

Transportation Master Plan Brief

PROPOSED WHITE CHURCH SECONDARY PLAN

2450 Miles Road & 7156, 8064 & 8122 White Church Road East
HAMILTON, ONTARIO

December 2023
Project No: NT-23-111

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December 7, 2023

Attention: Scott Beedie, MCIP, RPP

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**Re: Transportation Master Plan Brief
Proposed White Church Secondary Plan
2450 Miles Road & 7156, 8064 & 8122 White Church Road East, City of Hamilton
Our Project No. NT-23-111**

Nexttrans Consulting Engineers (a Division of NextEng Consulting Group Inc.) is pleased to present the enclosed Transportation Master Plan Brief in support of the proposed White Church Secondary Plan, a new urban expansion area in the City of Hamilton.

The purpose of this Transportation Master Plan Brief is to provide a high assessment of the transportation road network, pedestrian route analysis, cycling route analysis, transit assessment, and other transportation design elements. The proposed Secondary Plan is generally bounded by Upper James Street to the west, Miles Road to the east, Airport Road to the north and White Church Road E to the south. The proposed secondary is located to the east of the proposed Airport Employment Growth District (AEGD) Secondary Plan.

This Transportation Master Plan Brief will set the stage for the full Transportation Master Plan, which will be prepared in accordance with the approved terms of reference by the City of Hamilton and the Ministry of Transportation of Ontario.

We trust the enclosed sufficiently addresses your needs. Should you have any questions, please do not hesitate to contact the undersigned.

Yours truly,

Nexttrans Consulting Engineers

A Division of NextEng Consulting Group Inc.

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1.0 OVERVIEW

1.1. Urban Hamilton Official Plan Amendment

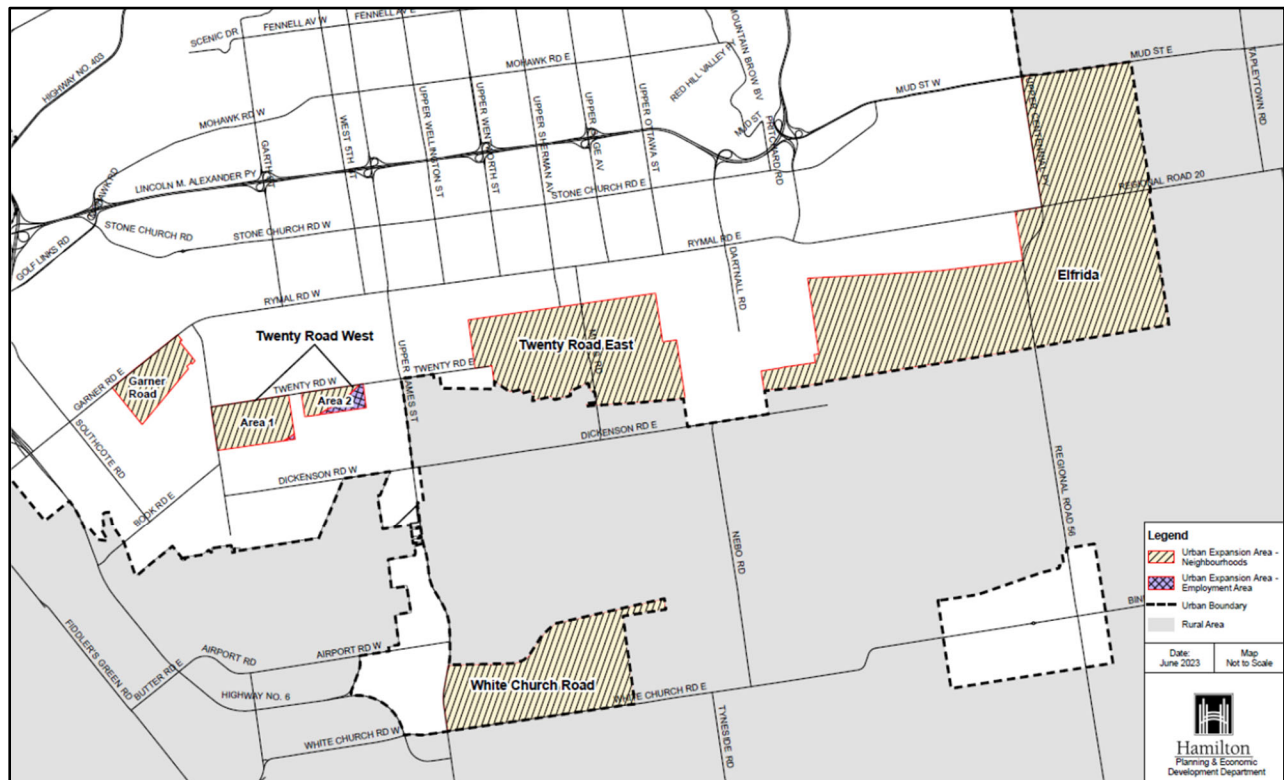
In June 2022, Council approved a Municipal Comprehensive Review (MCR) for the City of Hamilton, along with an updated long term growth strategy (GRIDS2). The MCR is a process by which the City of Hamilton brings its Official Plans into conformity with updated policies of the Provincial plans that apply to Hamilton (Provincial Policy Statement, Growth Plan for the Greater Golden Horseshoe, Niagara Escarpment Plan, Greenbelt Plan). The Municipal Comprehensive Review implemented a growth strategy in the City’s Official Plan with no expansions to the City’s existing urban boundary. This decision was forwarded to the Province for approval.

In November 2022, the Province issued a decision on the MCR, which made multiple changes to the City’s Official Plan. Modifications included changes to the City’s urban boundary which expanded the Urban Boundary to include additional lands, which were identified by the Province as “Urban Expansion Areas”. Six areas of land totaling approximately 2,200 hectares were added to the City of Hamilton’s urban area through the Provincial decision.

The Official Plan, as modified by the Province, requires that Secondary Planning be completed for the Urban Expansion Areas prior to development occurring. A Secondary Plan is a land use plan for a particular geographic area that identifies detailed land uses, densities, design requirements, and infrastructure requirements and other implementing actions appropriate for the area.

In March 2023, Council approved a staff report at Planning Committee on options for Secondary Planning approaches, and endorsed a recommendation directing City staff to lead Secondary Planning for Urban Expansion Areas. Figure 1 illustrates 6 proposed urban expansion areas in the City of Hamilton.

Figure 1 – Proposed Hamilton Expansion Areas

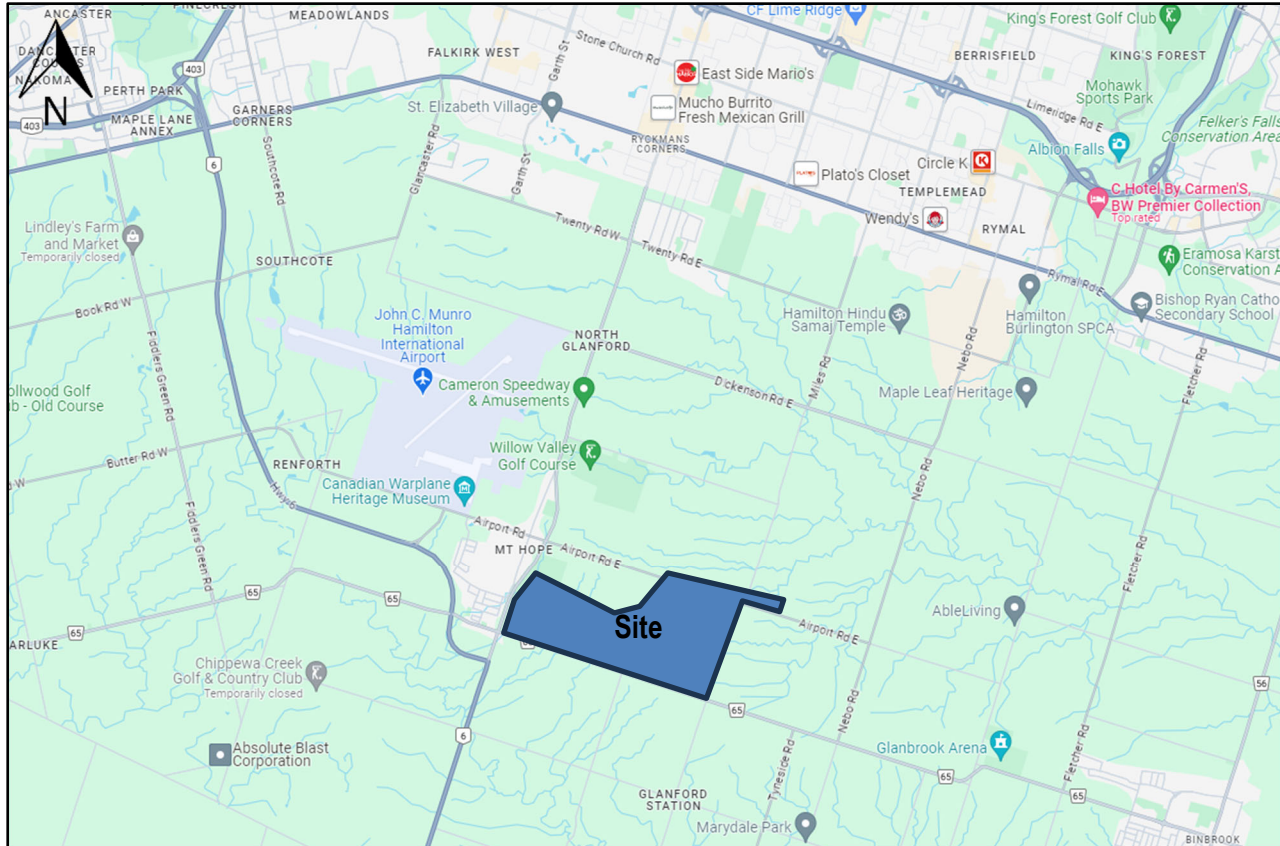


Source: Appendix “C” to Report PED23144

1.2. White Church Road Secondary Plan Area Location

The proposed White Church Secondary Plan is one of the six urban expansion areas in the City of Hamilton and its location is shown in **Figure 1** below. The proposed Secondary Plan is generally bounded by Upper James Street to the west, Miles Road to the east, Airport Road to the north and White Church Road E to the south.

Figure 2 – Proposed White Church Rd Secondary Plan Area



Source: Google Map

2.0 SECONDARY PLAN LAND USE

2.1. Existing Land Uses in the Area

Nextrans has conducted a comprehensive review of the area. The proposed White Church Secondary Plan Area is located to the east of the existing Mount Hope settlement area and Hamilton International Airport, with a significant area of vacant lands for future employment development, as well as some existing low-rise development located along Homestead Drive north and south of Airport Road W.

The lands located within the identified White Church Secondary Plan itself is mostly vacant open space and farm lands. There are several existing farm houses located along Airport Road E and White Church Road E, as well as along Upper James Street. There is an existing Southern Pines Golf & Country Club golf course located east of Upper James Street, between Airport Road and White Church Road E. It is our understanding that the southerly part of the existing golf course will be part of the White Church Secondary Plan, however, the northerly part of the golf course is not included in the White Church Secondary Plan.

2.2. Airport Employment Growth District (AEGD) Secondary Plan

Based on the information obtained from the City of Hamilton website (www.hamilton.ca), the Airport Employment Growth District (AEGD) is a planned development area of 551 net developable hectares of employment land per the Secondary Plan. The Secondary Plan is bounded by Garner Road East and Twenty Road West to the north; Upper James Street to the east, Whitechurch Road West to the south and Fiddler’s Green Road to the west.

The AEGD provides the opportunity to create a new employment area which improves live-work opportunities and helps meet provincial employment targets for the City. It supports the existing John C. Munro Hamilton International Airport as important infrastructure and as an economic driver, supports long-term prosperity, contributes to quality of life, and establishes a gateway for economic and goods movements for the City.

In particular, the AEGD is intended to offer a range of employment and employment-related land uses in the context of an eco-industrial park, which provides for prestige industrial, light industrial, airport-related business and institutional development as well as an environmental footprint that is managed through a range of urban design and eco-friendly sustainable design techniques. All of which allows for the development of land uses consistent with the character of surrounding lands.

2.3. White Church Secondary Plan

The proposed White Church Secondary Plan consists of approximately 326.26 hectares of developable lands. **Figure 3** illustrates the conceptual land use plan as identified in the Urban Hamilton Official Plan White Church Secondary Plan.

It is anticipated that approximately 4,836 residential dwelling units will be included within the White Church Secondary Plan boundary, as per **Figure 3** below.

Figure 3 – Proposed Land Use Plan for White Church Secondary Plan



Source: *Urban Hamilton Official Plan White Church Secondary Plan Map B.5.5-1 – Land Use Plan*

2.4. Secondary Plan Trip Generation

The high-level trip generation forecasts were estimated using the information contained in the *Trip Generation Manual, 11th Edition* published by the Institute of Transportation Engineers (ITE). Given that this is the Secondary Plan Level Study, a high-level estimate is sufficient at this time. For the purposes of this assessment, the following ITE Land Use Codes (LUC) will be utilized in this Study.

- LUC 220 – Multifamily Housing Low-rise (assume all low-rise to be conservative)
- LUC 820 – Shopping Centre
- LUC 520 – Elementary School
- LUC 530 – High School

In addition, for trip generation estimate purpose, it is assumed that for institution and commercial district, the useable gross floor area will be approximately 20% site coverage. The estimates are provided below:

- Institution Total Area – 7.30 hectares for all three sites, or 2.43 hectares per site. With 20% site coverage, the estimated gross floor area for each site will be approximately 52,420 ft².
- District Commercial Total Area – 16.38 hectares. With 20% site coverage (or 3.28 hectares), the estimated gross floor area will be 353,056 ft².

It should be noted that since fitted curve equations are utilized where available, otherwise average rates will be utilized. **Table 1** summarizes the estimated secondary plan trip generation (round off to nearest 5 trips).

Table 1 – Secondary Plan Trip Generation

ITE Land Use	Magnitude (units/GFA)	Parameters	Morning Peak Hour			Afternoon Peak Hour		
			In	Out	Total	In	Out	Total
Multifamily Housing (Low-Rise) LUC 220 Not Close to Rail Transit - General Urban/Suburban	4,836 units	AM - $T = 0.31(X) + 22.85$ PM - $T = 0.43(X) + 20.55$	0.07	0.24	0.31	0.27	0.16	0.43
		Sub-Total Trips	365	1,155	1,520	1,325	775	2,100
Site 1 - Elementary School LUC 520	52,420 ft ²	Average Rates	3.83	3.14	6.97	0.62	0.75	1.37
		Sub-Total Trips	200	165	365	30	40	70
Site 2 - Elementary School LUC 520	52,420 ft ²	Average Rates	3.83	3.14	6.97	0.62	0.75	1.37
		Sub-Total Trips	200	165	365	30	40	70
Site 3 - High School LUC 530	52,420 ft ²	Average Rates	2.40	0.98	3.38	0.52	0.45	0.97
		Sub-Total Trips	125	50	175	30	20	50
Shopping Centre LUC 820 - General Urban/Suburban	353,056 ft ²	AM - $T = 0.50(X) + 151.78$ PM - $\ln(T) = 0.74 \ln(X) + 2.89$	0.58	0.36	0.94	1.83	1.98	3.81
		Sub-Total Trips	205	125	330	690	690	1,380
Total Trips			1,095	1,660	2,755	2,105	1,565	3,670

The proposed White Church Secondary Plan is expected to generate 2,755 total two-way trips (1,095 inbound and 1,660 outbound) and 3,670 total two-way trips (2,105 inbound and 1,565 outbound) during the morning and afternoon peak hours, respectively.

It should be noted that the proposed commercial district trip generation also includes the pass-by trips and synergy trips. Synergy trips are the internal trip interaction between different land uses located within the site. For example, the residents that are living close to the proposed commercial district (either existing residents or future residents) will be able to walk or bike to the proposed commercial district.

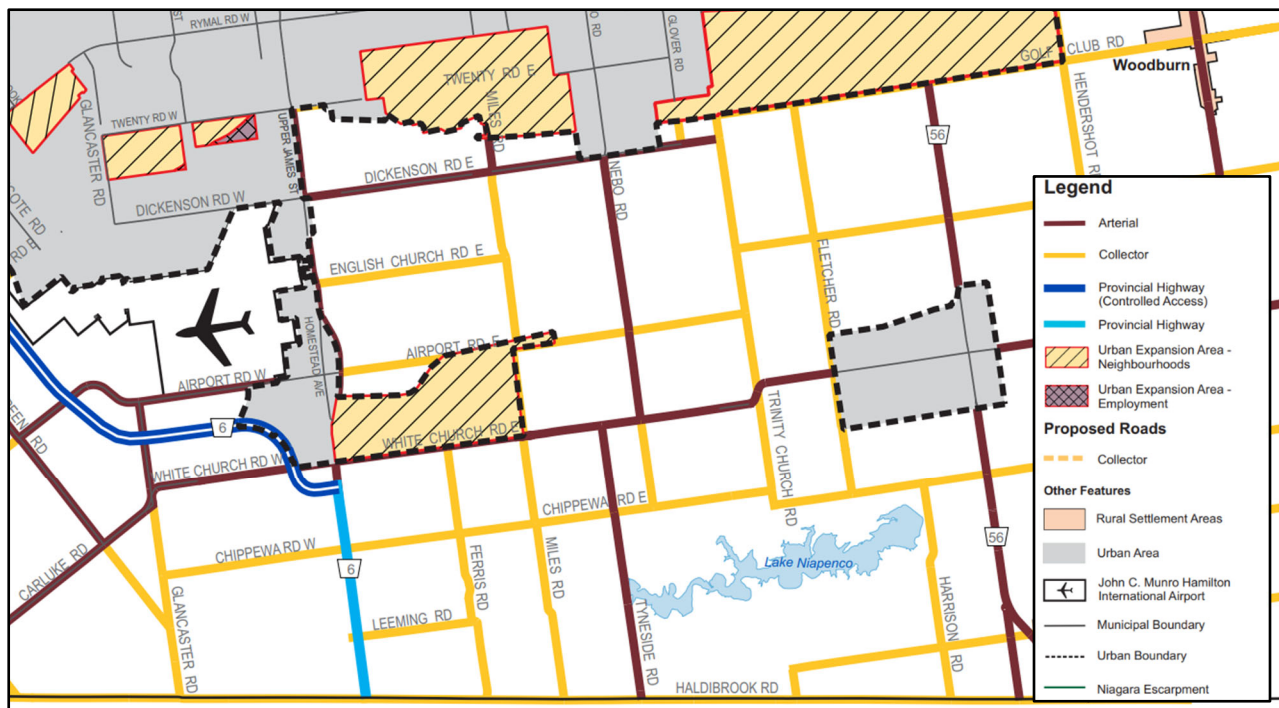
3.0 EXISTING TRANSPORTATION NETWORK ASSESSMENT

3.1. Existing Road Network

As indicated, the proposed White Church Secondary Plan is generally bounded by Upper James Street to the west, Miles Road to the east, Airport Road to the north and White Church Road E to the south. **Figure 4** illustrates the existing road classification in the White Church Secondary Plan and surrounding areas. This is based on the information obtained from City’s Rural Hamilton Official Plan Schedule C – Rural Functional Road Classification.

The description of the existing road network in the study area is summarized in **Table 1** below.

Figure 4 – Rural Hamilton Road Classification



Source: Rural Hamilton Official Plan Schedule C – Rural Functional Road Classification

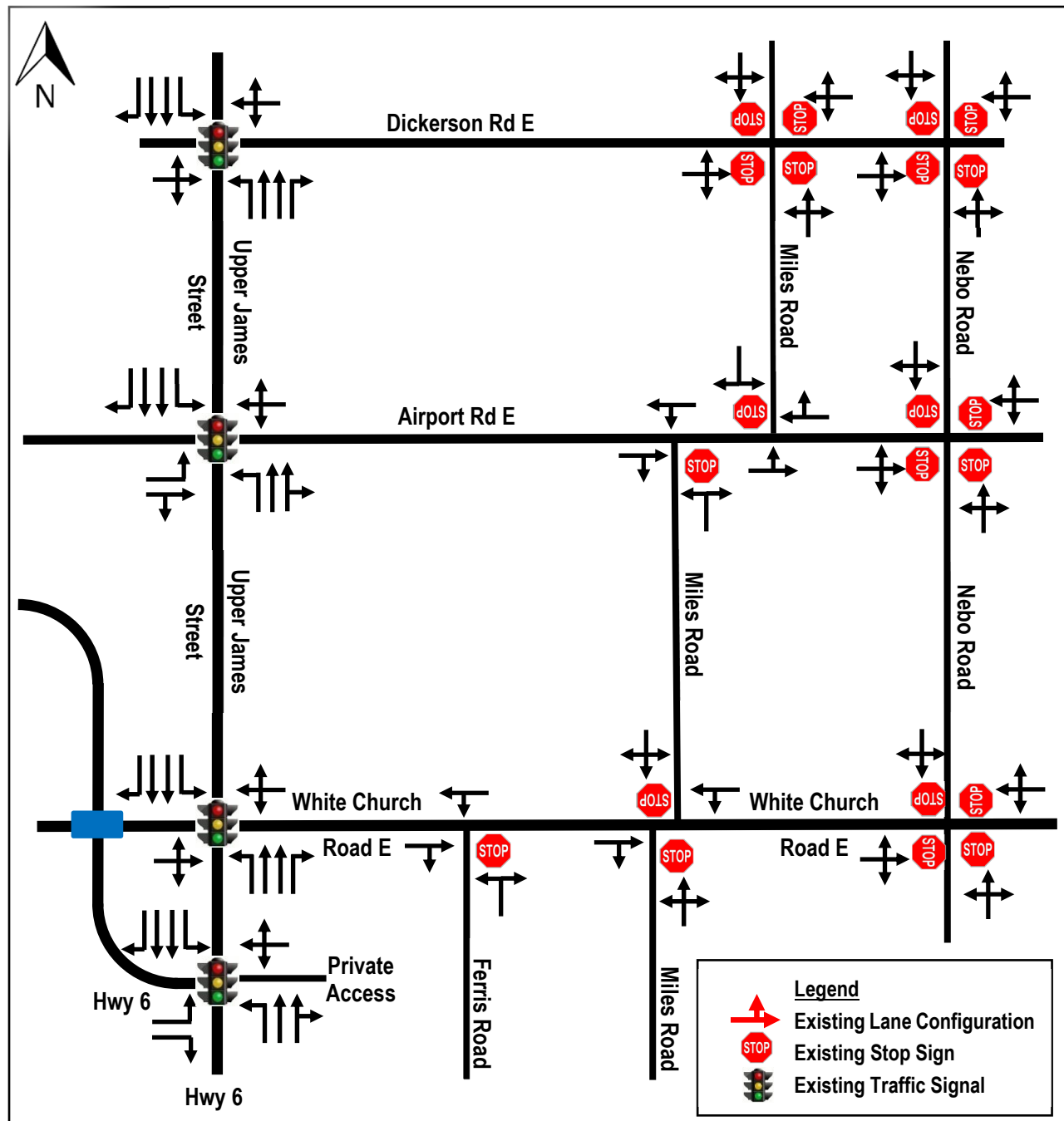
Table 2 – Summary of the Existing Road Network in the Study Area

Road Name	Jurisdiction	Number of Lanes	Speed	Road Type	Sidewalk/Cycling
Airport Road E	City of Hamilton	2	50 km/h (posted)	No sidewalk or cycling facility	No sidewalk or cycling facility
Airport Road W	City of Hamilton	2	50 km/h (posted)	Urban Minor Arterial	Sidewalk on south side only from Homestead Dr to Mt Hope Public School No cycling facility
Homestead Dr	City of Hamilton	2	50 km/h (posted)	Urban Collector	Sidewalk on east side north of Airport Rd, and on the west side south of Airport Rd No cycling facility
Upper James St	City of Hamilton	4	80 km/h (unposted)	Urban Major Arterial	No sidewalk or cycling facility
Hwy 6	MTO	2	80 km/h	Highway	No sidewalk or cycling facility
White Church Rd E	City of Hamilton	2	60 km/h	Rural Arterial Road	No sidewalk or cycling facility
Miles Rd	City of Hamilton	2	60 km/h	Rural Collector Road	No sidewalk or cycling facility

Ferris Road	City of Hamilton	2	60 km/h	Rural Collector Road	No sidewalk or cycling facility
Chippeward Rd W	City of Hamilton	2	60 km/h	Rural Collector Road	No sidewalk or cycling facility
English Church Rd E	City of Hamilton	2	60 km/h	Rural Collector Road	No sidewalk or cycling facility
Tyneside Road	City of Hamilton	2	60 km/h	Rural Arterial Road	No sidewalk or cycling facility
Nebo Road	City of Hamilton	2	60 km/h	Rural Arterial Road	No sidewalk or cycling facility

Figure 5 illustrates the existing road network, lane configurations and traffic control devices for the external intersections in the White Church Secondary Plan Area.

Figure 5 – Existing Road Network



3.2. Existing Pedestrian Network

Currently, no sidewalks are available on all arterials and collector roads in the area for the following reasons:

- All arterial and collector roads in the area have rural cross-section with no curbs and gutters or platform to provide proper sidewalks;
- These roads have very narrow shoulders and boulevard spaces;
- Utilities are placed very close to the edge of the roadways

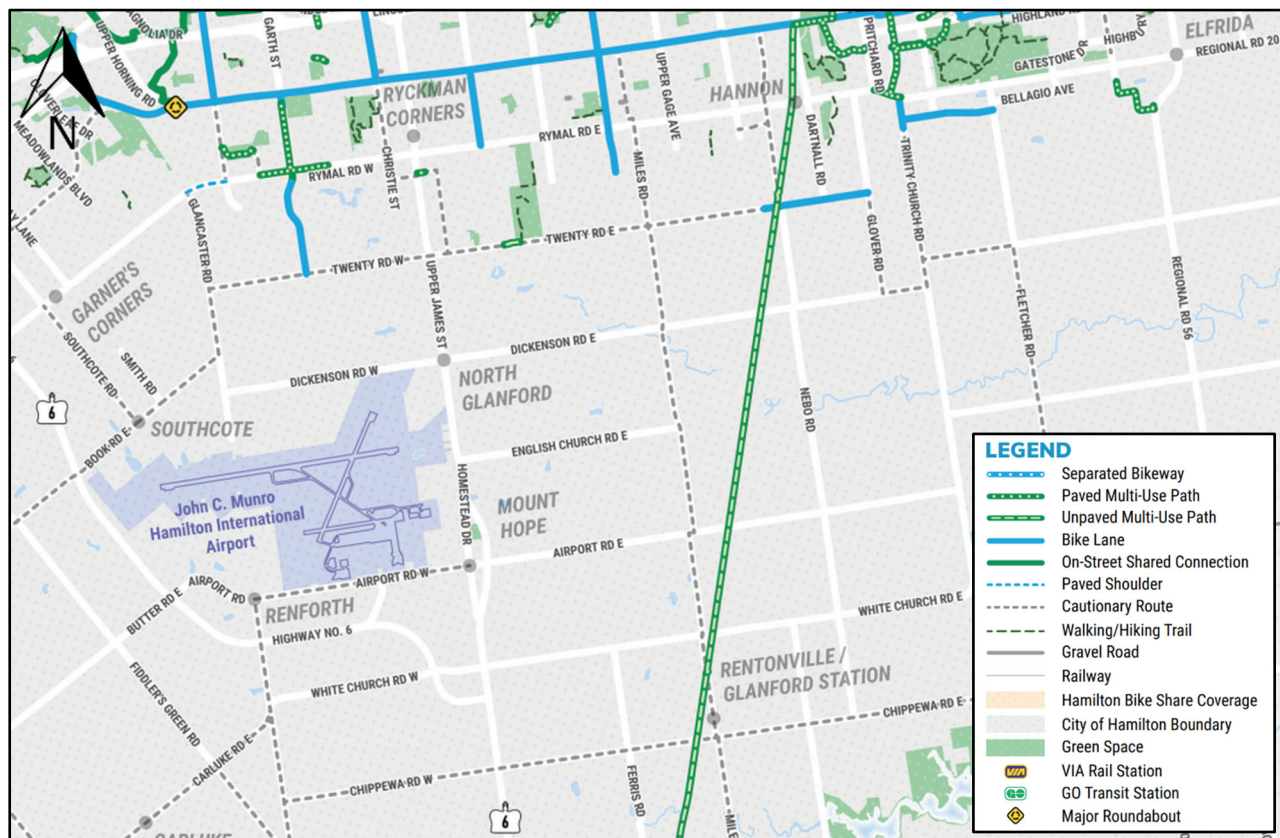
In order to provide proper sidewalks in the future, these roads will need to be urbanized or special treatments such as wider multi-use trails that can also accommodate pedestrians.

3.3. Existing Cycling Network

Currently, given the existing rural road cross-sections, there are no dedicated bike lanes or multi-use path on all arterial and collector roads in the area. There is only one main trail, which is the Chippewa Rail Trail is located east of Miles Road, which is also to the east of the White Church Secondary Plan. This trail will be the main north-south spine in this area. In the future, a trail network would be complete in this area if an east-west trail can be constructed to connect this main north-south spine trail to the Mount Hope/John C. Munro Hamilton International Airport areas.

Figure 6 illustrates the existing active transportation network in the study area.

Figure 6 – Existing Active Transportation Network in the Study Area



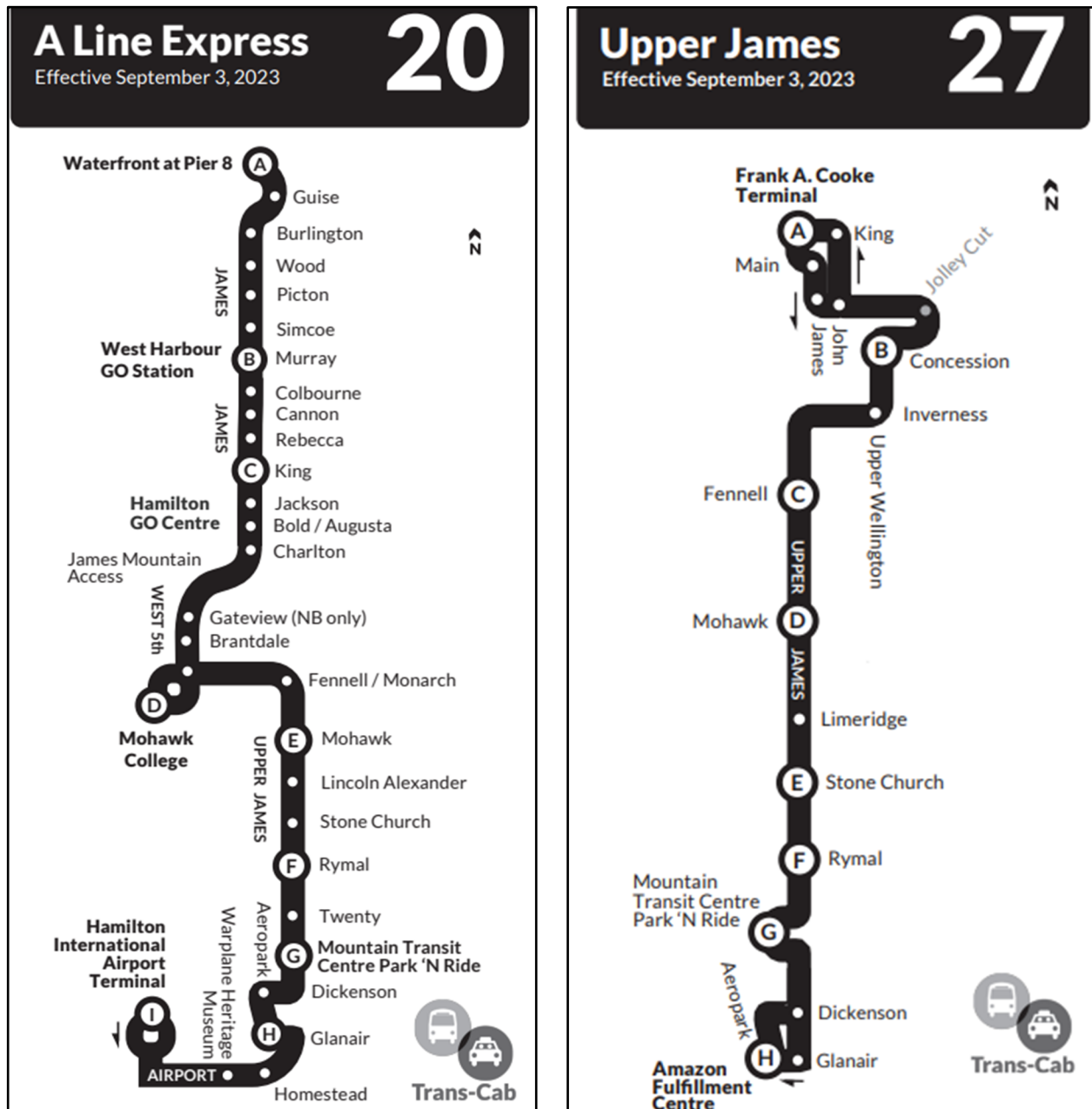
Source: Google Map/City of Hamilton Cycling Map

3.4. Existing Transit Network

There are limited transit services in this area at this time given that the area is mostly rural east of Upper James Street with limited ridership.

However, the west of the White Church Secondary Plan area is current serviced by two existing HSR Transit Bus Routes, Route 20 - A Line Express and Route 27 Upper James. **Figure 7** illustrates the two existing HSR Transit Bus Routes in the study area.

Figure 7 – Existing Hamilton Transit Network in the Study Area



Source: Hamilton Transit website

Below are the bus route descriptions based on the information provided on the Hamilton Transit Website (<https://www.hamilton.ca/hsr-bus-schedules-fares>):

- **Route 20 – A Line Express:** is a north-south express route that travels from downtown Hamilton to the Hamilton International Airport. The route also stops on the Fennell campus of Mohawk College. Service runs weekdays only from early morning to early evenings. This service is not available on the weekend or holiday service. The service frequency is about 15-25 minutes during the morning and afternoon peak periods.
- **Route 27 – Upper James:** this route generally travels in the north-south direction from the MacNab Terminal Platform #5 to the Mountain Transit Centre in Glanbrook. This route is interlined with Route 35 - COLLEGE. Glanbrook Trans-Cab service operates Weekdays, Saturdays and Sundays as an extension of Route 27 when in service. Park N' Ride: HSR Mountain Transit Centre on Upper James, with platforms for Route 20 - A LINE and Route 27 - UPPER JAMES. This route runs 7 days a week from the early morning until after midnight.

4.0 PROPOSED AND PLANNED TRANSPORTATION IMPROVEMENTS

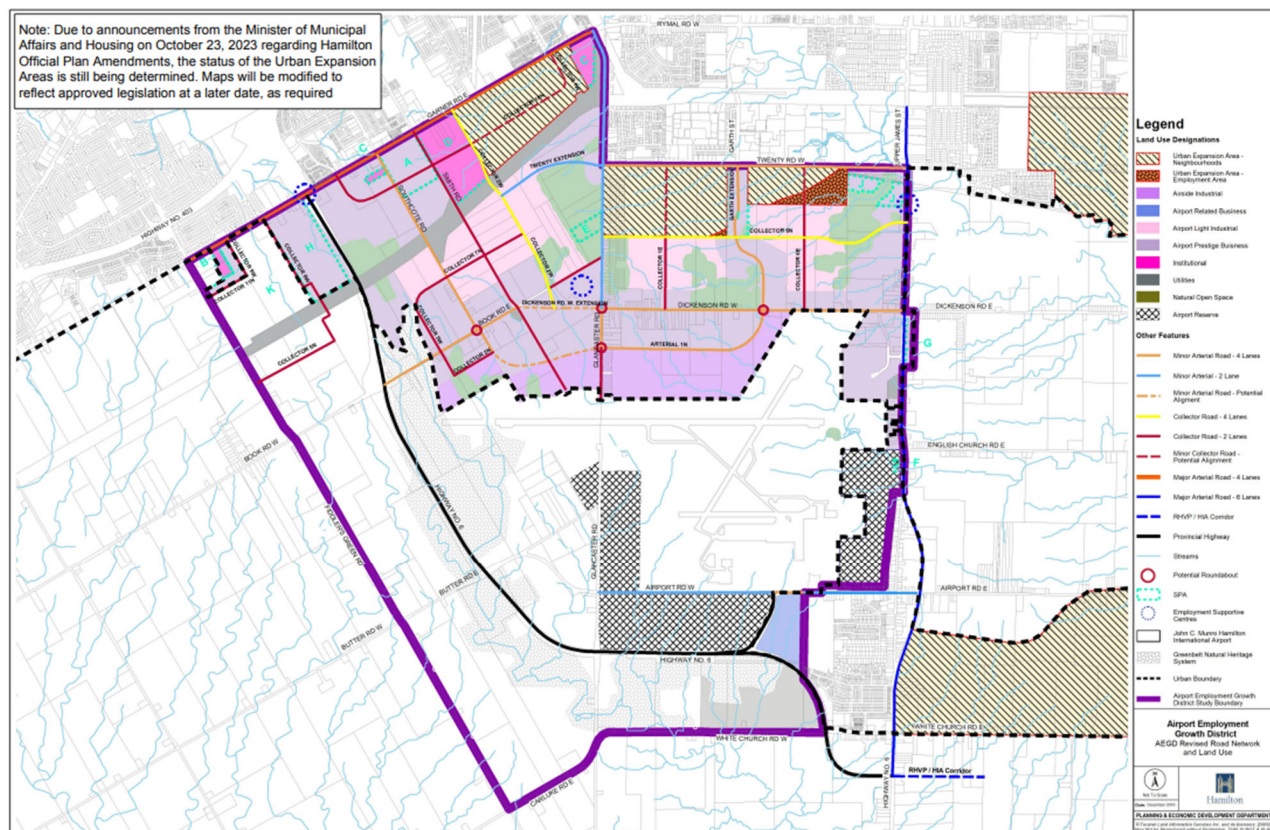
4.3. Road Network

There are several road improvement projects identified in the area as part of the Airport Employment Growth District (AEGD) and the City of Hamilton Transportation Master Plan Update (2018).

Figure 8 illustrates the proposed and planned road improvements in the area as part of the AEGD, with **Figures 9 and 10** illustrating the road improvements in the area as part of the City of Hamilton Transportation Master Plan Update (2018).

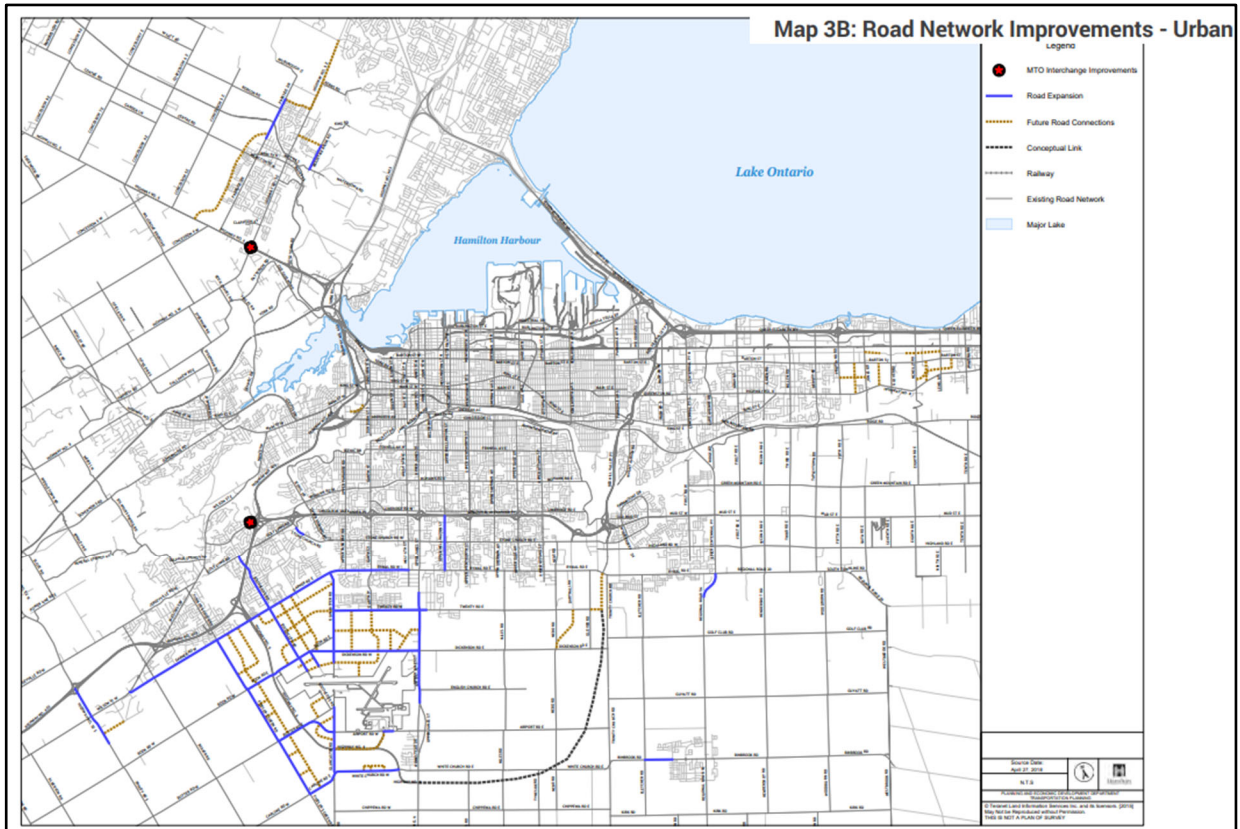
Some brief descriptions of these projects are provided below.

Figure 8 – Future Planned Road Improvements in the Area



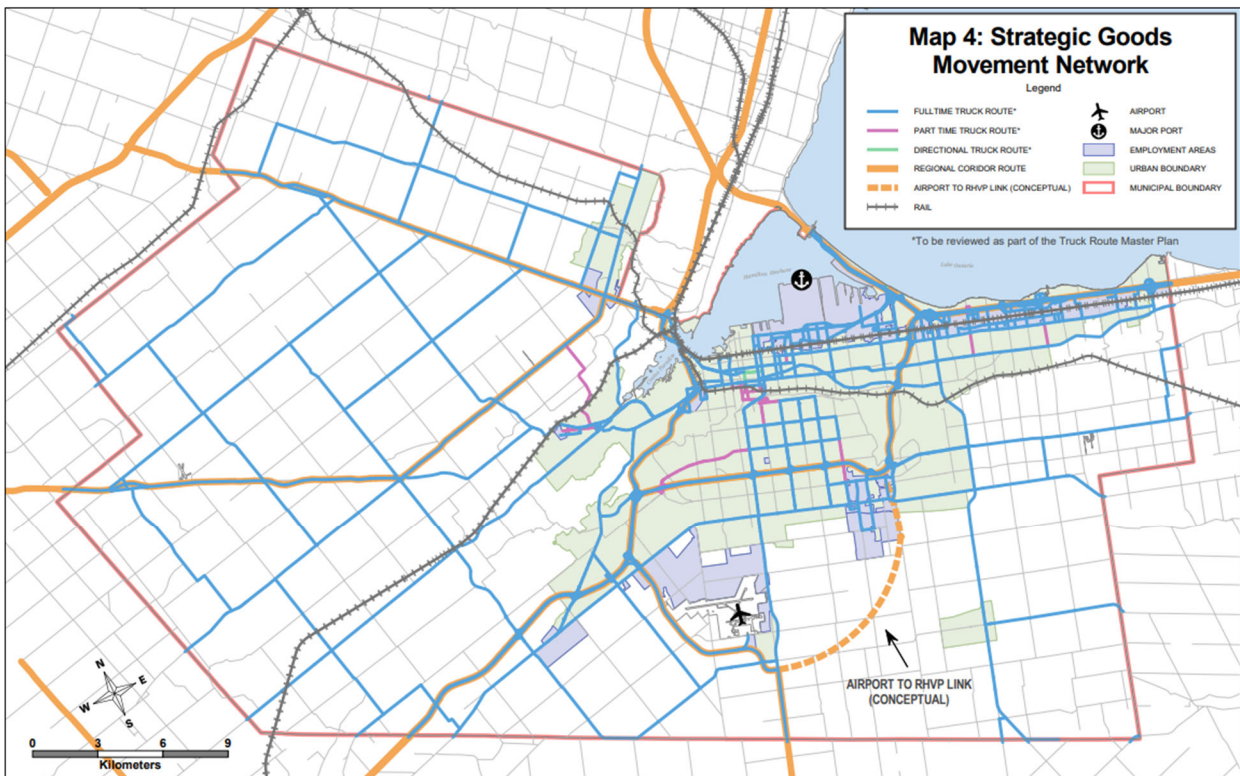
Source: Airport Employment Growth District – AEGD Revised Road Network and Land Use

Figure 9 – Strategic Goods Movement Network



Source: Map 3B: Road Network Improvements (Urban) - City of Hamilton Transportation Master Plan Update (2018)

Figure 10 – Strategic Goods Movement Network



Source: Map 4: Strategic Goods Movement Network – City of Hamilton Transportation Master Plan Update (2018)

The following are the proposed/planned road improvements in the area:

1. Upper James Street — widening from 4 lanes to 6 lanes
2. Dickenson Road W – widening from existing 2-lane cross-section to 4-lane cross-section
3. Airport Road W (between Hwy 6 and East Cargo Road) – widening from existing 2-lane cross-section to 4-lane cross-section;
4. Airport to Red Hill Valley Parkway Link – conceptual at this time;
5. White Church Road W west of Hwy 6;
6. Fiddle’s Green Road from Carluke Road E to Garner Road W;
7. Twenty Road W just to the east of Upper James Street o Glancaster Road;
8. Glancaster Road from White Church Road W to Southcote Road; and
9. There are several future road connections a shown in **Figure 9** above

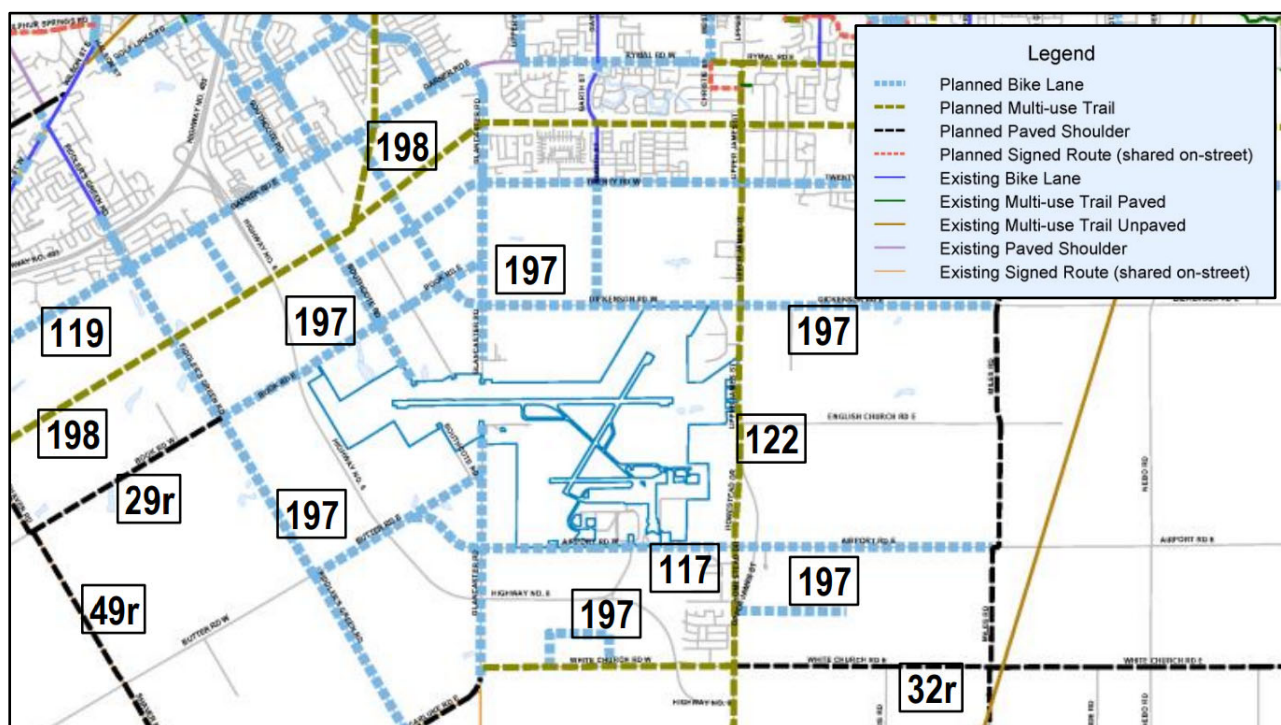
Therefore, there are a significant numbers of road improvements identified in this area in the future as part of various secondary plan and AEGD.

One of the most significant connections for this area would be the Airport Road connection (from Hwy 6) to Red Hill Valley Parkway because this will be an important goods movement corridor for the airport and Airport Employment Growth District development areas.

4.4. Active Transportation Network

NexTrans has reviewed both the City of Hamilton Transportation Master Plan Update (2018) and the City of Hamilton Cycling Master Plan Review and Update (2022). **Figure 11** illustrates the future planned cycling network improvements in the area.

Figure 11 – 2018 Future Planned Cycling Network by the City of Hamilton



Source: City of Hamilton Transportation Master Plan Review and Update Report

As indicated in **Figure 11** above, there are five significant planned cycling network improvements for the area:

- Planned multi-use trail along Upper James Street;
- Planned multi-use trail along White Church Road W, west of Upper James Street
- Planned bike lane along Airport Road E from Miles Road to Butter Road E;
- Dickenson Road E from Miles Road to Garner Road;
- A midblock east-west bike lane between White Church Road E and Airport Road E, east of Upper James Street; and
- Paved shoulder on Miles Road and White Church Road E, east of Upper James Street

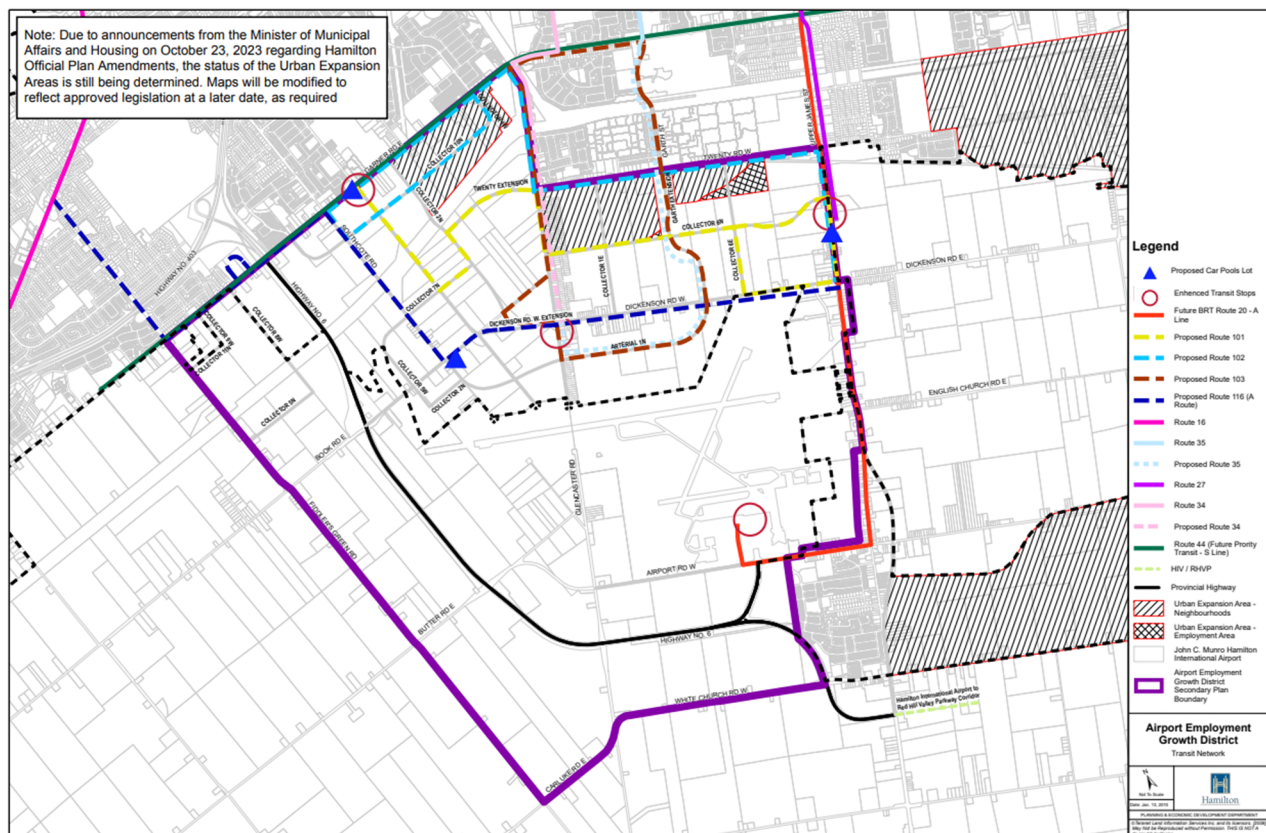
These are the main spine network, which will be connected by the proposed future active transportation network within the White Church Secondary Plan Area to form a fine grid active transportation network for the area.

4.5. Transit Network

There are several transit network improvement projects identified in the area as part of the Airport Employment Growth District (AEGD) and the City of Hamilton Transportation Master Plan Update (2018).

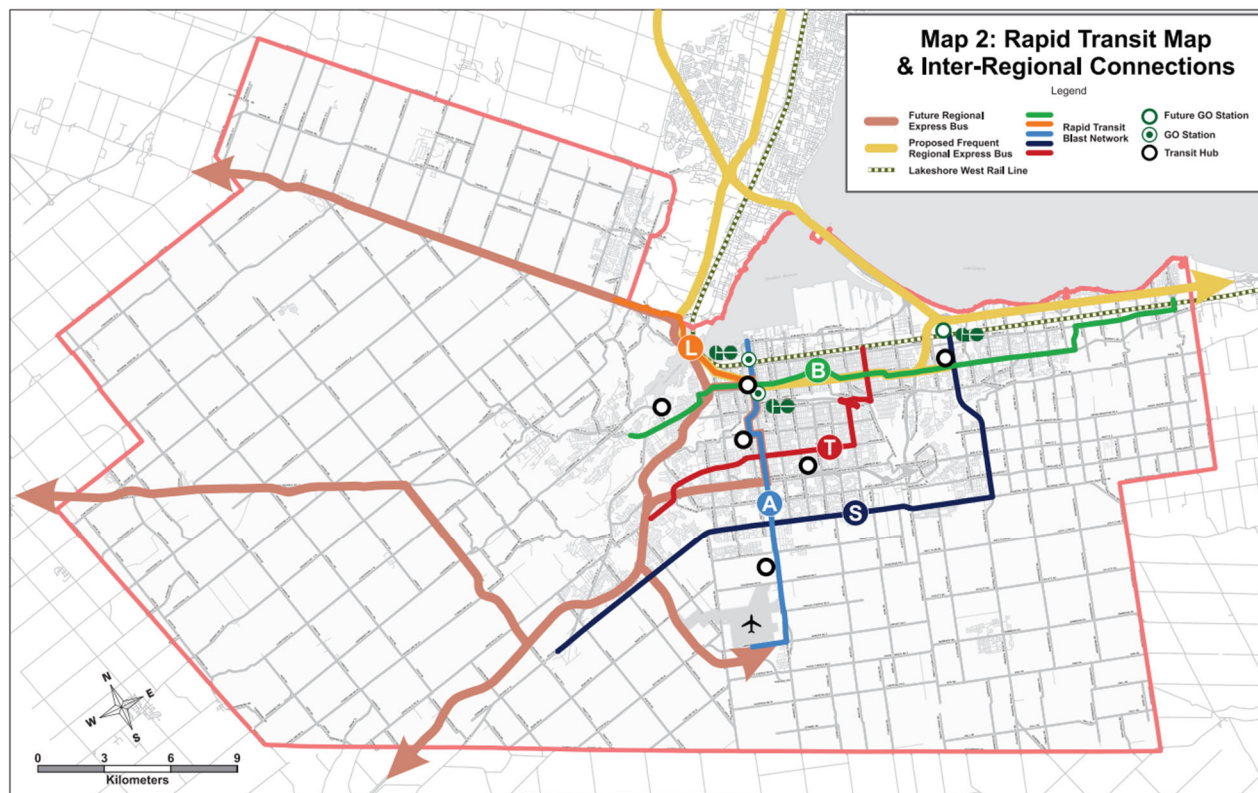
Figure 12 illustrates the proposed and planned transit network improvements in the area as part of the AEGD, with **Figure 13** illustrating the road improvements in the area as part of the City of Hamilton Transportation Master Plan Update (2018).

Figure 12 – Future Planned Transit Network Improvements (AEGD)



Source: Airport Employment Growth District – Transit Network

Figure 13 – Future Planned Transit Network Improvements (Hamilton TMP)



Source: *City of Hamilton Transportation Master Plan Review and Update Report*

As indicated in **Figure 13** above, there several significant planned transit network improvements for the area:

- Future Bus Rapid Transit (BRT) Route 20 – A Line along Upper James Street from Downtown Hamilton to Hamilton Airport;
- Future Regional Express Bus connecting the Hamilton Airport to other parts of the City and surrounding regions;
- Proposed Route 101
- Proposed Route 102
- Proposed Route 103
- Proposed Route 116 (A Route)
- Proposed Route 35
- Proposed Route 34; and
- Future Hamilton International Airport to Red Hill Valley Parkway Corridor future transit route

To accommodate the future White Church Secondary Plan, proposed Route 116 (A Line), proposed Route 102 and/or proposed Route 101 can be extended further to the east of Upper James Street to service the Secondary Plan Area.

5.0 TRIP ORIGIN AND DESTINATION

As the proposed White Church Secondary Plan Area consists of commercial district, schools and parks, as well as it is located adjacent to the existing and future Airport Employment Growth District (AEGD), there will be many internal trip interactions within this area. Most of these trips will be walking, cycling, public transit and drop-off/pick-up trips.

The 2016 Transportation Tomorrow Survey (TTS) data was reviewed for Traffic Zones 5016, 5020, 5033 and 5038 in order to estimate the general trip distribution for the proposed development. The detailed 2016 TTS analysis is included in **Appendix F**.

5.1. Local Trip Origin & Destination

An analysis of the 2016 TTS data for the traffic zones located north of the proposed White Church Secondary Plan indicates that approximately 15% of the trips are attracted to Ward 11, which mainly consists of the Hamilton International Airport and Mount Hope settlement area. **Figures 14 and 15** illustrate the auto trip distribution based on the 2016 TTS data for near-by traffic zones.

Figure 14 – Internal Hamilton Auto and Transit Trip Distribution Percentage by Ward

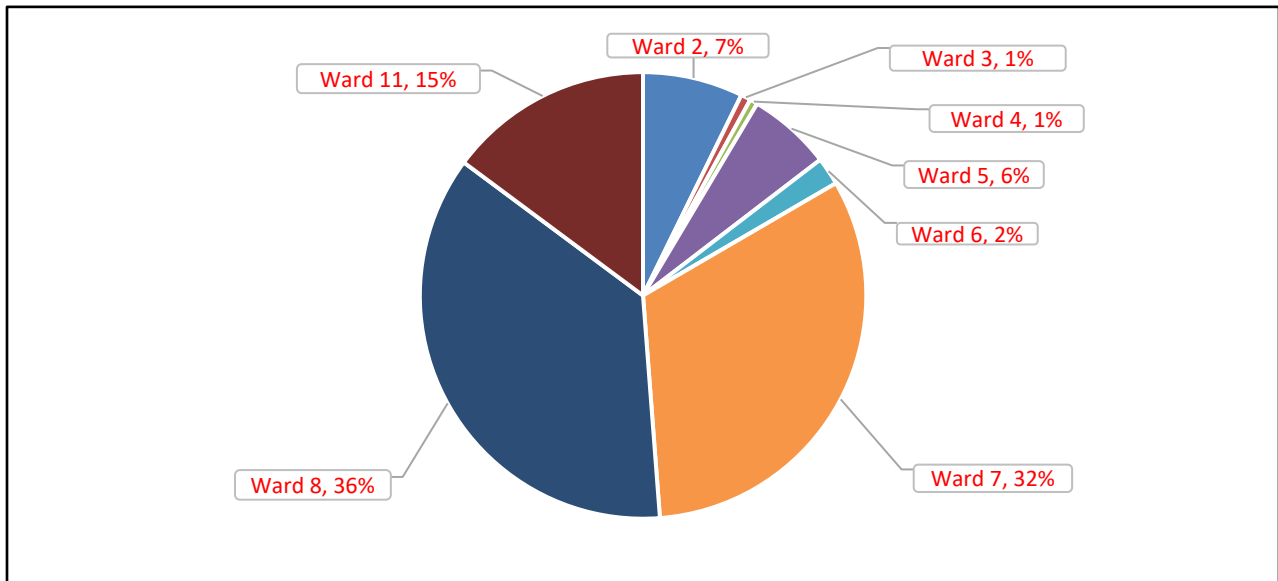
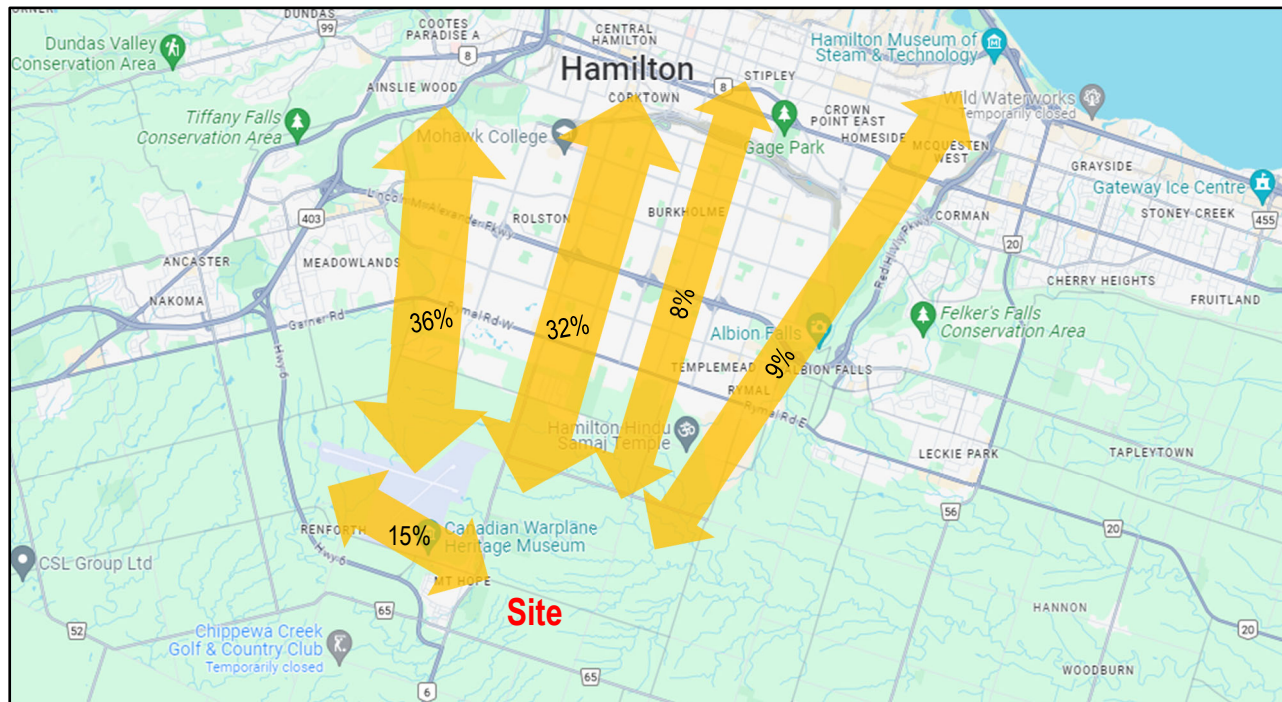


Figure 15 – Internal Hamilton Auto and Transit Trip Distribution General Direction



Source: Google Map

5.2. Regional Trip Origin & Destination

An analysis of the 2016 TTS data for the traffic zones located north of the proposed White Church Secondary Plan indicates that approximately 62% of the trips are internal to the City of Hamilton, only 38% of the trips are external to the City of Hamilton. This means that most of the residents who live in the City of Hamilton are working/travelling within the City's limits. **Figures 16 and 17** illustrate the auto trip distribution based on the 2016 TTS data for near-by traffic zones.

Figure 16 – External Auto Trip Distribution Percentage by Planning District

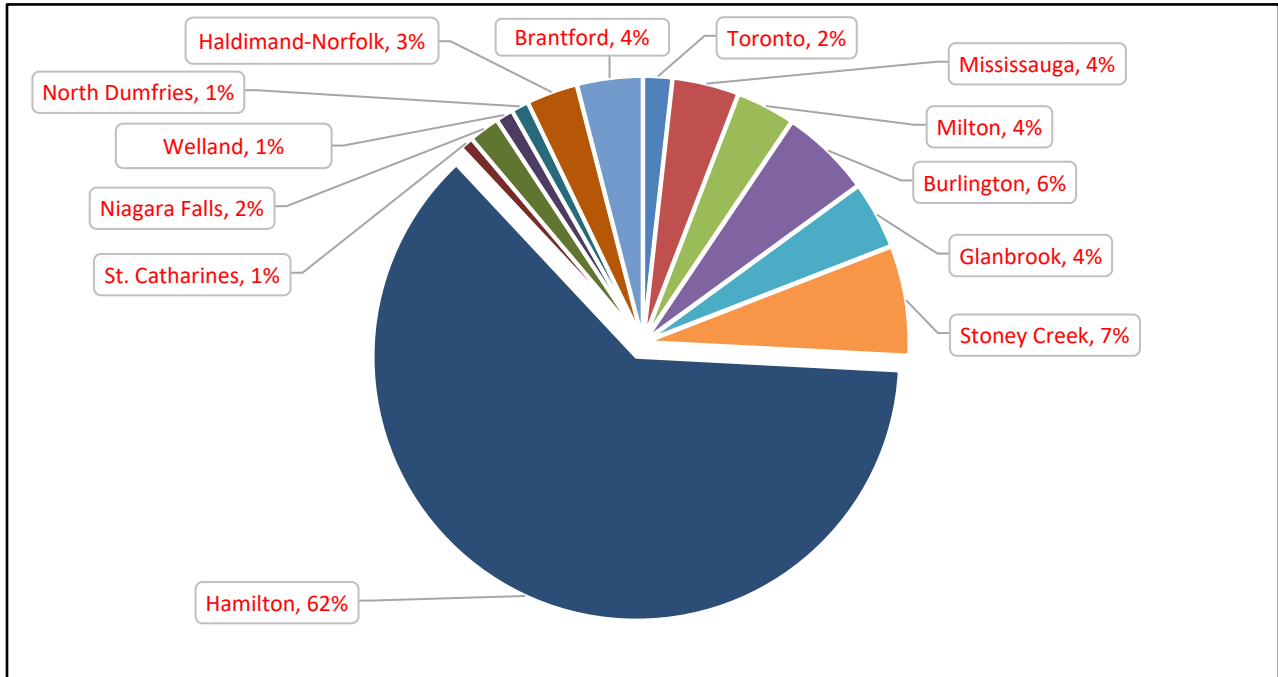


Figure 17 – Site Trip Distribution for Auto Trips



Source: Google Map

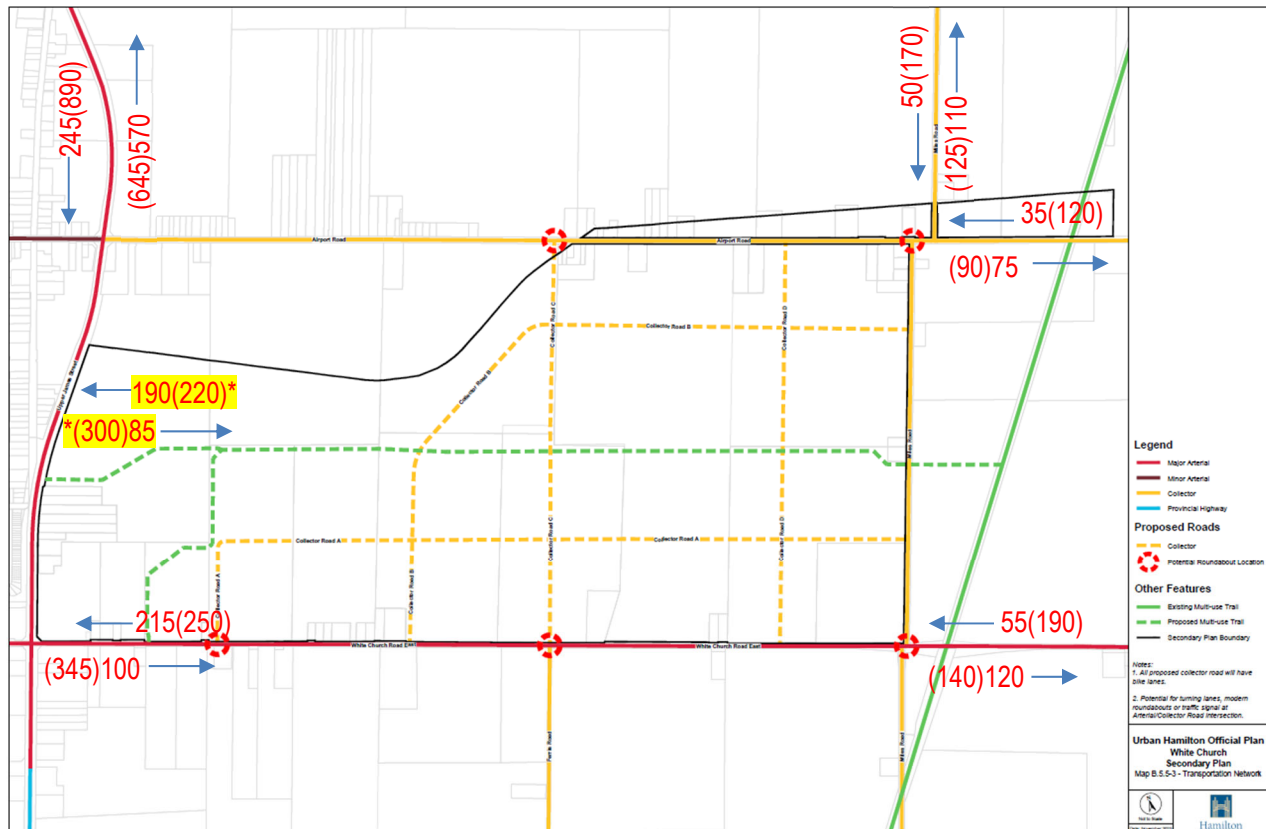
5.3. White Church Secondary Plan Traffic Assignment

Using the proposed White Church Secondary Plan Transportation Schedule as a base, **Figure 18** illustrates the proposed White Church Secondary Plan traffic assignment based on the internal and external trip distributions assessed in the previous sections. It should be noted that the auto site trip distribution and assignment have been taken into consideration the TTS information, existing intersection operations and logical routes, where appropriate.

It should be noted that, for the purposes of this high-level assessment, the following assumptions are made:

- Only 85% of the residential and commercial trips will be distributed to the external road network;
- The remaining 15% of the external trips are assumed to be destined to the AEGD area, which will mostly use Airport Road; and
- It is assumed that the majority, if not all, of the school trips are internal to the Secondary Plan, which will be analyzed once the proposed Block Plan is developed.

Figure 18 – White Church Secondary Plan Traffic Assignment



*Note: Local trips between White Church Secondary Plan and AEGD

6.0 RECOMMENDED TRANSPORTATION NETWORK

6.1. Road Network

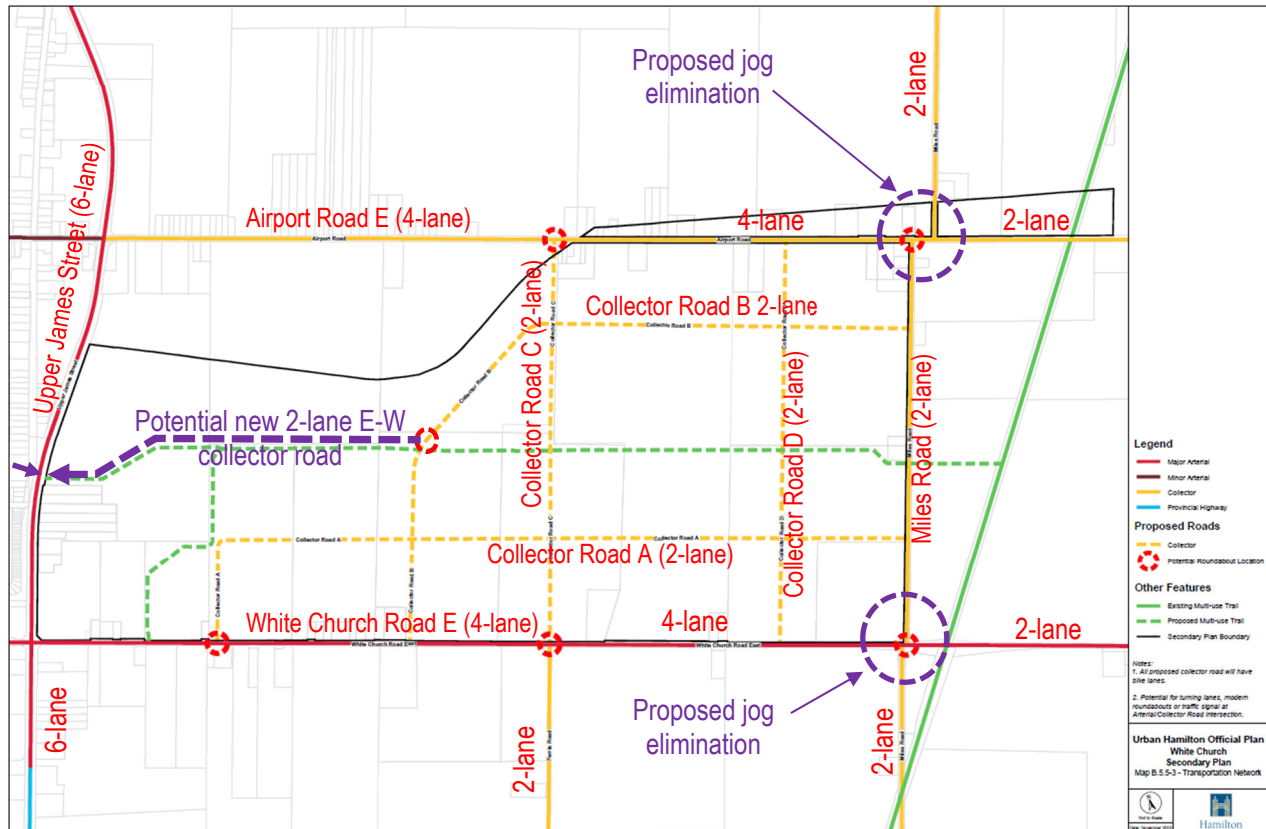
Based on the high-level assessment noted above, the following recommendations are provided to accommodate the proposed White Church Secondary Plan Area:

- Airport Road E – 4-lane cross-sections east of Upper James Street;
- White Church Road E – 4-lane cross-section east of Upper James Street;

- Jog elimination at the Airport Road E/Miles Road intersection;
- Jog elimination at the White Church Road E/Miles Road intersection;
- Upper James Street – 6-lane cross-section north of Hwy 6; and
- Consideration for a potential new east-west connection from Upper James Street to the first north-south to east-west internal road

Figure 19 illustrates the proposed potential road network improvements for the proposed White Church Road Secondary Plan Area.

Figure 19 – Proposed Potential Road Network Improvements



6.1.1. Right-of-Way Requirements

The followings are the right-of-way requirements for the proposed White Church Secondary Plan:

- As per the City of Hamilton Council Approved Urban Official Plan Schedule C-2, the future right-of-way (ROW) requirement for Upper James Street is 45.720 metres. Based on the existing condition review, the existing ROW along Upper James Street in this area varies between 36 and 41 metres. Therefore, additional 4.720 to 9.720 metres will be conveyed to the City. These requirements will be addressed through legal survey plan and to be submitted at a later date.
- As per the Urban Hamilton Official Plan, all minor arterial roadways ROW requirements are 36.576 metres. The existing ROW on White Church Road long the frontage of the Secondary Plan area varies between 15 and 30 metres. Therefore, additional 3.25 to 10.75 metres will be conveyed to the City.
- Airport Road is classified as a collector road between Upper James Street and Miles Road. It is expected that the existing Minor Arterial designation of Airport Road at Upper James Street will be extended easterly to Miles

Road prior to development of the Secondary Plan area. The existing ROW on Airport Road at the subject property varies between approximately 19.8 metres and 23.7 metres. Therefore, additional 6.4 to 8.4 metres will be conveyed to the City.

- Miles Road is classified as a collector road between Airport Road and White Church Road. It is expected that the road will be reclassified as a Minor Arterial road prior to development of the Secondary Plan area. The existing ROW on Miles Road is approximately 20.5 metres. Therefore, additional 8.04 metres will be conveyed to the City.
- All internal collector roads within the White Church Secondary Plan will have a ROW requirement of 30.0 metres.

6.1.2. Complete Street Cross-Section

The followings are the complete street conceptual cross-section design for the proposed White Church Secondary Plan Area. This is a conceptual design and subject to change based on the Secondary Plan needs. This information is for reference only.

(Source: <https://www.hamilton.ca/sites/default/files/2022-10/aegd-tmp-updated-conceptual-cross-section-Oct2022.pdf>)

Figure 20 – Two Lane Collector Road Conceptual Cross-Section Design

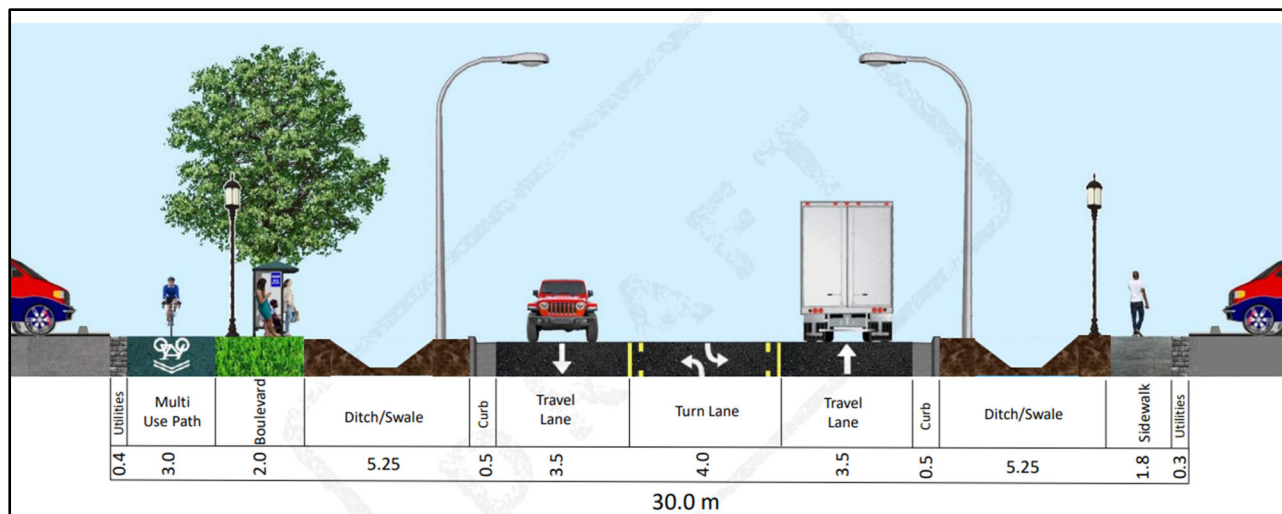


Figure 21 – Four Lane Collector Road Conceptual Cross-Section Design

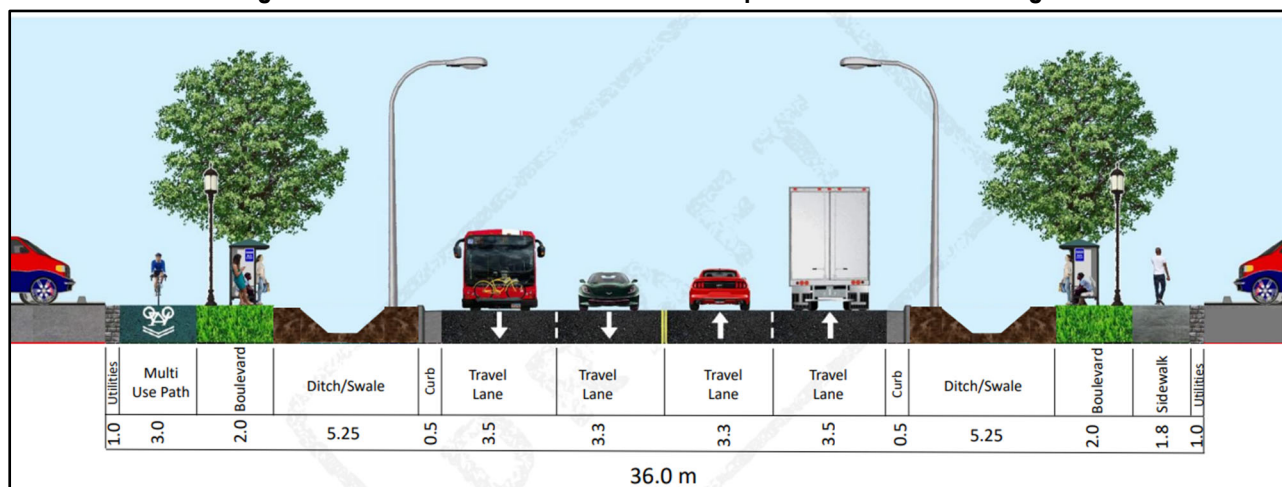


Figure 22 – Two Lane Arterial Road Conceptual Cross-Section Design

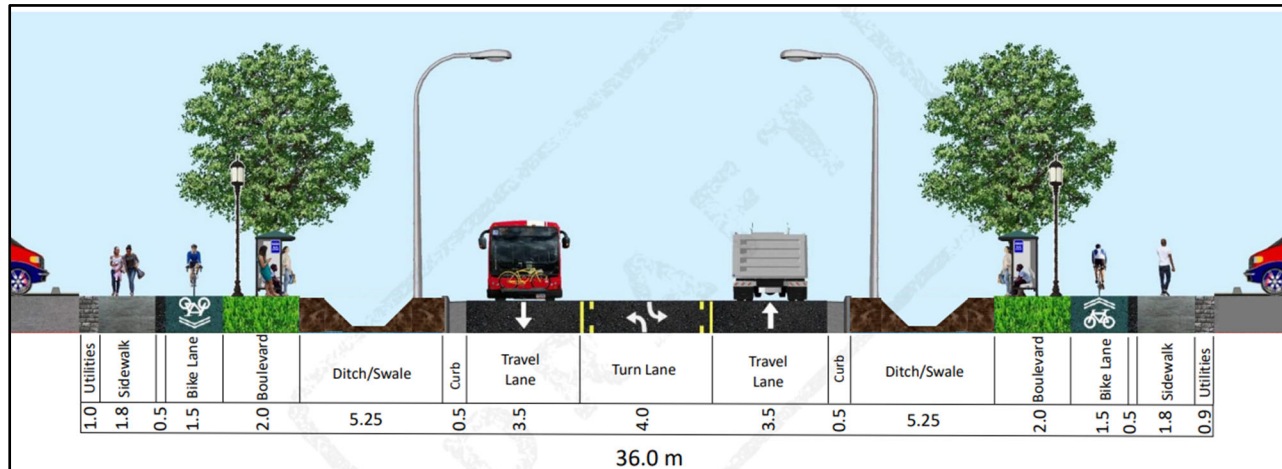


Figure 23 – Four Lane Arterial Road Conceptual Cross-Section Design

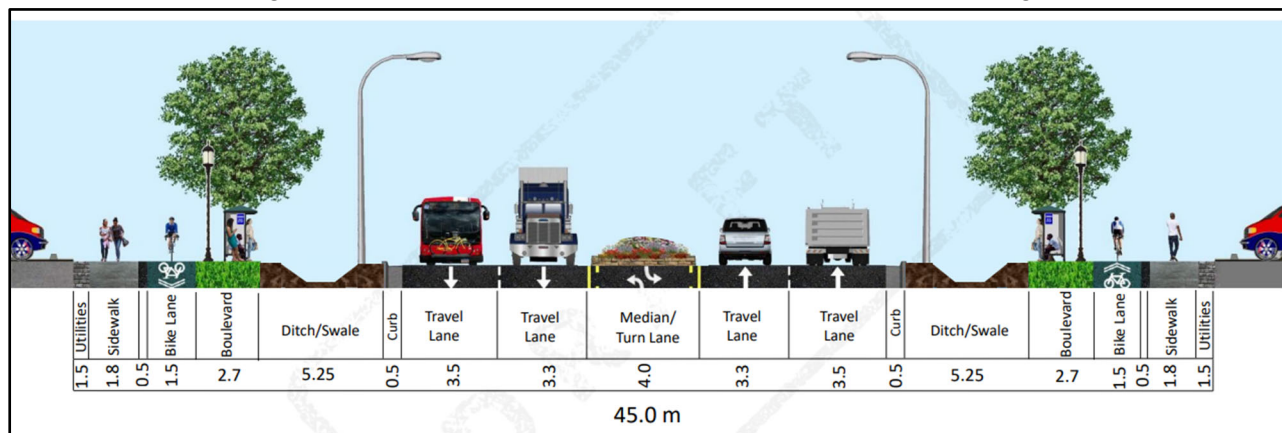
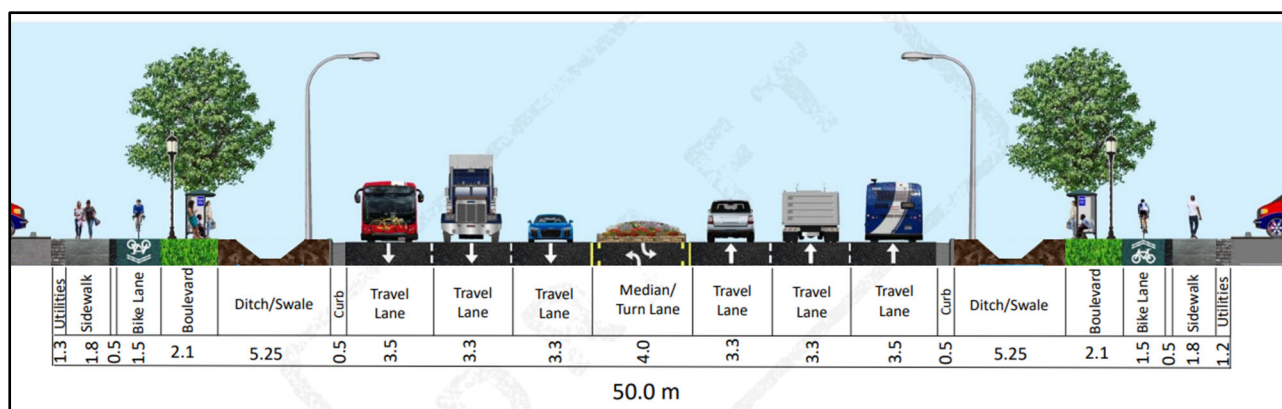


Figure 24 – Six Lane Arterial Road Conceptual Cross-Section Design



6.1.3. Safety and Daylight Triangles

As per the Urban Hamilton Official Plan Chapter C, the following daylight triangle size will be required for the following intersections:

1. White Church Road and Upper James Street: 12.19 m x 12.19 m
2. Airport Road and Upper James Street: 12.19 m x 12.19 m
3. White Church Road and Miles Road: 12.19 m x 12.19 m
4. Airport Road and Miles Road: 12.19 m x 12.19 m

As per the Urban Hamilton Official Plan Chapter C, the following daylight triangle size will be required for the following intersections that intersect with the proposed White Church Secondary Plan area external roadway network:

1. Local Road to Local Road: 4.57 m x 4.57 m
2. Collector Road to Collector Road: 9.14 m x 9.14 m
3. Collector Road to Local Road: 9.14 m x 9.14 m
4. Arterial Road to Arterial Road: 12.19 m x 12.19 m
5. Arterial Road to Collector Road: 12.19 m x 12.19 m
6. Arterial Road to Local Road: 12.19 m x 12.19 m

6.1.4. Traffic Calming

6.1.5. Background Documents and Policies on Traffic Calming in Hamilton

6.1.5.1 City of Hamilton Vision Zero

It is Nexttrans' understanding that on August 15, 2014, City Council approved report PW14090 to re-establish the Hamilton Strategic Road Safety Program. The Hamilton Strategic Road Safety Committee was formed to provide guidance, oversight, and direction to the Hamilton Strategic Road Safety Program. The Committee is formed of members from Roads and Traffic, Hamilton Public Health Services, and the Ministry of Transportation Road Safety Marketing Division. A road safety program to address transportation related injuries and fatalities, requires a multifaceted program that is coordinated with various stakeholders. The action items that are identified in this report, were developed through review of best practices, public survey, and public/stakeholder engagement. There are five main sections aligned with this Vision Zero Action Plan, Evaluation, Engineering, Enforcement, Education and Engagement (5 E's).

Source: Hamilton Strategic Road Safety Program and Vision Zero Action Plan 2019 – 2025 (PW19015) (City Wide)

6.1.5.2 City of Hamilton 2019 Traffic Calming Program Update

Based on Nexttrans' review of the May 30, 2019 Traffic Calming Program Update (TOM1903) (City Wide) Staff Report, currently there are a total of 169 speed humps/speed cushions installed throughout the City of Hamilton (91 permanent installations and 78 temporary installations).

There is a total of 9 speed humps/speed cushions installed (1 permanent and 8 temporary) in Ward 4. However, there are none installed in the study area bounded by Parkdale Avenue/Queenston Road/Red Hill Valley Parkway and Roxborough Avenue.

6.1.5.3 City of Hamilton Speed Hump Policy (2000)

In May 2000, Council adopted a recommendation to support the general concept of the use of speed humps and speed tables to control speeds on two-lane residential streets with a posted speed of 50 km/h or less and a demonstrated speeding concern. In addition, 75% neighbourhood resident support is required for implementation. Speed humps were not recommended for routes that comprise primary emergency response or HSR routes.

6.1.6. Existing Area Context

Under the existing conditions, most of the streets included in the study area still have a rural or semi-rural cross-sections with ditches and gravel shoulders.

6.1.7. Future Traffic Calming Measure Consideration

As indicated in the assessment noted above, speeding through the neighbourhood is one of the major factors that contributed to collisions with pedestrians, cyclists and motor vehicles. There are several traffic calming measures that can be implemented to reduce speed through the neighbourhood. However, the traffic calming measures are context sensitive, which means one solution will not fit all scenarios. **Table 3** below summarizes the potential traffic calming measures, as well as the pros and cons for each measure.

These measures will be considered in the subdivision and site plan design in the future for both internal and external roadways and intersections.

Table 3 – Traffic Calming Measure Comparison

Traffic Calming Measures	Pros	Cons
Speed hump	<ul style="list-style-type: none"> • Effective in slowing down traffic • Reasonable cost • Quick installation • Minimal modifications to existing road way 	<ul style="list-style-type: none"> • Will slow down emergency vehicles and servicing vehicles
Speed cushion	<ul style="list-style-type: none"> • Effective in slowing down traffic • Reasonable cost • Quick installation • Minimal modifications to existing road way • It is a modified speed hump that can better accommodate emergency vehicle (i.e. it doesn't span the entire length of the lane) 	<ul style="list-style-type: none"> • Will slow down emergency vehicles and servicing vehicles
Bump-out	<ul style="list-style-type: none"> • Effective in slowing down traffic 	<ul style="list-style-type: none"> • Will slow down emergency vehicles and servicing vehicles • Difficult for winter maintenance and snow removal/storage • Challenges for cyclists • Modifications to existing roadway will be required (i.e. drainage)
Median island and knockdown stick	<ul style="list-style-type: none"> • Effective in slowing down traffic 	<ul style="list-style-type: none"> • Will slow down emergency vehicles and servicing vehicles • Difficult for winter maintenance and snow removal/storage • Require pavement • May require additional lands • Modifications to existing roadway will be required (i.e. drainage)
Chicane	<ul style="list-style-type: none"> • Effective in slowing down traffic 	<ul style="list-style-type: none"> • Will slow down emergency vehicles and servicing vehicles • Difficult for winter maintenance and snow removal/storage • Challenges for cyclists
Curb extension	<ul style="list-style-type: none"> • Effective in slowing down traffic 	<ul style="list-style-type: none"> • Will slow down emergency vehicles and servicing vehicles • Challenges for cyclists
Traffic circle/mini roundabout	<ul style="list-style-type: none"> • Effective in slowing down traffic 	<ul style="list-style-type: none"> • Requires additional lands • Will slow down emergency vehicles and servicing vehicles • Difficult for winter maintenance and snow removal if traffic circle is too small

6.1.8. Intersection Treatments and Controls

All internal and external roadway intersections should be designed to accommodate all modes of transportation, with the following requirements, but not limited to:

- Design to AODA requirements;
- Implement intersection treatments as per the City of Hamilton relevant standards, Ontario Traffic Manual Books 15 and 18 such as bike lane and cycle track cross-ride treatment, as well as ladder crossing at both signalized and unsignalized intersections;
- Minimize pedestrian and cyclist crossing distance by providing minimum lane width and turning lanes, where appropriate;
- Accommodate transit vehicle turnings and treatments such as mountable curb and painted color pavement markings;
- Provide appropriate bus shelter and stop locations so that they don't interfere with cycling and sidewalk facilities; and
- Provide sufficient illumination at the intersections and midblock areas where there are potential conflicts between vehicle and pedestrians/cyclists

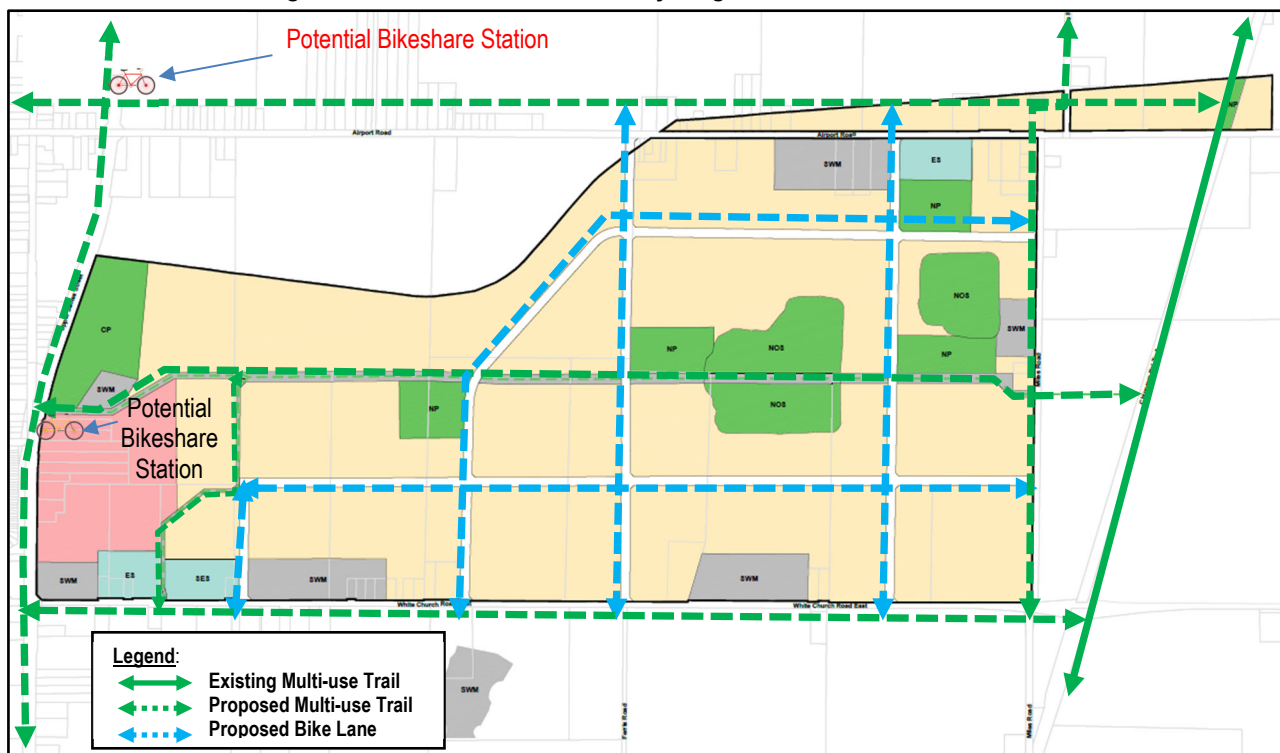
6.2. Active Transportation Network

Within the proposed White Church Secondary Plan and the general area, there are several key origin and destination areas:

- Origin – from the proposed White Church Secondary Plan residential developments and existing residential development areas in Mount Hope Community;
- Destination – proposed schools, commercial district, parks and Chippewa Rail Trail; and
- Other destinations – Hamilton International Airport and AEGD areas and other areas of the City of Hamilton

Figure 25 illustrates the main pedestrian and cycling connections from origins to destinations.

Figure 25 – Main Pedestrian and Cycling Connections and Network



6.3. Transit Network

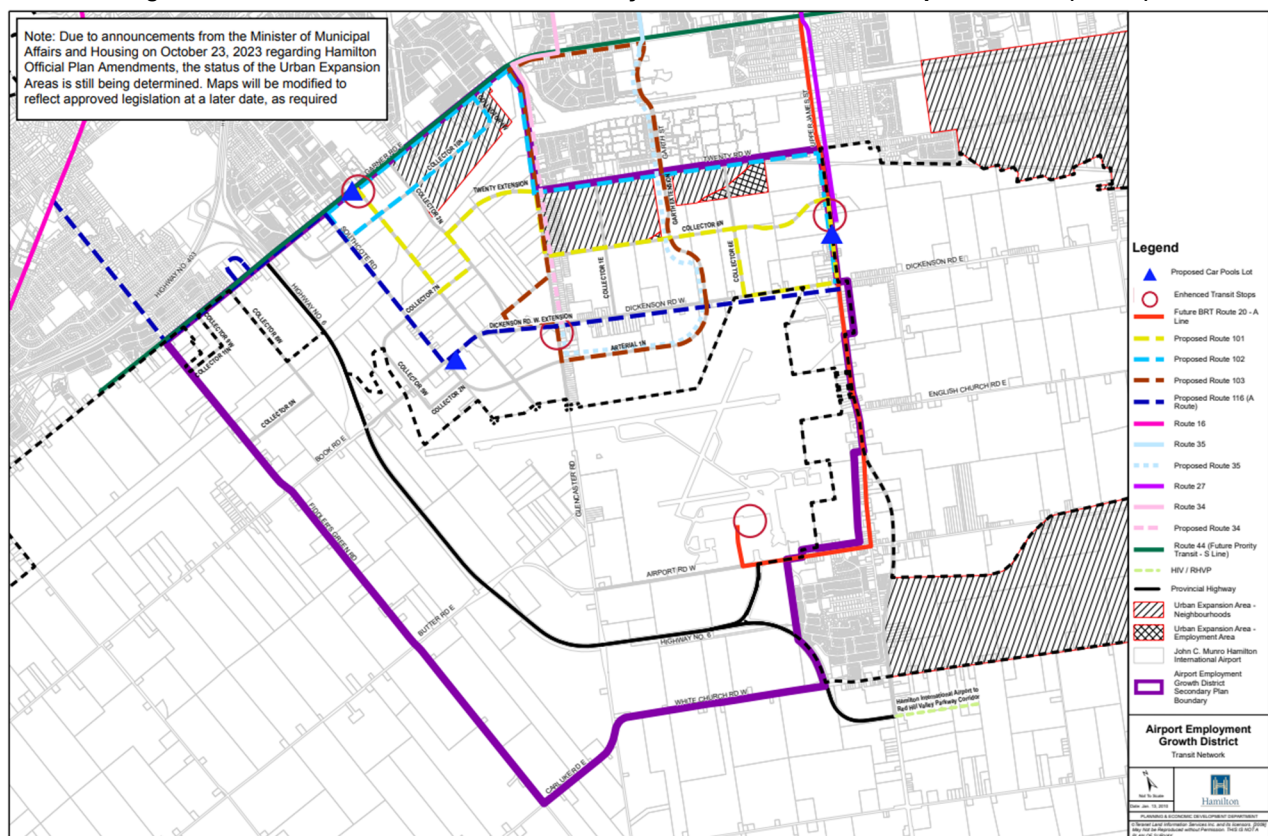
The analysis below will review and provide potential recommendations for both external and internal transit network to accommodate the proposed White Church Road Secondary Plan Area.

6.3.1. Hamilton Transit

As indicated Section 4.5 of this Study, there are several transit network improvement projects identified in the area as part of the Airport Employment Growth District (AEGD) and the City of Hamilton Transportation Master Plan Update (2018).

From the external connectivity perspective, no further improvements beyond the proposed network illustrated in **Figure 26** are required.

Figure 26 – Future External to the Secondary Plan Transit Network Improvements (AEGD)



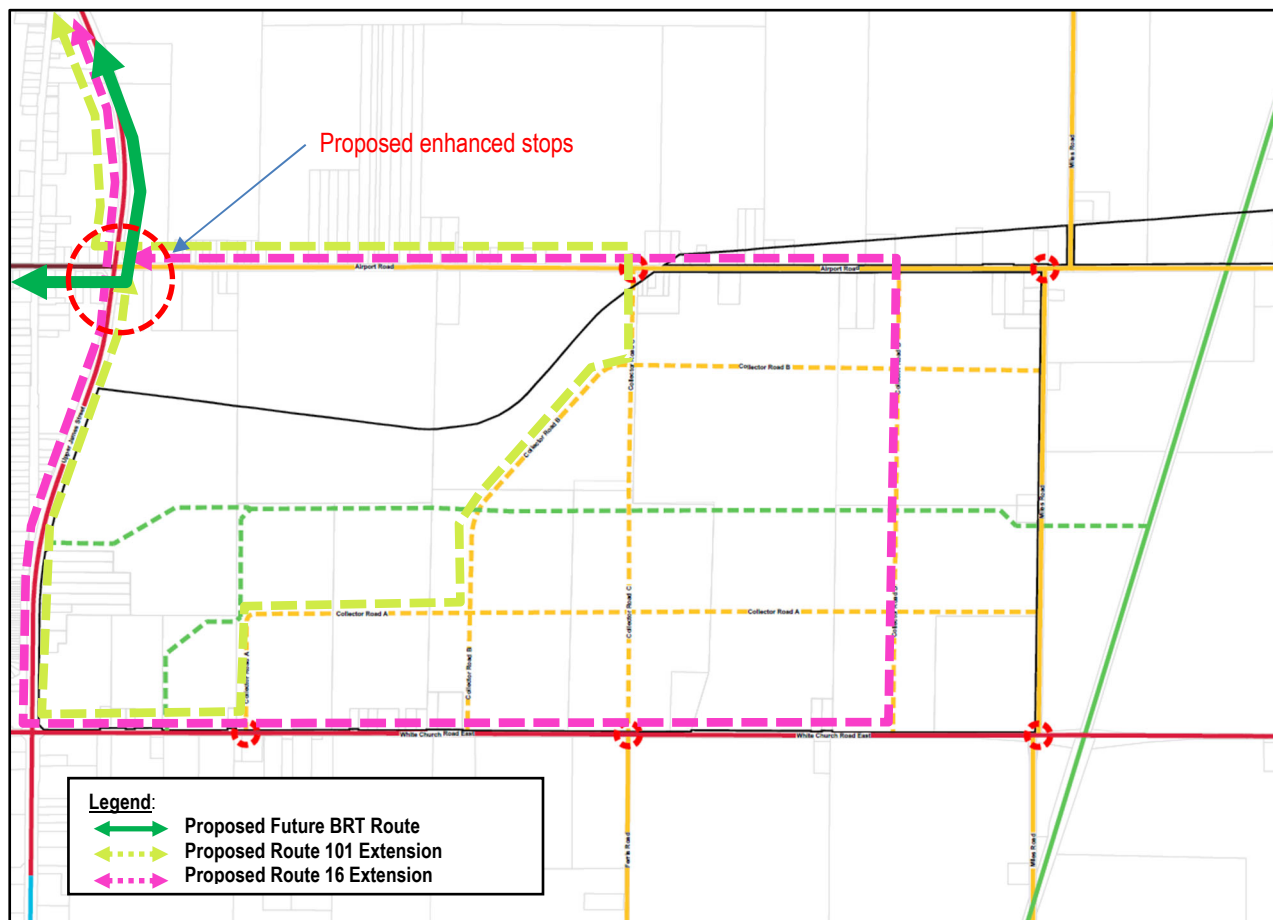
Source: Airport Employment Growth District – Transit Network

6.3.2. White Church Secondary Plan Transit Network

In order to serve and connect the proposed White Church Secondary Plan Area to AEGD and to the rest of the City of Hamilton, the following internal transit network and route extensions are recommended:

- Extend proposed Route 101 to serve the proposed White Church Secondary Plan Area as illustrated in **Figure 27** below;
- Extend Route 16 to serve the proposed White Church Secondary Plan Area as illustrated in **Figure 27** below; and
- Potential enhanced bus stop at the intersection of Airport Road E/Upper James Street

Figure 27 – Proposed Future Internal Transit Network in the White Church Secondary Plan Area



6.3.3. Future Shuttle Transit Service

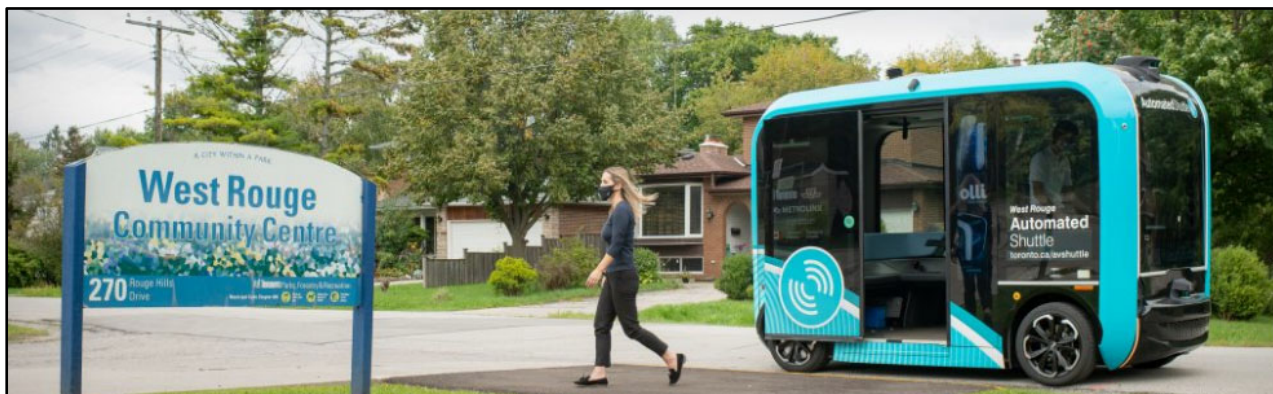
With the future transportation technology such as autonomous vehicle capability, this could be a potential shuttle service to be provided in the area, as part of AEGD or the proposed White Church Secondary Plan Area.

Based on the information from the City of Toronto website (<https://www.toronto.ca/services-payments/streets-parking-transportation/transportation-projects/automated-vehicles/automated-vehicles-pilot-projects/>), the City of Toronto, TTC and Metrolinx are launching a trial of an automated vehicle shuttle service in the West Rouge neighbourhood of Scarborough. The trial is funded by Transport Canada’s Program to Advance Connectivity and Automation in the Transportation System Opens in new window (ACATS). The pilot program is running from the summer of 2021 to end of February 2022. The purpose of the pilot program is to test the ability of automated vehicle technology to address existing needs in public transit, such as filling the lower-demand “last mile” gaps from neighbourhoods to major destinations and transit stations. The University of Toronto and Ryerson University are involved in monitoring and evaluating the shuttle service.

Although, this is not required for the proposed White Church Secondary Plan Area, however, there will be many short trips internal to the White Church Secondary Plan to the Hamilton International Airport and AEGD area, this type of technology will be a great travel options for residents, employees or students that are not able to walk far distance or cannot use bicycles for various reasons. Given the cold weather during the winter time in Ontario, this is also an option to consider that will take residents further away from the proposed transit hub, retail/commercial or employments areas in the AEGD and Hamilton International Airport. The technology and vehicle costs will continue to improve and become more affordable in the future to implement in the White Church Secondary Plan by the City or Province.

Figure 28 illustrates the potential type of shuttle service vehicle can be used in this area in the future.

Figure 28 – City of Toronto Automated Shuttle Pilot Program



Source: <https://www.toronto.ca/services-payments/streets-parking-transportation/transportation-projects/automated-vehicles/automated-vehicles-pilot-projects/automated-shuttle-trial/book-a-shuttle-trip/>

6.3.4. Transit Oriented Development Design

Transit Oriented Development (TOD) is generally defined as compact, mixed-use development near transit facilities with high-quality walking environments. In a transit-oriented development community, there is an increased emphasis on providing access to transit through mixed-use areas with higher density, degree of activity and amenities. TOD encourages transit supportive land use with the intent to provide more balanced transportation choices so that travel by transit or active transportation such as walking and cycling is encouraged instead of driving a private vehicle.

It is recommended that the proposed developments within the proposed White Church Secondary Plan Area follows the recommendations and objectives outlined in the Transit Oriented Development Guidelines for Hamilton (Volume 2 – Council Adopted August 2010).

7.0 PARKING

7.1. City Wide Vehicle Parking Rate

The proposed White Church Secondary Plan area will be subject to the City-wide Zoning By-law No. 05-200 Section 5.6 vehicle parking requirements. However, the parking requirements for the proposed White Church Secondary Plan should take into consideration of the following provisions, to support alternative modes of transportation and transportation demand management measures.

7.1.1. Appropriate Parking Management is the best TDM Measure

Appropriate parking demand management is the best transportation demand management measure at this time because:

- Limited available parking spaces will encourage residents not to own a car
- It encourages residents to take other sustainable modes of transportation available in the area such as walking, cycling and public transit
- It maximizes transit ridership and therefore maximizes the impact of major transit infrastructure improvements

7.1.2. Support Alternative Modes of Transportation

Public Transit is an important mode of transportation for both short and longer distance trips to and from the proposed development. Based on the overall transportation network identified in the area, it is evident that the transportation network will be significantly transformed in the future with the following improvements:

- Future Bus Rapid Transit (BRT) Route 20 – A Line along Upper James Street from Downtown Hamilton to Hamilton Airport;
- Future Regional Express Bus connecting the Hamilton Airport to other parts of the City and surrounding regions;
- Proposed Route 101
- Proposed Route 102
- Proposed Route 103
- Proposed Route 116 (A Route)
- Proposed Route 35
- Proposed Route 34; and
- Future Hamilton International Airport to Red Hill Valley Parkway Corridor future transit route

With the recent gas price increases and capital cost of owning a vehicle (new vehicle shortage due to supply chain problem), more residents will choose to use more convenient and effective mode of transportation such as public transit, walking and cycling.

Therefore, it is recommended that lower parking rates should be considered for the proposed White Church Secondary Plan Area. Specific rates will be site and land use specific.

7.2. City Wide Zoning By-law Bicycle Parking Rates

For bicycle parking rate requirements, the proposed White Church Secondary Plan area will be subject to the City-wide Zoning By-law No. 05-200 bicycle parking requirements. It is recommended that all site-specific developments meet or exceed the Zoning By-law minimum vehicle parking requirements to support active modes of transportation and transportation demand management plan.

8.0 TRANSPORTATION DEMAND MANAGEMENT

8.1. City of Hamilton's TDM for Development (June, 2015)

The City of Hamilton's TDM for Development Report (June, 2015) has been reviewed and consulted to prepare the TDM requirement for the proposed development. In order to address the City's requirements, the following TDM recommendations are provided to support the proposed development.

Transportation Demand Management (TDM) is a coordinated series of actions aimed at maximizing the people moving capability of the transportation system. According to the City's TDM Report, the main objectives of TDM are:

- Shifting travel modes (e.g. walking, cycling, taking transit or carpooling instead of driving alone);
- Reducing the number of trips people must make (e.g. destinations and activities such as work and shopping, near each other); and,
- Travelling more efficiently (e.g. making trips outside of peak hours).

Potential TDM measures may include but not limited to: TDM supportive land use, bicycle and pedestrian programs and facilities, public transit improvements, preferential treatments for buses and high occupancy vehicles (if applicable), ridesharing, and employee incentives.

8.1.1. Increase Density and Compact Site Design

It is recommended that the proposed developments within the proposed White Church Secondary Plan Area follows the recommendations and objectives outlined in the Transit Oriented Development Guidelines for Hamilton (Volume 2 – Council Adopted August 2010).

8.1.2. Site Design Elements

Although, the proposed White Church Secondary Plan Area will be subject to the urban design guideline recommendations as provided by the City of Hamilton, the proposed developments within the proposed White Church Secondary Plan Area include the following design elements, where appropriate:

- The proposed development will provide a comprehensive network of internal sidewalk and connections to all internal and external collector roads;
- For the mid-rise to high-rise components, provide bicycle parking spaces for both residents and visitors at convenient locations as per the City's requirements;
- Minimize vehicle parking supply, where appropriate; and
- Only provide private accesses directly to internal local and collector roads

8.1.3. Sidewalks and Pathways

The proposed developments within the proposed White Church Secondary Plan Area include sidewalks and walkways on all local roads and private condominium road, where appropriate.

8.1.4. Bicycle Parking (Long-term and Short-term)

Please refer to Section 7 above.

8.1.5. Direct Connections to Transit

Direct connections to transit stops are recommended for the proposed developments located adjacent to the proposed bus routes, as identified in Figure 27

8.1.6. Opportunities for Reduced Parking Requirements

Please refer to Section 7 above.

8.1.7. Unbundle Parking

As parking is the best TDM incentive for resident to take alternative mode of transportation, it is recommended that the proposed mid-rise and high-rise developments within the proposed White Church Secondary Plan area unbundle the parking sale from the unit sale, where appropriate.

8.1.8. On-Site Carshare Vehicle(s) and Parking Spot(s)

Depending on the proposed development height and density, these requirements will be determined at a later time as it is premature under the Secondary Plan stage. These measures are recommended, if appropriate and economically viable.

8.1.9. Bikeshare

Two potential bikeshare locations are identified in Figure 25 above.

8.1.10. Wayfinding Signage

Wayfinding signage for multi-use trail such as the Chippewa Rail Trail should be identified throughout the proposed White Church Secondary Plan Area.

8.1.11. Travel Planning Tools and Support for Development of a School Travel Plan

It is recommended that the proposed developments within the proposed White Church Secondary Plan Area contact and coordinate with the Hamilton-Wentworth District School Board for any potential school travel plan in the area once the proposed elementary and high schools are constructed within the Secondary Plan Area.

8.1.12. Opportunities for Transit Passes, Carshare Memberships, or Bikeshare Memberships

These incentives will be reviewed at the subsequent stage of the Secondary Plan Area or Block Plan.

8.1.13. Proposed Monitoring Evaluation of TDM Measures

Based on our previous experience, monitoring and evaluation of TDM measure are important but very onerous for the Applicant. When project is completed and the Applicant transfers the ownership to Condominium Board, the Board will have the full control of the proposed development and there are certain conditions and requirements the Condominium Board may not agree with. Therefore, monitoring for the proposed developments that are located within the proposed White Church Secondary Plan Area is not required.

8.2. Recommended TDM Measures and Incentives for the Proposed Development

Based on the review of the context of the proposed White Church Secondary Plan Area in relation to the TDM requirements by the City of Hamilton, a number of TDM measures and incentives are identified for the proposed Secondary Plan to consider. **Table 4** summarizes the recommended TDM measures and incentives to be considered.

Table 4 – Recommended TDM Measures for the Proposed White Church Secondary Plan Area

Category	TDM Initiative	Recommended Actions	Responsibility
Cycling	<ul style="list-style-type: none"> Visible, well-lit, short-term bicycle parking for visitors (above minimum provisions or recommendations) Secure, indoor bicycle parking storage spaces for tenants/residents Ensure development connects to bicycle network 	<ul style="list-style-type: none"> Applicable to the mid-rise and high-rise developments 	Applicant
Walking	<ul style="list-style-type: none"> Safe, attractive and direct walkways for pedestrians linking building entrances with public sidewalks and with key destinations such as schools Enhanced pedestrian amenities on-site (benches, landscaping, lighting) 	<ul style="list-style-type: none"> Applicable to all development applications in the proposed Secondary Plan Area 	Applicant
Transit	<ul style="list-style-type: none"> Enhance walking routes between main building entrance(s) and transit stops/stations Bicycle parking located at or near transit stops Implement transit priority measures (queue jump lanes, traffic signal priority, bus only lanes) 	<ul style="list-style-type: none"> Applicable to all development applications in the proposed Secondary Plan Area 	Applicant
Parking	<ul style="list-style-type: none"> Reduced minimum parking requirements based on proximity to transit Shared parking with nearby developments or on-street spaces Unbundle parking costs from unit costs 	<ul style="list-style-type: none"> Applicable to all mid-rise and high-rise development applications in the proposed Secondary Plan Area 	Applicant
Information Brochure/ Letter	<ul style="list-style-type: none"> Provide an information brochure/letter for each residential unit that include HSR Transit System schedules, GO Transit schedules, cycling maps and community maps. 	<ul style="list-style-type: none"> Provide a brochure (or a letter) to new residents that include all website links to Hamilton Transit System schedules, community maps and cycling maps. The information package can be distributed at the sale office. 	Applicant
Transit Incentive	<ul style="list-style-type: none"> Provide transit incentives 	<ul style="list-style-type: none"> To be determined at the late stage 	Applicant

9.0 IMPLEMENTATION PLAN

9.1. Development Phasing

As part of the proposed White Church Secondary Plan, a development phasing plan or development areas should be developed to guide the infrastructure improvements to accommodate each phase or development area. Given that the development phasing plan or development area is dependent on servicing allocations and infrastructures, among other requirements such as grading and drainage, this will be developed as part of the consultation process with the City, land developers and approval agencies.

9.2. Infrastructure Phasing

Once the development phasing plan or development area plan has been developed, an infrastructure phasing plan will be developed to efficiently and sufficient accommodating the proposed developments within the proposed White Church Secondary Plan Area.

Several action items can be considered advancing prior the approval of the Secondary Plan, such as:

- Develop terms of reference for Class Environmental Assessment Studies for Airport Road E, White Church Road E, Miles Road and Upper James Street;
- Develop terms of reference for Class Environmental Assessment Studies for all internal collector roads, where required by the Municipal Class Environmental Assessment Act;
- A development of the Block Plan within the proposed Secondary Plan Area; and
- Completion of the Secondary Plan Transportation Master Plan for the proposed White Church Secondary Plan Area