



Infrastructure Services

Service Delivery Promise

Infrastructure Services has the responsibility to build safe and sustainable infrastructure that enhances the quality of life for the people of the County, through professionalism in project planning, engineering, construction, administration and maintenance activities required to manage the County Road Network, and the operation of civic facilities.

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 while working cooperatively with Community Stakeholders.

Service delivery is offered through several initiatives: policy, planning and programming, operations and maintenance, traffic management, permits and facility strategy and implementation programs. With a continued focus on multi-modal mobility, asset management, service delivery, and our people and culture, the Infrastructure Services Department will continue to provide responsible road related and facilities infrastructure services.

Infrastructure Services



Level of Service Statement

Infrastructure Services maintains 1503 km of various classes of road, 84 bridges, 127 large drainage culverts, 42 traffic control systems, a single pedestrian crossover and 414 km of bike lanes/trails/routes.

In terms of key service areas, Infrastructure Services performs transportation planning, design and construction, maintenance operations, and building and facility management. The goal of these services is to execute to a level that maintains infrastructure in a state of good repair, considers the integration of sound planning, design and construction of multi-modal transportation networks, delivers quality and timely service and adapts to changing cultures and challenges.

2021 Achievements and Challenges

The transportation system in Essex County is a complex network of freeways, arterial, collector and local roads, public transit systems, airport, rail lines, sidewalks, bikeways and trails. It links communities within the County of Essex and connects us to the City of Windsor / Michigan to the west and Chatham-Kent to the east.

Amounts levied for roadway expansion projects will be contributed to reserve in 2021 to provide funding as construction begins in 2022. Planning, design and goal alignment with local municipalities was a priority for 2021 as the department realigned long term construction plans to meet the system's capacity needs.

Most projects supporting traffic operations were completed within budget. Phase 1 of the Centralized Traffic Control system saw the installation of new

controllers throughout the system. This is the groundwork for implementation of the full software suite that begins in 2022. A warrant for a pedestrian crossover was identified in late 2021 and work will begin in 2022.

Roadway, bridge and culvert rehabilitation projects were completed as planned, with a total expenditure (which included emergency culvert repairs on County Road 50) expected to be just over budget. There are five (5) projects that were designed in 2021 and will carry forward to 2022 for construction.

Long range planning in the form of the Regional Roadway Rationalization Study continued in 2021. In addition, the Traffic Impact Study Best Practice and the County Road 22 Corridor Study were completed. The department also participated in a full-service delivery review throughout the summer. A summary of findings is anticipated shortly and will provide the foundation for possible opportunities to improve the overall effectiveness and efficiency of the department's current service delivery model.

In addition to the initiatives noted above, the Department is heavily involved in numerous projects and undertakings with other agencies including MTO, City of Windsor, Chatham-Kent and the local municipalities.

Projected 2021 results of operations indicate a favourable variance of \$127,130.

The Early Release Program resulted in favourable costs in the early tenders; however, higher than anticipated material costs were observed in the subsequent rehabilitation contracts. Roadway maintenance costs were higher than usual due to unusually mild weather leading to



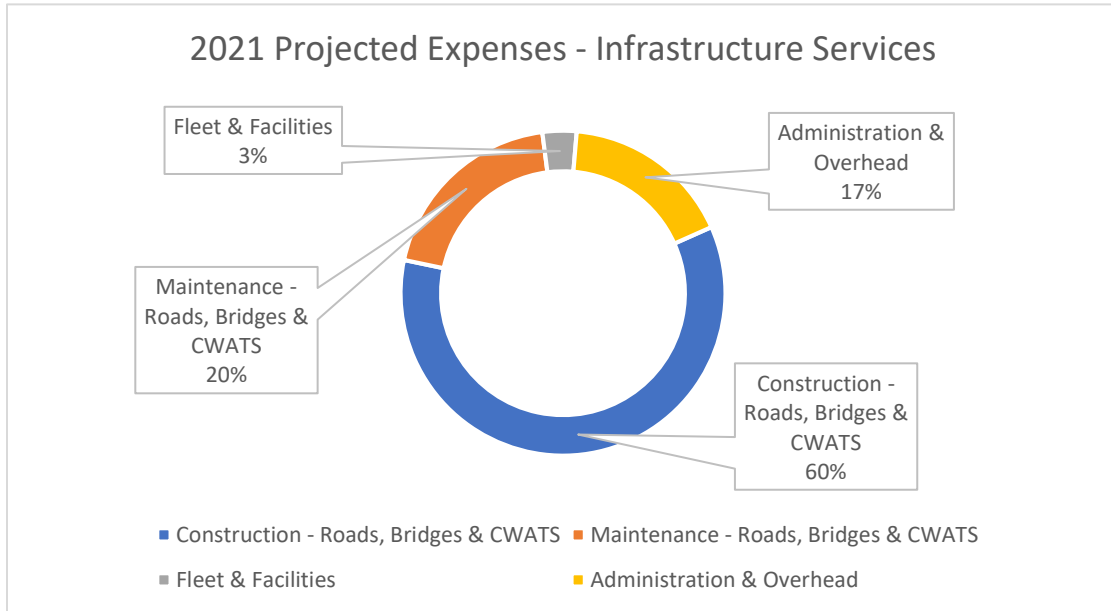
extended periods of roadside maintenance (mowing, ditching). This was offset by savings in Fleet & Facility operations as supply chain issues caused delays in delivery of equipment and operational issues delayed the undertaking of renovations at the Civic Centre.

Key Challenges Facing our Transportation System:

- Transportation management is growing in terms of technology, software and applications;
- Service level expectations and the ability to keep up with day to day maintenance demands at appropriate service levels for the road network and facilities;
- Increase in operating costs resulting from new infrastructure;

- Significant project cost increases due to material escalation;
- Demographic change and projected growth rate variability;
- Emerging demands and ability to apply Corridor Management strategies while supporting local development; and
- The reality of Energy Demand Management & Climate Change

The graph below illustrates the key areas of spending in Infrastructure Services for this past year (projected to December 31, 2021).



The County of Essex implemented a review of its Fuel Management System and determined that an updated system would be required. The Gasboy Islander/Veeder Root System was chosen and was installed in four EMS Bases and four Road Depots. This system incorporates three main components, a FOB reader to identify the user, a cube or ring installed on the vehicle for vehicle identification and FHO (Fuel Head Office) where data is collected from the Fuel Pedestals. The system provides accountability of fuel transactions, creates reports, measures tank levels vs usage and sends automatic emails to the fuel supplier to refill tanks.

Opportunities and Challenges Facing Infrastructure Services in 2022

Growth & Development

Planning and design studies include:

- CWATS Master Plan Update
- Regional Master Transportation Plan update
- County Road 19 from CR 22 to Highway 3
- County Road 46 at Rochester Town Line Intersection Design
- County Rd 19 - CR 22 and CR 19 Intersection Design
- County Road 42/43 Detailed Design

The 2022 Budget includes more active transportation facilities, adaptive traffic signal control, and projects to address competing demands for the right-of-way. Population growth, ageing infrastructure, rising congestion, and increasing concerns for road safety are putting pressure on existing land transportation networks, challenging road authorities to adopt a more robust approach.

As the network continues to grow and the desired levels of service increases, the demand for maintenance intensifies. The Essex Windsor Regional Transportation Master Plan (EWRTMP) will be started in 2022, and the department relies on transportation planning studies to manage effective use of the County's transportation network and plan for future outcomes. The findings of the Road Rationalization study (to be completed in 2022) will serve as background information to support the updating effort.

Improved Safety

Requests for improvement in road safety for all road users, especially pedestrians, children in school zones, older adults and cyclists have increased and will require countermeasures that reduce aggressive and distracted driving. The department is a member of the Windsor Essex Road Safety Group and collaborates on policies and initiatives to make the entire road network safer.

Cost-effective safety interventions and investment will form a substantial component within new projects, maintenance and reconstruction works, and will also support improved worksite safety management.

State of Good Repair (SOGR) & Accessibility

To support the asset management strategy and to identify annual work programs, Infrastructure Services collects condition index information on an annual basis for the County's roads, bridges, culverts and facilities.

A formalized process utilizing a third-party data collection firm using specialized equipment was conducted in 2021 and the department used this as a basis to update the condition rating of all roadways. Aging infrastructure and the need to balance service levels with affordability will be addressed in the Asset Management Plan update. This update is imperative to develop a robust 25-year asset management plan.

The department continues to explore opportunities to design, operate and maintain accessible infrastructure. Meeting and exceeding these accessibility standards, and providing mobility options for everyone, is an evolving practice.

Proposed 2022 Budget Plan

The proposed increase over the 2021 Budget is \$347,110, which represents an increase of 0.8% year over year. With the results of the Service Delivery Review pending, this department has exercised financial restraint in the preparation of 2022 work plans. A strong focus is placed on successful completion of expansionary roadwork projects, with only inflationary increases in most other areas.

The Departmental gross expenditures of \$66,335,700 are summarized as follows:

Operating Expenditures:

Maintenance – Roads, Bridges & CWATS	\$8,473,000
Administration & Facility Operations	\$6,973,400

Capital Expenditures:

Construction – Roads, Bridges & CWATS (reference Appendix C, D, E and F for budget details and maps)	\$45,461,700
Administrative Capital	\$609,000
Fleet & Facilities	\$4,818,600

Maintenance Operational Program:

This program consists of sub programs with a total expenditure of \$8,473,000. The following are the sub programs and corresponding expenditure levels:

Summer (roadside, pavement, drainage, bridge/culvert)	\$3,670,000
Winter (patrol, ploughing, salting)	\$2,750,000
Traffic/safety devices	\$1,013,000
Equipment Maintenance	\$1,040,000

Regular roadside maintenance activities include:

- Mowing/brushing, tree trimming, ditching, surface sweeping & grading of shoulders
- Pot hole patching and spray patching, which helps eliminate minor imperfections in the road surface to improve life cycle
- Guidepost installation and maintenance
- Centerline Marking/Painting
- Sign/Signal Maintenance

Winter maintenance standards establish levels of service for snow and ice control across the County, for various classes and priorities of roadways and paths, to ensure the safe and efficient movement of people, goods and services, throughout the community. These levels of service recognize the difference in traffic conditions and associated required risk management, on various classes of roadways and paths. The County utilizes the Provincial Maintenance Standards as a framework and benchmark for determining level of service standards.



Traffic Signals/Safety Devices includes road signs, guiderails and posts. Some initiatives aimed at creating efficiencies include the full conversion of street lights to LED on all major road projects and improvements to some paint applied bike lane markings to more durable plastic markings in high traffic areas.

Construction Capital Program

The program consists of six sub programs with a total expenditure level of **\$45,461,700**. The following are the sub programs and corresponding expenditure levels:

Capacity Expansion -	\$26,777,500
Rehabilitation -	\$11,654,200
Traffic Operations -	\$960,000
Municipal Drainage -	\$650,000
Planning/Engineering -	\$500,000
CWATS -	\$4,920,000

The program includes Environmental Assessments, Engineering Studies, Preliminary and Detailed Design assignments.



The 2022 annual Capital Budget represents new capital projects and increases to previously approved capital projects that have been prioritized through the capital budget process based on various factors, including funding availability, readiness to proceed and the County's capacity to deliver. The Multi-Year Capital Budget represents the aggregate of all approved multi-year capital project budgets. A revised strategy will be required when the Essex Windsor Regional Transportation Master Plan update is complete. Work plans also include data collection and analysis to assist with road network management. Construction projects related to highway capacity expansion, rehabilitation, municipal drains, and County Connecting Links and intersection improvements are supported through this program.

The Rehabilitation program was developed based on the available funding allocation. An early release program is presented to Council ahead of budget deliberations.

Traffic Signal Operations provide guidance on various signal operations practices to promote consistent, safe, and efficient control of traffic signals within the County for all road users. Traffic Operations is responsible for:

- Operation of the County's traffic control systems
- Implementation of signal timing changes; and
- Signal coordination, modifications, construction timings and special event timings

Enhancements to monitor traffic on roads and paths including video detection and advanced traffic controllers at each of the signal-controlled intersections were initiated in 2020 and will continue to completion in the 2022 Budget.

A significant sub-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 as the network is reviewed and updated to provide facilities that are more desirable and meet the provincial guidelines.

Fleet & Facilities Capital

This program consists of sub programs with a total expenditure of \$4,818,600. The following are the sub programs and corresponding expenditure levels:

Fleet/Equipment - \$1,648,600

Facility Renewal - \$3,170,000

The program was developed with consideration of key cost drivers to maintain current service levels, recommended service changes to achieve budget targets as well as recommended service priorities to meet outcomes.

Facilities Management provides custodial, security, building maintenance, energy and construction services to County Facilities. The division continues to invest in tools and technology to improve and address an increasing amount of work orders annually.

Work orders will continue to increase as Facilities Management implements a comprehensive preventative maintenance program across its asset base. Opportunities for modernization and continuous improvement initiatives, including the integration of appropriate technology to enhance security, are identified for some facilities.

Included in the 2022 budget is the demolition & construction of remaining office areas in the Civic Centre. These offices have remained virtually unchanged for many years and can no longer appropriately support the staff and demands of the departments located there. The renovations will allow for more efficient use of the floor space, better utilization of available storage and meeting space as well as address employee safety, security and access. It is intended to also improve the air handling and lighting systems to bring them up to modern standards that complement the heavy computer-based work performed by the staff.

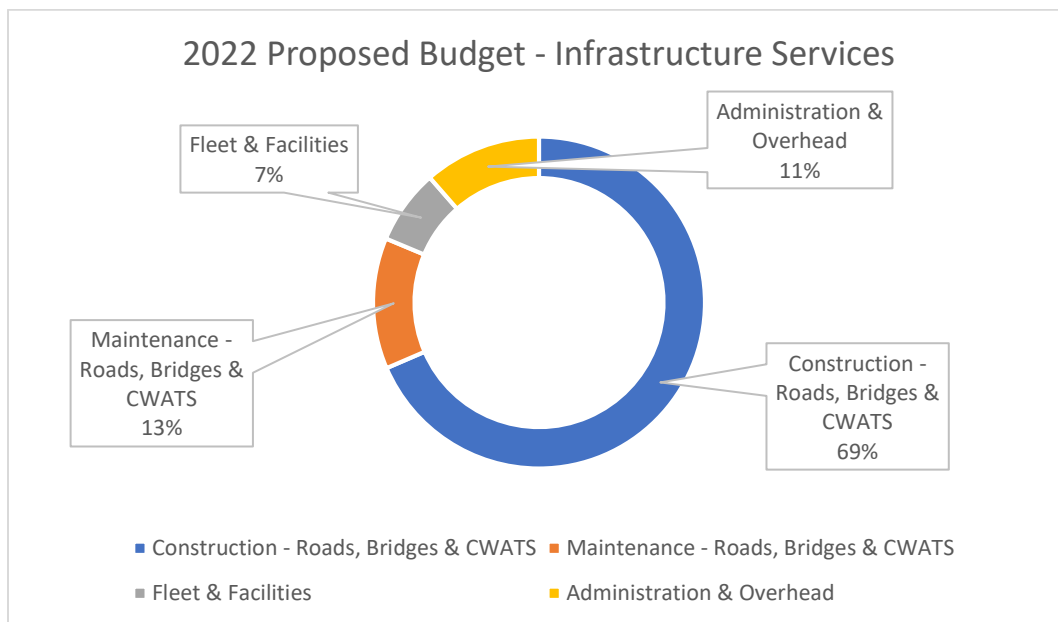


The division continues to direct the lifecycle management of the County's fleet including the acquisition, maintenance and disposal of vehicles and equipment while ensuring compliance with Provincial legislation. Fleet Services will continue to pursue ways to offset budget pressures through the development of preventative maintenance programs. As per the

AMP, the estimates include:

- Replacement of four (4) Fleet (includes upgrade to a sprinter van)
- Replacement of three (3) pieces of Equipment;
- Replacement of two (2) units (2 tandems);
- Replacement of tractor / mower to address safety concerns
- Retrofit of two (2) units (2 tandems purchased in 2021); and
- The purchase of a new forklift

The graph below illustrates the key areas of proposed 2022 Budget spending in Infrastructure Services:



Overall, the 2022 Budget for Infrastructure Services, net of recoveries, totals \$44,038,000 (0.8% increase over the 2021 Budget).