

Infrastructure Services – County Construction

Service Description

The County Construction Program, consisting of the Capacity Expansion, Rehabilitation, Municipal Drainage, Planning/Engineering, CWATS as well as the Administration programs; providing major improvements to the roads, bridges, railway crossings, active transportation and drainage infrastructure that make up the Essex County Highway Network.

The increasing number of capacity improvement demands and related projects has subjected the Department to large and very complex engineering programs/projects with multimillion-dollar values. The CWATS program introduces additional levels of complexity in the co-ordination with multiple partners and constructability issues. This is challenging the group to maintain appropriate focus on day-to-day operational tasks.

The Transportation Planning and Development Division provides the services required to manage the delivery of the CWATS program, property acquisitions in support of expansion projects, Environmental Assessments and Departmental environmental issues. Roadside development approvals for subdivisions, severance, access and setback permits, utility and sewer installations involve various staff members. Further responsibilities are related to corridor management, policy review and development and engineering consultant management.

The Design and Construction Division provides the services required for the construction and rehabilitation of the County Road system, including preparation of plans, tenders and specifications, studies, reports, project surveys, inspection and contract administration. Consultants provide engineering services as required, supplementing in-house staff. Management of the Municipal Drain program, constructability reviews, external project liaison and Asset Management development are additional responsibilities of this Division.

The Technical Services / Facility Management Division leads the deployment of technology and supports the operations of the other divisions and manages the Department's involvement in Corporate initiatives. Areas of responsibility include, Health and Safety, Risk Management, Emergency Planning, Asset and Records Management and Departmental Analytics. Quality Assurance programs and Performance Management are also a significant focus of this division. The responsibility for Facility Operations are also managed through this Division. These activities include 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 2018 Budget, with its increased level of expenditure in the Planning/Engineering Program, Rehabilitation Program, Engineering Projects, CWATS Program and Capacity Improvement initiatives, is an aggressive undertaking that matches the maximum amount of project management the current staffing levels can provide. The expenditure level of these programs combined is approximately \$36M.

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Staffing Chart

Staffing	2015	2016	2017	2018	2015 Actual (\$000)	2016 Actual (\$000)	2017 Budget (\$000)	2017 Actual (\$000)	2018 Budget (\$000)
Full-Time	12	12	14	16	871	846	1,144	1,071	1,242
Part-Time	2	2	2	2	17	17	25	25	25
Total	14	14	16	18	888	863	1,169	1,096	1,267

Prior Year Performance

The net 2017 Construction Program is projected to be under budget by \$256,630. The significant under expenditure in the Winter Control Program provided the opportunity to provide additional services in various preservation projects within the Rehabilitation Program. These planned over expenditures addressed several longstanding mill and pave projects and took advantage of the extended paving / construction season to schedule the completion of these works. Pavement preservation projects were undertaken on CR 9, CR 22, CR 42 and CR 50. In addition, numerous guiderail safety projects were undertaken to address deteriorated and nonstandard installations.

Several bridge projects came in under budget due to positive tender results and minor scope changes. The road rehabilitation projects were over budget due to higher than anticipated asphalt pricing and Asphalt Price Index impacts. Some initiatives and design projects were also not fully completed in 2017. These projects and initiatives (along with their funding from the Capital Reserve) have been carried forward into 2018 for completion. Co-ordination with the local municipalities and other agencies, weather considerations and approval process delays have necessitated the schedule adjustments.

The early approval of the 2017 Rehabilitation Program provided positive tendering results as well as allowing for completion of work in advance of the onset of poor weather. In addition, it provided an opportunity to organize the work and schedule the contractors more efficiently. This allowed for a more sequential and timely completion of the multi-contract projects. This protocol will be followed again in adopting the 2018 Rehabilitation Program.

The 2017 Rehabilitation Program consisted of 32 projects including 5 bridge projects, 16 road projects, 7 culvert projects and 4 preservation projects. The 2017 CWATS program delivered numerous projects and initiatives in partnership with the local municipalities and various agencies.

Proposed Budget – Current Year

Proposed for 2018 is a construction program totalling \$35,793,090, an increase of \$6,480,010 from prior year budget.

The existing inventory of roads, bridges and culverts is aging rapidly and the rate of deterioration is outpacing the rate at which rehabilitation is being undertaken. Some infrastructure rehabilitation is being deferred to a point in time when rehabilitation is no longer

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an option and more expensive full replacement is required. Current funding levels are considered the minimum necessary to address the current deficiencies. Additional adjustments to base funding will be necessary in the future, as outlined on the Corporation's approved Asset Management Plan, to maintain and improve the overall condition of the County's linear asset inventory.

The comprehensive update of the Asset Management Plan confirmed the magnitude of the funding gap. In an effort to move towards eliminating this funding gap the 2018 Rehabilitation Program budget has been increased by \$679,200. The 2018 Rehabilitation Program totals \$11,321,400, in part through the use of \$2,264,240 in Federal Gas Tax Program Funding, Ontario Community Infrastructure Fund of \$531,770 and the \$420,000 incremental increase required to advance the program towards its target funding level.

A rehabilitation program valued at \$11,321,400 is proposed for 2018 and was presented for Council's consideration in November 2017. Challenges are continuing to be presented related to the purchasing power of the program as the unit rates for rehabilitation work continue to escalate. As a result, the target level of expenditure will require monitoring and an upward adjustment may be required in order to keep pace with the cost of rehabilitation and rate of deterioration experienced across the network.

County Council adopted the CWATS Master Plan in the fall of 2012 which included a strategic implementation plan. Current estimates suggest that the County portion of the CWATS initiative amounts to approximately \$39 million of the total \$71 million full build out. The 2018 CWATS expenditure level is proposed at \$10,030,100 with recoveries from partners of \$4,418,950 and transfer from reserves of \$3,911,150. Included within the 2018 CWATS program is a base funding amount of \$1,700,000, which includes a \$100,000 increase to the initial annual allocation to continue funding this program over an estimated 20 year period. It is proposed that in 2018 to continue an initiative to provide paved shoulders on road segments on the CWATS network when the opportunity to align these works with the Rehabilitation Program is presented. Funds for these projects beyond 2018 are proposed to be provided from the Capacity Expansion Reserve with an estimated annual requirement of \$2.8M. This funding level will be reviewed for future budgets upon the development and approval of a detailed implementation plan. In order to continue both the build of the core CWATS projects and the Rehab Alignment projects as well as future regular maintenance demands, additional annual funding is required.

The 2018 Budget includes a series of Roadway Expansion projects supporting the network capacity improvements identified in the Essex Windsor Regional Transportation Master Plan and the County's Capacity Expansion Program.

These projects include the design of the improvements on CR 22 and CR 42, land acquisitions in support of future expansions and several additional design assignments. Detailed designs will be continued for improvements at the intersection of CR 19 / CR 22, CR 42 corridor, CR 22 Phase 6 and the design of a Roundabout at CR 11 / South Talbot will also be conducted. Design work continues for the proposed realignment/reconstruction of CR 23 in Essex/Kingsville. Environmental Assessment and Preliminary Design will be finalized for CR 20 in Kingsville/Leamington with new initiatives commencing on CR 3 and CR 7. Funds have been provided to support large County Connecting Link projects in LaSalle on CR 3 (\$460,000), Tecumseh on CR 19 (\$635,000), and two projects on CR 22 in Lakeshore (\$710,000). The 2018 Budget provides funding for several large Municipal Drain projects

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proposed to be undertaken by the local municipalities. County assessments for the drains are provided within the Maintenance Program for smaller routine works and the large projects are budgeted as standalone projects funded from reserves. Work will also continue on the Rural Intersection Illumination programs.

A Road Rationalization Study for the County Road Network will be undertaken to review the role and function of existing County Roads and a series of candidate local roads. The study will determine: the criteria for classification of roads as County Roads; develop a preferred County Road Network; and a framework for implementation plan, should revisions be identified.

The Countywide Active Transportation System Master Plan will undergo its first full update since its adoption in 2012. The review and update will consider the recommendations of the original study, implementations to date and changes to the active transportation environment as well as pertinent legislative changes.

A series of Engineering assignments and studies are included in the 2018 Budget. A project will be undertaken to develop a Regional Transportation Corridor Management and Design Manual. This document will be utilized as reference in the preparation of EA's, Master Plans, development proposals, land use plans etc. It will further provide consistency regarding guiding principles, development and application of best practices for management of the County Road Network. A technical section will present design guidelines and standards for use in construction contracts. This project will be deferred to 2019 pending the results of the Road Rationalization Study.

The Essex Windsor Regional Transportation Master Plan (EWRTMP) requires its first update since being adopted in 2005 based on the updated County Official Plan and those of the local municipalities. The updated EWRTMP is anticipated to commence in 2019 and carry into 2020. The road rationalization initiative will lead the update of the transportation master plan to establish a baseline network prior to conducting the full update. Several other assignments related to traffic counting, speed studies, Salt Management Plan update, data management and various site specific issues will be undertaken.

Equipment and software purchases include replacement of 4 computers and workstations. The current AutoCAD suite of software and Microsoft Office are also proposed to be updated this year, as well as the purchase of a software package to assist in Transportation Modelling and Forecasting. Maintenance costs for existing software packages are also included in the estimates. Included for 2018 are the CWATS website operational/support expenses and the finalization of an electronic permitting system as well as the implementation of an electronic system for claims management.