



## **Administrative Report**

### **Office of the Director, Infrastructure & Planning Services**

**To:** Warden MacDonald and Members of Essex County Council

**From:** Allan Botham, P.Eng.  
Director, Infrastructure & Planning Services

**Date:** Wednesday, October 18, 2023

**Subject:** 2004 Expansion Program Update

**Report #:** 2023-1018-IPS-R34-AB

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#### **Purpose**

The purpose of this report is to provide County Council with an update of the 2004 Plan, that initiated the Expansion Reserve, and provide County Council with some context to make informed decisions in setting a revised Expansion Plan for the next 20-25 years.

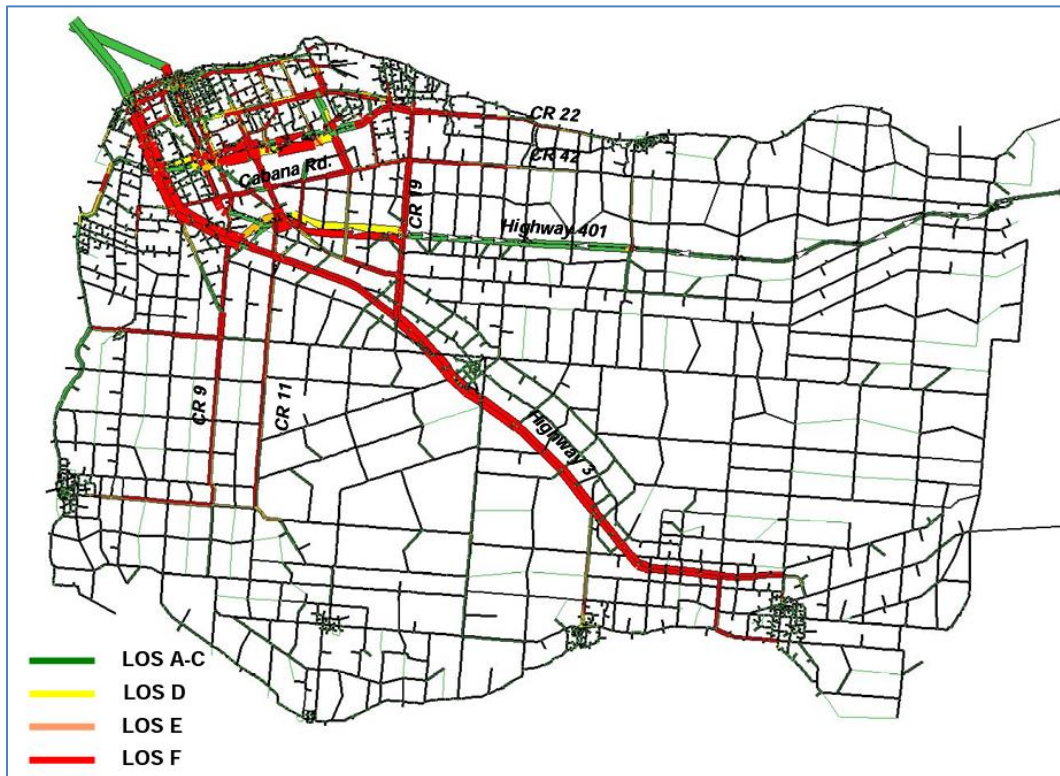
#### **Background**

In 2004, the County of Essex established a Roadway Expansion reserve (2004 Plan). At the time, County Council recognized that the cost of necessary, expansionary road projects was beyond the regularly levied rehabilitation program. Therefore, a basic financial model to build the Roadway Expansion reserve was created and projected out 20 years. Within the initial 20-year forecast, the model was intended to slowly build funding into the tax base so that significant and inevitable projects get done without erratic changes to the levy. In other words, a rate stabilizing effect. The reserve balance would grow and get used to regulate the financial impact on taxpayers as the projects got completed. Project timing was planned to be staggered to make this work.

Data from the 2005 Essex-Windsor Regional Transportation Master Plan provided the support to make past decisions regarding prioritizing of projects. Figure 1 highlights the County road network level of service predictions presented in 2005. Portions of County Roads 46, 42, 31, 20, 22, 19, 18, 11, 9, and 8 were predicted to operate at Level of Service F by 2021.

Recognizing the inflating cost of future rehabilitation, and the additional quantity of infrastructure, the 2004 Plan funding model proposed to continue the levy indefinitely beyond 20 years (from 2004) to fund the annual rehabilitation costs for the original and the expanded system.

The 2004 Plan was defined, and work began.



**Figure 1**

A first step in significant road expansion projects is the environmental assessment, typically completed in the form of either Environmental Study Reports, or Environmental Studies, often referred to as EAs.

A number of EAs were completed in preparation for expansion/capacity construction (please refer to Table 1). As the studies were finalized, the reserves grew, and together with various upper level government funding programs, construction projects proceeded. Table 2 provides a list of construction projects approved by previous Councils. A significant number of projects remain outstanding or are under construction (please refer to Table 3).

The County Wide Active Transportation System (CWATS) initiative has impacted the 2004 Plan and associated financial model. CWATS was

introduced in 2012 and is funded through the expansion reserve as these projects were argued to be an expansion to the County's system of roads.

**Table 1 – Completed Environmental Assessments**

<b>Road</b>	<b>Year Complete</b>	<b>Limits</b>
CR 19	2005	VIA Rail to CR 22
CR 22	2006	CR 19 to CR 42
CR 19 & CR 22	2008	CR 22 from Banwell Road to 350m east of CR 19, and CR 19 from VIA Rail southerly to Hwy 3
CR 43	2009	CP Rail to south of CR 42
Lauzon Parkway Improvements & CR 42	2014	Hwy 410 to south of Hwy 3, and CR 42 from the City of Windsor limits to CR 25
CR 20	2017	Kratz Sideroad to Sherk Street

**Table 2 – Completed/Current Construction Projects**

<b>Road – Project Description</b>	<b>Year Started</b>	<b>Limits</b>
CR 19 – Widening to 5 lanes	2006	VIA Rail to CR 22
CR 22 – Widening to 4 lanes	2008	Lakeshore Boulevard to Patillo Road
CR 22 – Widening to 4 lanes	2009	Patillo Road to CR 2
CR 22 – Puce River Bridge	2012	Bridge and Intersection
CR 42/43 – Widening and Roundabout Construction	2022	Pike Creek to City of Windsor Limits (Phase 1 Underground)

Traffic volumes within much of Essex County have continued to grow steadily. There are several areas of concern, and the latest iteration of the

Transportation Master Plan, currently underway, is anticipated to support the same or similar planned projects.

## Discussion

The outstanding 2004 Plan of Expansion/Capacity projects is provided in Table 3 with high level cost estimates presented in 2022 construction dollars.

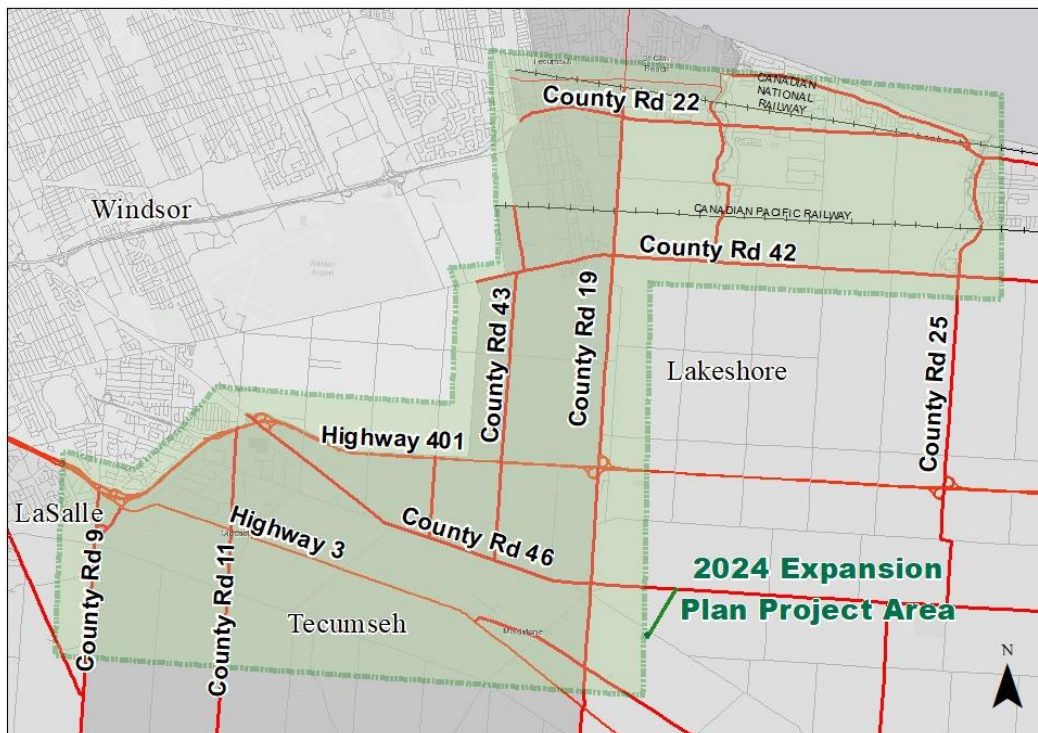
**Table 3**

<b>Road</b>	<b>Priority Term</b>	<b>Limits</b>	<b>Cost (2022)</b>
CR 42	Near	CR 19 to City of Windsor Widen to 4 lanes (5 Phases)	\$105,000,000
CR 46	Near	CR 46 @ Rochester Townline Roundabout	\$3,500,000
CR 22	Near	IC Roy to Belle River	\$55,700,000
CR 19	Mid	CR 22 to Jamsyl Dr.	\$45,550,000
CR 19	Mid	Jamsyl Dr. to CR 42 Widen to 4 lanes	\$99,700,000
Lauzon Parkway	Mid	Hwy 401 to Hwy 3 New 4 lane road (2 Phases)	\$34,000,000
CR 46	Long	CR 19 to City of Windsor	*\$133,800,000
CR 9	Long	CR 8 to Hwy 3	\$75,000,000
CR 42	Very Long	CR 19 to CR 25 Widen to 4 lanes (4 Phases)	\$114,400,000
CR19	Very Long	CR 42 to Hwy 3 Widen to 4 lanes	\$71,600,000
CR 22	Very Long	Duck Creek to 42	\$28,650,000

Road	Priority Term	Limits	Cost (2022)
		<b>Total</b>	<b>\$766,900,000</b>

\*using an estimate of \$16,350,000/km.

The projects described in Table 3 occur in an area north of CR 8 and in the Town of Tecumseh, the Municipality of Lakeshore, and the border of the Town of LaSalle, (please refer to Figure 2).



**Figure 2**

## **What is driving the planned projects?**

### **Growth**

Generally, the region is experiencing considerable growth, and projecting further unprecedented growth. The majority of our local municipalities are projecting higher than historical growth over the next 30 years. Projections are supported by a Growth Analysis report, prepared by Watson & Associates

as background information in support of the on-going Official Plan update. Our regional population is expected to grow between 68,000 and 115,000 people. In a medium growth rate scenario, that could equate to over 30,000 housing units.

In addition to growth, which increases traffic in and around local settlement areas, it is important to appreciate where vehicles are going and the network that drivers will choose to use for work and personal use. Moreover, what specific segments of the roads and network will experience the greatest traffic. It is very likely that the road segments in need of improvement will be those within the highlighted area in Figure 2.

Generally, traffic intensifies due to attractors or places that have “gravity” to attract vehicles. The greatest attractors in the region are places of work and shopping/entertainment. To a lesser extent, health care. The City of Windsor/American border arguably provides the greatest, single gravitational pull. Outside of the City of Windsor, there are a number of attractors that include: employment lands (industry and agriculture), settlement areas, tourism, and entertainment/leisure.

## **Network/Destinations**

Also contributing to the intensification of traffic is the general arrangement of the attractors or destinations. Are the attractors arranged in parallel or in series? Are the attractors concentrated or dispersed? Another way to describe the arrangement may be comparing the arrangement as linear, or web like. For example, CR 22 is experiencing incredible traffic because of the residential and commercial intensification along Lake St. Clair between the lake and the CP Rail. Traffic in that region travels linearly east to west between Windsor and the Belle River area, primarily along CR 22. A similar settlement condition exists along the Detroit River between Windsor, LaSalle and Amherstburg, but results in lesser intensification of traffic due to lower population and the use of both CR 20, and CR 9. In the southeastern region of the County, traffic makes its way to Highway 3 from multiple points. Highway 3 is the fastest path to the large gravitational pull of the northwest.

In the future, the condition along CR 22 may lesson if a large attractor is created in the area bounded by the City of Windsor, CR 19, CR 8 and CR 9. The area is becoming an area of interest due to the City’s development plans south of the airport, the EV battery plant and the regional hospital. Intensification of attractors in South Windsor, and the Oldcastle area may transform traffic into a web like arrangement rather than a linear arrangement. The transformation would be due to multiple, available

options for drivers of County Road's 8, 9, 11, 19, 42, 46, and Highways 3 and 401.

## **Typical Steps to Deliver Infrastructure Projects**

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### **Environmental Studies**

Projects proposed in Table 1 require Environmental Assessments (EAs). As noted in Table 1 a significant number of EAs were completed between 2005 and 2017. Reliance on the completed EAs could be a concern due to age, however, it is generally understood that, unless there are significant changes in the environment or a desire to explore a different preferred alternative, EAs are "good" for up to 10 years if all or part of the project is at least under construction.

### **Property Purchases**

Invariably, projects such as those required on County of Essex roads require additional property. Taking of property can range from small daylight corners to hectares for widening long corridors. Property acquisition occurs over a number of months, or a number of years. It is always hopeful to acquire property on a willing buyer, willing seller basis, but the expropriation process is also available.

### **Drainage Reports**

Municipal drainage is a very important part of our communities along with the proper management of storm water. Given the small number of drainage engineers available in the Province, municipal drainage reports can take between 1 to 3 years to complete. Drainage projects follow a mandatory public process, and can be requested by the road authority.

### **Design/Approvals**

At present, the design function seems to be the "easy part" of many projects, but still takes time and must be accounted for.

### **Construction**

Construction on County road projects are often very large with a single project constructed over a number of phases (years). Phasing can keep the size of the work area manageable and deliverable within one to two construction seasons. For example, the CR 22 project between IC Roy and Belle River will be constructed over 3 phases. Recent experience also suggests that annual expenditures on Capacity/Expansion projects should be approximately \$30,000,000 to \$50,000,000.

Contributing to the recommended project size/cost are other construction industry partners and stakeholders such as: contractors, utilities, and upper levels of government. All municipalities and the Province are tendering for work, and there is a limited pool of contractors and labour. Utility companies are stretched to increase their capacities in the region, simultaneously servicing relocations required from reconstruction projects. The Province supports and encourages wise use of resources and properly planned development; collaboration and coordination take time and add an element of legislative complexity.

## **Rethinking the Long-Term Plan**

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Long range planning, strategizing, prioritizing and on-going discussion are necessary to manage budget requests and expectations.

The constraints of time, funding, workforce and materials, challenged the successful completion of the 2004 Plan. Completing any or all of the needed work in a short time frame is not feasible. Given the data and history, it is expected that County projects, from identifying the need, through to construction (cradle to grave), regularly take 10+ years.

Several projects are urgently needed to address a combination of existing conditions and recent growth-related developments including: the EV battery plant, expected support industry to the EV battery plant, and the regional hospital. These projects include:

- Grade separated interchange at CR 19/22 (**not listed in Table 3**);
- Lauzon Parkway extension to CR 46, and ideally to Hwy 3; and
- CR 46 – City of Windsor to CR 19

A number of projects are less urgent and Administration recommends moving the following projects to a very long-term time frame, subject to recommendations of the on-going Transportation Master Plan:

- CR 19 between CR 42 and Hwy 3
- CR 22 between Duck Creek and CR42
- CR 42 between CR 19 and CR 25

A suggested high-level priority rating for all the projects currently contemplated in the Expansion Plan is provided in Table 4.



**Table 4**

<b>Road</b>	<b>Priority</b>	<b>Limits</b>	<b>Construction Years</b>
CR 42	Near	CR 19 to City of Windsor Widen to 4 lanes (5 Phases)	2022-2028
CR 46	Near	CR 46 @ Rochester Townline Roundabout	2024
CR 22	Near	IC Roy to Belle River	2024-2027
CR 19	Mid	CR 22 to Jamsyl Dr.	*2024-2026
CR 19	Mid	Jamsyl Dr. to CR 42 Widen to 4 lanes	2026-2027
Lauzon Parkway	Mid	Hwy 401 to Hwy 3 New 4 lane road (2 Phases)	2028-2029
CR 46	Long	CR 19 to City of Windsor	2029-2032
CR 9	Long	CR 8 to Hwy 3	2033-2034
CR 42	Very Long	CR 19 to CR 25 Widen to 4 lanes (4 Phases)	2033-2037
CR19	Very Long	CR 42 to Hwy 3 Widen to 4 lanes	2037-2042
CR 22	Very Long	Duck Creek to 42	2043

\*subject to DMAF application and approvals.

The subject report was intended to inform County Council of past decisions, the current state of the 2004 Plan, and recommend that Administration be directed to revise the Plan to reflect timing in Table 4.

## **Financial Implications**

Since 2020, the expansion levy has been stable at \$17,879,640 per year.

To date, funding has been fully supported by the expansion levy on a pay as we go model with the addition of grant funding as available. The sufficiency of the levy was due in large part to the manageable pace of growth the County has experienced. Our growth landscape is already showing signs of significant change and at an accelerated pace. Going forward, unless we extend our project timelines, the funding model will need to expand to include other revenue sources. Other forms of funding would include increases to the tax levy, borrowing, the establishment of development charges and/or greater reliance on provincial/federal grants (if available).

Maintaining the previously established pace of expansion is an option. Should projects proceed at a speed that can be supported by our current pay as we go funding model, acceptance of increased traffic congestion will be required.

A long-term plan as shown in Table 4 requires continued funding and approvals for multiple project components year over year. For example, EA work may be on-going in one job while design, property acquisition and construction would be proceeding on several other jobs. Table 5 represents a sample of four years from a longer twenty-year program and highlights that dollars are needed for all four components of the project.

**Table 5**

<b>Project Component</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>2027</b>
EA	\$550,000	\$250,000	\$250,000	\$250,000
Design	\$855,000	\$800,000	\$1,000,000	\$800,000
Property	\$550,000	\$2,000,000	\$1,500,000	\$2,500,000
Construction	\$34,800,000	\$65,000,000	\$50,000,000	\$22,500,000
<b>Total</b>	<b>\$36,755,000</b>	<b>\$68,050,000</b>	<b>\$53,150,000</b>	<b>\$43,950,000</b>

## Consultations

Preparation of this report was done in consultation with the CAO, and Treasurer.

## Recommendation

That Essex County Council receive report 2023-1018-IPS-R34-AB 2004 Expansion Program Update as information.

## Approvals

Respectfully Submitted,

*Allan Botham*

Allan Botham, P.Eng., Director, Infrastructure and Planning Services

Concurred With,

*Sandra Zwiers*

Sandra Zwiers, MAcc, CPA, CA, Chief Administrative Officer

Appendix Number	Title
A	Map for Table 1 – Completed Environmental Assessments
B	Map for Table 2 – Completed/Current Construction Projects
C	Map for Table 3 – 2004 Expansion Capacity Program
D	Map for Table 4 – Proposed Expansion Capacity Program