

**INFRASTRUCTURE & DEVELOPMENT SERVICES DIVISION  
PUBLIC WORKS DEPARTMENT**

**CORE SERVICES REVIEW**

**BENCH MARKING**

- The Ministry of Municipal Affairs and Housing (MMAH) through the Municipal Performance Measurement Program (MPMP) conduct an annual comprehensive survey of Municipalities covering a range of performance measures. The summary statistics referenced are based on the MPMP compiled data for the 2003 calendar year for the agglomerated Counties in Southern Ontario as this represents the most current collected information. Relevant County of Lambton responses for the 2004 MPMP have been included for comparative purposes.
- The measures include several indicators related to Roadways and Solid Waste services relevant to the services provided by the Public Works Department as outlined below.
  - Roadways:
    - Operating costs for paved (hard top) roads per kilometre is an efficiency measure for the maintenance of hard surfaced roadways.  
Counties in Southern Ontario – Median: \$499 Range: \$109-\$1,952  
County of Lambton: 2003 - \$487  
2004 - \$455
    - Percentage of paved lane kilometres where the condition is rated as good to very good is an effectiveness measure for the pavement condition of the municipal road system that meets municipal objectives.  
Counties in Southern Ontario – Median: 70% Range: 24%-100%  
County of Lambton: 2003 - 39.4%  
2004 - 39.4%
  - Solid Waste:
    - Operating costs for winter maintenance of roadways per lane kilometre maintained is an efficiency measure for the winter control maintenance of municipal roadways.  
Counties in Southern Ontario – Median: \$1,573 Range: \$1,028-\$3,992  
County of Lambton: 2003 - \$1,418  
2004 - \$1,556
    - Percentage of winter events where the response met or exceeded locally determined municipal service levels for road maintenance is an effectiveness measure for meeting municipal objectives for winter control.  
Counties in Southern Ontario – Median: 98% Range: 58%-100%  
County of Lambton: 2003 - 100%  
2004 - 100%
    - Operating costs for garbage disposal per tonne is an efficiency measure for the disposal of municipal solid waste.  
Counties in Southern Ontario – Median: \$56 Range: \$28-\$110  
County of Lambton: 2003 - \$56  
2004 - \$55
    - Operating costs for garbage disposal per household is an efficiency measure for the disposal of municipal solid waste.  
All Municipalities – Median: \$55 Range: \$0.50 to \$390  
County of Lambton: 2003 - \$36.64  
2004 - \$37.75

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- Total number of solid waste management facilities owned by the municipality with a Ministry of Environment Certificate of Approval is an effectiveness measure for waste facilities not having a negative impact on the environment.  
Counties in Southern Ontario – Median: 6 Range: 1 to 41  
County of Lambton: 2003 – 6  
2004 - 6
- Number of days per year when a Ministry of Environment compliance order for remediation concerning an air or groundwater standard was in effect for a municipally owned solid waste management facility, by facility  
Counties in Southern Ontario – Median: 0 Range: 0  
County of Lambton: 2003 0
- The Ontario Roads Coalition (ORC) conducts an annual survey of Ontario Municipalities covering a range of roadway performance measures. ORC consists of representatives from the following organizations: Ontario Good Roads Association (OGRA), Municipal Engineers Association (MEA), Association of Ontario Road Supervisors (AORS), Regional Public Works Commissioners of Ontario (RPWCO), Ontario Municipal CAO's Benchmarking Initiative (OMBI), Ontario Centre for Municipal Best Practices, Ministry of Transportation (MTO), and Ministry of Municipal Affairs and Housing (MMAH).
- The summary statistics referenced are compiled based on data from 30 municipalities for the 2004 calendar year which represents the most current collected information. Relevant statistics from 2005 have been included for comparative purposes. References to compiled County statistics have been included where available, otherwise, the listed values represent all 30 respondents.
- Percentage of roads budget (operating and capital) funded from property tax  
All Reporting Municipalities: 2004 - 54.2%  
County of Lambton: 2004 - 69.5%  
2005 - 56.1%
- Cost per household per day for roadway operating and capital  
All Reporting Municipalities: 2004 - \$1.08  
County of Lambton: 2004 - \$0.75  
2005 - \$0.71
- Percentage of total roads budget allocated to operating and maintenance  
All Reporting Municipalities: 2004 - 40.8%  
County of Lambton: 2004 - 45.3%  
2005 45.6%
- Cost to operate and maintain roads per lane kilometre  
All Reporting Counties: 2004 - \$6800  
County of Lambton: 2004 - \$4850  
2005 \$4919
- Percentage of roads which are paved  
All Reporting Municipalities: 2004 - 93.5%  
County of Lambton: 2004 - 95.3%  
2005 95.3%
- Percentage of bridges and large diameter culverts with a deficiency  
All Reporting Municipalities: 2004 - 43.6%  
County of Lambton: 2004 - 33.7%  
2005 29.5%
- Percentage of roads operating budget spent on winter services  
All Reporting Municipalities – 2004 - 42.0%  
County of Lambton: 2004 - 27.2%  
2005 27.3%

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- Operating costs for winter services per lane kilometre
  - All Reporting Counties: 2004 - \$1,659
  - County of Lambton: 2004 - \$1,318
  - 2005 \$1,345
- Number of plows utilized to deliver winter services per 100 lane kilometres
  - All Reporting Counties: 2004 - 1.33
  - County of Lambton: 2004 - 0.81
  - 2005 0.81
- Number of road related FTE's per 100 lane kilometres
  - All Reporting Counties: 2004 - 2.57
  - County of Lambton: 2004 - 2.27
  - 2005 2.27
- Given the limited response to the 2004 Annual Survey (30 respondents out of 445 municipalities – less than 0.7%), the above noted results should be taken with a grain of salt.

**BEST PRACTICES**

- The Public Works Department utilizes several best practices prepared through partnerships composed of municipal and industry stakeholders at both the Provincial and Federal levels to assess our current operations and implement new practices in an effort to improve performance and efficiencies. The following discussion outlines eight (8) documented best practices that are relevant to the County's compliment of services and related infrastructure.
- The Ontario Centre for Municipal Best Practices (OCMBP) is a partnership between the Association of Municipalities of Ontario (AMO) and the Province of Ontario with an objective to identify and publish best practices

- for the provision of municipal services. The program is a natural extension of the Municipal Performance Measurement Program (MPMP) as this data is used in verifying these practices.
- The Centre has established several best practices pertaining to municipal roads and solid waste management as outlined below:
    - Roads (Winter Control) – Winter Control Handbook  
The Public Works Department prepares a similar document for its winter operations outlining maintenance standards and objectives, material application rates, equipment assignments, staffing compliment, scheduling, etc. It also outlines arrangements with local municipalities and neighboring Counties where efficiencies can be achieved (i.e. reduced deadheading, route optimization, etc.). The Winter Control Handbook acts as a training tool for County full-time and seasonal staff and is a natural extension of the County's Salt Management Plan.
    - Roads (Winter Control) – Treatment in Blowing Conditions  
The guideline suggests that in conditions where the predominant wind is observed to be blowing the snow clear of the traveled portion of the road not to apply salt or sand/salt mix. Application of these materials tends to 'catch' blowing snow and escalate the rate at which snow accumulates within the roadway. The guideline is applied to relatively straight sections of roadway and would not be applied to sharp curves or stop conditions. The County of Lambton has always implemented this practice and this practice was incorporated into the County's Salt Management Plan.
    - Roads (Winter Control) – Two Shift Deployment Model  
The OCMBP has published a number of best practices involving multiple shifts to best deliver winter control services. These have been developed to meet the following goals and objectives:
      - meet or exceed established standards/level of service;
      - ensure compliance with hours of work legislation as established through the Highway Traffic Act and Employment Standards Act;

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- cost savings through a reduction in overtime;
- improve response times to winter events; and
- improve employee relations by reducing 'burn-out' through winter season.

The County of Lambton has been utilizing a two-shift deployment model for winter control activities since 2001. It has evolved since then in response to meet the objectives as outlined above. The current model is comprised of the following:

- Two (2) winter eight hour staggered shifts for ten (10) plow routes:
  - Morning shift starting at 3:30 a.m. and finishing at 12:00 noon. Provides coverage till 3:30 p.m. if required;
  - Afternoon shift starting at 3:30 p.m. and ending at 12:00 midnight. Provides coverage till 3:30 a.m. if required;
  - Full time forces are supplemented with five (5) contracted Winter Control Operators (standby/call-in) as weather dictates to fill out compliment of staff through the week and for the weekend.
- 24 hour Winter Patrol coverage is provided for the core winter season throughout the week. The weekends are patrolled on an as required basis utilizing three (3) on call patrollers.
- Solid Waste – Permanent Household Special Waste Depots  
The best practice guideline suggests that the provision of permanent Household Special Waste depot(s), in comparison to multiple mobile single day events, provides cost savings by reducing program operating costs (i.e. shipping of partial containers), increases diversion rates, and improves customer service. The County has utilized a permanent facility for its Household Hazardous Waste program since 1993.
- With a similar aim, Infrastructure Canada in conjunction with the Federation of Canadian Municipalities (FCM), the National Research Council (NRC), and the Canadian Public Works Association (CPWA)

created the National Guide to Sustainable Municipal Infrastructure (Infraguide) covering municipal best practices across Canada.

- They have developed several best practices pertaining to municipal roads and infrastructure as outlined below:
  - Coordinating Infrastructure Works  
The practice outlines the importance of coordinating infrastructure improvements with all stakeholders (i.e. internal departments, local and neighboring municipalities, utility companies, etc.) with competing needs in an effort to minimize disruptions and maximize value. The County's practice is to coordinate road building projects with underground infrastructure replacements with our local municipalities and utility companies through joint initiatives to reach these goals.
  - Managing Infrastructure Assets  
The practice outlines the fundamental concepts, components, and considerations inherent in an asset management plan for municipal infrastructure. It involves a systematic process of maintaining, upgrading, replacing, and operating physical assets cost-effectively based on engineering principles and sound economics. The County continues to work towards this goal by performing regular assessment of our municipal infrastructure, to establish needs, and formulate long-term plans to maximize our investment.
  - Timely Preventative Maintenance for Municipal Roads  
This best practice describes the premise of implementing a preventative maintenance program for municipal roadways in an effort to extend service life thereby deferring more costly capital repairs. The County has been performing preventative maintenance activities (i.e. spray patching, crack sealing, etc.) on its roadways for several decades and has found that the relatively small increase in operating costs is more than offset by the capital savings by extending the useful life of our pavements.

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▪ Reuse and Recycling of Road Construction and Maintenance Materials

This best practice describes the efforts employed by municipalities to reuse and recycle asphalt pavement recovered during road construction and maintenance activities. Techniques include hot-in-place recycling, cold-in-place recycling, and full depth rehabilitation all of which have been employed by the County of Lambton as early as 1992 when the technology first emerged. Benefits include conservation of resources (i.e. aggregates, asphalt cement, energy, etc.) and results in enhanced performance. These techniques have proven to be cost effective over the life of the roadway.

**FEDERAL/PROVINCIAL FUNDING COMMITMENTS**

- The Province of Ontario discontinued the practice of providing shared funding to municipalities for operating and capital expenditures pertaining to municipal road infrastructure in April of 1996.
- Since this Provincial announcement in 1996, Ontario municipalities with the assistance of the Association of Municipalities of Ontario (AMO), the Ontario Good Roads Association (OGRA), and other organizations have been lobbying the Provincial and Federal Governments for a source of consistent funding to assist them in maintaining their roadway infrastructure and other municipal assets.
- The following outlines recent Federal and Provincial programs earmarked for municipal infrastructure, including roads, bridges, and solid waste management.
- **Green Municipal Funds**
  - In 2000 the Federal Government announced the Green Municipal Fund (GMF) which was created to stimulate environmental projects

by municipalities that generate environmental, economic, and social benefits including improvements to air, water, and soil quality and reductions in greenhouse gas emissions.

- The GMF initiative is a project based program with shared funding.
- The County received shared funding (\$17,500) in 2005 to conduct a feasibility study to assess the viability of capturing and converting the landfill gas generated at the Sarnia Landfill Site into a useable energy resource.
- **Provincial Gas Tax Rebate**
  - In October 2004, the Provincial Government announced that a portion of the Provincial Gas Tax (1-2¢ per litre) would be directed to improve public transit infrastructure. The County does not receive any funding directly through this initiative as the rebate only benefits those municipalities with an established transit system.
  - Having said that, Ontario municipalities continue to lobby the Province for an additional share of the Provincial Gas Tax to be directed to municipal transportation infrastructure (i.e. roads, bridges, etc.) in the same spirit as the Federal Gas Tax funding (see below). This would provide a consistent source of funding that would benefit all municipalities, not just those with transit systems.
- **Canada-Ontario Municipal Rural Infrastructure Fund (COMRIF)**
  - In November of 2004, the Federal and Provincial Governments announced the COMRIF initiative which is a five year \$900 million shared funding model amongst the Federal Government, Provincial Government, and the municipality which is targeted to improving the quality of infrastructure in small and rural municipalities.
  - The program is a competitive project based initiative to be rolled out in three intakes aimed at municipal infrastructure improvements in

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the areas of water, wastewater, bridges, roads, and waste management.

- The County obtained funding in the amount of \$970,000 for two bridge improvement projects through Intake 1 of the program.
  - The County's Intake 2 submission would see improvements to 21.7 km. of County Road 22 (London Line). Announcement expected in Spring/ Summer of 2006.
  - Intake 3 expected to be announced in the Fall of 2006.
  - There have been no announcements to date to suggest that the program will be extended beyond the third intake.
- **Federal Gas Tax Rebate**
    - In June 2005, the Federal Government announced that a portion of the Federal Gas Tax (5¢ per litre) would be redirected to municipalities. The funding is geared towards environmentally sustainable infrastructure projects in the areas of water, wastewater, solid waste management, capacity building, transit, roads, and bridges.
    - The model includes increased funding over a five year period (2005-2009) with sustained funding at the fifth year level thereafter as outlined below:
      - 2005 - \$1,205,068
      - 2006 - \$1,205,168
      - 2007 - \$1,606,711
      - 2008 - \$2,008,254
      - 2009 - \$4,016,509
    - All other recent funding announcements applicable to the County Public Works Department are one time project based initiatives. The funding provided through the Federal Gas Tax rebate represents the consistent funding that municipalities have been requesting.

- **Provincial 'Move Ontario' Funding**

- With the announcement of the 2006 Provincial Budget in March 2006 came word of the 'Move Ontario' initiative. This represents one time funding for municipalities for the maintenance, repair, and construction of municipal roads and bridges.
- The County will receive \$3,256,628 in 2006 under this program. Funding will be used to build Capital Reserves (\$1,000,000), reduced debt financing (\$1,180,000), and expedite proposed Capital projects (\$1,076,628).

**ALTERNATIVE SOURCES OF SERVICE DELIVERY**

**COUNTY ROAD NETWORK**

- In November of 1996, the County retained McCormick Rankin & Associates Ltd. (MRC) to undertake a Road Management System Options Study to examine alternative service delivery models to optimize the delivery of all municipal roads and related services within the County of Lambton.
- Six (6) road management system options were considered:
  - Option 1 – Existing Road Management System (Status Quo)
  - Option 2 – Local Road Management System
  - Option 3 – One Tier Road Management System
  - Option 4 – Local Road Maintenance and County Construction of County Roads
  - Option 5 – Hybrid (9 Local Maintenance Systems and County Construction on County Roads)
  - Option 6 – One Tier Road Management System with Privatized Maintenance

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- Some preliminary work was conducted but with the impending Provincial Highway transfers, the study was put on hold.
- Following the two rounds of Provincial Roads transfers in 1997 and 1998, the County completed the Roads Designation Study to determine the compliment of County roads and Local Municipal roads.
- With the Provincial and County transfers completed and the revised County Road Network and Local Municipal Road Networks established, the Road Management System Options study was revisited.
- Each of the six (6) road management system options is discussed in more detail below:

**Option 1 – EXISTING ROAD MANAGEMENT SYSTEM (STATUS QUO)**

- This option represents the status quo and would see the continuation of the separated County Road and Local Municipal road operations. All road authorities would continue to maintain and make capital improvements on their current road infrastructure.

**Option 2 - LOCAL ROAD MANAGEMENT SYSTEM**

- This option would see the dissolution of the County Road system and the County Roads in each local municipality would become the responsibility of the respective local municipality.

**Option 3 - ONE TIER ROAD MANAGEMENT SYSTEM**

- This option assumes that the local municipal road systems would be amalgamated into a single County Road Network comprised of all local, collector, and arterial roadways.

**Option 4 - LOCAL ROAD MAINTENANCE AND COUNTY CONSTRUCTION OF COUNTY ROADS**

- This option assumes that the local municipalities would assume the maintenance responsibilities on those County Roads within their

municipality in addition to their current compliment of municipal roads. The County would only be responsible for the construction (capital) activities for the County Road network.

**Option 5 - HYBRID (9 LOCAL ROAD MAINTENANCE SYSTEMS AND COUNTY CONSTRUCTION ON COUNTY ROADS)**

- This option is similar to that presented in Option 4 but would further see the local municipal road systems consolidated into 9 local road authorities. Much of this consolidation occurred through the amalgamation of the local municipalities: 21 local municipalities reduced to 11. The County would still be responsible for the construction (capital) activities for the County Road network.

**Option 6 - ONE TIER ROAD MANAGEMENT SYSTEM WITH PRIVATIZED MAINTENANCE**

- This option is similar to Option 3 in that the local municipal road systems would be amalgamated into a single County Road Network, the difference being that the maintenance of all roads within the County would be contracted out to the private sector.
- The results of the study were presented to all local Municipal Councils for consideration and comment in 1997.
- Given the responses from the local municipalities and discussions with the established Technical Advisory Committee, the various options were discussed at length weighing the comparative advantages and disadvantages for the alternative models.
- Several of the critical points raised during these discussions are outlined below:
  - **Cost:** The study included a cursory review of the expected magnitude of cost savings for the various options. This cost analysis included staffing levels, surplus equipment, surplus facilities, etc. Options 3 and 6 were expected to generate the greatest cost savings although the

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local municipalities would need to maintain staffing to provide other non-road related services (i.e. water, sewer, parks, etc.). Note that much of the savings outlined in the report have been realized through the amalgamation of the local municipalities which saw the number of local road authorities reduced from 21 to 11.

- **Level of Service:** The classification of the County Roads and Local Municipal Roads varies greatly. Typically the County Roads are arterial roadways with higher traffic volumes and thus require a higher level of service in regards to maintenance and repair. Even the level of service provided by the local municipalities varies greatly given their infrastructure (i.e. gravel vs. paved roads, urban vs. rural cross sections, etc.). There would be inherent difficulties in creating a single tier road authority (Options 3 and 6) that would meet the various levels of service as determined by the local municipalities.
- **Continuity:** The options presented utilizing the local municipalities to maintain and/or assume those County Roads within their municipality (Options 2, 4, and 5) create service continuity problems. For example, plowing/salting an arterial County roadway to the limits of their municipal boundary and turning around leaving the adjacent section to the neighbouring municipality.
- **Insurance and Liability:** All of the options utilizing a local municipality (Options 4 and 5) or private industry (Option 6) to supply maintenance on County Roads would result in an increase in insurance costs. The County can not transfer its liability and would still need to maintain insurance as the Road Authority. The local municipality or private body would require additional insurance as the service provider on behalf of the County.
- **Control:** All options presented excepting the status quo (Option 1) bring up issues pertaining to the loss of control of critical decision making at the County and Local Municipal levels. Ability to set maintenance and service standards and capital improvement plans based on the needs of the County and the local municipalities.

- **Purchasing/Tendering:** Savings could be achieved by tendering and purchasing materials and services through a central agency through economies of scale. Note that the County and its local municipalities already participate (voluntary basis) in various joint initiatives to achieve savings through bulk purchasing of fuel, salt, crack sealing services, etc.

- In September 1998, based on the above criteria and resultant discussions with the Warden's Committee and the Technical Advisory Committee, it was recommended that a two-tier road management system as presented in Option 1 (status quo) be maintained with County and Local Municipal Road Authorities responsible for the maintenance and construction activities for their respective road networks.
- Additionally, the County was encouraged to continue to cooperate with its member municipalities and adjacent Counties to provide an efficient, cost effective, and consistent level of service.

**WASTE MANAGEMENT**

- In regards to solid waste management, in accordance with the Municipal Act (formerly the Sarnia Lambton Act) the County is responsible for the disposal of municipal solid waste.
- A direct cost (user pay) system for apportioning costs associated to the disposal of municipal solid waste was implemented in January 1996 following the completion of a long term waste management contract.
- A subsequent agreement with the City of Sarnia resulted in a return to the levy system for disposal effective January 2000.
- This direct cost (user pay) system is in the spirit of the new Municipal Act in an effort to have those using the service pay for the service. Many of the local municipalities already utilize a user pay system (bag tags) to fund their collection program for municipal solid waste. User pay also

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encourages municipalities to implement further waste reduction initiatives in order to reduce their collection and disposal costs. The County reverting back to the levy system for waste disposal effectively removed a strong incentive for waste reduction for the local municipalities.

- The Public Works Department can not explore the direct cost (user pay) system until the County agreement with the City of Sarnia expires or otherwise directed by Council.

5. That staff continue to seek improvements to the Household Hazardous Waste collection program in order to improve service to Lambton ratepayers while being mindful of the cost of such improvements.

**RECOMMENDATIONS**

1. Staff have reviewed the recent Road Management System assessment (commenced November 1996 and completed June 1999) on alternative sources of service delivery pertaining to County and local municipal roads and recommend that no further action be taken, and
2. That staff, during the next term of Council (2007 – 2010), undertake an update of the 1998 Roads Designation Study to evaluate whether the County Road System, as defined, still meets the parameters of the 1998 Study; and
3. That the Public Works Department explore options to fund the disposal of municipal solid waste (levy vs. user pay) once the County agreement with the City of Sarnia expires (~2008), and
4. That the Public Works Department continue to explore opportunities to improve operating efficiencies through the benchmarking initiatives, industry established best practices as well as pursue Federal and Provincial funding opportunities as they arise; and