-street parking as bicycle lanes cannot operate effectively and safely when vehicles are parked on-street.

9. An urban shoulder is a painted white edge line that creates a separated cycling facility from the vehicle travel lanes where dedicated cycling facilities are not provided. An urban shoulder improves the operation and safety for cyclists as it provides a separate travel lane from vehicle travel, and offset from roadside obstructions such as catch basins. Urban shoulders lack the bicycle symbols and signage and can allow on-street parking, sometimes with time of day parking restrictions. Not a full bike lane urban shoulders can act as a first step or pilot to an eventual changes to a designated bicycle lane in the future.

10. In 2019, the Federal Government increased the Federal Gas Tax (FGT) that the City of Barrie received. This money was allocated to a number of projects, including $300,000 towards Traffic Calming and Active Transportation. With this in mind, staff undertook a review of the recommendations in the TMP to determine opportunities to implement quick win improvements to the existing cycling network that will further the City's overall AT objectives. The review focussed on connectivity of existing cycling infrastructure major cycling origins/destinations, and other factors.

DEAN AVENUE

11. Dean Avenue between Big Bay Point Road and Mapleview Drive east, is a two (2) lane minor collector roadway with a pavement width of 11.0 metres with sidewalks on both sides of the roadway with an approximate daily traffic volume of 2,500 vehicles per day. Please refer to Appendix "A".

12. There is a community safety zone and reduced speed limit of 40 km/h along Dean Avenue near Madelaine Drive for La Source Elementary School located on the North West corner of Dean Avenue and Madelaine Drive.

13. Vehicles are permitted to park along both sides of Dean Avenue between Big Bay Point Road and Russel Hill Drive, and Madelaine Drive and Mapleview Drive East. Overnight on-street parking is prohibited from December 1st to March 31st, between 12:01 a.m. and 7:00 a.m. for the purpose of winter maintenance.

LIVINGSTONE STREET EAST

14. Livingstone Street East between St. Vincent Street and Stanley Street is a four (4) lane arterial roadway with a pavement width of 14.0 metres with sidewalks on both sides of the roadway and an approximate daily traffic volume of 12,000 vehicles per day. Please refer to Appendix "B'.

15. Livingstone Street East between St. Vincent Street and Cundles Road is a two (2) lane arterial roadway with a pavement width of 11.0 metres with sidewalks on both sides of the roadway and an approximate daily volume of 12,000 vehicles per day. Please refer to Appendix "B".

16. There is a Community Safety Zone and variable time flashing 40 km/h speed limit zone on Livingstone Street for Terry Fox Elementary School which is located along the north side of Livingstone Street East between Stanley Avenue and Michael Crescent.

17. Vehicles are prohibited from parking on-street along Livingstone Street West between Stanley Avenue and St. Vincent Street. Overnight on-street parking is prohibited from December 1st to March 31st, between 12:01 a.m. and 7:00 a.m. for the purpose of winter maintenance.

MARSELLUS DRIVE

18. Marsellus Drive between Mapleton Avenue and Mapleview Street West is a two (2) lane minor collector roadway with a pavement width of 11.0 metres with sidewalks on both sides of the roadway and an approximate daily traffic volume of 5,250 vehicles per day.

19. There is a Community Safety Zone and reduced 40 km/h speed limit zone, for St. Bernadette Elementary School which is located along the east side of Marsellus Drive between Churchland Drive and Downing Crescent. Please refer to Appendix "C".

20. There are on-street parking restrictions along Marsellus Drive for St. Bernadette Elementary School to ensure safe and efficient traffic operations. Overnight on-street parking is prohibited from December 1st to March 31st, between 12:01 a.m. and 7:00 a.m. for the purpose of winter maintenance.

MAPLETON AVENUE

21. Mapleton Avenue between Ardagh Road and Essa Road is a two (2) lane major collector roadway with a pavement width of 13.0 metres with sidewalks on both sides of the roadway and an approximate daily traffic volume of 11,500 vehicles per day.

22. There currently is a Community Safety Zone and variable flashing 40 km/h speed limit zone, for Holly Meadows Elementary School is located along the south side of Mapleton Avenue between Emms Drive and Marsellus Drive. Please refer to Appendix "D".

23. There are on-street parking restrictions along Mapleton Avenue for Holly Meadow Elementary School to ensure safe and efficient traffic operations. There is also "No Parking Anytime" near Boag Court to prevent vehicles from parking through the corner to ensure safe and efficient traffic operations. Overnight on-street parking is prohibited from December 1st to March 31st, between 12:01 a.m. and 7:00 a.m. for the purpose of winter maintenance.

ST. VINCENT STREET

24. St. Vincent Street between Hanmer Street East and Livingstone Street East is a two (2) lane arterial roadway with a pavement width of 11.0 metres with multi use path east side and a sidewalk along the west side of the roadway and an approximate daily traffic volume of 11,500 vehicles per day. Please refer to Appendix "F".

25. Currently, on-street parking is prohibited along St. Vincent between Livingstone Street East and Hanmer Street. Overnight on-street parking is prohibited from December 1st to March 31st, between 12:01 a.m. and 7:00 a.m. for the purpose of winter maintenance.

TIFFIN STREET

26. Tiffin Street between Ferndale Drive and Essa Road is a two (2) lane arterial roadway with a pavement width of 11.0 metres with sidewalks on both sides of the roadway and an approximate daily traffic volume of 8,850 vehicles per day, and is a permissive truck route. Please refer to Appendix "G".

27. On-street parking is prohibited on both sides of Tiffin Street between Anne Street and Patterson Road, and along the north side between Essa Road and Bradford Street. Overnight on-street parking is prohibited from December 1st to March 31st, between 12:01 a.m. and 7:00 a.m. for the purpose of winter maintenance.

28. The City has implemented various active transportation projects throughout the City on the below roadway segments:

    a) Ardagh Road between County Road 27 and Patterson Road;
    b) Big Bay Point Road between Prince William Way and Hurst Drive;
    c) Cundles Road West between Leacock Drive and Anne Street North;
    d) Ferndale Drive North between Livingstone Street West and Bear Creek Eco Park;
    e) Grove Street between Toronto Street and Penetanguishene Road;
    f) Hurst Drive between Big Bay Point Road and Bay Lane;
    g) Livingstone Street West between Anne Street North and Kozlov Street; and
    h) Prince William Way between Big Bay Point Road and Mapleview Drive East.

29. Staff have performed before vs after studies on the implemented roadways and the most significant reduction was experienced on Hurst Drive heading towards Big Bay Point Road from Cox Mill Road, there was an overall reduction in vehicle speeds by 10 km/hr and vehicle volumes by 500 less vehicles.

30. Staff have received positive feedback from residents regarding the implementation of road diet segments.

ANALYSIS
DEAN AVENUE BETWEEN MADELAINE DRIVE AND MAPLEVIEW DRIVE EAST

31. A resident survey was prepared and mailed to one hundred and sixteen (116) property owners to provide comments. Staff received thirteen (13) comment sheets back from area residents regarding the proposed implementation of a road diet along Dean Avenue between Madelaine Drive and Mapleview Drive West. The results of the comments were are follows:

    a) Two (2) residents were in favour of implementing the proposed road diet to improve the operation and safety of the roadway as well as promote active transportation;

    b) Eleven (11) residents not in favor of the road diet. Majority of the concerns were of the removal of on-street parking along Dean Avenue. However, parking would have to be restricted along Dean Avenue to implement a road diet to ensure the safe operation of the bicycle lane; and

    c) Area residents also expressed concerns regarding vehicles speeding along this segment of roadway.

32. There are operational concerns at the intersection of Dean Avenue and Madelaine Drive as the roadway transitions from a four (4) lane cross section to a two (2) lane cross section. The implementation of the road diet would allow for a smoother transition along this section as it removes the requirement for vehicles to merge to a single lane.

33. The proposed road diet would improve the operation and safety of Dean Avenue between Madelaine Drive and Mapleview Drive East by addressing the following concerns:

    a) Provide sufficient capacity for existing traffic volumes while maintaining two (2) lanes of travel, one in each direction;
    b) Provide a two way left turn lane for residents turning into their driveways and onto the side streets improving the safety and operation;
    c) Minimizing delay for through vehicles due to left turning vehicles improving traffic flow; and
    d) Reducing operating speed.

34. Staff conducted traffic counts along Dean Avenue from Big Bay Point Road to Mapleview Drive East to review the 85th percentile speed. The 85th percentile speed is the speed at which 85% of vehicles travel at or below. The results of the study are as follows:

    a) Dean Avenue between Big Bay Point Road and Madelaine Drive – the 85th percentile speed is 59 km/h;

    b) Dean Avenue between Country Lane and Mapleview Drive East – the 85th percentile speed is 57 km/h

35. As a result of these studies it was determined that vehicles are operating higher than the current posted speed along Dean Avenue. Based on previous road diet implementations staff have had a reduction in the 85% percentile speed and anticipate the same results to occur along Dean Avenue between Madelaine Drive and Mapleview Drive East. This will create a uniform traffic pattern for motorists and other users along Dean Avenue.

36. Staff have reviewed three (3) years of collision history along Dean Avenue between Madelaine Drive and Mapleview Drive, as a result of this review staff found five (5) reported collisions:

a) Two (2) collisions involved a single motor vehicle colliding with a parked vehicle;

b) Two (2) involved a vehicle speeding; and

c) One (1) intersection related (turning movements or rear ends).

37. The proposed road diet would help reduce the above identified collisions because:

a) The implementation of a road diet has previously shown a reduction in 85th percentile speed;

b) Would remove the existing operational and safety concerns at the intersection of Dean Avenue and Madelaine Drive by removing the current merge of a four (4) lane cross section to a two (2) lane cross section;

c) The implementation of a centre left turn lane allows for stacking for left turn vehicles without impeding through movements; and

d) The proposed removal of on-street parking would prevent the conflict between motorists and vehicles parked on-street.

38. Staff have reviewed the feasibility of maintaining on-street parking along Dean Avenue between Madelaine Drive and Mapleview Drive East, however staff do not recommend this as on-street parking adjacent to bicycle lanes causes operational and safety concerns.

39. As a result of residential feedback and staff reviews, staff recommend that Traffic By-law 80-138 Schedule "A" "No Parking Any Time" be amended and add the following:

"Dean Avenue	Both sides from Mapleview Drive East to Madelaine Drive"

40. The proposed road diet would provide active transportation connection to future bike lanes along Mapleview Drive East, community hubs such as Painswick Library and area schools.

DEAN AVENUE BETWEEN BIG BAY POINT ROAD AND MADELAINE DRIVE

41. In 2014 the City of Barrie reviewed the feasibility of implementing a road diet along Dean Avenue between Big Bay Point Road and Madelaine Drive, in accordance with the City of Barrie Multi-Modal Active Transportation Master Plan. As a result of this review the proposed road diet along Dean Avenue between Big Bay Point Road and Madelaine Drive was deferred. In 2018 staff prepared a memorandum with support from the Ward 9 Councillor to proceed with the road diet in conjunction with intensification development proposed along this segment of roadway.

42. A resident survey was prepared and mailed to twenty six (26) property owners to notify area residents that staff are preparing to implement a road diet on Dean Avenue between Big Bay Point Road and Madelaine Drive.

43. Staff received responses back from area residents expressing concerns regarding the removal of on-street parking. However, in 2014 when the original road diet was proposed on-street parking was prohibited, but implementation was deferred until the road diet was to be implemented. As a result of Council direction staff prepared a memorandum in 2018 to proceed with the road diet and implementation of "No Parking Anytime" on Dean Avenue between Big Bay Point Road and Madelaine Drive.

LIVINGSTONE STREET EAST

44. A resident survey was prepared and mailed to one hundred and forty two (142) property owners to provide comments. Staff received five (5) comments back from area residents regarding the proposed implementation of a road diet along Livingstone Street East between Cundles Road and Stanley Avenue.

    a) One (1) resident response was in favour with implementing a road diet to address operational and safety concerns; and

    b) Four (4) resident responses were not in favor of the road diet. Majority of the concerns were of the removal of on-street parking along Livingstone Street East. However, parking would have to be restricted along Livingstone Street East to implement a road diet to ensure the safe operation of the bicycle lane.

45. A comment sheet was also mailed to the Simcoe County District School Board and staff did not receive any comment back regarding the recommended changes.

46. The proposed road diet would improve the operation and safety of Livingstone Street East between St. Vincent Street and Stanley Avenue by addressing the following concerns:

    e) Provide sufficient capacity for existing traffic volumes while maintaining two (2) lanes of travel, one in each direction;
    f) Provide a two way left turn lane for residents turning into their driveways and onto the side streets improving the safety and operation;
    g) Minimizing delay for through vehicles due to left turning vehicles improving traffic flow; and
    h) Reducing operating speeds.

47. Staff reviewed the feasibility of implementing a complete road diet along Livingstone Street East between St. Vincent Street and Cundles Road, however since this section of Livingstone Street East is only 11.0 metres wide there is limited space to implement a typical road diet cross section. A typical road diet cross section includes the following:

    a) One-lane per direction;

    b) Two-way center turn lane; and

    c) Bicycle lanes per direction.

48. As a result of the limited surface width, staff are recommending implementing bicycle lanes with one lane per direction. This would still provide active transportation for area residents and decrease the travel lane width reducing the operating speed of the roadway. The proposed lane configuration would also maintain the current level of service as this segment of Livingstone Street East, is currently only a two (2) lane cross section.

49. Staff have reviewed three (3) years of collision history along Livingstone Street East between Cundles Road East and Stanley Street , as a result of this review staff found twelve (12) reported collisions:

    a) One (1) collision involved a single motor vehicle colliding with a parked vehicle;

    b) One (1) involved a vehicle speeding;

c) Seven (7) were intersection related (turning movements or rear ends);

d) Two (2) due to medical emergency or loss of control; and

e) One (1) Reversing, didn't see on-coming traffic.

50. The proposed road diet/bicycle lanes would help reduce the above collision because:

a) The implementation of a road diet has previously shown a reduction in the 85th percentile speed;

b) The implementation of a centre left turn lane allows for stacking for left turn vehicles without impeding through movements.

51. The proposed road diet and bicycle lanes along Livingstone Street between Cundles Road and Stanley Avenue would provide active transportation connections to neighbourhood schools, East Bayfield Community Center and existing bicycles lanes on Cundles Road.

52. As a result of residential feedback and staff reviews, staff recommend that Traffic By-law 80-138 Schedule "A" "No Parking Any Time" be amended and add the following:

"Livingstone Street East	Both sides from Cundles Road East to St. Vincent Street."

MARSELLUS DRIVE

53. The City's Active Transportation Master Plan identified bicycle lanes along Marsellus Drive between Mapleton Avenue and Mapleview Drive East. However, at the current time staff are recommending implementing an urban shoulder along this segment of roadway as an interim measure.

54. A resident survey was prepared and mailed to one hundred and thirty seven (137) property owners to provide comments. Staff received three (3) comments back that were opposed to implementing an urban shoulder along Marsellus Drive between Mapleton Avenue and Mapleview Drive East.

55. A comment sheet was also mailed to the Simcoe Muskoka Catholic District School Board and staff did not receive any comment back regarding the recommended changes.

56. The proposed urban shoulder will provide an active transportation connection to area schools, , the existing multi-use trail along Mapleview Drive West, and the proposed urban shoulder on Mapleton Avenue which will provide a connection to Holly Recreate Center.

57. The proposed urban shoulder will still accommodate on-street parking so there is no impact to area residents, while still providing a cyclist friendly environment. Where a vehicle is unable to fit entirely within the urban shoulder, the vehicle will be expected to park in the urban shoulder and may encroach into the travel lane.

58. Staff conducted traffic counts for Marsellus Drive between Mapleton Avenue and Mapleview Drive East to review the 85th percentile speed. The results of the study are as follows:

a) Marsellus Drive between Dykstra Drive and Sundew Drive – the 85th percentile speed is 53 km/h; and

b) Marsellus Drive between Farmstead Crescent and Dykstra Drive – the 85th percentile speed is 57 km/h.

59. Staff have reviewed three (3) years of collision history along Marsellus Drive between Mapleton Avenue and Mapleview Drive East, as a result of this review staff found eleven (11) reported collisions:

    a) Two (2) collisions involved a single motor vehicle colliding with a parked vehicle;

    b) Three (3) involved a vehicle speeding;

    c) Four (4) were intersection related (turning movements or rear ends); and

    d) Two (2) lost control.

60. As a result of the of the collision history and 85th percentile speed, staff recommend implementing an urban shoulder along Marsellus Drive between Mapleton Avenue and Mapleview Drive West. This will reduce the travel lane width and create a more uniform driving patterns at reduced travel speeds, and provide an active transportation connection. Staff will continue to monitor the roadway

MAPLETON AVENUE

61. The City's Active Transportation Master Plan identified bicycle lanes along Mapleton Avenue between Ardagh Road and Essa Road. However, at the current time staff are recommending implementing an urban shoulder along this segment of roadway as an interim measure.

62. A resident survey was prepared and mailed to one hundred and ninety three (193) property owners to provide comments. Staff received four (4) comments back that were opposed to implementing an urban shoulder along Mapleton Avenue between Ardagh Road and Essa Road.

63. A comment sheet was also mailed to the Simcoe County District School Board and staff did not receive any comment back regarding the recommended changes.

64. The proposed urban shoulder will provide an active transportation connection to area schools, Holly Recreate Center, and to the proposed urban shoulder on Marsellus Drive which will provide a connection to the existing multi-use trail on Mapleview Drive West.

65. The proposed urban shoulder will still accommodate on-street parking so there is no impact to area residents, while still providing a cyclist friendly environment. Where a vehicle is unable to fit entirely within the urban shoulder, the vehicle will be expected to park in the urban shoulder and may encroach into the travel lane.

66. Staff conducted traffic counts along Mapleton Avenue between Ardagh Road and Essa Road to review the 85th percentile speed. The results of the study are as follows:

    a) Mapleton Avenue between Pinecliff Crescent and Oakside Court – the 85th percentile speed is 62 km/h; and

    b) Mapleton Avenue between Bluegrass Drive and Srigley Street – the 85th percentile speed is 54 km/h

67. Staff have reviewed three (3) years of collision history along Mapleton Avenue between Ardagh Road and Essa Road , as a result of this review staff found fourteen (14) reported collisions:

    a) Four (4) collisions involved a single motor vehicle colliding with a parked vehicle;

    b) Eight (8) were intersection related (turning movements or rear ends); and

c) Two (2) lost control.

68. As a result of the of the collision history and 85th percentile speed, staff recommend implementing an urban shoulder along Marsellus Drive between Mapleton Avenue and Mapleview Drive West. This will reduce the travel lane width and create a more uniform driving patterns at reduced travel speeds, and provide an active transportation connection.

ST. VINCENT STREET

69. A resident survey was prepared and mailed to six (6) property owners to provide comments. Staff did not receive any responses back.

70. Staff reviewed the feasibility of implementing a complete road diet along St. Vincent Street between Livingstone Street East and Hanmer Street East, however since this section of St. Vincent Street is only 11.0 metres wide there is limited space to implement a typical road diet cross section.

71. As a result of the limited surface width, staff are recommending implementing bicycle lanes with one lane of vehicle travel per direction. This would still provide active transportation for area residents and decrease the travel lane width reducing the operating speed of the roadway.

72. Staff conducted a traffic count on St. Vincent Street between Hanmer Street East and Livingstone Street East to review the 85th percentile speed. The results of the study are as follows:

a) St. Vincent between Livingstone Street East and City Limits – 85th percentile speed is 81 km/h;

73. Based on the study there are excess speeds along this stretch of road which has a posted speed limit of 50 km/h. The recommended bicycle lanes will reduce the travel width and potentially decrease the operating speed of the roadway.

74. Staff have reviewed three (3) years of collision history along St. Vincent Street between Hanmer Street East and Livingstone Street East, as a result of this review staff found five (5) reported collisions:

a) Three (3) were intersection related (turning movements or rear ends); and

b) Two (2) lost control due to weather;

75. The proposed bicycle lanes would not provide any direct improvement to address the collision history, however staff do anticipate the operating speeds to be reduced which should improve the operation and safety of the roadway.

76. The proposed bicycle lanes along St. Vincent Street will provide a connection to the proposed bicycle lanes along Livingstone Street East which would provide a connection to East Bayfield Community Center and area schools.

TIFFIN STREET

77. A resident survey sheet was prepared and mailed to forty nine (49) property owners to provide comments. Staff received three (3) comments back regarding the proposed buffered bicycle lanes along Tiffin Street between Ferndale Drive and Essa Road.

a) One (1) response was in favour with implementing the buffered bike lanes;

b) Two (2) responses were not in favor of the proposed buffered bicycle lanes as Tiffin Street, as Tiffin Street is a permissive truck route and had concerns regarding traffic volumes and speeds.

78. Staff have reviewed the potential conflict between commercial and heavy vehicles using Tiffin Street, staff recommend implementing buffered bicycle lanes to provide an increased offset of 0.5 metres between the travel lane and bicycle lane.

79. The proposed buffered bicycle lanes will help reduce the operating speed of the roadway by decreasing the travel lane width which should reduce the operating speed without negatively impacting the operation of the roadway and permissive truck route.

80. The recommended buffered bicycle lanes along Tiffin Street between Ferndale Drive and Essa Road will also provide a connection from the existing bicycle lanes on Ferndale Drive.

81. As a result of residential feedback, staff reviews and recommendation to implement buffered bicycle lanes, staff recommend that Traffic By-law 80-138 Schedule "A" "No Parking Any Time" be amended and add the following:

"Tiffin Street	South side from a point approximately fifty metres southeasterly from Essa Road to Innisfil Street."
"Tiffin Street	Both sides from Anne Street to Patterson Road."
"Tiffin Street	North side from Essa Road to Bradford Street."
"Tiffin Street	North side between Essa Road and Innisfil Street."
"Tiffin Street	Both sides from Essa Road/Bradford Street easterly to Lakeshore Drive."

82. That Traffic By-law 80-138 Schedule "A" "No Parking Anytime" be amended by adding the following:

"Tiffin Street	Both sides from Innisfil Street to Anne Street and Patterson Street to Ferndale Drive."

83. Staff have reviewed three (3) years of collision history along Tiffin Street between Ferndale Drive and Essa Road, as a result of this review staff found eighteen (18) reported collisions:

a) One (1) collision involved a single motor vehicle colliding with a parked vehicle;

b) Three (3) involved a vehicle speeding;

c) Thirteen (13) were intersection related (turning movements or rear ends); and

d) One (1) lost control.

84. The proposed buffered bicycle lanes will help reduce the operating speed of the roadway by decreasing the travel lane width which should reduce the operating speed without negatively impacting the operation of the roadway and permissive truck route. As well as provided an offset of 0.5 metres between the travel lane and bicycle lane which is an additional mitigation measure.

85. The recommended buffered bicycle lanes along Tiffin Street between Ferndale Drive and Essa Road will also provide a connection from the existing bicycle lanes on Ferndale Drive.

86. Staff will continue to monitor all the above roadways for operational and safety concerns.

87. Staff have requested speed enforcement through the Barrie Police Services for all the above mentioned roadways to review the effectiveness of the proposed recommendations.

88. The recommendations of this report align with the 2019 Transportation Master Plan (TMP).

89. Barrie Police Service, Barrie Fire and Emergency Service and Municipal Law Enforcement do not oppose the recommended motion.

ENVIRONMENTAL MATTERS

90. There are no environmental matters related to the recommendation.

ALTERNATIVES

91. There are seven (7) alternatives available for consideration by General Committee:

Alternative 1	General Committee could decide to maintain the current lane configuration along Dean Avenue between Madelaine Drive and Mapleview Drive East and maintain on-street parking: This alternative is not recommended as there have been traffic studies conducted identifying higher operating speeds along this segment of roadway which poses operational and safety issues. The proposed road diet would improve the operation and safety of Dean Avenue between Madelaine Drive and Mapleview Drive East by addressing the following concerns: a) Provide sufficient capacity for existing traffic volumes while maintaining two (2) lanes of travel, one in each direction; b) Provide a two way left turn lane for residents turning into their driveways and onto the side streets improving the safety and operation; c) Minimizing delay for through vehicles due to left turning vehicles improving traffic flow; and d) Reducing operating speed. Maintaining the current on-street parking would create operational and safety concerns regarding parked vehicles impeding the bicycle lane creating operational and safety concerns.
Alternative 2	General Committee could decide to maintain the current four (4) lane cross section and on-street parking along Dean Avenue between Big Bay Point Road and Madelaine Drive. This alternative is not recommended since in May 2018 staff prepared a memorandum with support from Ward 9 Councillor to proceed with 2014 deferred road diet along Dean Avenue between Big Bay Point Road and Madelaine Drive in 2019.
Alternative 3	General Committee could decide to maintain the current lane configuration along Livingstone Street East between Stanley Avenue and Cundles Road and maintain on-street parking: This alternative is not recommended as there have been traffic studies conducted identifying higher operating speeds along this segment of roadway which poses operational and safety issues. The proposed road diet/bicycle lanes would improve the operation and safety of Livingstone Street East between Stanley Avenue and Cundles Road by addressing the following concerns: e) Provide sufficient capacity for existing traffic volumes while maintaining two (2) lanes of travel, one in each direction; f) Provide a two way left turn lane for residents turning into their driveways and onto the side streets improving the safety and operation; g) Minimizing delay for through vehicles due to left turning vehicles improving traffic flow; and

	h) Reducing operating speed. Maintaining the current on-street parking would create operational and safety concerns regarding parked vehicles impeding the bicycle lane creating operational and safety concerns.
Alternative 4	General Committee could decide not to implement the recommended urban shoulder on Marsellus Drive between Mapleton Avenue and Mapleview Drive West. This alternative is not recommended as the proposed urban shoulder will provide an active transportation connection to area schools, connect to the proposed urban shoulder on Mapleton Avenue which will provide a connection to Holly Recreation Center, and the existing multi-use trail on Mapleview Drive West. While still accommodating on-street parking so there is no impact to area residents, while still providing an improved cyclist friendly environment. Where a vehicle is unable to fit entirely within the urban shoulder, the vehicle will be expected to park in the urban shoulder and may encroach into the travel lane.
Alternative 5	General Committee could decide not to implement the recommended urban shoulder on Mapleton Avenue between Ardagh Road and Essa Road. This alternative is not recommended as the proposed urban shoulder will provide an active transportation connection to area schools, Holly Recreate Center, and to the proposed urban shoulder on Marsellus Drive which will provide a connection to the existing multi-use trail on Mapleview Drive West. While still accommodate on-street parking so there is no impact to area residents, while still providing a cyclist friendly environment. Where a vehicle is unable to fit entirely within the urban shoulder, the vehicle will be expected to park in the urban shoulder and may encroach into the travel lane.
Alternative 6	General Committee could decide to maintain the current lane configuration along St. Vincent Street between Livingstone Street East and Hanmer Street: This alternative is not recommended as the proposed bicycle lanes along St. Vincent Street will reduce the travel lane widths and create a more uniform driving patterns at reduced travel speeds, and provide an active transportation connection will provide a connection to the proposed bicycle lanes along Livingstone Street East which would provide a connection to East Bayfield Community Center and area schools.
Alternative 7	General Committee could decide to maintain the current lane configuration along Tiffin Street between Ferndale Drive and Essa Road: This alternative is not recommended as the proposed buffered bicycle lanes along Tiffin Street will reduce the travel lane width and create a more uniform driving patterns at reduced travel speeds, while providing a buffered separation between the travel lane and bicycle lane to increase the offset between heavy vehicles and active transportation users. This will also provide

	an active transportation connection that will provide a connection to the proposed bicycle lanes along Tiffin Street will provide a direction between the existing bicycle lanes along Ferndale Drive to the City water front parks and recreational trails.

FINANCIAL

92. The cost to implement the proposed road diets, urban shoulders, bicycle lanes and additional signage is approximately $125,000 which can be accommodated in the 2019 Federal Gas Tax Funding.

LINKAGE TO 2018-2022 STRATEGIC PLAN

93. The recommendation included in this Staff Report support the following goals identified in the 2018-2022 Strategic Plan:

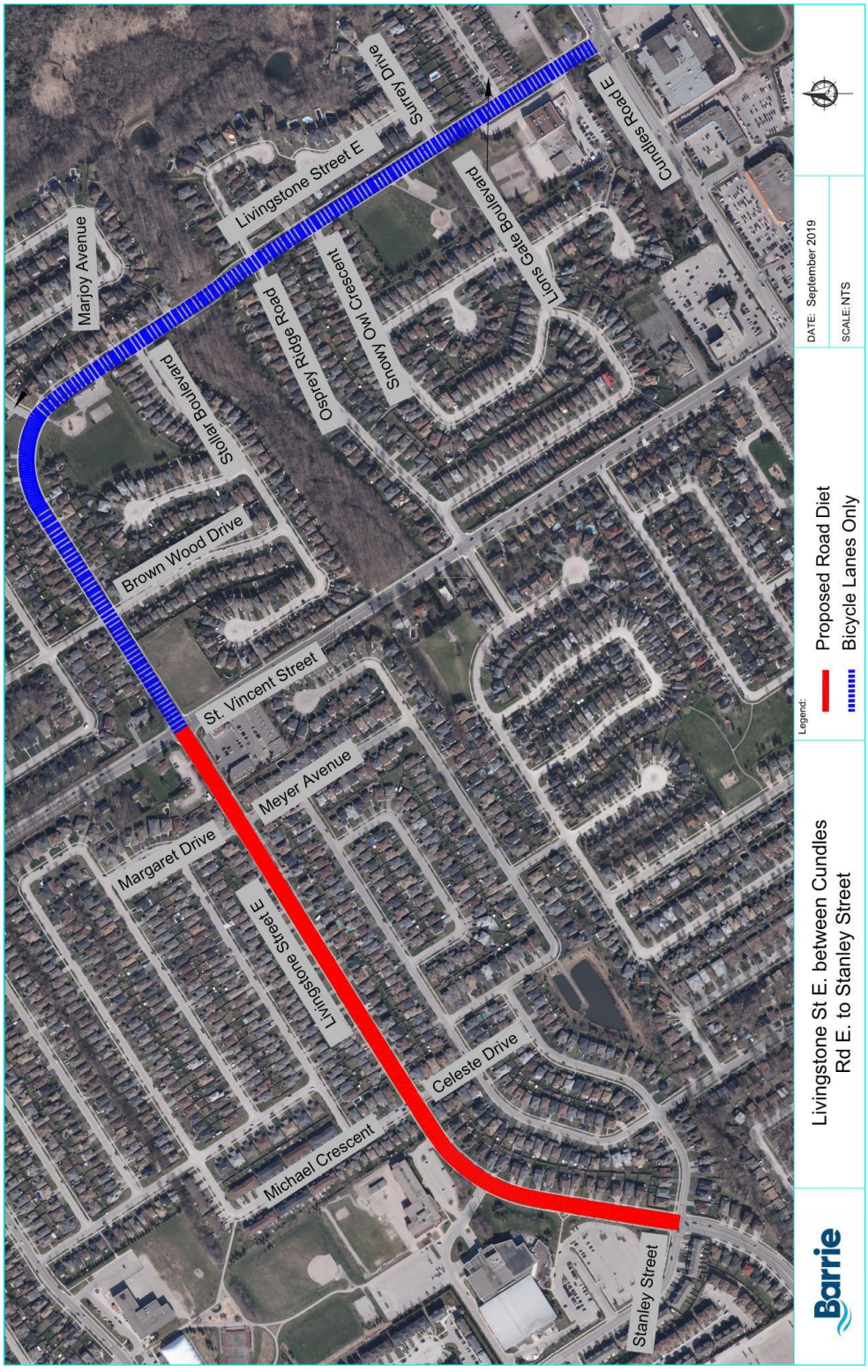
    a) Improving the ability to get around Barrie.

94. The recommended motion will improve the levels of service for promoting active transportation throughout the City, and potentially reduce the operating speeds of the identified roadways, while maintain sufficient capacity for vehicles.

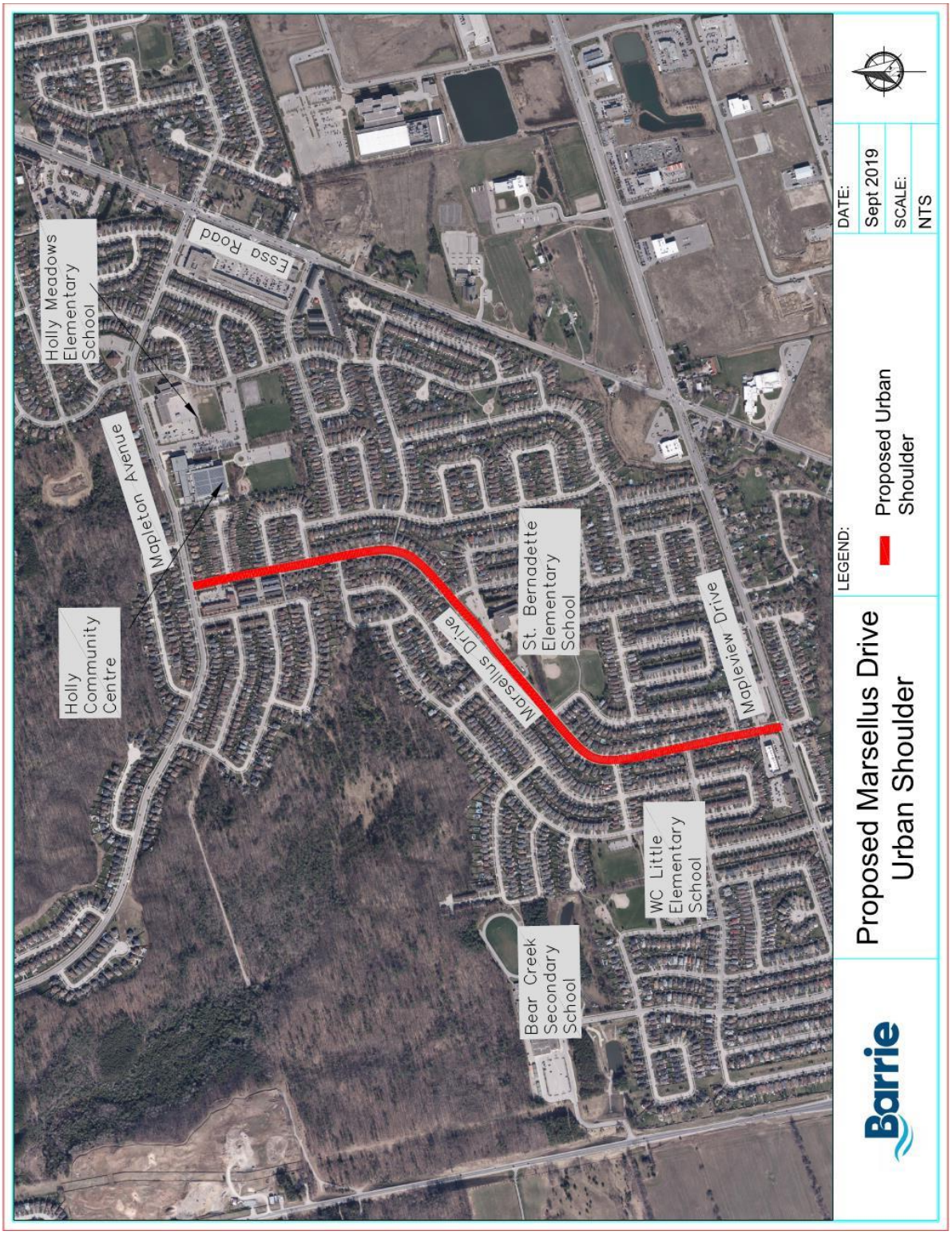
APPENDIX "A"


Big Bay Point Road
Dean Avenue
Madeline Drive
Esther Drive
Country Lane
Mapleview Drive E.
Proposed Road Diet
DATE:
Sept 2019
SCALE:
NTS
Dean Avenue
Proposed Road Diet
Barrie

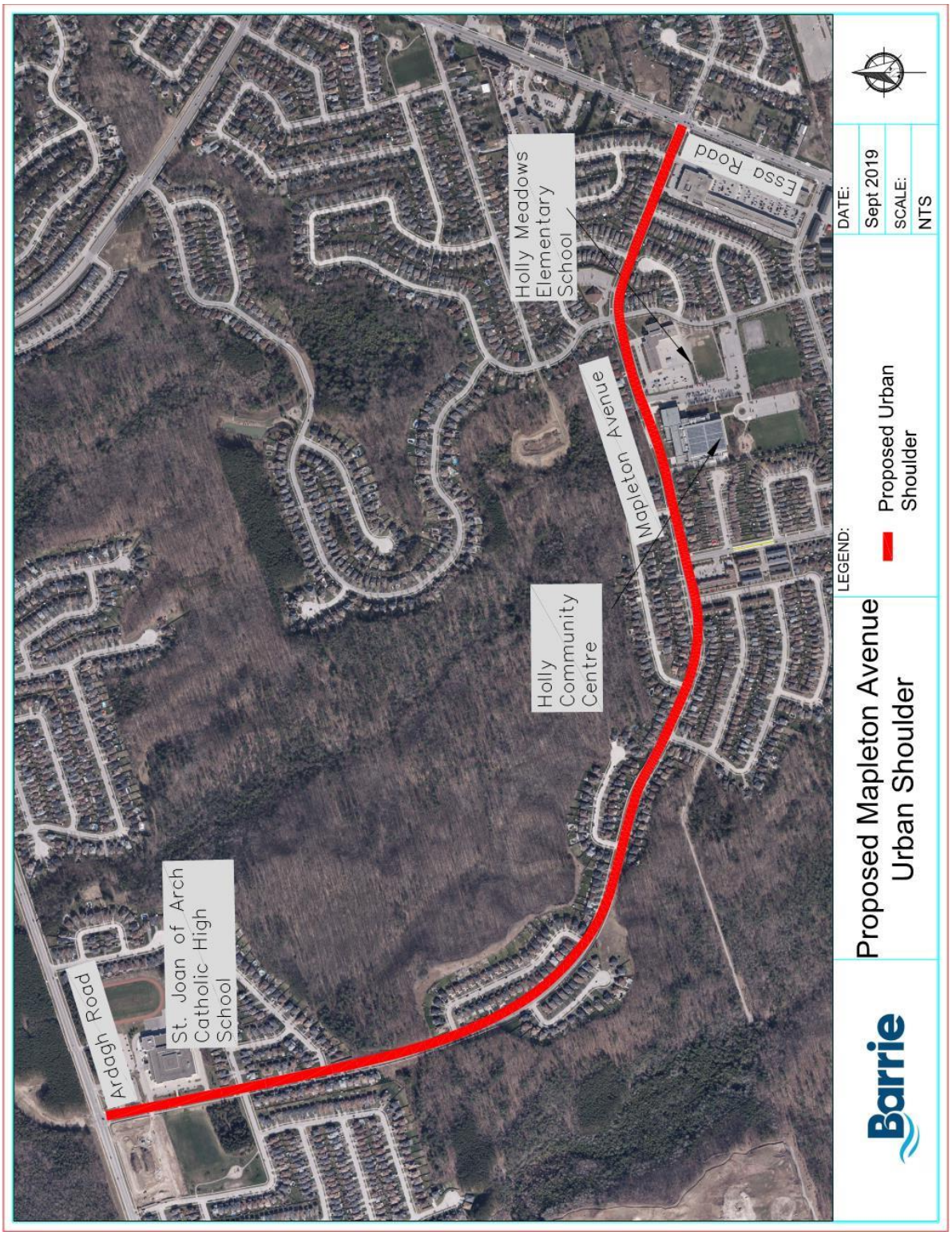
APPENDIX "B"


Livingstone Street E
Surrey Drive
Cundles Road E
Marjoy Avenue
Lions Gate Boulevard
Snowy Owl Crescent
Osprey Ridge Road
Stellar Boulevard
Brown Wood Drive
St. Vincent Street
Meyer Avenue
Margaret Drive
Livingstone Street E
Celeste Drive
Michael Crescent
Stanley Street
Legend:
Proposed Road Diet
Bicycle Lanes Only
DATE: September 2019
SCALE:NTS
Livingstone St E. between Cundles Rd E. to Stanley Street
Barrie

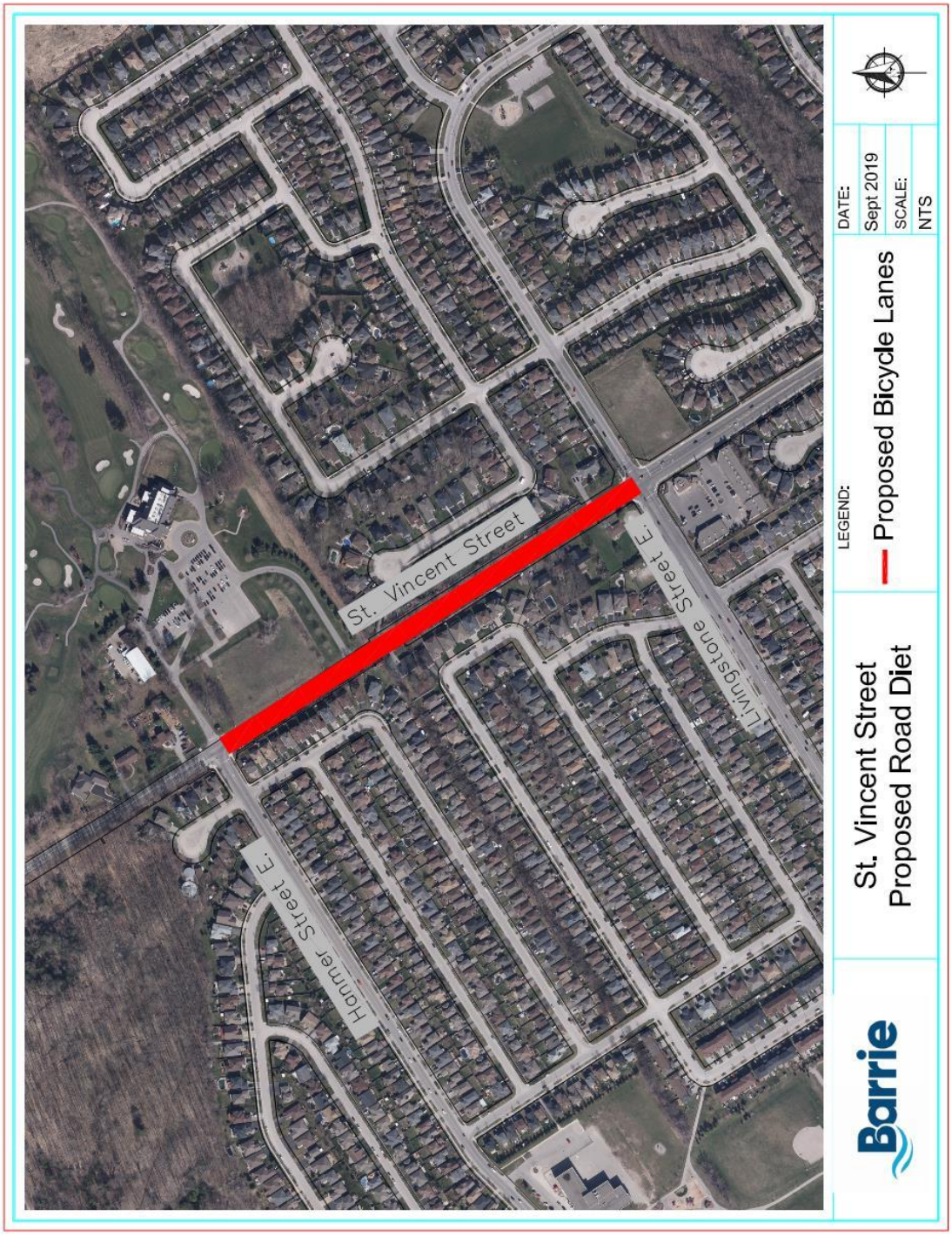
APPENDIX "C"


Holly Meadows Elementary School
Essa Road
Mapleton Avenue
Holly Community Centre
St. Bernadette Elementary School
Marsellus Drive
Mapleview Drive
WC Little Elementary School
Bear Creek Secondary School
Barrie
Proposed Marsellus Drive Urban Shoulder
LEGEND:
Proposed Urban Shoulder
DATE:
Sept 2019
SCALE:
NTS

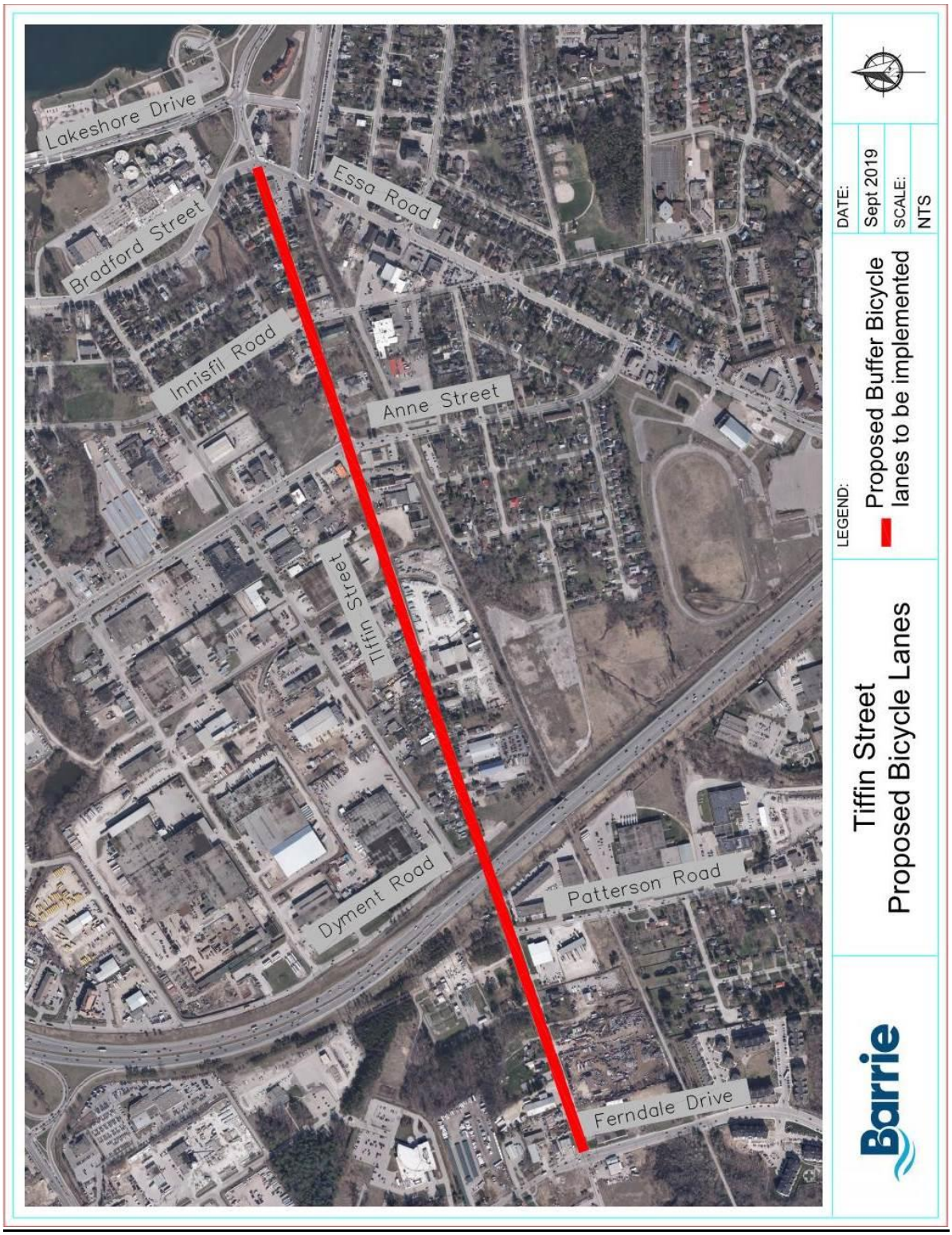
APPENDIX "D"


Ardagh Road
St. Joan of Arch Catholic High School
Holly Community Centre
Mapleton Avenue
Holly Meadows Elementary School
Essa Road
Barrie
Proposed Mapleton Avenue Urban Shoulder
LEGEND:
Proposed Urban Shoulder
DATE:
Sept 2019
SCALE:
NTS

APPENDIX "E"


St. Vincent Street
Livingstone Street E
Hommer Street E
LEGEND:
Proposed Bicycle Lanes
DATE:
Sept 2019
SCALE:
NTS
St. Vincent Street
Proposed Road Diet
Barrie

APPENDIX "F"


Lakeshore Drive
Bradford Street
Essa Road
Innisfil Road
Anne Street
Tiffin Street
Dyment Road
Patterson Road
Ferndale Drive
DATE:
Sept 2019
SCALE:
NTS
LEGEND:
Proposed Buffer Bicycle lanes to be implemented
Tiffin Street
Proposed Bicycle Lanes
Barrie