

# Infrastructure Services

## Statement of Purpose

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Infrastructure Services has responsibility for the planning, engineering, construction, administration and maintenance activities required to manage the County Road Network, and Civic Centre Operations.

***Our mission is to manage the County Road Network and Facilities in a manner that protects the people who use our roads and facilities, preserves the infrastructure and provides for long term sustainability of the infrastructure while working cooperatively with Community Stakeholders.***

## Service Description

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The Infrastructure Services Department of the County of Essex, through programs and policies approved by County Council, provides for all maintenance and construction on the roads, bridges and related infrastructure that constitute the County Road System. Facility Operations responsibilities are focused on the day to day management of the Civic Centre, Roads Maintenance Depots and the provision of technical support for facilities management at Sun Parlor Home and Emergency Medical Services. The County Road System is comprised of 720 centreline kilometres of various classes of highway from high volume urban arterials to rural highways. In addition to the roadways, the County has responsibility for 84 bridge structures, 127 large drainage culverts, 47 Traffic control systems and numerous active transportation facilities.

The County Road network has been increasing in terms of total lane kilometres as a result of roadway expansion projects. In 2004, the network had an inventory of 1,472 lane km and has increased by 32 lane km to a total of 1,504. This increase in the amount of pavement that must be maintained has had a significant impact on maintenance operations, particularly the level of annual expenditures for Winter Control. Since the implementation of the County Wide Active Transportation System (CWATS) a total of 342 km of various types of facilities ranging from signed only routes, paved shoulders to two way cycle tracks have been constructed. As the network length continues to grow and new facilities are built, the demands for maintenance will increase.

The planning, engineering, construction and administration functions are provided from the Essex County Civic Centre. Highway maintenance services are delivered from 5 active Depot locations.

### Critical Issues:

- Ability to keep up with day to day maintenance demands at appropriate service levels for the road network and facilities
- Ability to maintain funding for and manage the Construction Program
- Ability to fund and manage future planned Capacity Improvements
- Ability to apply Corridor Management strategies while supporting development

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## Prior Year Performance

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Projected net 2018 results of operations indicate an unfavourable variance of \$326,570. The majority of construction projects were on budget with some over expenditures resulting from scope adjustments and delay of some preservation projects resulting in savings in the program. The addition of an unscheduled emergency culvert replacement on CR 23 resulted in a significant over expenditure. Other favorable variances include higher than anticipated revenue from road user agreements and savings in administration costs resulting from extended staff replacement processes.

## Proposed Budget – Current Year

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Infrastructure Services consists of the following Divisions:

- Transportation Planning and Development
- Design and Construction
- Technical Services / Facility Management
- Maintenance Operations

The proposed 2019 Infrastructure Services Department budget includes an expenditure level of \$54,014,370.

An increase in the level of County responsibility is proposed for the 2019 Infrastructure Services Department's program. Efforts to expand the County's roadway infrastructure are the most significant portion of this budget, as well as the continued trend for increased service demands of the maintenance program. Negotiated increases to wages, mandatory increases to benefits and inflationary increases to materials have also been included as appropriate.

The proposed increase from the 2018 budget level is \$3,091,960, which represents an increase of 8.4% year over year. The significant factors affecting this increase are:

- 1.5% Levy increase for Capacity Project funding (\$1,434,700)
- Incremental increase to Rehabilitation Program (\$226,430)
- Incremental increase to CWATS Program (\$100,000)
- Incremental decrease to Gas Tax allocation (-\$61,450)
- Incremental increase to OCIF funding (\$283,870)
- Incremental increase to amortization (\$300,000)

The balance of the year over year variance is related to negotiated and anticipated salary adjustments, mandatory increases in pension and benefit premiums and inflationary pressures on operational costs, and program adjustments.

The Departmental expenditures are grouped into four major programs, Transportation Construction, Transportation Maintenance, Transportation Fleet and Facilities and Facilities Operations.

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The Transportation Construction Program consists of six sub programs with a total expenditure level of \$40,786,020. The following are the sub programs and the individual expenditure levels.

Capacity Expansion - \$18,438,500

Rehabilitation - \$12,991,120

Municipal Drainage - \$179,900

Planning / Engineering - \$1,002,000

CWATS - \$6,137,020

Administration - \$2,037,480

The program activities include the undertaking of Environmental Assessments, Engineering Studies, Preliminary and Detailed Design assignments. Work plans also include data collection and analysis to assist with road network management. Construction projects related to highway capacity expansion, rehabilitation, municipal drains, County Connecting Links and intersection improvements are supported through this program. A significant component of this program is the delivery of the annual CWATS program including construction projects, educational initiatives and monitoring activities. It is fully anticipated that the expenditure levels within the CWATS program will increase significantly upon the presentation of the candidate projects to be submitted in partnership with the local municipalities through the CWATS Steering Committee.

The Transportation Maintenance Program consists of two subprograms including Road Maintenance and Administration with a total program expenditure of \$9,505,260 and the following individual expenditure levels.

Roadway Maintenance - \$6,190,000

Administration - \$3,315,260

The Roadway Maintenance program focuses on day to day operations on pavements, roadside environments and winter control.

The Transportation Fleet and Facilities Program consists of two subprograms including Equipment Maintenance and Equipment / Facilities Renewal with a total program expenditure of \$2,765,920 and the following individual expenditure levels.

Equipment Maintenance - \$1,074,160

Equipment / Facilities Renewal - \$1,691,760

Fleet Management activities include equipment maintenance and acquisition of replacement or new equipment. Facilities Renewal address the maintenance and upgrading of existing highway maintenance depots and the development of new facilities.

The Facility Operations Program is the area of newly transferred responsibilities related to the facility management of the Civic Centre and the provision of technical support to other departments. This program has an expenditure level of \$957,170.

Activities under this program include the day to day operations and maintenance of the Civic Centre as well as the liaison with various building tenants and facility users.

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## 2019 Key Initiatives

- Staff Stabilization (vacancies/training)
- Road Rationalization Study
- Project Prioritization
- Property Acquisition
- Risk Management Program
- Centralized Traffic Control System
- Autonomous Vehicles – OGRA / MACAVO

## Current Initiatives

- Annual Construction/Rehabilitation Program
- Countywide Active Transportation System Implementation
- Capacity Expansion Program
- Pavement Preservation Program Implementation
- Bridge and Culvert Condition Survey
- Environmental Assessments CR 20, CR 3, CR 7
- Preliminary Design CR 22/ CR 19 , CR 20
- Detailed Design CR 22, CR 42/43, CR 23, CR 11, Bridges, Culverts
- Traffic Signals Operations Service Monitoring
- Salt Management Plan Implementation and Monitoring
- Transportation Modeling Update EWRTMP
- CWATS Master Plan Update
- Gordie Howe Bridge Municipal Advisory Group
- Essex County Highways (ECH) Policy Manual refinement
- Comprehensive Asset Management Plan Updating
- Fleet/Fuel Management System
- Facility Renewal Program
- Traffic Operations Study, counts, travel time, speed studies

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- Alternative Energy Developments
- SuperPave transition monitoring
- eWork Order Management System Implementation
- eClaims Management Initiative

## Future Initiatives

- New EA's in support of future capacity projects
- Corridor Protection Strategy
- Regional Transportation Corridor Management and Design Manual
- Essex Windsor Regional Transportation Master Plan (EWRTMP Update)
- Network Safety Performance Evaluation
- Roadway Weather Information Station Development with MTO
- Salt Vulnerable Areas Analysis and Mitigation Strategy
- Intersection Improvement Program
- Warm Asphalt and rubberized Asphalt trials
- Vendor Performance Management
- CR 25 Diversion Study

## External Initiatives

In addition to the initiatives noted above that are managed by the County, the Department is heavily involved in numerous projects and undertakings of other agencies including MTO, City of Windsor, Chatham-Kent and the local municipalities. Staff have also been actively engaged in several provincial industry initiatives related to concrete and asphalt pavement design and performance.

## Capacity Expansion Program

Council has adopted a financial forecasting tool to address the roadway expansion requirements as identified in the Essex Windsor Regional Transportation Study, updated for inflationary considerations, along with estimates, based on recent reports, for the expansion cost of selected high volume highways. The model is premised on a 1.5% Levy increases through 2019 to accommodate the approximate \$400 million of infrastructure. In 2012, the financial model was amended to identify and prioritize expansion requirements exclusive of senior government funding and grade separations. In order to accommodate 100% municipal funding, the schedule has been elongated to 2037 to manage the financial burden within reasonable limits of the County Levy. Assuming no change to the current plan of incorporating a 1.5% increase in the annual levy, the annual base funding level will continue to grow from \$14.9 million in 2018 to \$16.4 million in 2019, providing sufficient financial resources for the

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management of both the volume of expansion and the timing for financing, without the requirement of debt issuance, and then ultimately position the County to maintain the infrastructure on a go forward basis. Adherence to a structured plan of self-funding minimizes costs on the local tax base; affirming the Corporation's pay-as-you-go philosophy of funding infrastructure expansion.

It is important to note that the current analysis assumes: limited receipt of funding from provincial/federal sources (Administration will continue to pressure upper levels of government on the merits of funding expansion projects, and has identified projects that could be quickly advanced if infrastructure funding should become available); the continued cost share of Federal Gas Tax revenue at 80% local municipal / 20% county, and a modest allowance for inflationary considerations on project cost. If it is Council's desire to narrow the time-frame of expansion, without the receipt of third party funding, the County would need to either substantially increase the annual tax levy allocation to support transportation infrastructure expansion, continue the 1.5% levy allocation beyond 2019 or issue debt; in all cases resulting in a greater tax burden on the residents and businesses of Essex County.