

A scenic view of a park with a fountain, trees, and a person with a bicycle. The fountain is in the background, with water spraying upwards. A person is standing on the right side, looking towards the fountain. The scene is framed by large trees in the foreground.

City of London's  
**Environmental & Engineering Services:**  
*A snapshot of what we deliver to London*

# Table of Contents

## Managing Director & City Engineer

## Regional Water Supply

## Water, Wastewater & Treatment

Water Operations

Water Engineering

Construction Administration

Industrial Land Development

Sewer Operations

Wastewater Treatment Operations

Wastewater & Drainage Engineering

## Roads & Transportation

Stormwater Management

Roadway Lighting & Traffic Control

Transportation Planning & Design

Transportation & Roadside Operations

Geomatics

## Environment, Fleet & Solid Waste

Environmental Programs

Fleet & Operational Services

Solid Waste Collection

Solid Waste Management



# MANAGING DIRECTOR & CITY ENGINEER

**Lead Name: John Braam, Managing Director & City Engineer**

Telephone: 519.661.2500 x2391 e-mail: [jbraam@london.ca](mailto:jbraam@london.ca)

## Overview

We are proud and committed to Londoners, employers and visitors. We are a large Service Area called Environmental & Engineering Services (EES). It is virtually impossible for anyone in London to get through a day without taking advantage the many public services offered to our community by EES. From the water we drink, to the roads and bridges we drive on, our work and services are visible all year long, day and night, from season to season.

EES undertakes approximately 200 capital works projects and programs yearly and is responsible for an annual budget of \$360 million (averaging a daily expenditure of approximately \$1 million). To be accountable and results-oriented for this expenditure requires over 1,000 full, part-time and contracted employees to complete a diverse array of engineering, construction, operations and maintenance services. Many of our activities occur 24 hours per day, 7 days a week.



## Environmental & Engineering Services

# MANAGING DIRECTOR & CITY ENGINEER



## Our Purpose (Mission) and Goals

Our purpose (mission) is to provide safe, dependable, affordable and environmentally responsible services that help London's communities thrive and the city prosper. Ensuring that we solve today's complex problems while navigating tomorrow's technology driven solutions is essential to managing sustainability and best value for our services.

Our two priority goals are 1) to engage and meet our customers' needs, and 2) to protect the environment and encourage an environmentally sensitive and sustainable city.

To meet our goals and fulfill our mission, our core areas include:

- Regional Water Supply
- Water, Wastewater and Treatment
- Roads and Transportation
- Solid Waste Management

Our technical, operational and multi-disciplinary collaboration services include: Construction Administration, Environmental Programs, Fleet and Operational Services, Geomatics, and Industrial Land Development.



# MANAGING DIRECTOR & CITY ENGINEER

## Our Strategic Drivers

EES must continue to demonstrate leadership in our areas of service and, equally important, be a key contributor and team player in making other City Service Areas and agencies, boards and commissions successful. To achieve this, our five key strategic drivers to meet our goal and fulfill our mission include:

1. Customer focused and delivering service excellence
2. Effective local collaboration and being connected
3. Fiscally responsible and managing our assets
4. Drive towards sustainability
5. Continuous improvement through more research, innovation and creativity



## Environmental & Engineering Services

# MANAGING DIRECTOR & CITY ENGINEER

## ***A snapshot of what we deliver to London***

This 2014 overview of EES and high level look at where we are heading in the next few years is called *A snapshot of what we deliver to London*. It is divided into 18 separate sections and covers services provided, general statistics, key performance indicators, state of infrastructure, recent accomplishments (2012 - 2014), contribution to the community and challenges & opportunities (2015 – 2018). Our strategic drivers are demonstrated throughout the sections

What may not be as obvious is the vital, ongoing contributions and services provided to EES by people and technologies across the corporation. We are very grateful to all who help us with our mission as we cannot do it without their commitment and thoughtfulness.

We look forward to working together, to delivering on our commitments and to both growing and sustaining London. We are EES - proud and committed.





# REGIONAL WATER SUPPLY 2014

**Lead Name: Andrew Henry, Division Manager – Regional Water Supply**

telephone: 519.930.3505 x1355 e-mail: ahenry@london.ca

## Services Provided

- Reports to Lake Huron and Elgin Area “Water Boards” through the systems’ CAO (City Engineer)
- Treatment and “wholesale” supply of drinking water to fourteen municipalities, including London
- Long-term planning, engineering, construction administration, quality assurance, source protection, control systems management, compliance management, and operational administration of the water systems
- Systems operated under contract with the Ontario Clean Water Agency, a Crown corporation of the Province of Ontario





# REGIONAL WATER SUPPLY 2014

## General Statistics

- Combined 2014 operating budget of ~\$29 million
- Combined 2014 capital budget of ~\$15 million
- Annual electrical consumption of ~\$5.7 million
- 181 km of transmission pipelines, between 400mm and 1,200 mm (16 inch to 48 inch), at up to 1,550 kilopascals (225 pounds per square inch) pressure

## Key Performance Indicators

- Process lost water (within treatment processes) approximately 5%
- Non-revenue water (within transmission system) approximately 3% (Elgin) and 4% (Huron)
- Total disinfection utilization approximately 2.3 kilogram per Megalitre (1,000,000 litres)
- Total energy utilization approximately 630 kilowatt-hours per Megalitre (Elgin) and 825 kilowatt-hours per Megalitre (Huron)



# REGIONAL WATER SUPPLY 2014

## State of Infrastructure

- Condition assessments completed (2012-2014) for all civil, structural, electrical, and mechanical assets; general condition found to be fair, with specific high-risk items being addressed in 2014 through 2016 capital budgets
- Condition assessment completed (2013) for primary transmission pipeline (Huron). 0.5% distressed rate, compared with “typical” anticipated rate of 4% given age and operating conditions. Five high-risk pipe segments were identified and replaced in 2013 and 2014.



## Recent Accomplishments (2012-2014)

- Huron-Elgin-London Project Clean Water (HELP Clean Water): a funding initiative in partnership with both Canada and Ontario for specific regionally significant water-related projects; Canada and Ontario provided \$50 million each.
- Twinning of the Elgin primary transmission pipeline (\$23 million) and partial twinning of the Lake Huron primary transmission pipeline (\$22 million)
- Completion of the Lake Huron Residuals Management Facility (\$24 million) to treat waste generated at the water treatment plant
- Huron Transmission Pipeline condition assessment (\$1.5 million) using the innovative PipeDiver® and Smartball® technologies from Pure Technologies Inc.
- Assisted Ontario in the development and pilot testing of the Municipal Drinking Water Licence program and Drinking Water Quality Management Standard

# REGIONAL WATER SUPPLY 2014

## Contribution to the Community

- This division and the regional water systems supply drinking water to fourteen municipalities, and serving approximately 500,000 consumers across 5,000 km<sup>2</sup> of southwestern Ontario.
- This division works closely with each municipality to achieve the goals and objectives of the regional water system in a cooperative and cost-effective manner.



## Challenges & Opportunities (2015 – 2018)

- Installation of Acoustic Fibre Optic Monitoring System (\$7.5 million) within the Huron primary transmission pipeline, to monitor the condition of the pipelines in near-real time and detect leaks before catastrophic failures occur
- Adoption of a revised Asset Management Plan using a customer-focused Level of Service and Risk Mitigation Strategy approach
- Energy and Pump Optimization Study, assessing the energy consumption, energy commodity purchasing, energy utilization and conservation, and macro-level pump strategy.
- Completion of a revised Financial Plan, incorporating the updated Asset Management Plan, Master Water Plan, Water Quality Facility Plan, and Energy/Pump Optimization Study
- Replacement of the filtration system at the Elgin Area water treatment plant (\$3.5 Million)
- Completion of a Residuals Management Facility at the Elgin Area treatment plant (\$32 Million)



# WATER, WASTEWATER & TREATMENT 2014

**Lead Name: John Lucas, Director – Water, Wastewater & Treatment**

Telephone: 519.661.2500 x5537 e-mail: [jlucas@london.ca](mailto:jlucas@london.ca)

## Who We Are

This area has, as its primary reason for existing, a focus on the protection of public health and the environment through the delivery of clean drinking water, by reclaiming water after it has been used and by disposing of contaminants removed from it in a safe manner. Water and Wastewater are highly regulated public utilities that require the application of science and engineering to plan, design, construct and operate complex systems, as well as personal commitment from decision makers.

London staff have specific training for their roles, many with significant years of service and knowledge that they share from the local to international scene.

We also provide other services for the benefit of Londoners that are based on continuous improvement principles and methods - like how we manage construction projects - and technical services to support Corporately managed economic development initiatives.

Our basic services are funded by user rates, not property taxes. As such, customer service expectations are specific to the value received – in our case, the value of water in all its forms. Clear accountabilities and financial objectives help to complete the value of water statement with a long term view to be sustainable in everything we do.



# WATER, WASTEWATER & TREATMENT 2014



## What We Do: The Four Pillars

- 1) Compliance** – Utilities are highly regulated, 24/7 operations:
  - Safe Drinking Water Act and others require licensing, operating plan and a sustainable, 20 year financial plan. These plans are managed through annual budgets, and are updated regularly. Annual reporting to the Public, Council and MOECC, including audits.
  - Standard of Care imposes personal responsibilities on all decision makers and Environmental Protection Act regulates Wastewater discharges and performance
- 2) Growth** – Industrial, Commercial and Residential growth require infrastructure:
  - Master Servicing Plans updated in 2014 – a 20 year projection
  - Industrial Land Development Strategy – direction for job creation
- 3) Best Management Practices** – Financial, operational and customer services:
  - Water Conservation and Basement Flooding protection programs
  - More Customer account information
  - Better Financial & Computerized Maintenance Management Tools for Managers
- 4) Efficiency** – Meeting forecasted cost of living rate increases in 2015 and beyond:
  - Targeting energy which is rising faster than the cost of living
  - Efficient use of workforce through maintenance management
  - Innovative and Award winning projects and use of the latest technology advances

# WATER OPERATIONS 2014

**Lead Name: John Simon, Division Manager – Water Operations**

Telephone: 519.661.2500 x4938 e-mail: jsimon@london.ca

## Services Provided

- Maintain, operate, and control drinking water infrastructure, fire hydrants, water meters, and standby emergency well supplies through operator-controlled and automated processes
- Continually monitor, test, train staff, and document and report on water quality to meet regulatory compliance as an Accredited Operating Authority
- First responders to remediate watermain breaks, leaking services and water meters, frozen services, and supply interruptions, in response to emergencies on a 24/7 basis
- Provide customer service respond to all inquiries related to the drinking water system
- Undertake scheduled preventative maintenance on components, to ensure operability
- Inspection of all waterworks, ensuring adherence to accepted standards
- Customer billing and Customer Service Centre with London Hydro



**Water, Wastewater & Treatment  
Environmental & Engineering Services**



# WATER OPERATIONS 2014

## General Statistics

- 8 pumping stations move drinking water throughout the City (averaging 120 million litres per day).
- 4 storage reservoirs hold treated water, as a readily available supply for consumption (236 million litres total storage).
- 7 standby emergency wells
- 1,575 kilometres of watermain; 11,000 control valves; 9,000 fire hydrants; 110,000 customer service connections
- 15,000 annual water tests

## Key Performance Indicators (annual average)

- Repair 150-170 watermain breaks and 180+ leaking water services
- 12000 water meters replaced in customers' homes/businesses
- 500 lead water services

## Contribution to the Community

- Clean water protects public health.
- Ensure that the City fully complies with all regulatory requirements
- Operate the waterworks infrastructure to efficiently deliver high quality and reliable water supply to London's customers for all drinking, recreational, irrigation, sanitary, fire protection, and institutional/commercial/industrial needs

## Recent Accomplishments (2012 - 2014)

- The City of London received a Final Inspection Rating of 100% compliance rating for the 2013 MOE inspection (most recent report).
- An external audit determined that the City is fully accredited as the Operating Authority for London's drinking water system under Ontario's Municipal Drinking Water Licensing Program.
- Developed and now implementing a visual flow identification/colour coding of all hydrants owned and maintained by the Water utility.
- Used advanced technological methods and equipment on some of the City's most critical transmission mains, while minimizing disruption to customers.



## Challenges and Opportunities (2015-2018)

- Commission the new Southeast Reservoir and Pumping Station facility on Highbury Avenue South to provide additional storage for the City, and improve service delivery to industrial development lands in South London
- Continual improvement initiatives associated with the Drinking Water Quality Management System, as required under our licensing through the Safe Drinking Water Act. Annual audit and report to Council on the Operational Plan, regarding its status, and identification of recommended improvement opportunities
- Complete the development and implementation of a Computerized Maintenance Management System, to bring the utility maintenance and work flow management up to industry standards
- Continue to support and assist in the development and implementation of best practices for preventative maintenance activities, such as large-diameter transmission main condition assessment for pro-active maintenance and operations, pumping station energy optimization and leak detection





# WATER ENGINEERING 2014

**Lead Name: Roland Welker, Division Manager – Water Engineering**

Telephone: 519.661.2500 x5593 e-mail: [rwelker@london.ca](mailto:rwelker@london.ca)

## Services Provided

- Long range planning and design to address growth and renewal
- Infrastructure condition assessment using historical data and innovative technologies
- Conservation and education
- Billing system for water and wastewater
- Provide customer service on water accounts
- Source Water Protection for the standby wells
- Ensure regulatory compliance by decommissioning production wells which were previously abandoned
- Maintain the City's water distribution model for hydraulic capacity and water quality analyses
- Backflow Prevention Program to ensure the safety of municipal drinking water
- Development application reviews



**Water, Wastewater & Treatment  
Environmental & Engineering Services**

## General Statistics

- There are 12 staff in Water Engineering division.
- 112,000 customer accounts of which 5,100 are industrial, commercial and institutional
- Administer design and monitor construction of \$25 million of capital projects
- Development Applications processed (all types):  
2012: 413 | 2013: 314 | 2014: 208 (Jan-Oct)



## State of Infrastructure

- In 2013, the water infrastructure owned by the City was valued at \$2.7 billion in replacement cost.
  - 60% is buried pipe infrastructure considered to be in fair to very good condition
- On-going renewal programs are focused pipes in poor condition, particularly the cast iron watermains which represent approximately 30% of the system, but account for over 90% of the City's total watermain breaks (break frequency on these watermains is increasing).
- With over 600 km of watermain requiring renewal, the desired level of service will take over 30 years to achieve, with the highest priority watermains being renewed in the first 10 years.



# WATER ENGINEERING 2014

## Contribution to the Community

- Support safety and quality of life through high quality water and adequate supplies to sustain indoor and outdoor water use
- Provide fire protection infrastructure and water at adequate flow and pressure to fight fires
- Provide water supply for economic development



## Key Performance Indicators (2013)

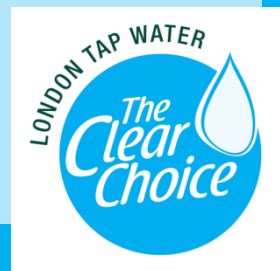
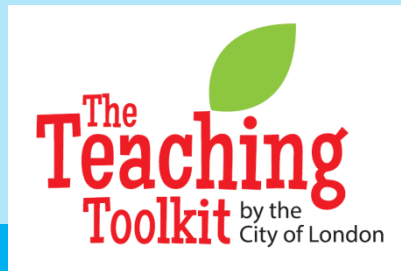
- Sold 42 billion litres of water
- Non-revenue water at 10.8% is well below industry standards.
- Variable annual customer service interruptions due to watermain breaks because of winter weather and overall system condition



# WATER ENGINEERING 2014

## Recent Accomplishments (2012-2014)

- New funding model for the water, wastewater and stormwater utilities
- Updated Water Financial Plan achieving financial sustainability by 2016 with minimal debt
- Developed a calibrated computer model of the water distribution system for hydraulic capacity and water quality analyses
- Undertook energy optimization at two of the City's eight pumping stations and received grants to undertake the work.
- Prepared [web-based teacher resource material](#) for elementary and high schools to improve awareness and educate students on the water system



## Challenges & Opportunities (2015-2018)

- Build appropriate reserve fund going forward in a period of declining water sales
- Continue the development of teacher resource materials in partnership with the school boards to improve the understanding of the value of water
- Continue the use of structural lining technology using trenchless techniques versus full replacement
- Utilize computer model of the distribution system to optimize energy usage at the pumping stations and undertake a vulnerability assessment of the system
- Complete condition assessment of 20% of the large diameter watermains inside London

Your Bill is Changing



# CONSTRUCTION ADMINISTRATION 2014

**Lead Name: Justin Lawrence, Division Manager – Construction Administration**

Telephone: 519.661.2500 x1896 e-mail: jglawren@london.ca



## Services Provided

- Manage internal coordination process to define scope of future infrastructure projects
- Manage RENEW London system – communication to public, media, emergency services, agencies
- Road/sewer/water/streetscape/stormwater/landfill construction project management
- In-house engineering design and construction inspection
- Sewer asset condition inspection and rehabilitation strategies
- Manage coordination and relationship with all private utilities and agencies



**Water, Wastewater & Treatment  
Environmental & Engineering Services**





# CONSTRUCTION ADMINISTRATION 2014

## General Statistics

- Manage \$70 million of infrastructure projects per year
- 20 major and 50 minor construction projects per year
- \$12 million of infrastructure projects engineered and inspected in-house
- 10 km of sewer trenchless lined per year which saves City approximately \$12 million per year
- 120 km of sewer inspected per year to ensure accurate knowledge of \$2.9 million asset

## Key Performance Indicators

- 6 year record of being under budget on a program basis by 8% or \$5 million per year
- Over 90% of projects completed on schedule
- Over 60% of property owners rank satisfaction of construction project as good/excellent. 6 year record of consecutive rating improvements





# CONSTRUCTION ADMINISTRATION 2014



## State of Infrastructure

- Over 80% of the City's storm and sanitary sewers are in fair to good condition.
- There is an established and detailed strategy on condition assessment to reduce risk and direct our reconstruction and rehabilitation programs.
- The City has excellent knowledge of our sewers and proactively maintains and upgrades this system with a long term vision.

## Contribution to the Community

- Road construction in London uses extensive recycling of road bases to reduce costs and minimize the environmental impact of aggregate extraction.
- Work with local residents and businesses to communicate and minimize the negative social impact of construction projects
- Strive to ensure projects are completed within budget and with the best value for each tax dollar spent on infrastructure
- Utilize trenchless construction to minimize disruption

# CONSTRUCTION ADMINISTRATION 2014

## Recent Accomplishments (2012 - 2014)

- Construction of Hyde Park Widening, Sunningdale/Wonderland Roundabout, Fanshawe/Highbury intersection, Oxford Road Widening, Southdale Road Widening
- Improved construction project communication through RENEW London system, easier to read homeowner letters, and e-mail updates during projects
- Very good safety record for staff, contractors, and affected public



## Challenges and Opportunities (2015 – 2018)

- More stringent interpretation of provincial health and safety requirements increasing negative social impact of construction projects and driving costs up
- Work towards shortening schedule of construction projects on major roads and intersections without significant impact to budgets
- Coordinating City-wide construction program in a road system that is at capacity





# INDUSTRIAL LAND DEVELOPMENT 2014

**Lead Name: Robert Sutton, Division Manager – Industrial Land Development**

Telephone: 519.661.2500 x5585 e-mail: [rsutton@london.ca](mailto:rsutton@london.ca)

## Services Provided

- Engineering Management to provide, for sale, high quality, serviced, 'shovel ready' industrial parcels of a size and location in accordance with the 2014 Industrial Land Development Strategy (ILDS)
- The ILDS development cycle generally includes the development of strategy, property acquisition, planning, design, servicing, marketing and sales, site plan development, and business retention.
- Industrial Land Development works collaboratively and in coordination with a number of City partners, including: Communications; Corporate Services (e.g. Finance, Legal and Realty); Development and Compliance Services; Intergovernmental Affairs; London Economic Development Corporation (LEDC); and Planning.



**Water, Wastewater & Treatment  
Environmental & Engineering Services**



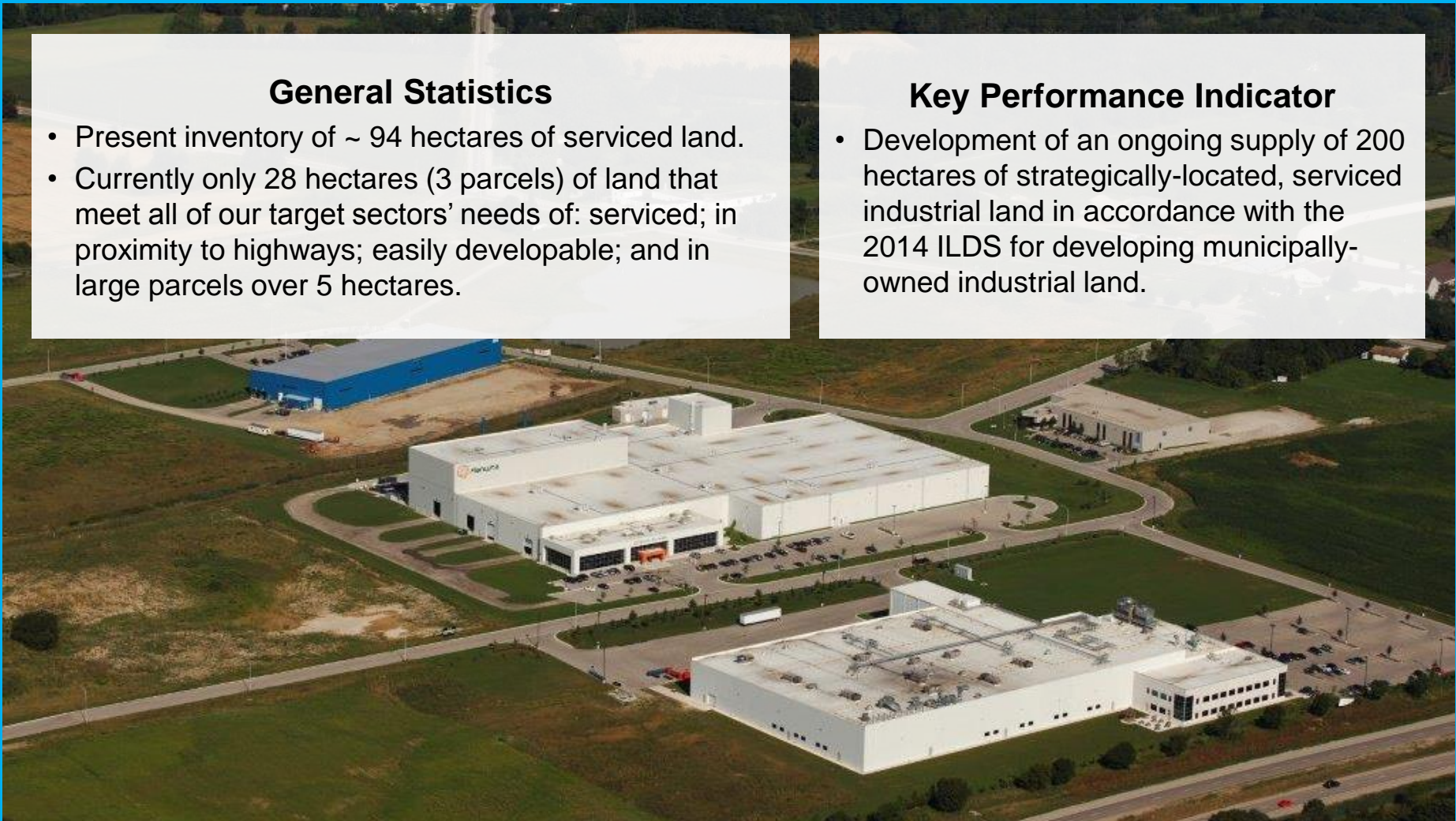
# INDUSTRIAL LAND DEVELOPMENT 2014

## General Statistics

- Present inventory of ~ 94 hectares of serviced land.
- Currently only 28 hectares (3 parcels) of land that meet all of our target sectors' needs of: serviced; in proximity to highways; easily developable; and in large parcels over 5 hectares.

## Key Performance Indicator

- Development of an ongoing supply of 200 hectares of strategically-located, serviced industrial land in accordance with the 2014 ILDS for developing municipally-owned industrial land.



# INDUSTRIAL LAND DEVELOPMENT 2014



## Contribution to the Community

- As reported by the LEDC, “since 2001, London’s ILDS has resulted in attracting 65 new facilities and created close to 4,000 new jobs”
- In addition to the almost 4,000 new industrial jobs, construction servicing by the City, as well as the construction of the buildings by the new companies, creates construction employment of approximately 1 person-year for every \$90,000 in construction cost.

## Recent Accomplishments (2012-2014)

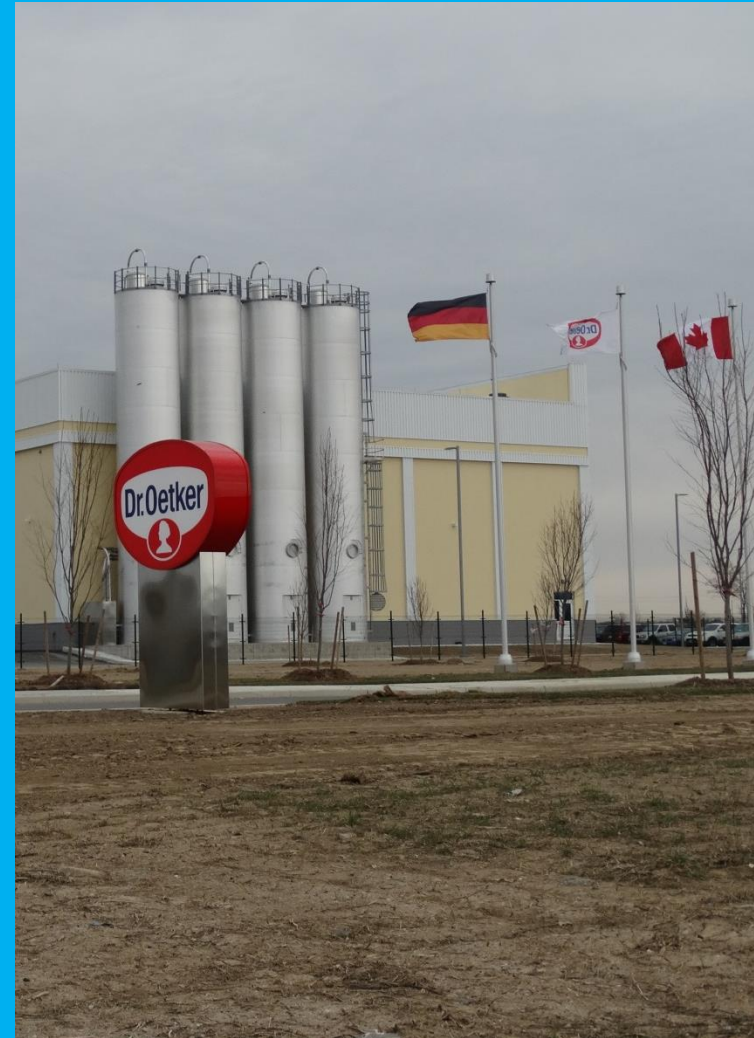
- Approximately 300 hectares of saleable land serviced in the past ~10 years, including Innovation Park (Phases 1-4), Skyway Industrial Park (Phase 1 & 2) and Forest City Industrial Park (Phase 1 & 2)
- Approximately \$32 million of senior level funding utilized in related servicing contracts of approximately \$83 million in total value



# INDUSTRIAL LAND DEVELOPMENT 2014

## Challenges & Opportunities (2015 – 2019)

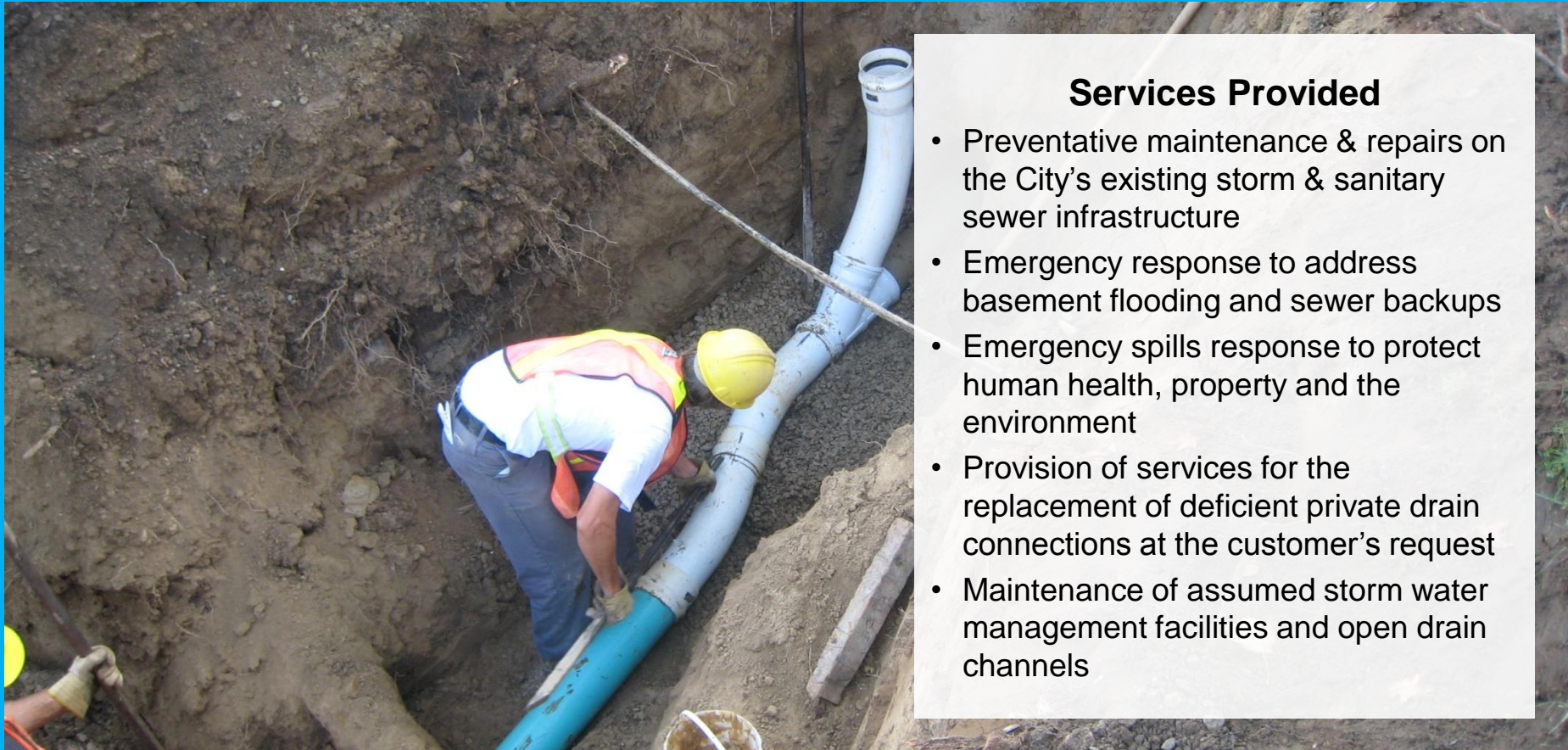
- Achieving the ILDS goal of maintaining 200 hectares of serviced industrial land is subject to a number of items, including timely property acquisition, projected property sales of 100 hectares every 5 years, and securing sufficient funding from other levels of government.
- The City has put forth an aggressive partnership proposal, *Unlocking Prosperity*, to the Provincial and Federal governments. *Unlocking Prosperity* is trying to secure \$80 million of senior level funding for a \$120 million program to service approximately 300 hectares of saleable industrial land within the next 5 years. This program could lead to 4,600 new industrial jobs and 4,000 new construction jobs over the next 10 years. The City would be responsible for \$40 million in servicing costs and the costs have been included in the 2015 Budget.
- The ILDS would have to proceed at a less aggressive, slower rate, if the City does not receive the full servicing partnership from the senior levels of government. The City will miss opportunities for investment and job creation by not having enough large sites market ready.



# SEWER OPERATIONS 2014

**Lead Name: Rick Pedlow, Division Manager – Sewer Operations Division**

Telephone: 519.661.2500 x4623 e-mail: rpedlow@london.ca



## Services Provided

- Preventative maintenance & repairs on the City's existing storm & sanitary sewer infrastructure
- Emergency response to address basement flooding and sewer backups
- Emergency spills response to protect human health, property and the environment
- Provision of services for the replacement of deficient private drain connections at the customer's request
- Maintenance of assumed storm water management facilities and open drain channels



# SEWER OPERATIONS 2014

## General Statistics

- If assembled end to end, the City's sanitary and stormwater pipes would be long enough to connect London to Cuba (~2,670 km).
- 412 billion litres of stormwater managed
- A crew of only 12 sewer maintenance operators is responsible for the functionality of the City's entire storm and sanitary sewer infrastructure.
- There are approximately 37,700 manholes and 30,000 catchbasins in the City of London.
- The City maintains 22 wet ponds, 4 dry ponds, 2 wetlands, 1 hybrid and 12 open channels.



# SEWER OPERATIONS 2014



## Key Performance Indicators (National Benchmarking Initiative)

- Number of blocked sanitary sewers per 100 km is one of the best results, if not the best result in Canada, and at a cost near the median
- Percentage of the total wastewater collection system cleaned annually is strategically being lowered from 86% to 67% based on value

## Contribution to the Community

- Providing a safe and functional storm and sanitary sewer system to protect the health of the community and the environment
- Providing educational awareness to customers through local school forums, public information sessions and special events



# SEWER OPERATIONS 2014

## Recent Accomplishments (2012 - 2014)

- Introduction of recycled water into the City's sanitary sewer maintenance program
- Replacement of two 35-foot-deep manholes to advance a complex brick sewer lining program
- Lining of a significantly deep and old sanitary trunk sewer through means of trenchless technology
- Completion of 6 full stormwater management pond rehabilitations

## Challenges and Opportunities (2015 – 2018)

- The addition of recycled water hook-ups across the city to improve the efficiency and economics of the City's sanitary flushing program (2015)
- Completion of the multi-year, Gordon Trunk Sanitary Sewer Rehabilitation Project through trenchless technology (2016)
- Implementation of a Computerized Maintenance Management System (CMMS) to streamline and manage current work processes



# WASTEWATER TREATMENT OPERATIONS 2014

**Lead Name: Geordie Gauld, Division Manager – Wastewater Treatment Operations**

Telephone: 519.661.2437 e-mail: ggauld@london.ca

## Services Provided

- Water recovery and environmental protection
- Operations and maintenance of Wastewater Treatment Plants and Pumping Stations
- Maintenance, Electrical and SCADA support services for Water and Solid Waste
- Wastewater Capital Works including facility expansions and upgrades



**Water, Wastewater & Treatment  
Environmental & Engineering Services**



# WASTEWATER TREATMENT OPERATIONS 2014



## General Statistics

- 6 Wastewater Treatment Plants
- 36 Wastewater Pumping Stations
- In 2013:
  - 76 billion litres treated
  - 17,700 tonnes of Biochemical Oxygen Demand (BOD) removed (98.9 %)
  - 424 tonnes of phosphorus removed (91.4%)

## Key Performance Indicators

- \$233 per megalitre (1,000,000 litres) overall treatment cost
- 99% of plant flows receive full treatment
- Six Environmental Compliance Approval (ECA) Violations in 2013
- Biosolids Management system is 2-4 times more cost-effective than other alternatives.

# WASTEWATER TREATMENT OPERATIONS 2014

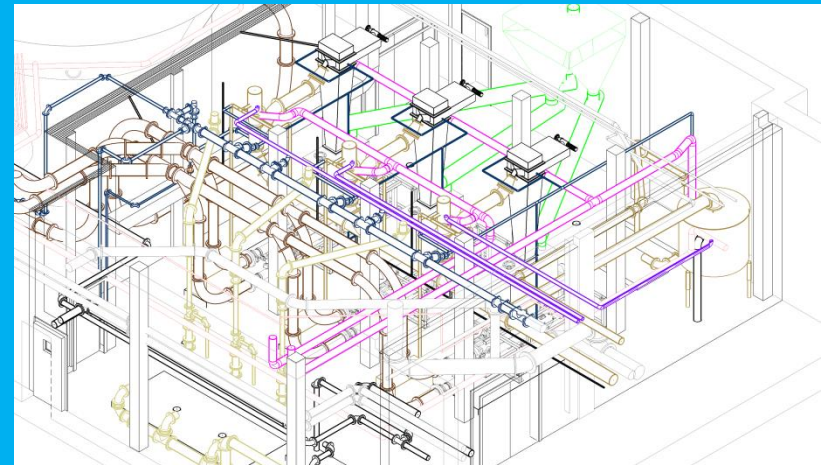


## State of Infrastructure

- Overall condition of the Wastewater Treatment Infrastructure is Fair to Good.
- Budgets are in place to allow the replacement of equipment at the end of its service life.
- Ongoing Renewal efforts will help extend asset service life without compromising treatment quality.

## Contribution to the Community

- Key component in the ongoing effort to revive the Thames;
- up to 50% of the dry weather flow of the Thames River in summer months
- Working toward improving effluent quality while ensuring treatment capacity can accommodate growth





# WASTEWATER TREATMENT OPERATIONS 2014

## Recent Accomplishments (2012 - 2014)

- Biosolids upgrades completed at Greenway (2013) with \$400,000 in annual operations savings and \$33 million in deferred Capital Expenditures
- International Water Centre of Excellence (IWCE) completed at Greenway (2014)
- Greenway Ash System
  - 2012 Ontario Public Works Association and American Public Works Association-Technical Innovation Award
  - 2014 Water Environment Association of Ontario-Exemplary Biosolids Award
- Vauxhall Plant Upgrades-2014 Ontario Consulting Engineers-Award of Merit
- Vauxhall high efficiency blower upgrade-\$340,000 installed cost with \$130,000 in annual hydro savings plus \$205,000 Ontario Power Authority incentives



## Challenges & Opportunities (2015 – 2018)

- Greenway Expansion-construction will begin in spring 2015.
- The Optimization Strategy will provide a roadmap for future works including:
  - wet weather treatment improvements
  - flood proofing
  - capacity expansions and optimization
  - life cycle renewals
  - efficiency upgrades
- Establish IWCE as a World Class Research and testing facility

# WASTEWATER & DRAINAGE ENGINEERING 2014

**Lead Name: Tom Copeland, Division Manager – Wastewater & Drainage Engineering**

Telephone: 519.661.2500 x4662 e-mail: [tcopelan@london.ca](mailto:tcopelan@london.ca)

## Services Provided

- Rebuild sanitary and storm sewer servicing infrastructure that is at the end of its lifespan
- Plan and construct sanitary servicing to accommodate a growing City
- Resolve system wide problems such as basement flooding and combined sewer overflows
- Bylaws / Policies / Design Standards updates and management
- Customer Liaison / Management of Sump Pump Grant Program
- Liaise with internal and external groups and agencies on issues such as: development and growth, system optimization, industrial land servicing emergency services and health of Thames River
- Division Manager serves as London's Municipal Flood Coordinator



**Water, Wastewater & Treatment  
Environmental & Engineering Services**



## General Statistics/

### Key Performance Indicators

- Produce and distribute internally a monthly Rainfall and Flooding Report
- Development Applications processed (all types):
  - 2012: 413
  - 2013: 314
  - 2014: 208 (Jan-Oct)
- Plan, budget, manage design and tender \$20 - \$30 million sewer capital works annually
- Manage installation, ongoing maintenance, and data of 30-40 sewer flow monitoring locations
- Total customer flooding calls received of any type (and basement flooding):
  - 2011: 649 (528)
  - 2012: 348 (287)
  - 2013: 577 (466)
  - 2014: 616 (516)



# WASTEWATER & DRAINAGE ENGINEERING 2014

## Contribution to the Community

- Planning, budgeting and construction of growth-related servicing works help ensure that London's economy continues to grow.
- The Pollution Prevention Control Plan and our involvement in more comprehensive watershed improvement initiatives such as the Thames River Clear Water Revival result in improved Thames River water quality to be enjoyed for generations to come.
- Planning, budgeting and investing sewer rate revenue into lifecycle replacement works, that will last a century, and allow our customers to continue to enjoy a high quality of life and health that they expect and demand.

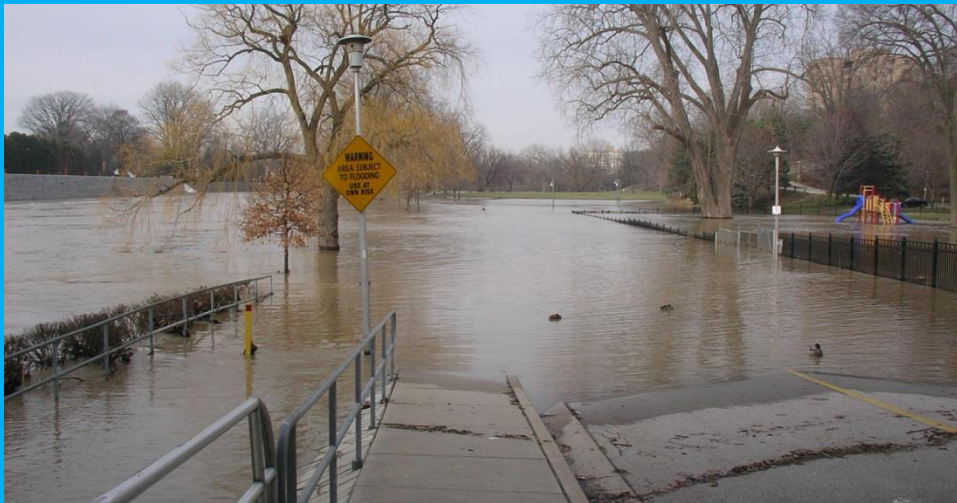


## Recent Accomplishments (2012-2014)

- Entered into the second phase of a multi year Pollution Prevention Control Plan that will reduce combined sewer overflows and bypasses to the Thames River.
- Successful completion of pilot project that went onto private property to publically fund and construct a neighbourhood basement flooding protection plan.



# WASTEWATER & DRAINAGE ENGINEERING 2014



## Challenges and Opportunities (2015 – 2018)

- York and King Streets Sewer Separation Strategy: The existing combined sewers downtown represent 3,400 linear meters of pipe that were installed between 1852 and 1926. Separation and replacement of these combined sewers will allow for the intensification of the downtown core.
- Construct Development Charges funded sanitary servicing works in the southwest quadrant
- Develop, budget and construct mitigation works to reduce combined sewer overflows and bypasses to the Thames River
- Completion of trunk works in the Burbrook/Vauxhall area that will allow the separation of combined sewers and reduce the likelihood of basement flooding





# ROADS & TRANSPORTATION 2014

## What we do

We provide our services directly or indirectly to all London citizens, including businesses, development community, industry, agencies, residents and visitors:

- **Stormwater Management** provides environmental protection of water resources through the effective management of stormwater quantity and quality control through a system of regional stormwater management facilities.
- **Transportation Planning & Design** takes the lead with the delivery of sustainable transportation infrastructure, rapid transit implementation, mobility planning, roadway safety, cycling infrastructure and asset management.
- **Roadway Lighting & Traffic Control** manages the traffic signal system, street lighting and traffic signs, the lifecycle renewal of the assets, optimization of traffic flows and the delivery of the School Crossing Guard program.
- **Transportation and Roadway Operations** manages the maintenance of the roadway system, including winter control operations and forestry operations.
- **Geomatics** provides land surveying, geographic information system, digital mapping and paralegal survey support for the corporation.



*“providing  
transportation mobility  
choices while ensuring  
that roads and bridges  
remain safe and in a  
state of good repair”*

# STORMWATER MANAGEMENT 2014

**Lead Name: Scott Mathers, Division Manager – Stormwater Management**

Telephone: 519.661.2500 x4430 e-mail: [smathers@london.ca](mailto:smathers@london.ca)

## Services Provided

- Protection of the environment through the quality and quantity control of stormwater
- Water resources planning and the implementation of Regional stormwater management facilities
- Manage the water resources component of climate change adaptation
- Maintain and manage the repair and reconstruction of the City's system of dykes with agency partners
- Support development through the review of stormwater servicing development studies
- Respond to and mitigate flooding complaints



**Roads & Transportation**  
**Environmental & Engineering Services**



# STORMWATER MANAGEMENT 2014



## General Statistics

- 131 existing Stormwater Management Facilities, including 92 ponds
- 28 proposed Stormwater Management Facilities identified to be constructed over the next 5 years, including 7 facilities currently in the design phase
- Over 75 site visits and 200 phone calls for property flooding investigations yearly
- 10 to 15 municipal drain repairs and cleanouts per year
- 116 Site Plan Applications reviewed on average per year over past 3 years
- 376 Applications (variances, site plans, consents, amendments) reviewed on average per year over past 3 years

## Key Performance Indicators

- 92% of stormwater management ponds are in good or very good condition



# STORMWATER MANAGEMENT 2014

## State of Infrastructure

- The City's SWM facilities are rated in overall very good Fair condition in the Corporate State of Infrastructure Report.
- "Just in Time" Design and Construction process delivers new SWM facilities in conjunction with development.

## Contribution to the Community

- The Division plans, designs and constructs SWM facilities that balance the needs of the community with natural environment, societal and economic considerations.
- Supports development through the timely delivery of SWM servicing.
- Manages public risk and the protection of the water resource environment as it relates to stormwater management.



# STORMWATER MANAGEMENT 2014

## Recent Accomplishments

- Constructed the Hyde Park #4 Stanton Drain Stormwater Management Facility
- Transition of all new SWM facility design and construction management to the City through the approval of the Development Charges bylaw
- Development of new Wildlife Management Policy in conjunction with Planning
- Constructed the Old Victoria #2 Stormwater Management Facility



## Challenges & Opportunities (2015 – 2018)

- Completion of Climate Change Adaptation Water Resource Strategies
- Implementation of Regional SWM facilities as identified in the Growth Management Implementation Strategy
- Construction of the Dingman Creek Erosion Control Facility
- Construction of Fox Hollow #1 Stormwater Management Facility Phase 1

Roads & Transportation

Environmental & Engineering Services

# ROADWAY LIGHTING & TRAFFIC CONTROL 2014

**Lead Name: Shane Maguire, Division Manager – Roadway Lighting & Traffic Control**  
Telephone: 519.661.2500 x8488 e-mail: smaguire@london.ca

## Services Provided

- Optimization of traffic flows through the coordination of signals
- Design and maintenance of street lights
- Design and maintenance of traffic signals
- Manage Traffic & Parking policy
- Implementation of sign changes resulting from by-law amendments
- Traffic data collection
- School Crossing Guard Program

## Key Performance Indicators

- \$178 - Operating Cost per Street Light
- \$6,148 - Operating Cost per Traffic Signal





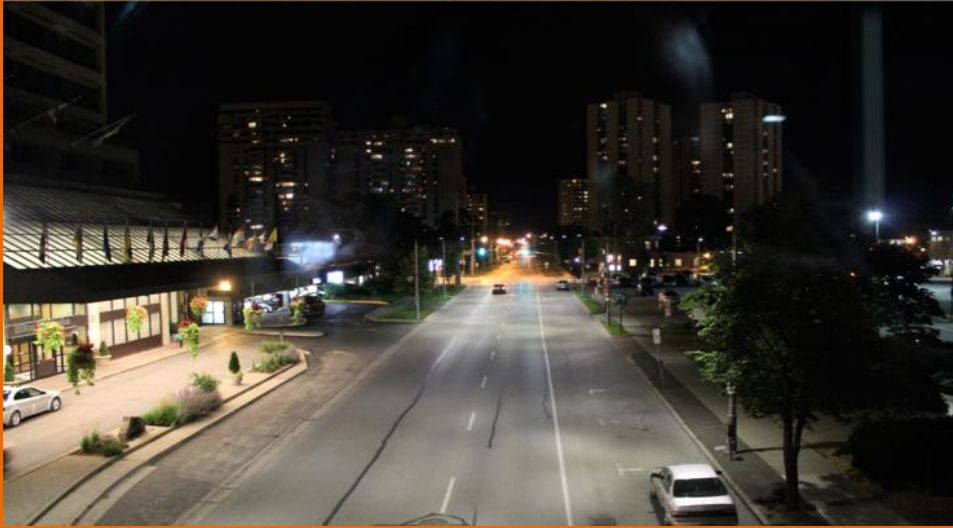
# ROADWAY LIGHTING & TRAFFIC CONTROL 2014

## General Statistics

- Over 35,000 street lights ranging in wattage from 70 watts to 400 watts
- 355 traffic signals and 39 intersection pedestrian signals
- Over 4,000,000 vehicles counted in 2013
- 108 School Crossing Guard locations



# ROADWAY LIGHTING & TRAFFIC CONTROL 2014



## Contribution to the Community

- Roadway Lighting & Traffic Control Division provides pedestrian/vehicular traffic controls, school crossings, appropriate lighting, signage and pavement markings for safe and effective mobility needs of the public in accordance with the Highway Traffic Act on public streets.

## Recent Accomplishments (2012 - 2014)

- Adopted Light Emitting Diode (LED) street lights for all new major road projects with 543 to be installed by the end of 2014
- 102 traffic signals have been upgraded to include Countdown Pedestrian Signals
- 91 traffic signals now have Audible Pedestrian Signals
- Seamless transfer of the School Crossing Guard Program from the London Police in 2013



# ROADWAY LIGHTING & TRAFFIC CONTROL 2014

## Challenges & Opportunities (2015 – 2018)

- In 2015, potential implementation of Phase 1 (cobra-style lights on major roads) conversion of High Pressure Sodium (HPS) street lights to LED street lights.
- Prepare a business case for the potential implementation of Red Light Camera enforcement in 2017 to improve safety at London's signalized intersection.
- Review School Crossing Program in consultation with community and stakeholders.
- Upgrades/optimization of the traffic signal system for increased traffic flow coordination.



# TRANSPORTATION PLANNING & DESIGN 2014

**Lead Name: Doug MacRae, Division Manager – Transportation Planning & Design**  
Telephone: 519.661.2500 x4637 e-mail: [dmacrae@london.ca](mailto:dmacrae@london.ca)

## Services Provided

- Implementation of capital projects identified in the Transportation Master Plan
- Delivery of the Rapid Transit initiative
- Renewal of transportation lifecycle assets
- Effective response to operational and safety concerns
- Engineering and Education for Traffic Safety Initiatives
- Implementation of Active Transportation (walking and cycling) facilities
- Transportation Asset Management



**Roads & Transportation  
Environmental & Engineering Services**



# TRANSPORTATION PLANNING & DESIGN 2014

## General Statistics

- \$1.8 billion is the value of the Roads and Structures Network
- \$45 million 2014 capital budget (combined growth and life cycle renewal)
- 3526 lane-km of roads
- 195 bridges and large culverts
- 63 km of cycling lanes and boulevard paths in the right-of-way
- 1471 km of sidewalks

## Key Performance Indicators

- 105 lane-km of roads improved in 2014
- 54% of paved roads are in good or very good condition
- 10% reduction in injury or fatal collisions by 2019 is the goal of the London Road Safety Strategy
- 19% of major roads in the Urban Growth Area are over traffic capacity





## State of Infrastructure

- The City's roads and structures are rated in overall Fair condition in the Corporate State of Infrastructure Report.
- The Transportation Infrastructure Gap of \$271 million has been identified as a critical need to be addressed in order to mitigate pressures on operating and maintenance budgets, maintain roadways at an acceptable level of repair and meet public expectations.

## Contribution to the Community

- The Division plans, designs and constructs roads that balance the needs of all mobility users (pedestrians, cyclists and drivers).
- Societal, economic and environmental considerations are the underlying principles in the development of a sustainable transportation system.
- Transportation mobility supports London's economy by enabling the safe efficient movement of people and goods.
- The Division responds to over 500 public traffic concerns per year.



# TRANSPORTATION PLANNING & DESIGN 2014

## Recent Accomplishments (2012 - 2014)

- Completion of the Transportation Master Plan and incorporation of projects into the approved Development Charges by-law
- Hyde Park Road Improvements (underway)
- King Street and Meadowlily Century Bridge Rehabilitations
- Hwy 401 / Wonderland Road New Interchange (underway)
- Wonderland Road / Sunningdale Road Roundabout
- Over 12 km of new sidewalks in priority areas
- Gore Road Bridge Replacement
- Southdale Road Improvements

## Challenges & Opportunities (2015 - 2018)

- Implementation of the Smart Moves Transportation Master Plan will improve mobility and support economic growth and quality of life for Londoners
- The Rapid Transit initiative will lay the groundwork for enhanced sustainable mobility options for all Londoners in the coming decades and will promote/catalyze infill and intensification opportunities consistent with the draft London Plan.
- A new Cycling Master Plan will identify future actions to promote mobility choices that improve the quality of life and health of Londoners.



# TRANSPORTATION & ROADSIDE OPERATIONS 2014

**Lead Name: John Parsons, Division Manager – Transportation & Roadside Operations**  
Telephone: 519.661.2500 x8491 e-mail: [jparsons@london.ca](mailto:jparsons@london.ca)  
Environmental & Engineering Services Call Center: 519.661.4570

## Services Provided

- Roadway maintenance
- Winter maintenance of roads, sidewalk and bus stops
- Street sweeping
- Pothole repairs
- Bridge cleaning and repairs
- Traffic signage and line marking
- Utility cut repairs
- Sidewalk and curb and gutter repairs
- Gravel road and shoulder maintenance
- Graffiti removal within the right of way
- Forestry Operations within right-of-way
- Street tree planting
- Downtown maintenance



**Roads & Transportation**  
**Environmental & Engineering Services**



# TRANSPORTATION & ROADSIDE OPERATIONS 2014



## General Statistics

- \$29.2 million operating budget
- 3,526 lane-km of road and 1,460 km of sidewalk (maintained)
- Over 15,000 calls received to Call Center (661-4570) and Forestry Dispatch (661-5783)
- 122,000 trees within road allowance
- 16,500 street name signs at 7,000 intersections
- Over 90 winter snow events

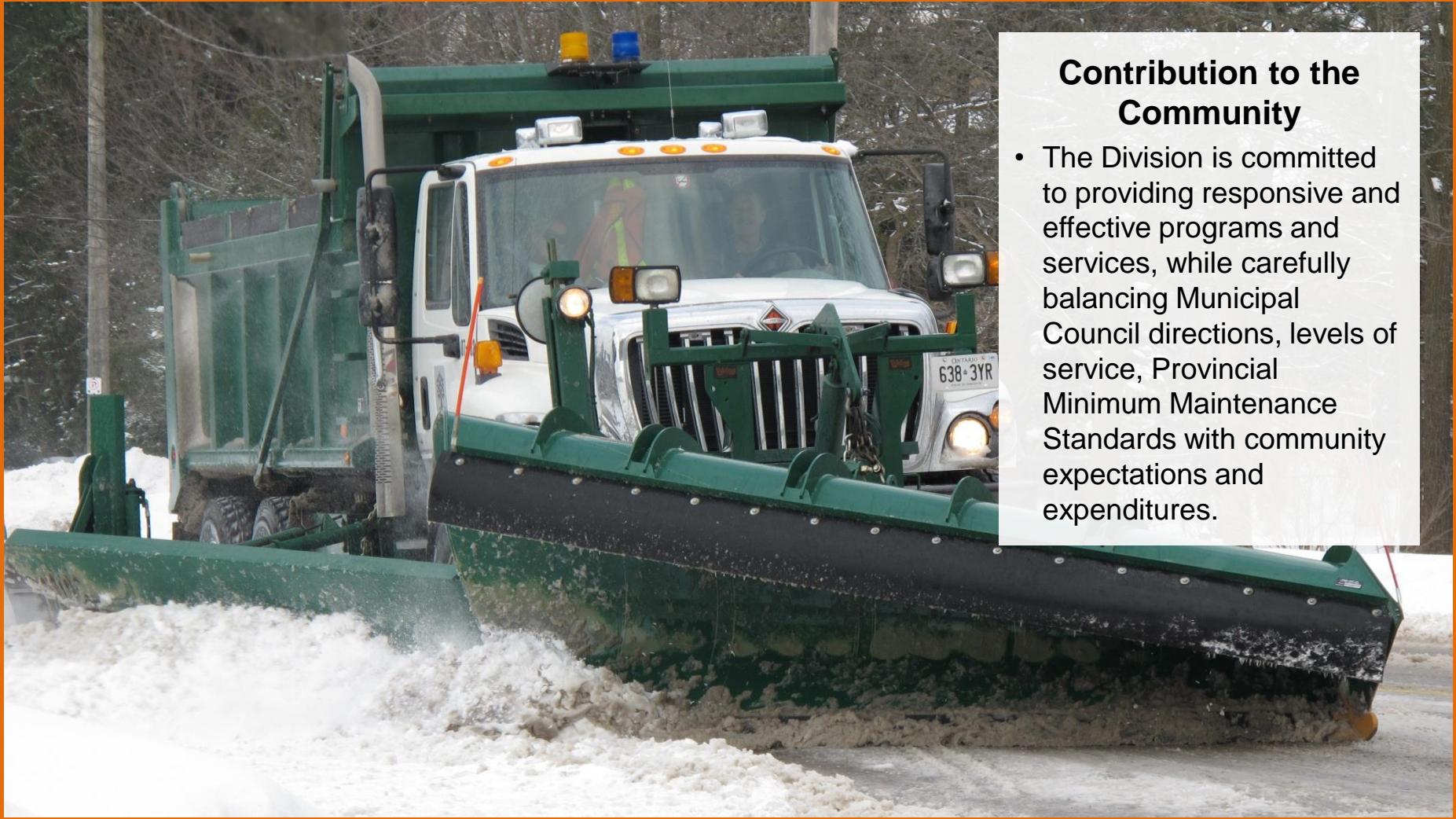
## Key Performance Indicators

### (Ontario Municipal Benchmarking Initiative)

- Maintenance costs
  - Unpaved Road maintenance cost: \$14,167.65/lane-km
  - Hard top maintenance cost: \$4,829.66/lane-km
  - Winter maintenance cost: \$3,378.94/lane-km
  - Sidewalk maintenance cost: \$1000/km



# TRANSPORTATION & ROADSIDE OPERATIONS 2014



## Contribution to the Community

- The Division is committed to providing responsive and effective programs and services, while carefully balancing Municipal Council directions, levels of service, Provincial Minimum Maintenance Standards with community expectations and expenditures.



# TRANSPORTATION & ROADSIDE OPERATIONS 2014

## Recent Accomplishments (2012 - 2014)

- Providing winter control services through consecutive high snowfall and severe winters.
- Effectively managing Emerald Ash Borer (EAB) infestation, which impacted over 10,000 street trees
- Maintained a clean downtown during the World Figure skating Championship and Memorial Cup

## Challenges & Opportunities (2015 – 2018)

- AODA implementation and potential service level enhancements
- Increased funding for Council endorsed Urban Forestry Strategy Targets
- Communication / engagement of the public in the delivery of service



# GEOMATICS 2014

**Lead Name: Gary Irwin, Chief Surveyor and Division Manager – Geomatics**

Telephone: 519.661.2500 x5728    e-mail: girwin@london.ca



## **Services Provided**

- Land Surveying
- Computer Aided Drafting services
- Geographic Information Systems services
- Digital Mapping services
- Locate support for City utilities
- Drawing Database Management
- Engineering Plan File management
- Paralegal support for City owned property

**Roads & Transportation  
Environmental & Engineering Services**



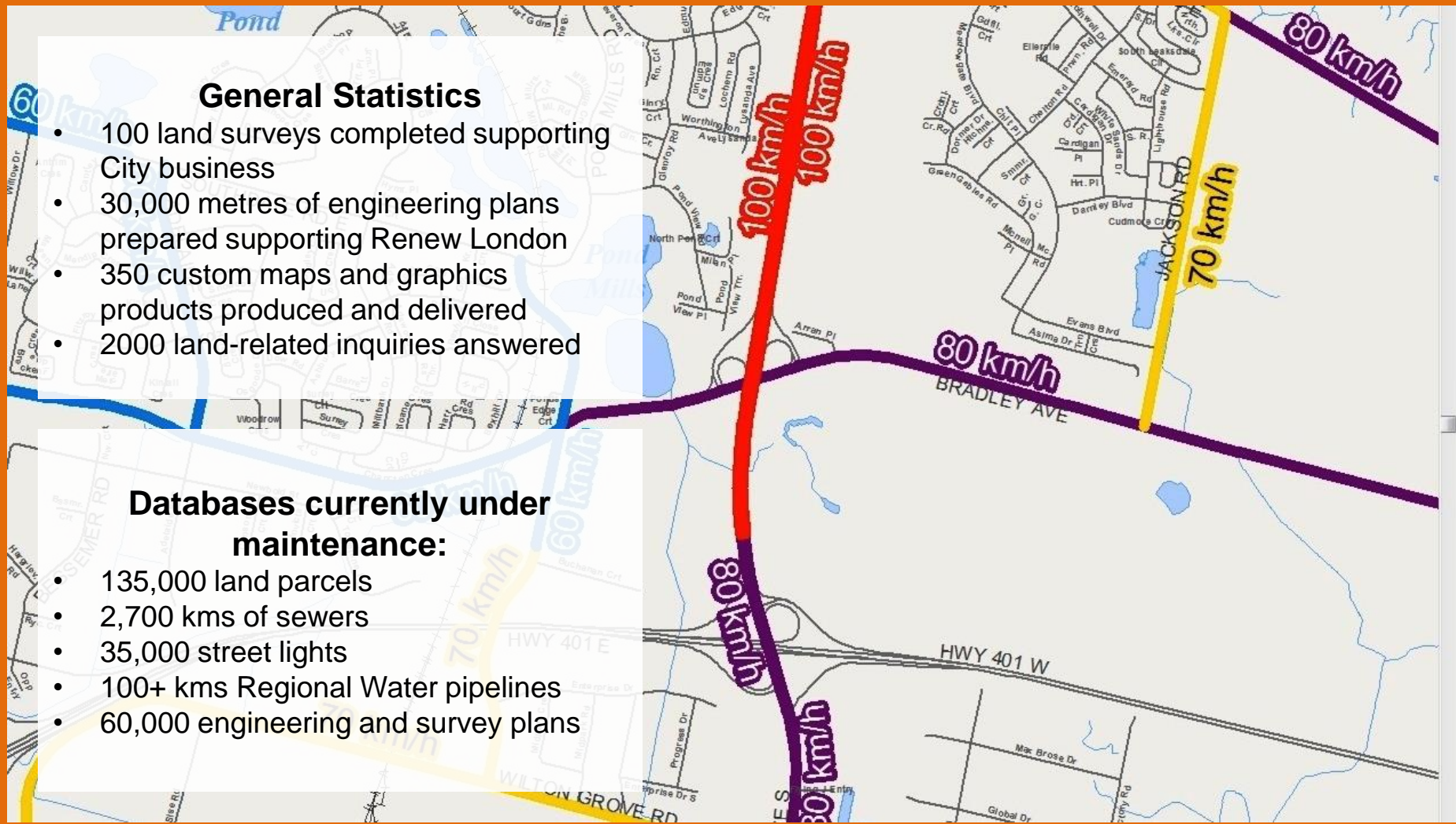
# GEOMATICS 2014

## General Statistics

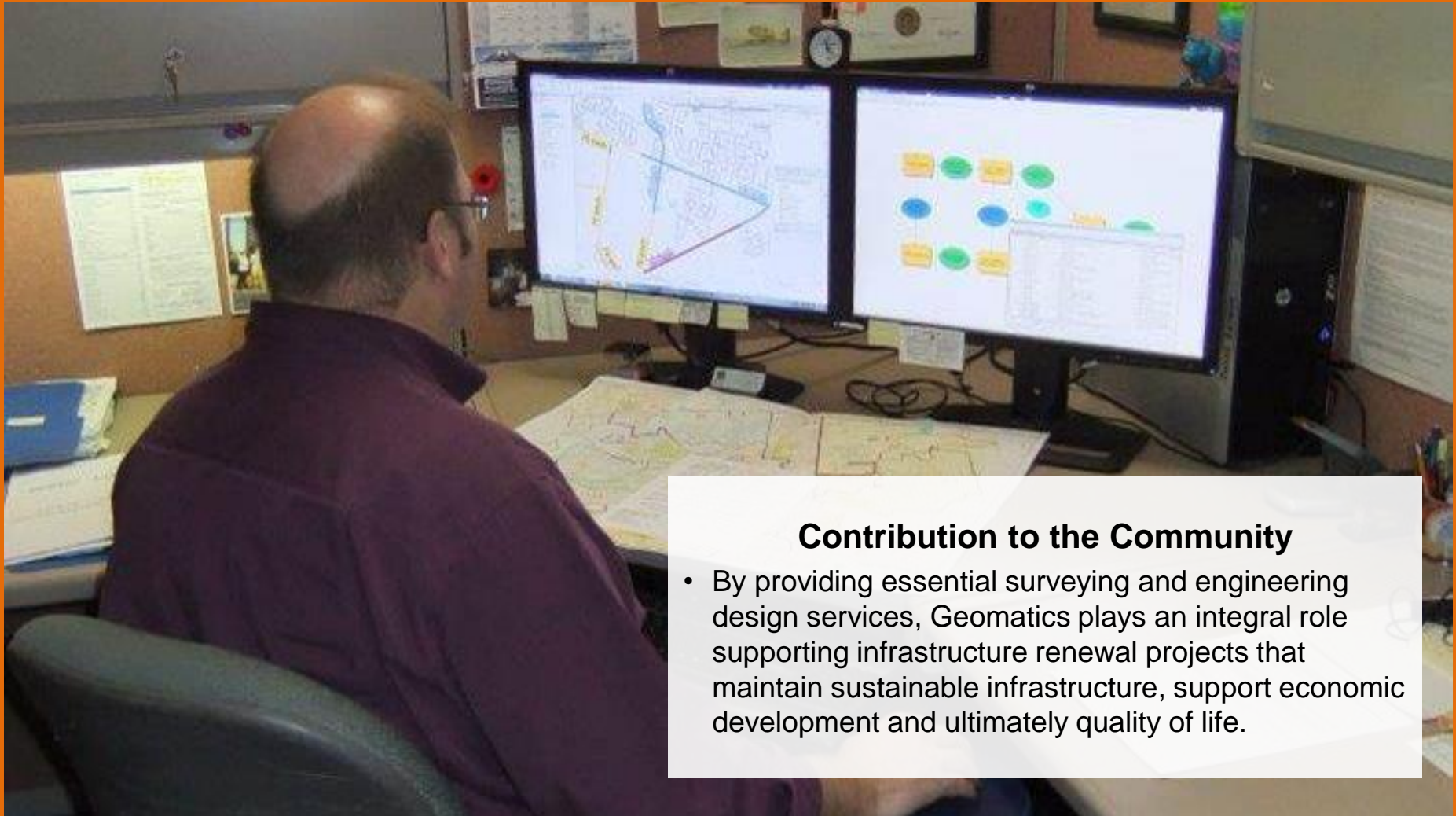
- 100 land surveys completed supporting City business
- 30,000 metres of engineering plans prepared supporting Renew London
- 350 custom maps and graphics products produced and delivered
- 2000 land-related inquiries answered

## Databases currently under maintenance:

- 135,000 land parcels
- 2,700 kms of sewers
- 35,000 street lights
- 100+ kms Regional Water pipelines
- 60,000 engineering and survey plans



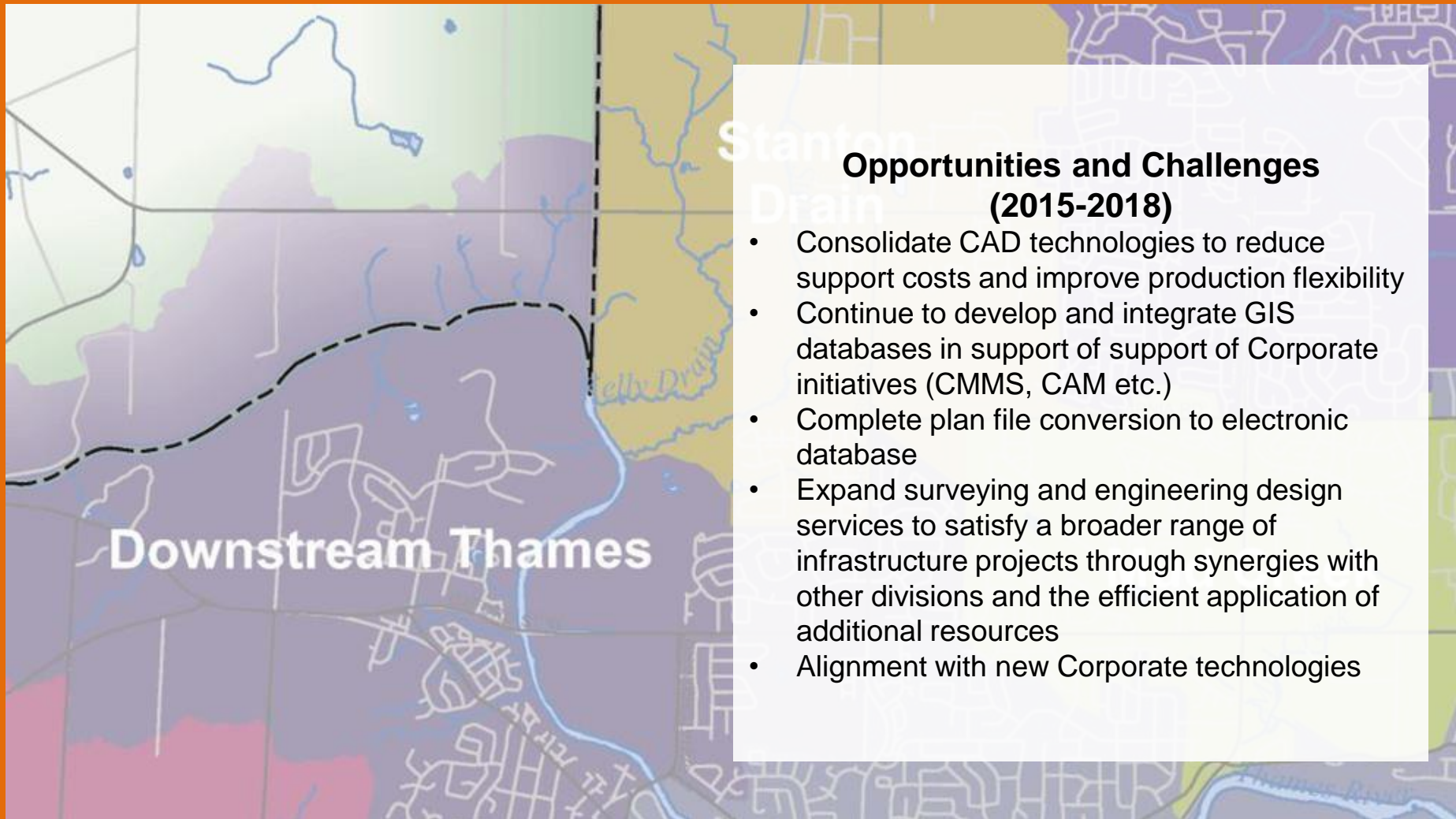
**Roads & Transportation**  
**Environmental & Engineering Services**



## Contribution to the Community

- By providing essential surveying and engineering design services, Geomatics plays an integral role supporting infrastructure renewal projects that maintain sustainable infrastructure, support economic development and ultimately quality of life.





## **Opportunities and Challenges (2015-2018)**

- Consolidate CAD technologies to reduce support costs and improve production flexibility
- Continue to develop and integrate GIS databases in support of support of Corporate initiatives (CMMS, CAM etc.)
- Complete plan file conversion to electronic database
- Expand surveying and engineering design services to satisfy a broader range of infrastructure projects through synergies with other divisions and the efficient application of additional resources
- Alignment with new Corporate technologies

# ENVIRONMENT, FLEET & SOLID WASTE 2014

**Lead Name: Jay Stanford, Director – Environment, Fleet & Solid Waste**

Telephone: 519.661.2500 x5411 e-mail: jstanfor@london.ca



## Who We Are

The area known as Environment, Fleet & Solid Waste contains a variety of internal and external services operating under two 'Calls to Action'. First we live under a philosophy of **Continuous Improvement** and, second, we operate under an operational banner called **At Your Service**. The area contains excellent and dedicated staff with a number having more than 25 years experience in their respective fields.

We are also fortunate to work with or alongside some of the best private sector companies and their employees that the business has to offer. The skills and business smarts exhibited by our contractors is an asset to the businesses and residents of London.

The area is divided into 4 divisions, with each division delivering numerous programs and projects. Our top 3 collective goals are:

1. Meeting or exceeding customer expectations
2. Delivering valued services in a cost effective and safe manner
3. Protecting and improving the environment through service delivery and community engagement

**Environment, Fleet & Solid Waste**  
**Environmental & Engineering Services**



# ENVIRONMENT, FLEET & SOLID WASTE 2014

## What We Do

We provide our services directly or indirectly to all London citizens, many businesses, students and visitors:

- **Environmental Programs** takes the lead with the built environment in areas of active transportation, cycling and transportation demand management (TDM); air quality and climate change, community energy, corporate energy management, urban watershed programs, and community outreach & engagement.
- **Fleet & Operational Services** provides fleet administration and asset management, planning, capital acquisitions and disposal, maintenance, fuel management, operations dispatch centre, shared equipment resources and management of the two-way radio assets.
- **Solid Waste Collection** provides numerous pickup services including curbside, multi-residential, leaf & yard waste, downtown & litter bin/container, and special pickup services.
- **Solid Waste Management** provides waste diversion services (reduction, reuse, recycling, composting, household special waste, EnviroDepots), waste disposal, management of closed landfills, contract management, long term planning, and community outreach and engagement.



# ENVIRONMENTAL PROGRAMS 2014

**Lead Names: Jamie Skimming; Pat Donnelly – Environmental Programs**

telephone: 519.661.2500 x5204; x0418

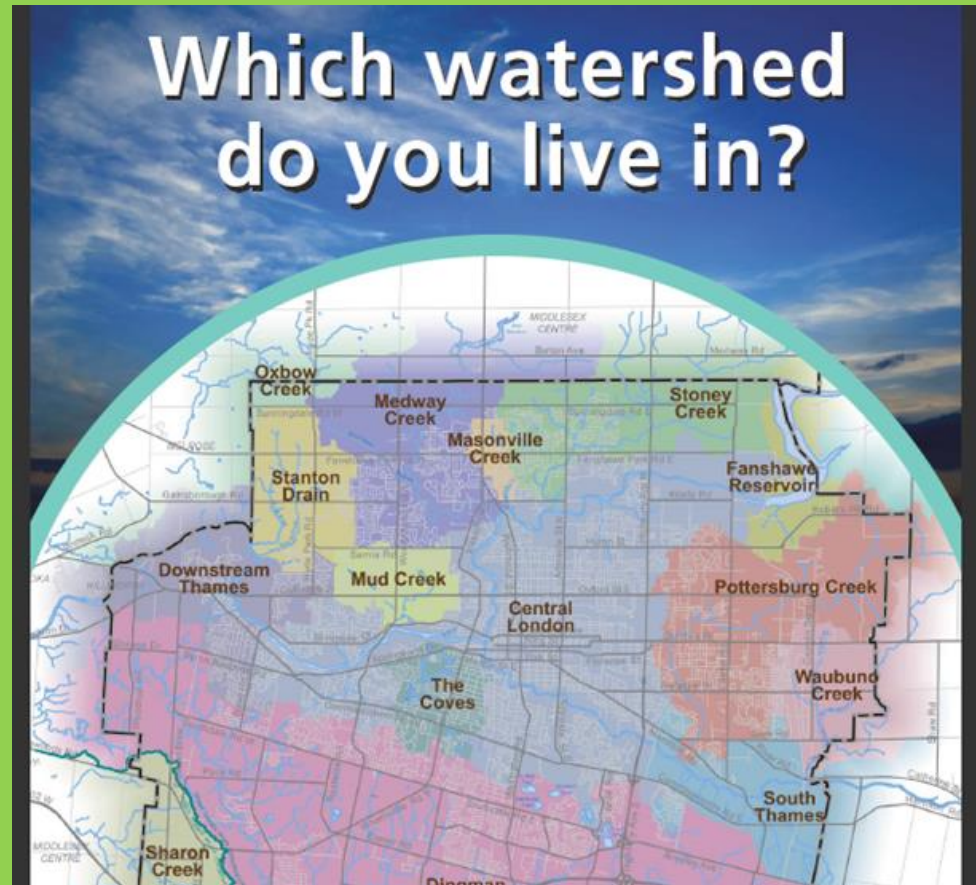
e-mail: [jskimmin@london.ca](mailto:jskimmin@london.ca); [pdonnell@london.ca](mailto:pdonnell@london.ca)

## Services Provided

- Active Transportation, Cycling and Transportation Demand Management
- Air quality, climate change, energy conservation & community energy programs
- Corporate Energy Management
- Urban watershed programs
- Community outreach & engagement
- Support for corporate environmental actions

## Key Performance Indicators

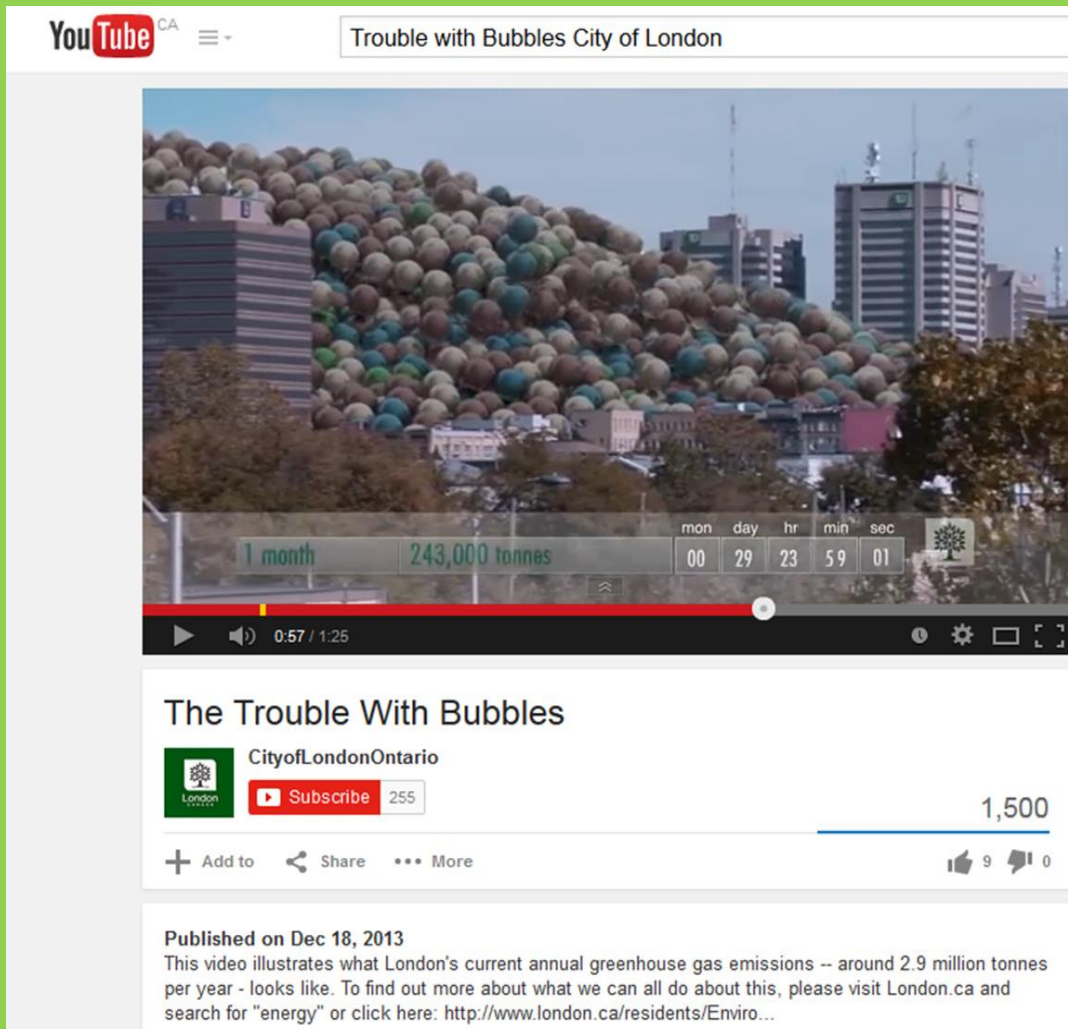
- Engaged 40 stakeholder groups
- Engaged 10 neighbourhoods and communities
- Participation in 25 community events
- Supported 7 corporate actions, including Rethink London and the Climate Change Adaptation Strategies Project



**Environment, Fleet & Solid Waste  
Environmental & Engineering Services**



# ENVIRONMENTAL PROGRAMS 2014



**The Trouble With Bubbles**

City of London Ontario

1 month 243,000 tonnes

00 29 23 59 01

0:57 / 1:25

1,500

Published on Dec 18, 2013

This video illustrates what London's current annual greenhouse gas emissions -- around 2.9 million tonnes per year - looks like. To find out more about what we can all do about this, please visit [London.ca](http://www.london.ca) and search for "energy" or click here: <http://www.london.ca/residents/Enviro...>

## General Statistics

- 7.5% – Londoners who walk or bike to work
- 8.6% - Londoners who use public transit to get to work
- \$1.5 billion – annual cost of energy use in London in 2013
- 3.1 million tonnes CO<sub>2</sub>e – annual greenhouse gas emissions in 2013
- 23% - reduction in per-capita GHG emissions from 1990 levels
- \$17.7 million – annual cost of corporate energy use in 2013
- \$780,000 – avoided corporate energy costs in 2013 through efficiency
- \$130,000 – utility conservation incentives for 9 projects in 2014
- 45% - area of London covered by a watershed strategy

# ENVIRONMENTAL PROGRAMS 2014

## Contribution to the Community

- Provides in-person engagement with Londoners about environmental issues
- Engaged 40 stakeholder & community groups
- Participated in 25 community events

## Recent Accomplishments (2012 - 2014)

- Partners for Climate Protection Milestone 5 Community
- New *Community Energy Action Plan (CEAP)* and *Corporate Energy Conservation and Demand Management (CDM) Plan*
- New community engagement tools (e.g., interactive displays, on-line feedback, EnviroClips and incentives such as GOODcoins)
- Bronze Walk Friendly Community
- Bronze Bike Friendly Community





# ENVIRONMENTAL PROGRAMS 2014

## Challenges & Opportunities (2015 – 2018)

- Senior government energy policies and programs will have significant influence on how London's *Community Energy Action Program (CEAP)* is implemented.
- The London Plan will have significant influence on the implementation of several program areas including watersheds, the CEAP as well as the longer-term Comprehensive AT and TDM Actions.
- Greater emphasis will be placed on working with key stakeholders and community champions who can influence a large number of Londoners.
- New programs related to implementation of Source Water Protection will expand education activities for water conservation and protection.
- New information technologies and new/social media provides challenges and opportunities for reaching out to Londoners



**Environment, Fleet & Solid Waste  
Environmental & Engineering Services**

# FLEET & OPERATIONAL SERVICES 2014

**Lead Name: Mike Bushby, Division Manager – Fleet & Operational Services**

Telephone: 519.661.2500 x4961 e-mail: mbushby@london.ca



## Services Provided

- Fleet Administration and Asset Management
- Fleet Planning – Capital Acquisitions and Disposal
- Fleet Maintenance – Fleet Repairs and Service
- Fuel Management – Supply Storage and Dispensing Facilities
- 24/7 Operational Dispatch Centre
- 2-Way Radio System – Programming and Radio Asset Management
- Scheduling external equipment resources

**Environment, Fleet & Solid Waste  
Environmental & Engineering Services**



# FLEET & OPERATIONAL SERVICES 2014

## General Statistics

### Fleet Services

- 1,285 fleet assets (includes light, medium and heavy classes both for on-road and off-road applications)
- Asset replacement value of \$42 million
- Three maintenance facility locations
- Over 50 repair bays
- 35 skilled automotive trades staff
- Vehicles and equipment travel over 5 million km annually serving Londoners
- Manages over \$3 million in fuel annually

### Dispatch Centre

- Staffed 24/7
- Serving public calls after hours and weekends (over 30,000 service calls annually)
- Coordination through AMANDA to record, document, and action calls
- Contacted and scheduled over 200 requests for hired equipment
- Over 1,000 utility service locate requests initiated

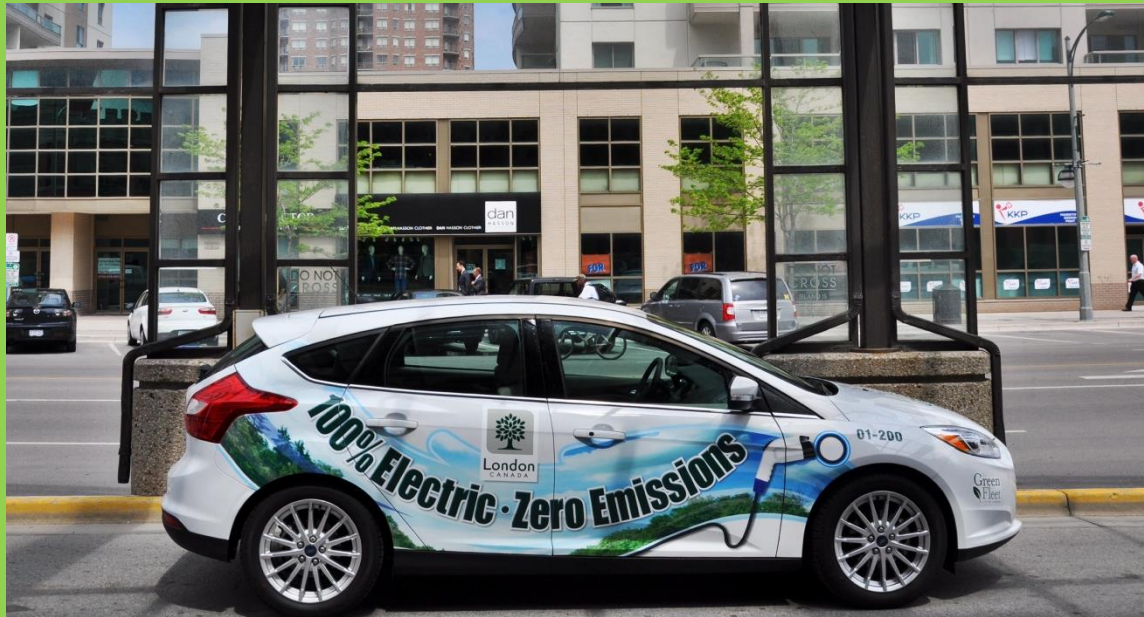


**Environment, Fleet & Solid Waste  
Environmental & Engineering Services**

# FLEET & OPERATIONAL SERVICES 2014

## Key Performance Indicators

- Optimization - reduction of 15 units based on underutilization, vehicle sharing, and right fit solutions
- Optimization - increased average age of the fleet in all categories based on maximizing optimum life cycles
- Cost - Fleet operating cost per vehicle/km = \$ 0.89



## Contribution to the Community

- Ensuring the City's fleet remains safe and reliable on our streets
- After hours Dispatch Centre connecting citizens to services everyday
- Facilitate community and business partnerships and initiatives like the three publicly available Electric Vehicle charging stations
- City's Green Fleet Plan committed to reducing our carbon footprint and lowering emissions
- Build shared service opportunities and relationships with our public service partners (Library, Tourism, Fire, Police, EMS, Transit)



# FLEET & OPERATIONAL SERVICES 2014

## Recent Accomplishments (2012 - 2014)

- Introduced B5 (Biodiesel) significantly reducing our emissions and environmental impact
- Expanded shared services model, EMS and Fire actively using public works refuelling infrastructure saving money and effectively utilizing public infrastructure
- Completed PwC internal audit process
- Fleet Challenge E3 (Energy, Environment, Excellence) review process underway
- Met operating and capital budget reductions annually over the last three years
- Introduced the first completely electric vehicle with “0” emissions into the fleet

## Challenges & Opportunities (2015 – 2018)

- Actions plans initiated to evaluate and maximize employee engagement
- Targets identified for promoting “At Your Service” philosophy
- Continued spending and cost reductions while maximizing sustainable, affordable, safe, and “right fit” fleet solutions for our customers



# SOLID WASTE COLLECTION 2014

**Lead Name: Kevin Springer, Manager – Solid Waste Collection**

telephone: 519.661.2500 x5578 e-mail: kspringe@london.ca

Environmental & Engineering Services Call Center: 519.661.4570

## Services Provided

- Curbside Pickup
- Multi-residential Pickup
- Leaf & Yard Waste Pickup
- Downtown & Litter Bin/Container Pickup
- Special Pickups

## General Statistics

- 28 rear packers; 3 side loaders; 5 top loaders
- 120,000 households collected curbside
- 51,000 multi-units collected
- 92,000 tonnes of garbage collected per year
- 10,000 tonnes of leaf and yard waste collected per year





# SOLID WASTE COLLECTION 2014

## Key Performance Indicators

- 86% were satisfied or very satisfied with current '6 Day' collection schedule
- Garbage collection net operating cost of \$42 per household (curbside)
- Garbage collection net operating cost of \$57 per unit (multi-residential)
- Leaf & yard waste net operating cost of \$8 per household

## Contribution to the Community

- Our goal is to contribute to the health of the environment and the citizens of London through appropriate collection and management of garbage.
- The delivery of "6 Day" collection system has helped Londoners save between \$17 and \$20 million since mid-1996.
- Extra pickups to accommodate students, disabled, special events, illegal dumping.



# SOLID WASTE COLLECTION 2014



## Recent Accomplishments (2012 - 2014)

- Continued optimization of collection and operations. For example, optimization efforts have resulted in no increase collection staff over the last ten years even though the number of homes being collected has increased over 20%.
- Completed pilot projects for Green Bin and cart-based collection systems in 2012.
- The 2014 Audit of collection operations by PwC noted that “the data indicates that the City’s cost to collect a tonne of garbage and cost per household is better than the average.”
- London’s cost to collect a tonne of garbage in 2013 was \$91 per tonne compared to an average cost of \$116 per tonne. Overall, London had the 4<sup>th</sup> lowest cost of the thirteen municipalities reporting in the Ontario Municipal Benchmarking Initiative (represents 60% of Ontario’s population)



# SOLID WASTE COLLECTION 2014

## Challenges & Opportunities (2015 – 2018)

- The physical nature of garbage pickup from a health and safety perspective will be further examined by City staff. This will include examining how garbage is placed at the curb, type of containers and type of collection vehicles.
- Meeting customer needs and expectations remains our number one priority and having the right balance of services, cost and expectations is key.
- Fuel costs continue to rise, prompting the need to examine the future potential role of compressed natural gas (CNG).
- Reducing/containing costs continues to be a challenge as the city grows in the north end increasing the hauling distance to the W12A Landfill site in the south end.
- Health and safety, training and more stringent Provincial Government regulations and policies with respect to garbage collection remain a high priority and are being addressed through programs and technology.



# SOLID WASTE MANAGEMENT 2014

**Lead Name: Wesley Abbott, Division Manager – Solid Waste Management**

telephone: 519.661.2500 x1812 e-mail: wabbott@london.ca

Environmental & Engineering Services Call Center: 519.661.4570

## Services Provided

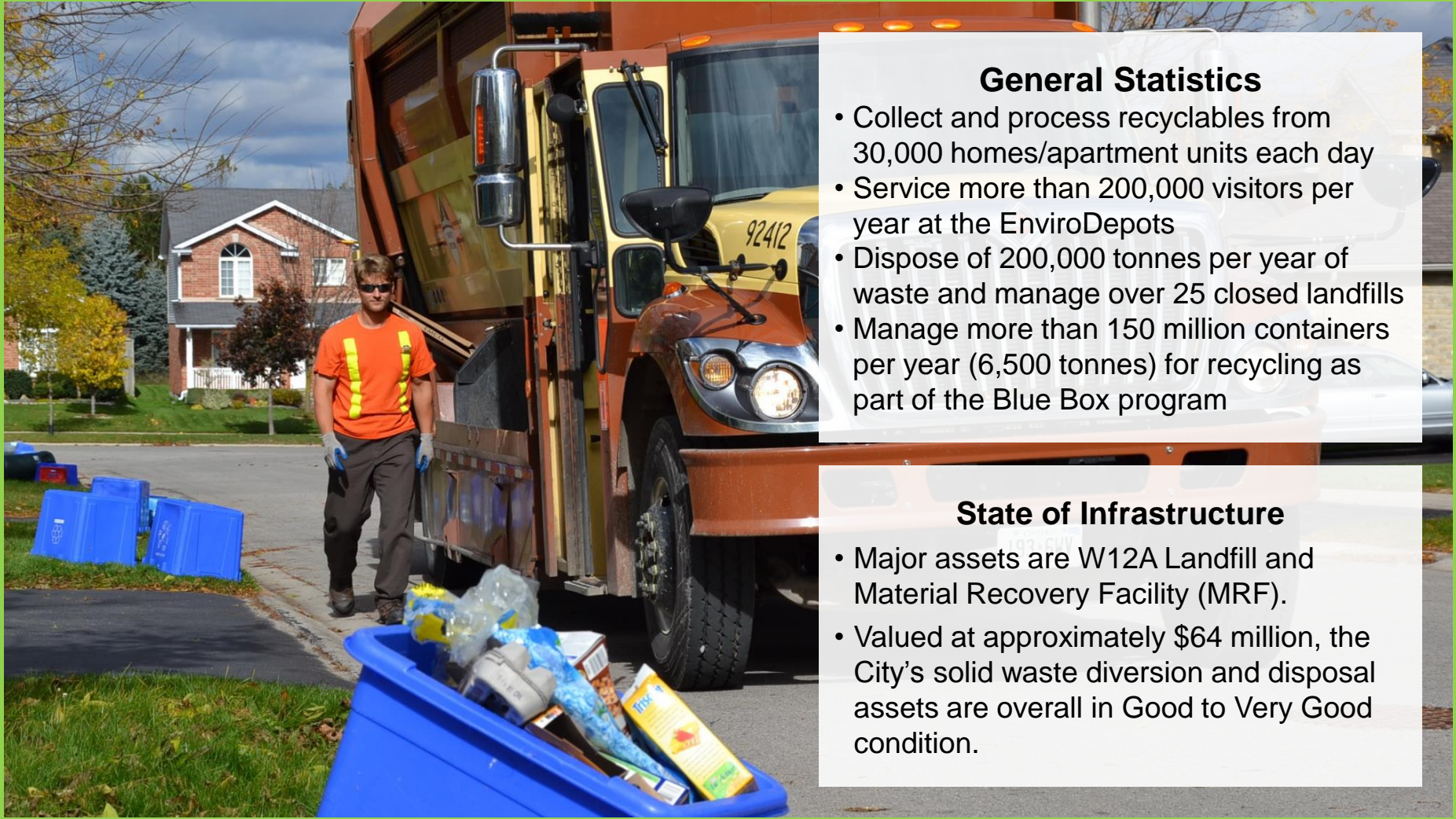
- Recycling
- Composting
- EnviroDepots & Household Special Waste Depot
- Community Outreach and Engagement
- Waste Disposal
- Management of Closed Landfills
- Contract Management
- Long Term Solid Waste Management Planning

## Key Performance Indicators

- Waste Diversion Rate of 44% (69,000 tonnes annually)
- Captured and destroyed 113,000 tonnes of Greenhouse Gases equal to removing 30,000 cars from the road
- Total gross cost of \$79 per household per year
- Net operating cost of \$33 per household per year



# SOLID WASTE MANAGEMENT 2014



## General Statistics

- Collect and process recyclables from 30,000 homes/apartment units each day
- Service more than 200,000 visitors per year at the EnviroDepots
- Dispose of 200,000 tonnes per year of waste and manage over 25 closed landfills
- Manage more than 150 million containers per year (6,500 tonnes) for recycling as part of the Blue Box program

## State of Infrastructure

- Major assets are W12A Landfill and Material Recovery Facility (MRF).
- Valued at approximately \$64 million, the City's solid waste diversion and disposal assets are overall in Good to Very Good condition.



# SOLID WASTE MANAGEMENT 2014

## Recent Accomplishments (2012 - 2014)

- Since 2012, eight municipalities have started to use the Material Recovery Facility (recycling centre). This lowers the cost of recycling for London.
- The 2014 Audit of landfill operations by PwC noted landfill operation processes and controls are operating effectively and the “City is able to maintain a low cost for waste disposal through operation of its own landfill.”
- Added paper beverage cups, ice cream tubs and clear rigid packaging to Blue Box in 2014.
- London MRF wins the 2014 AMO Gas Tax Award for excellence in the use of the federal Gas Tax Fund.

## Contribution to the Community

- Local jobs are created by managing many of our resources (recyclables, compostables) and all of our garbage in London instead of exporting it to other municipalities. Additional jobs have been created from processing recyclables received from other municipalities at London’s Material Recovery Facility.
- By owning our own Landfill Site, the City is able to provide London’s citizens and businesses with local, secure and affordable waste disposal.



# SOLID WASTE MANAGEMENT 2014

## Challenges & Opportunities (2015 – 2018)

- The City needs to continue planning for long term disposal capacity (next 40 years) as the W12A landfill only has 9 to 12 years of capacity remaining. The environmental assessment process will begin in 2015 and take 2 to 4 years.
- The area around the W12A Landfill allows for various resource recovery facilities to be located. The first resource recovery facility to be sited on these lands was the City's new Regional MRF (recycling centre). The opportunity exists to establish more resource recovery facilities.
- Waste diversion initiatives/programs in *Road Map 2.0 - The Road to Increased Resource Recovery and Zero Waste* and the *Interim Waste Diversion Plan 2014-2015* will be implemented subject to available budget.
- There are several factors beyond the control of the City that may have a dramatic impact on the funding, timing and requirements (e.g., expected introduction of new Provincial waste diversion legislation, increased environmental protection).



# LONDON – THEN & NOW



City of London Works Department Dump Truck,  
circa 1922



City of London 7-series Tandem Dump Truck,  
2014



York St. at Wortley Road,  
circa 1941



York St. at Wortley Road,  
2014





## **City of London Environmental & Engineering Services**

300 Dufferin Ave.  
P.O. Box 5035  
London, Ontario  
N6A 4L9