

# Infrastructure Services – County Maintenance

## Service Description

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Essex County Highways staff, complemented by various specialty contractors throughout the year, perform the maintenance of County roads, bridges, culverts, drains and related infrastructure. Specialty areas of responsibility include signs, pavement markings, traffic signal operations and facility maintenance.

The Maintenance Office of Essex County Highways provides for the supervisory, administrative and clerical functions associated with the maintenance of the County Road system. The compilation of daily maintenance activity records provides the means for cost control and statistical analysis.

The 2018 Budget provides an expenditure level of \$12,052,660 for the Maintenance Program (inclusive of Fleet and Facilities, shown separately).

## Staffing Chart

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Staffing	2015	2016	2017	2018	2015 Actual (\$000)	2016 Actual (\$000)	2017 Budget (\$000)	2017 Actual (\$000)	2018 Budget (\$000)
Full-Time (mtce office)	6	6	6	6	518	550	584	584	604
Full-Time (mtce crew)	32	32	33	33	1,888	1,981	2,148	2,115	2,215
Students (mtce crew)	8	8	8	8	104	116	115	115	115
Total	46	46	47	47	2,510	2,647	2,847	2,814	2,934

## Prior Year Performance

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The 2017 actual expenditures for the maintenance operations (including administrative costs) are anticipated to be under budget by \$146,810, mainly due to extended summer maintenance activities, offset by anticipated savings in Winter Control efforts for the balance of 2017.

In 2017, an enhanced Work Order Management system as well as an electronic Road Patrol software system were successfully implemented. The budgets established for numerous maintenance activities have historically not been adequate in addressing the demand for the service. The level of service required is dependent on issues such as emergency repairs, legislative requirements, increased lane kilometres and severity of weather. As a result, the level of expenditures has exceeded the budget amounts year over year in several programs.

Winter Control expenditures are expected to be lower than budgeted. The early winter period experienced a number of significant snowfall events. The spring period expenditures were aligned with the five year average, however numerous full rollouts were required to address the smaller events. The cold and extreme conditions in the spring also required significant amounts of road patching operations.

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It is anticipated that the months of November and December will be unseasonably mild allowing for approximately six additional weeks of summer maintenance. This extended period of summer based activities will result in over expenditures in several maintenance activities. Several program areas had significant expenditures, specifically culvert repairs, ditching, roadside mowing, catch basin and curbs, and shouldering. The mild weather will allow for extended summer operations such as mowing, concrete repairs, ditching and shoulder grading, and some of these operations will continue into mid-December. As a result of the increased activity, expenditures are anticipated to exceed the budget in these programs.

## Proposed Budget – Current Year

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The County of Essex has been aggressively improving its road network through numerous capacity improvement programs and projects, as well as the implementation of the CWATS program. These projects have increased the amount of lane kilometres that the County must maintain as well as adding new traffic control signal installations. These projects have also created additional turn lanes, longer tapers and urbanized sections on high volume, high maintenance classified roads. The additional pavements have resulted in increased maintenance demands and costs and this trend will continue as additional projects are completed and become operational.

Included in the annual maintenance program is a funding allocation for assessments made under the Municipal Drain Act. These Municipal Drain projects are managed and undertaken by the Local Municipalities and the County is assessed as the Road Authority for lands being serviced by these drains. The last several years have experienced increasing assessments which have surpassed the annual budget allocation. The increase in number and complexity of drainage projects is likely a result of the impacts of climate change. The frequency of rainfall events as well as their severity and amounts of rainfall produced are increasing. To address these over expenditures large drainage projects which have been identified during the budget preparation cycle have been established as standalone projects within the Construction Program and funded from reserves, where possible. This approach is not fully sustainable and several large projects have been brought forward post budget resulting in significant budget shortfalls.

The majority of programs for 2018 are established at similar levels to 2017. Winter Control budget was adjusted to better reflect the 5 year average level of expenditure. The joint maintenance budget on CR 1, the Chatham – Kent boundary road, was held at the 2017 level of expenditure. A program to commence the replacement of the existing High Pressure Sodium street lighting with LED technology is continued for 2018. This program will be undertaken incrementally with internal staff resources. Deck, expansion joint and railing repairs are planned for 5 bridges in 2018. Estimates for mowing and spraying, brushing and tree trimming / removal, debris pick-up and washouts are based on the 5-year average of actual expenditures.

The lifecycle of road paint, particularly special markings at intersections such as stop bars and turn arrows, has been problematic since the industry-wide switch to water based paints several years ago. In 2007, Essex County Highways purchased the equipment and materials to install “durable paint markings” to extend the life of these installations. The material is more expensive but frequency of repainting is reduced. In 2018, it is proposed to continue and expand this initiative. Another initiative that commenced in 2007, is the expanded white edge

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line marking on the high volume County Roads. These continuous edge lines historically had only been provided at locations such as curves, bridges or intersections. Operational safety of the road can be improved with the provision of the edge lines even on straight flat sections of roads. In 2018, the program to provide additional lines will continue.

The sign program continues to experience pressures with programs such as Share the Road, Water Front Regeneration and CWATS initiatives and expected increase in general signage activity is anticipated. Future budget adjustments will most likely be required in other maintenance tasks such as Winter Control, pavement patching and sweeping in order to properly maintain these active transportation facilities.

Equipment and software purchases include the replacement of 4 computers, software licencing and an initiative to improve or provide internet connectivity at the Depots. In 2017, an electronic Road Patrol software system was acquired to aide in maintaining compliance with the Minimum Maintenance Standards, as set out in the Highway Traffic Act. For 2018, enhancements to the Road Patrol software are proposed to create linkages to the Work Order Management System and the Winter Control Operations tracking program.

In 2017, a full inventory and condition assessment was conducted on all the signs located within the County Road right of way. The information and data collected were input into an electronic Sign Management software package that allows for improved sign replacement scheduling and work activity tracking. The data management also improves the compliance with regulatory requirements for sign condition.

An opportunity to utilize an electronic winter control application developed by OGRA was implemented for route optimization and salt management planning and performance management. Work will continue into 2018 to fully implement this application.