

TIMBER RIDGE (SETTLEMENT AREA BOUNDARY EXPANSION), LUCAN /

TRANSPORTATION ASSESSMENT

1.0 INTRODUCTION

1.1 Purpose of Report:

Siv-ik Planning & Design Inc. has prepared this Transportation Assessment on behalf of 2219260 Ontario Inc. (o/a Gilrad Developments) in support of an application to amend the Township of Lucan-Biddulph Official Plan to expand the Village of Lucan Settlement Area Boundary. The subject lands comprise approximately 45.47 hectares and are located immediately east of the existing and draft-approved Timber Ridge Subdivision, east of Saintsbury Line. The proposed Official Plan Amendment would incorporate the lands into the Village of Lucan Settlement Area and re-designate them from “Agricultural” to “Residential” to accommodate future residential growth.

The purpose of this assessment is to evaluate, at a settlement planning level, the transportation opportunities, constraints and infrastructure considerations associated with the proposed Settlement Area Boundary Expansion (“SABE”). In particular, the assessment considers whether the subject lands can be logically integrated with the existing and planned transportation network and whether any transportation-related constraint has been identified that would render the lands unsuitable for inclusion within the settlement area. This assessment specifically considers the relevant requirements/policies outlined in Section 2.3.5 and 2.3.6 of the County of Middlesex Official Plan in relation to transportation infrastructure considerations relevant to Settlement Boundary Expansions.

The proposed Official Plan Amendment establishes a future land use planning framework but does not establish a final subdivision design or zoning permissions. It is also recognized that the specific timing of development is unknown and is anticipated to occur in phases over the long-term planning horizon. As such, the assessment has specifically been scoped to reflect the Transportation considerations directly relevant to the proposed Official Plan Amendment. A Preliminary/Illustrative Concept Plan has been prepared by Siv-ik Planning & Design Inc. (Appendix A) to demonstrate one potential development pattern and to establish that a functional and connected transportation network can reasonably be accommodated. Detailed matters including final road alignments, intersection configuration/controls, traffic generation, intersection operations and any site-specific or specific off-site road improvements will be established through subsequent Zoning, Draft Plan of Subdivision and engineering approvals.

This approach is consistent with the distinction between settlement-level planning and detailed development approvals. The Township’s previous Municipal Comprehensive Review (2021) similarly evaluated transportation by considering the existing road network, crossings, access to Provincial and County roads, connectivity to community destinations and potential road infrastructure requirements. The assessment does not include a technical evaluation of these infrastructure systems to identify specific future needs, but rather the overall potential to support growth.

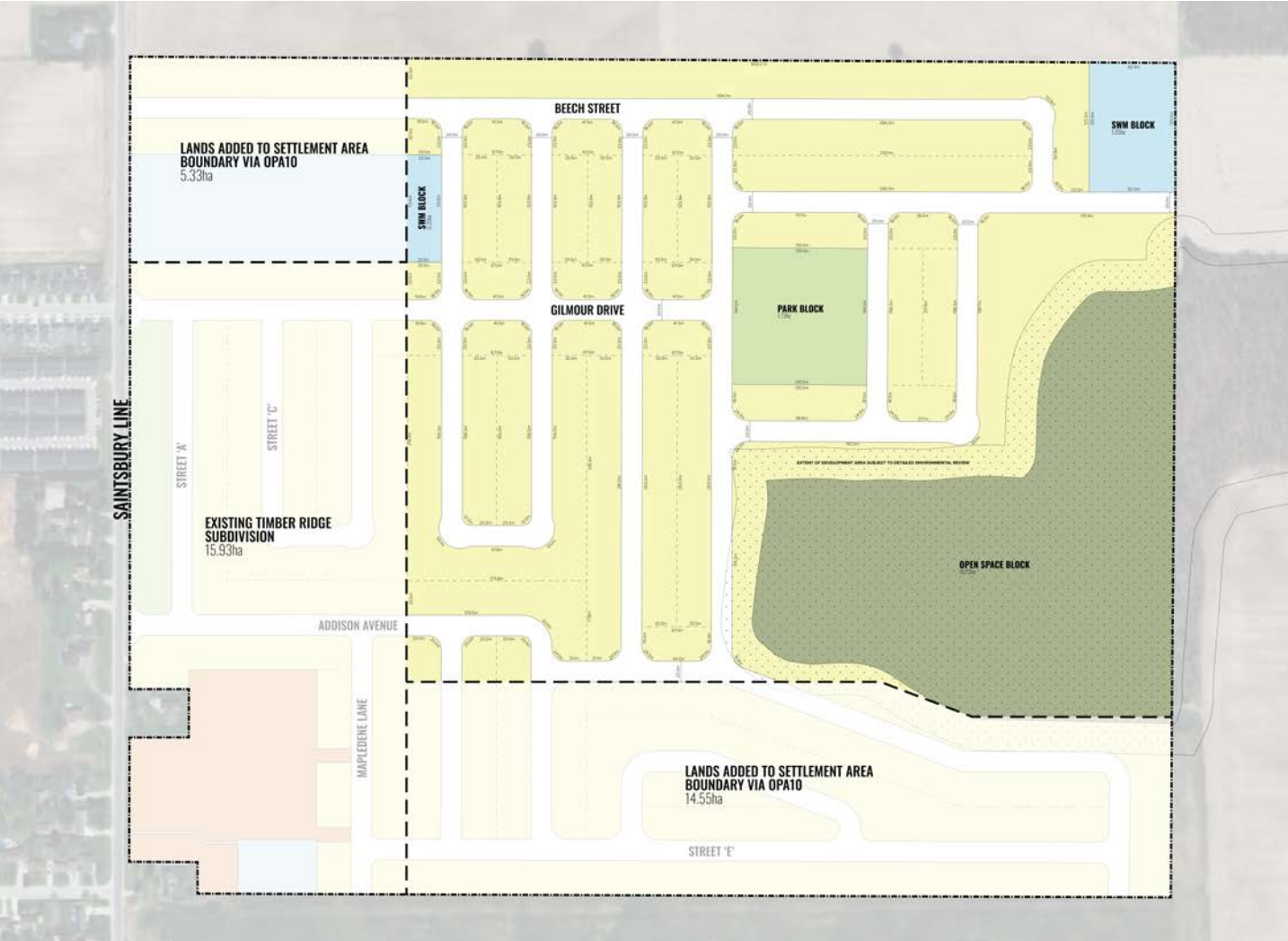
1.2 Background:

The subject lands form part of a larger comprehensively planned future growth area on the east side of Saintsbury Line in northeast Lucan. The existing Lucan Settlement Area already includes Timber Ridge Phases 1 and 2, lands north of Phase 2 and approximately 14.55 hectares east of Phase 1 that were incorporated into the settlement area through Official Plan Amendment No. 10. The current application addresses the remaining approximately 45.47 hectares, including approximately 34.75 hectares of developable land.

The Preliminary Concept Plan identifies approximately 22.71 hectares of low-density residential land, 1.73 hectares of parkland, 10.72 hectares of open space, 1.40 hectares of stormwater management lands and approximately 8.91 hectares of road rights-of-way.

For infrastructure planning purposes, the conceptual plan assumes approximately 454 residential units (20 units per hectare) within the net developable residential portion of the expansion lands. These figures are conceptual and will ultimately be refined through future development applications.

Figure 1: Conceptual/Illustrative Development Plan



Use	Hectares	%	Projected Density (UPH)	Dwelling Units
Residential	22.71	49.95%	20.0	454
Park(s)	1.73	3.80%	-	-
Natural Open Space	10.72	23.58%	-	-
SWM	1.40	3.08%	-	-
Roads	8.91	19.60%	-	-
TOTALS	45.47	100.00%	-	454

2.0 POLICY AND ASSESSMENT CONTEXT

2.1 Provincial Planning Statement, 2024:

The Provincial Planning Statement, 2024 (“PPS”) came into effect on October 20, 2024 and provides the current provincial policy framework applicable to the proposed SABE. Section 2.3.2.1 requires planning authorities, when considering a settlement area boundary expansion, to consider whether sufficient capacity exists in existing or planned infrastructure and public service facilities and whether the expanded settlement area provides for the phased progression of urban development. The PPS further directs settlement area land use patterns to efficiently use land and resources, optimize existing and planned infrastructure and public service facilities, and support active transportation.

From a transportation perspective, these policies support directing new urban growth toward locations that can be efficiently integrated with existing and planned transportation infrastructure rather than creating isolated or disconnected development areas.

The subject lands satisfy this objective. They immediately adjoin an existing/actively developing residential neighbourhood and are positioned to extend roads that have already been constructed or planned with future continuation in mind.

2.2 Middlesex County Official Plan:

The current Middlesex County Official Plan, incorporating Official Plan Amendment No. 4 as approved by the Province on June 5, 2026, establishes the upper-tier growth management and infrastructure framework applicable to the proposal. The County Official Plan requires consideration of transportation as part of evaluating settlement expansion. In particular, the Settlement Capability Study requirements include an assessment of transportation services and needs.

At the settlement planning stage, these requirements necessitate consideration of whether an appropriate transportation framework exists to support the proposed expansion and whether any transportation infrastructure or connectivity constraints have been identified that would preclude future urban development. Detailed operational requirements can then be progressively evaluated through subsequent development approvals (i.e., Zoning By-law Amendment, Draft Plan of Subdivision, Conditions & Engineering Approvals, etc.) as the ultimate development pattern, density, access and phasing are established.

2.3 Township SABE Framework:

The Township of Lucan-Biddulph and Middlesex County have established a specific Framework for Processing and Evaluating Settlement Area Boundary Expansion Proposals. The Framework identifies a Transportation Assessment among the materials generally required in support of a SABE, with reference to Sections 2.3.5 and 2.3.6 of the County Official Plan.

Accordingly, this Transportation Assessment addresses the underlying transportation planning matters relevant to that decision: the suitability of the surrounding road network, opportunities for connectivity, integration with existing and planned development, access to higher-order roads and community destinations, and identification of potential constraints or future infrastructure requirements. This level of assessment is also generally consistent with the transportation opportunities and constraints analysis historically relied upon by the Township in evaluating potential settlement expansion areas.

2.4 Assessment of Potential Future Settlement Lands (2019):

The Township’s 2019 Assessment of Potential Future Settlement Lands, prepared by B.M. Ross and Associates Limited, provides particularly relevant background.

That study evaluated potential settlement expansion areas surrounding Lucan and specifically considered transportation infrastructure as part of its constraints and opportunities analysis. The transportation assessment considered the existing road network, water crossings, access to Provincial and County roads, connectivity to the downtown and major community facilities, and planned municipal road projects.

Importantly, the study identified lands east of Saintsbury Line and northeast of Gilmour Drive as among the areas most capable of accommodating future residential growth. Its conclusions characterized the exercise as an “initial, high-level analysis” and identified the northeast and east areas as having relatively few constraints, including good access to higher-order roads and opportunities for active transportation.

The subject lands are located within this previously identified preferred growth area.

3.0 EXISTING TRANSPORTATION CONTEXT

3.1 Lucan Road Network:

The overall Village of Lucan is served by a hierarchy of Provincial, County and local roads.

As identified on Schedule ‘A’ – Land Use and Transportation Plan – of the Lucan-Biddulph Official Plan, Highway 4/Richmond Street functions as the principal transportation route through the community (facilitating connection to the City of London to the South), while Saintsbury Line and William Street serve as collector roads, facilitating connections to Highway 4. Collector Roads are designed to carry moderate volumes of traffic between arterial roads and local roads, while local roads are intended to function as distributors of traffic to the collector roads (LB OP, 2.1.9). Local roads within the settlement area are generally constructed to an urban standard, while roads outside the settlement area are generally constructed to a rural standard.

The location of the subject lands provides convenient access to this broader network. Saintsbury Line provides the principal north-south connection along the western edge of the Timber Ridge subdivision area, with connections southward toward Highway 4 and northward toward Fallon Drive/County Road 47.

The Township’s 2025 Asset Management Plan reports that approximately 91.2% of the municipal road network is in Fair or Better condition. The road network is also assessed as predominantly Low risk, with approximately 85% of road assets classified as Low risk, 14% as Moderate risk, and no road assets identified as High risk.

3.2 Saintsbury Line:

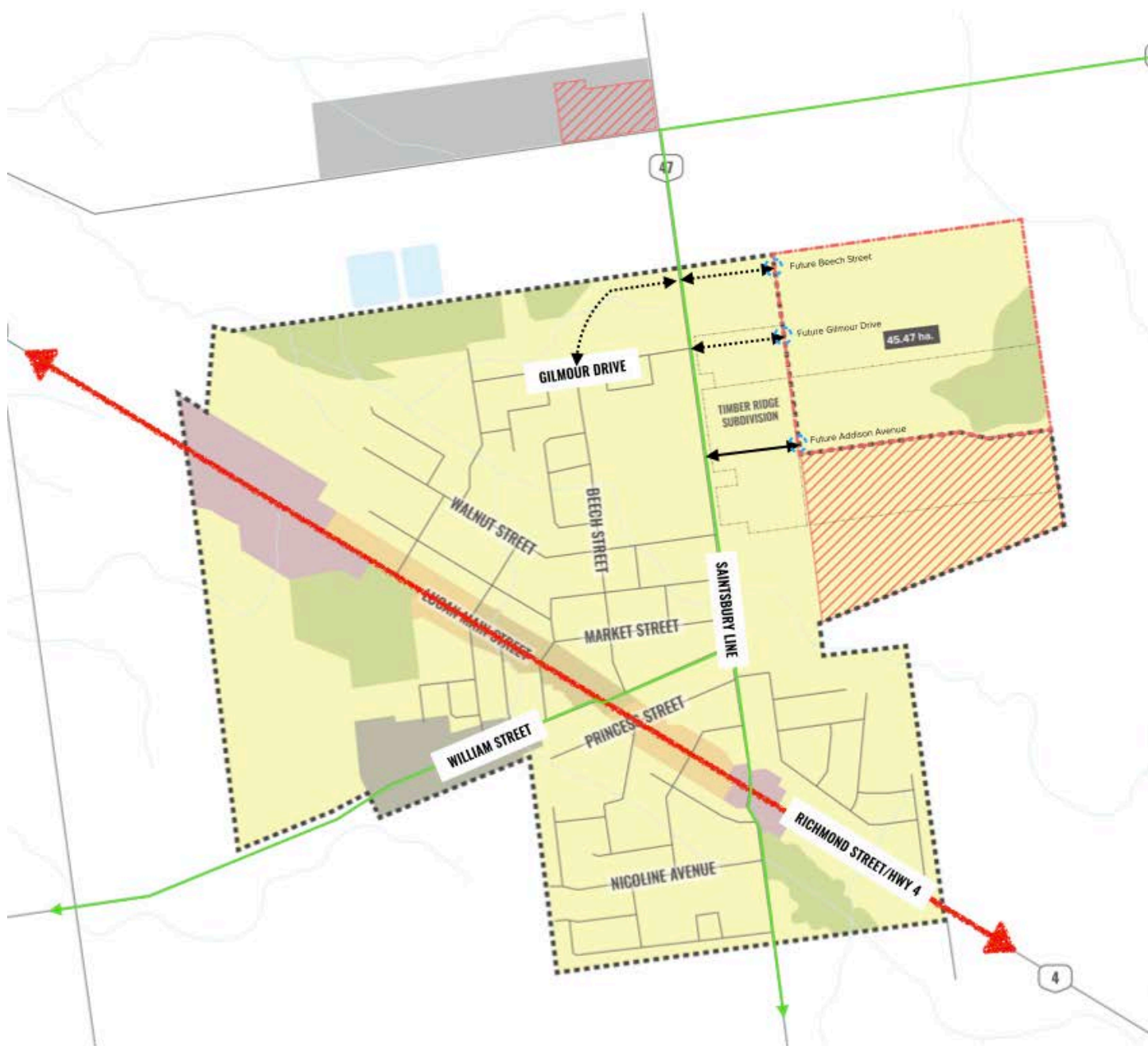
Saintsbury Line forms the principal north-south transportation spine serving the eastern portion of Lucan and the existing and planned Timber Ridge and Ridge Crossing North development areas.

The corridor provides connections between the local residential street network, Highway 4/Richmond Street to the south and Fallon Drive/County Road 47 to the north. Saintsbury Line therefore provides an important higher-order connection between the proposed expansion area and the broader Local and County transportation networks.

The future urbanization of Saintsbury Line has already been considered through previous transportation planning and engineering undertaken in support of residential growth in northeast Lucan. This work has considered the function and design of Saintsbury Line in the context of planned development on both sides of the corridor, including the Timber Ridge and Ridge Crossing North development areas.

Previous corridor planning has established a preliminary urban cross-section for Saintsbury Line based on the existing approximately 30-metre road right-of-way. It is understood that the corridor can accommodate a three-lane urban cross-section, including through lanes, a centre turning lane, pedestrian and active transportation facilities, and intersection-specific turning improvements. Future intersections associated with Timber Ridge were expressly considered as part of this work.

Figure 2: Existing & Planned Transportation Network



LEGEND

- Arterial/Provincial Hwy
- Collector Road (County)
- Local Roads
- ↔ New Existing Local Road
- ⋯→ Planned Local Road
- ∘ Connection Point to Existing/Planned Local Road Network

3.3 Existing and Planned Timber Ridge Network:

The most significant transportation characteristic of the subject lands is their direct relationship with the existing and planned Timber Ridge street network. The proposed expansion area is situated immediately east of existing and planned dead-end roads that were intentionally configured to facilitate future extension. Addison Avenue has already been constructed within Timber Ridge Phase 1 and provides access to Saintsbury Line. Gilmour Drive is planned to extend eastward through Timber Ridge Phase 2. It is anticipated that Gilmour Drive will be completed prior to development of the proposed expansion lands.

The adjacent local road network has therefore already been planned on the expectation that development may ultimately continue eastward. This is a significant transportation advantage of the proposed expansion location. Rather than requiring the creation of an independent road system or relying upon a single new access to an existing rural road, future development can function as a continuation of an established urban street network.

This planning has subsequently advanced into detailed engineering associated with the development of Timber Ridge. Construction-level drawings prepared for Timber Ridge Phase 1 include reconstruction and new construction works along Saintsbury Line, including improvements associated with intersections serving the subdivision. Accordingly, the proposed Settlement Area Boundary Expansion is not dependent upon establishing an entirely new transportation corridor or introducing urban development onto a road for which future urbanization has not been contemplated. Rather, the expansion would continue an established growth pattern along a corridor that has already been subject to progressive urbanization in association with residential development in northeast Lucan.

4.0 PROPOSED TRANSPORTATION NETWORK

4.1 Conceptual Road Structure:

The Preliminary/Illustrative Concept Plan demonstrates how the subject lands could be developed through a connected network of local streets integrated with Timber Ridge and the adjoining lands added to the Village of Lucan Settlement Area through Township OPA 10.

The concept provides for the continuation of the existing/planned street network through connections involving Addison Avenue, Gilmour Drive, Beech Street and Street 'E'. The plan establishes a modified grid structure with multiple north-south and east-west routes, providing alternative paths through the neighbourhood, avoiding reliance on a single point of access and providing a high-degree of connectivity across future neighbourhoods, including the future Ridge Crossing North Subdivision.

The proposed network is conceptual. Final road hierarchy, rights-of-way, alignments, traffic/intersection control and design standards will be established through future Zoning By-law Amendment, Draft Plan of Subdivision and detailed engineering processes.

4.2 Connections to Existing and Planned Development:

Addison Avenue, already constructed within Phase 1, can be extended eastward into the expansion lands. Gilmour Drive is planned to extend east of Saintsbury Line through Phase 2 and can similarly continue into the expansion area. A further connection is available through Street 'E' and the approximately 14.55-hectare parcel previously incorporated into the settlement area through OPA No. 10 to the south, which is also owned by Gilrad Developments.

Preliminary planning also identifies an additional potential connection to Saintsbury Line north of Gilmour Drive (i.e., Beech Street), positioned to establish a future four-way intersection with the Ridge Crossing North lands on the west side of Saintsbury Line. These lands are already within the settlement area and are also owned by Gilrad Developments.

Collectively, these connections provide substantial flexibility in establishing the future road network, avoid reliance on a single access point, and provide multiple opportunities to distribute future traffic across the existing and planned transportation network.

4.3 Network Connectivity and Distribution:

A principal advantage of the proposed expansion is the ability to distribute future traffic across several routes. Traffic generated by future development would have opportunities to travel west through the existing and planned Timber Ridge network toward Saintsbury Line rather than being concentrated at a single intersection. From Saintsbury Line, traffic can travel south toward Highway 4/Richmond Street or north toward Fallon Drive/County Road 47.

This network structure also provides internal redundancy. Multiple connections are beneficial from the perspective of emergency access, municipal operations and day-to-day circulation because individual streets are not required to accommodate the entirety of neighbourhood traffic. The proposed network therefore represents a logical extension of the existing urban transportation system in the Village of Lucan, facilitating the creation of a well-connected new neighbourhood rather than the creation of an isolated development enclave.

5.0 TRANSPORTATION OPPORTUNITIES AND CONSTRAINTS

5.1 Consistency with Previous Municipal Growth Planning:

The transportation suitability of this portion of Lucan has previously been considered by the Township. To support the Township's last Municipal Comprehensive Review, B.M. Ross was retained to conduct complete opportunities and constraints analysis for future growth directions. The study specifically concluded that lands east of Saintsbury Line have opportunities to integrate with the existing road network and benefit from relatively convenient access to County Road 47 and Highway 4. The study further observed that this area was not expected to require major complex/expensive watercourse crossings.

This contrasts with several alternative growth areas considered in 2019. For example, lands west of Lucan Woods were identified as having no ability to connect efficiently with the existing village road network. Other western areas were constrained by the Little Ausable River and would require major crossings, while lands north of Fallon Drive were considered too isolated from the Village to allow for an efficient transportation network. The subject lands avoid these constraints.

5.2 Access to the Broader Road Network:

The proposed expansion is well positioned relative to the existing road hierarchy. Saintsbury Line provides access to both Highway 4 and County Road 47, allowing future traffic to disperse to the broader transportation network without requiring all trips to travel through the historic downtown. The conceptual plan envisions multiple direct tie-ins to existing/planned local roads that connect to Saintsbury Line.

At the same time, the interconnected local road network provides access back into the existing settlement area and to community destinations. The 2019 municipal assessment reached a similar conclusion, identifying the northeast and east sides of Lucan as having good access to arterial roads.

5.3 Transportation Framework and Future Operational Assessment

No information has been identified at the settlement-planning level that suggests an inherent transportation constraint or would render future urbanization of the subject lands infeasible. Rather, the available information demonstrates that a feasible transportation framework exists to accommodate continued growth in this area.

The subject lands are contiguous with the existing and planned Timber Ridge road network and can be integrated through multiple existing and planned street extensions. Saintsbury Line provides a principal connection to the broader transportation network and has already been subject to transportation planning and engineering in support of continued residential development in northeast Lucan. Previous corridor planning has demonstrated the ability to accommodate an urban road cross-section, intersection improvements and active transportation facilities within the existing right-of-way.

The Township's current asset management planning also anticipates continued development and the corresponding assumption of new road and other municipal infrastructure installed through the development process. Accordingly, the

potential need for future transportation improvements is not, in itself, indicative of a constraint to settlement expansion. Rather, such improvements are a normal component of accommodating urban growth and can be identified, designed, timed and secured through subsequent development approvals once the ultimate development pattern is established.

Approval of the SABLE does not authorize development or immediately generate additional traffic. Traffic will be introduced incrementally as subsequent development applications are approved, serviced and constructed. The ultimate number and type of residential units, road alignments, phasing, access locations and development timing have not yet been established. Detailed operational analysis undertaken at this stage would therefore necessarily rely upon assumptions regarding a subdivision design that has not been approved and remains expressly subject to refinement.

Detailed transportation analysis should instead be undertaken through subsequent development approvals when sufficient information is available to meaningfully evaluate:

- ▶ projected trip generation and distribution;
- ▶ intersection operations;
- ▶ turning movements and lane requirements;
- ▶ appropriate intersection controls;
- ▶ pedestrian and cycling facilities;
- ▶ sight distance and geometric requirements;
- ▶ road cross-sections;
- ▶ any required improvements to Saintsbury Line or other external roads; and
- ▶ the appropriate timing and phasing of transportation improvements.

The appropriate question at the SABLE stage is therefore whether the subject lands can be integrated into a feasible transportation framework capable of supporting future urban development, rather than the precise operational requirements associated with a development pattern that has yet to be established. Based on the existing and planned road network, multiple opportunities for connectivity, previous transportation planning and engineering for northeast Lucan, and the progressive urbanization of Saintsbury Line, the available information demonstrates that such a framework exists.

5.4 Active Transportation:

The proposed expansion provides an opportunity to continue and extend the active transportation network planned for northeast Lucan. Previous transportation planning for Saintsbury Line contemplates pedestrian and active transportation facilities as an integral component of the future urban corridor, including a sidewalk along the west side of Saintsbury Line and a multi-use pathway along the east side. The planned network is intended to provide connectivity between residential development areas, Wilberforce Elementary School and the broader pedestrian and trail network.

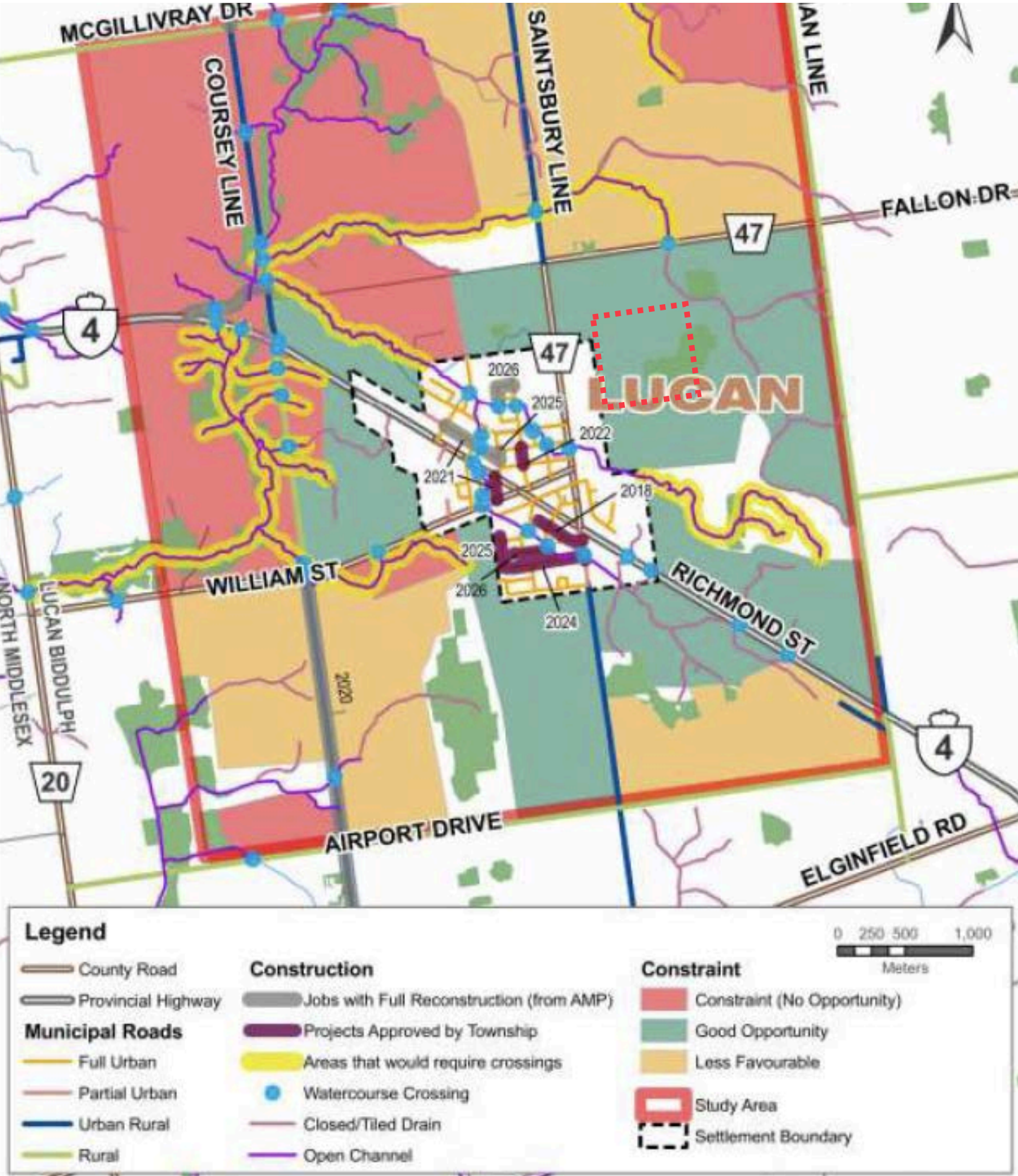
The connected street structure illustrated by the Preliminary Concept Plan provides an appropriate framework to extend these facilities into the proposed expansion lands. Future subdivision design can establish sidewalks, pathways and other active transportation connections that integrate with facilities planned along Saintsbury Line and within the surrounding development areas. Specific facility locations and design standards will appropriately be established through future Draft Plan of Subdivision and detailed engineering processes in consultation with the Township and County.

5.5 Emergency and Municipal Access:

The interconnected street network also provides an appropriate basis for emergency and municipal service access. The Community Services and Facilities Assessment prepared by Urban Metrics Inc. notes that the expansion is contiguous with the existing Lucan Settlement Area and would extend the existing road network, with emergency response times expected to remain acceptable.

Multiple connections into the surrounding road network provide opportunities for alternative emergency access routes and avoid creating a large residential area dependent upon a single point of entry.

Figure 3: Transportation Opportunities & Constraints (Source: BM Ross 2019)



Final emergency access requirements will be confirmed through the Draft Plan of Subdivision process in consultation with the Township and emergency service providers.

5.6 Future Infrastructure Requirements:

The potential need for future intersection, road or active transportation improvements does not represent a constraint to settlement expansion. Such improvements are a normal component of accommodating urban growth and can be identified, designed, timed and secured through subsequent development approvals once the ultimate development pattern and associated transportation demand are known.

6.0 ASSESSMENT

The transportation analysis supports the proposed Settlement Area Boundary Expansion. From a settlement planning perspective, the subject lands are well positioned to integrate with the existing and planned transportation network serving northeast Lucan and represent a logical continuation of the established urban growth pattern.

The lands are contiguous with the existing settlement area and directly adjoin the existing and draft-approved Timber Ridge Subdivision. The surrounding street network has already been planned to facilitate continued eastward development. Addison Avenue has been constructed to the boundary of the future development area, while Gilmour Drive is planned to extend eastward through Timber Ridge Phase 2. Additional connectivity can be provided through the lands previously incorporated into the settlement area through OPA No. 10, as well as through the potential continuation of Beech Street to Saintsbury Line, where it would align with the planned road network within Ridge Crossing North on the west side of the corridor.

These connections provide substantial flexibility in establishing the ultimate road network. The Preliminary Concept Plan demonstrates that the subject lands can accommodate a connected, grid-like street pattern with multiple east-west and north-south connections, providing route choice, opportunities to distribute future traffic across the surrounding network and avoiding reliance upon a single access point.

Saintsbury Line provides the principal connection between the northeast Lucan growth area and the broader Township and County transportation networks, including connections toward Highway 4/Richmond Street to the south and Fallon Drive/County Road 47 to the north. The importance of the corridor is recognized through the Township's 2025 Asset Management Plan, which identifies Saintsbury Line as a High-importance road within the municipal road network. Gilmour Drive is similarly identified as a High-importance road.

Importantly, the ability of Saintsbury Line to progressively transition toward an urban function has already been considered through previous transportation planning and engineering undertaken in support of residential growth in northeast Lucan. This work has contemplated development on both sides of Saintsbury Line and established a feasible urban corridor configuration within the existing approximately 30-metre right-of-way, including vehicular lanes, turning facilities and pedestrian and active transportation infrastructure. Subsequent detailed engineering associated with Timber Ridge has further advanced the progressive urbanization of portions of the corridor. The proposed expansion therefore does not depend upon establishing an entirely new transportation corridor or upon an assumption that an existing rural road could eventually be adapted to accommodate urban growth.

The proposed location also avoids several transportation constraints associated with alternative expansion areas considered through the Township's previous growth planning work, including major watercourse crossings, limited opportunities for connection to the existing street network and geographic isolation from the existing community. These findings remain consistent with the Township's previous assessment undertaken in support of its Municipal Comprehensive Review, which identified the northeast and east sides of Lucan as appearing to have the fewest overall constraints to future development and identified access to higher-order roads and opportunities for active transportation as advantages.

No transportation infrastructure or connectivity constraint has been identified that would warrant excluding the subject lands from the Lucan Settlement Area. Rather, the available information demonstrates that a feasible transportation framework exists to support future urban development and that the proposed expansion can be integrated as a logical extension of the existing and planned northeast Lucan transportation network.

Detailed operational effects can appropriately be evaluated through subsequent development approvals once sufficient information is available regarding the ultimate development density, unit count, street configuration, access arrangements and phasing. Any transportation improvements identified through that process can then be designed, timed and secured through Draft Plan conditions, subdivision agreements and detailed engineering approvals.

7.0 CONCLUSIONS

Based on the foregoing assessment, the proposed Timber Ridge Settlement Area Boundary Expansion can be appropriately accommodated within the existing and planned transportation framework serving the Village of Lucan. Specifically, the subject lands:

- ▶ are contiguous with the existing and planned urban road network;
- ▶ can be accessed through multiple existing and planned street extensions;
- ▶ can accommodate a connected internal street network;
- ▶ have convenient access to Saintsbury Line and, through it, Highway 4 and County Road 47;
- ▶ provide opportunities for pedestrian and active transportation connectivity;
- ▶ do not require major watercourse crossings or other extraordinary transportation infrastructure to establish connectivity; and,
- ▶ are located within an area previously identified by the Township's transportation and growth planning work as having comparatively few constraints to future development.

Accordingly, there is no identified transportation infrastructure or connectivity constraint that would preclude the subject lands from being incorporated into the Village of Lucan Settlement Area.

From a transportation planning perspective, the proposed expansion represents a logical and orderly extension of the existing community and provides an appropriate framework for the phased development of a connected urban street network. Detailed traffic operations, intersection requirements, road improvements and active transportation facilities can be appropriately established through subsequent development approvals as the ultimate development pattern and phasing are determined.

Appendices:

Appendix A - Conceptual Development Plan

APPENDIX A / **PRELIMINARY CONCEPTUAL PLAN**

PRELIMINARY CONCEPT PLAN

PROJECT SITE
Timber Ridge Expansion, Lucan ON



Land Use Breakdown		
USE	Ha.	%
Low Density Residential	22.71	49.95
Park	1.73	3.80
Open Space	10.72	23.58
Stormwater Management	1.40	3.08
Right of Way	8.91	19.59
TOTAL	45.47	100

N

Client:

Gilrad Developments

Date:

07.06.2026

Drawn By:

C. Taylor

Plan Scale:

nts

File No:

Timber Ridge Expansion

Version:

5.0

[siv-ik]

PLANNING
/ DESIGN

Contact Us

www.siv-ik.ca
info@siv-ik.ca
519.694.6924

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