

## Agenda

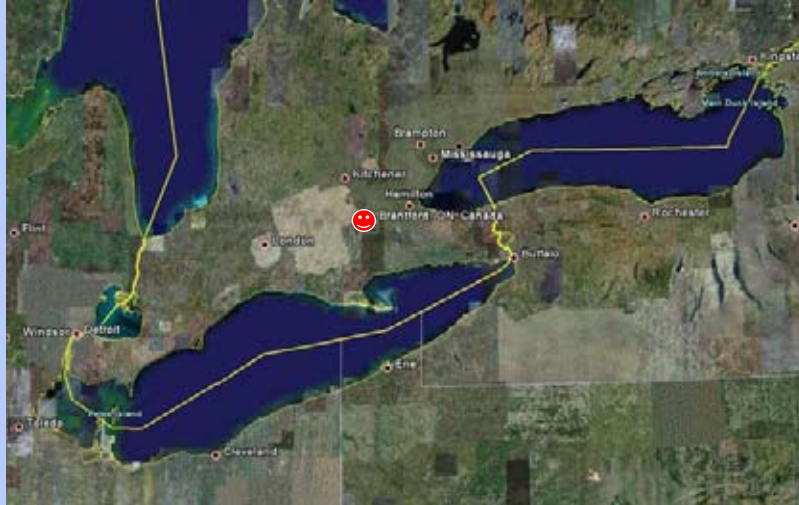
- City of Brantford profile
- Asset Management in the City of Brantford
- Challenges to Infrastructure Management at the City of Brantford
- Obstacles/Solutions
- Recommendations/Benefits



City of Brantford - Managing Physical Assets



# City of Brantford



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## Assets

***“The City of Brantford, in partnership with our community, is committed to responsible leadership through sound fiscal management and the delivery of quality programs and services for the citizens of Brantford.”***

- Assets are the physical system components owned by the City, that have a value and enable a service to be provided



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# Asset Management in Brantford

- Asset Management in the City of Brantford

## Tools

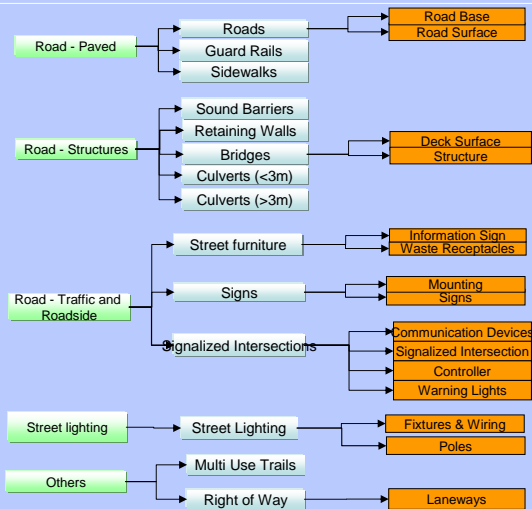
- Asset Hierarchies
- Information Systems
- Asset Registry (LADR + GIS + Avantis)
- Life Cycle Analysis
- Condition Analysis
- Customized multi-infrastructure prioritization system
- Risk Framework



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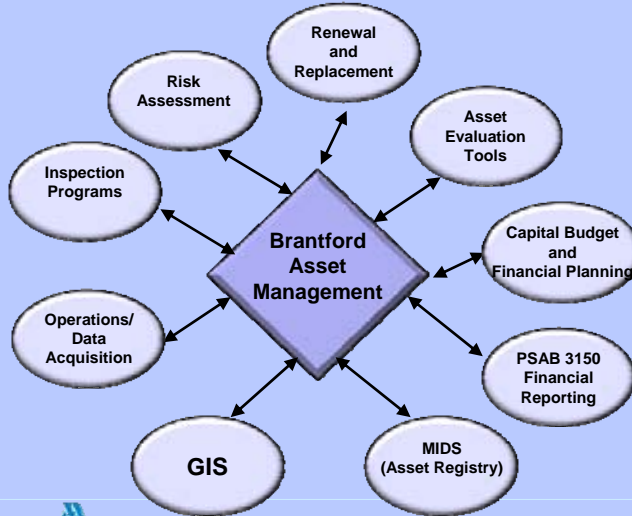
# Assets and Asset Classifications



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# Asset Information



# Asset Registry

- MIDS provided the basis for the Asset Registry in Brantford
- Brantford developed LADR (Linear Asset Data Repository)
  - Uses MIDS as a foundation
  - Integrates with other Asset Management related information systems



# Life Cycle

Install Date	8/22/2003
Material	DR18
Soil Type	
Expected Service Life	100
Age (yr)	4
RSL	0.96

Attributes of the Watermain

Age = 4 Years

Material DR18= PVC

Estimated Service Life = 100 Years

Remaining Service Life = 96%

Remaining Service Life Scores	
Remaining Service Life (%)	Score
> 40	1
25 - 40	2
15 - 25	3
10 - 15	4
< 10	5

Expected Service Life (ESL) by Material		
Material Type	FSL	ESL In Clay Soils
PVC	100	100
DI	70	35
CI	70	50
CPP	100	80
ST	60	30
HDPE	80	80
AC	70	70
COFP	80	60
GALV	30	10



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# Condition Assessment: Roads Evaluation Tool

Road ID:	606	ALFRED STREET	between	DARLING STREET	and	WELLINGTON STREET
Length (m)	201	Surface Width (m)	3.8	Number of Lanes	2	
Surface Material	HCB	Road Class	LR	Speed Limit	50	
Left From	120	Left To	130	Left Parity	L	
Right From	121	Right To	125	Right Parity	0	
S.A. Rating: 12						
Curb ID	Type	Material	Rating	Comments		
CO-3926-L	BC	CON	4			
CO-3926-R	BC	CON	4			
Sidewalk ID	Type	Material	Width	Rating	Comments	
WK-3926-L	SW	C		3		
WK-3926-R	SW	C		3		
Boulevard ID	Rating	Material	Comments			
BV-3926-L	4	GRASS				
BV-3926-R	4	GRASS				
Entity ID	Road	Inspection Date	Insp	Hazard	Location	Refer To
679629	606	8/5/2002 9:25:45 AM	See	SWW-TRIP CRACK	125 ALFRED ST	Works Department - D.
679629						2 MUDJACK AND REMOV
Record: 14 of 1						
Entry ID	Road ID	Inspection Date	Inspector	Sign Type	Condition	Location
679629					0	
8/11/2008 9:30:13 AM Scott Jacobson						
<input type="button" value="Add Sign"/> <input type="button" value="Add Hazard"/> <input type="button" value="Submit Inspection"/> <input type="button" value="Close"/>						



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# Risk Framework

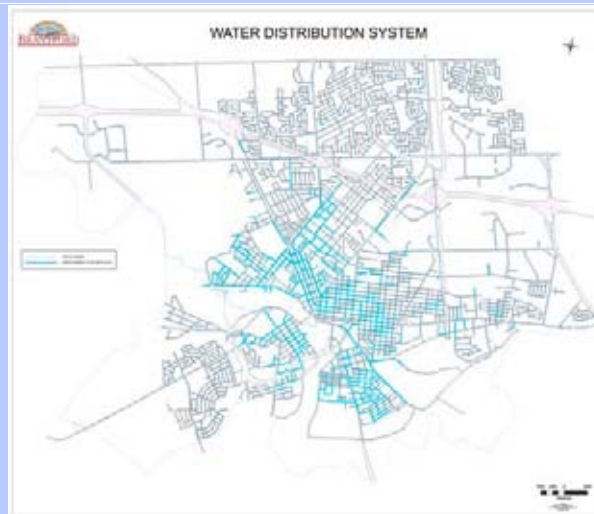
CONSEQUENCE		IMPACT (RISK)				
		1	2	3	4	5
Weight	Description	Insignificant	Minor	Severe	Major	Catastrophic
5	Environment	Negligible impact (<\$2,000) Reversible within 1 week	Material damage of local importance (\$2,000-\$20,000) Prosecution possible. Impact fully reversible within 3 months	Serious damage of local importance (\$20,000-\$100,000). Prosecution probable. Impact fully reversible within 1 year	Serious damage of national importance (\$0.1M-\$1M). Prosecution expected. Impact reversible within 5 years	Serious damage of national importance (>\$1M). Prosecution. Long term study. Impact not fully reversible.
5	Safety & Health	Negligible injury (<\$2,000)	Minor injury (\$2,000-\$20,000) Medical attention required.	Serious Injury (\$20,000-\$0.2M) Hospitalization required.	Loss of life (\$0.2M-\$2.0M)	Multiple loss of life or city-wide epidemic (>\$2.0M)
4	Loss of Service	Small number of customers experiencing minor service disruption (<\$500)	Significant service disruption affecting small number of customers (\$500-\$2,000)	Significant localized disruption over extended period (\$2,000-\$20,000)	Major localized disruption over extended period (\$20,000-\$100,000)	Major long term city wide service disruption (>\$100,000)
3	Business Costs	Total direct revenue loss & cost to restore service (<500)	Total direct revenue loss & cost to restore service (\$500-\$2,000)	Total direct revenue loss & cost to restore service (\$2,000-\$20,000)	Total direct revenue loss & cost to restore service (\$20,000-\$100,000)	Total direct revenue loss & cost to restore service (>\$100,000)



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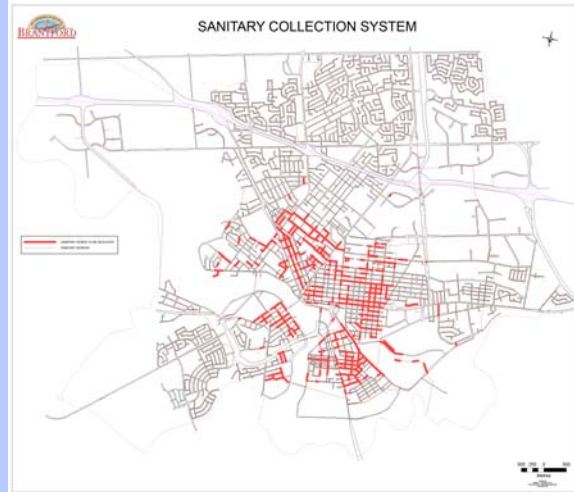
## Challenge #1 – Aging Infrastructure



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# Challenge #1 – Aging Infrastructure



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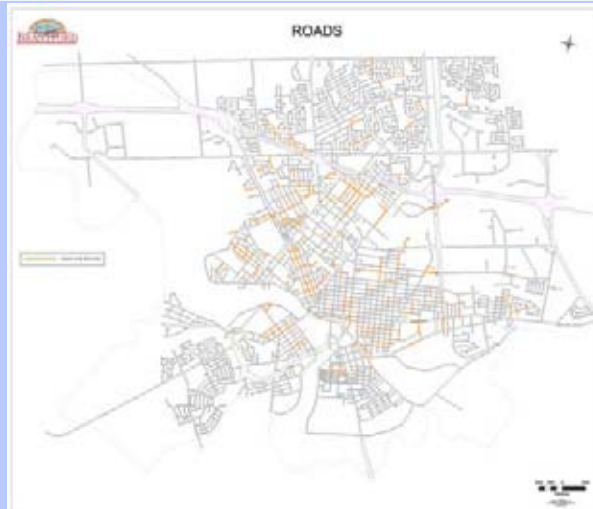
# Challenge #1 – Aging Infrastructure



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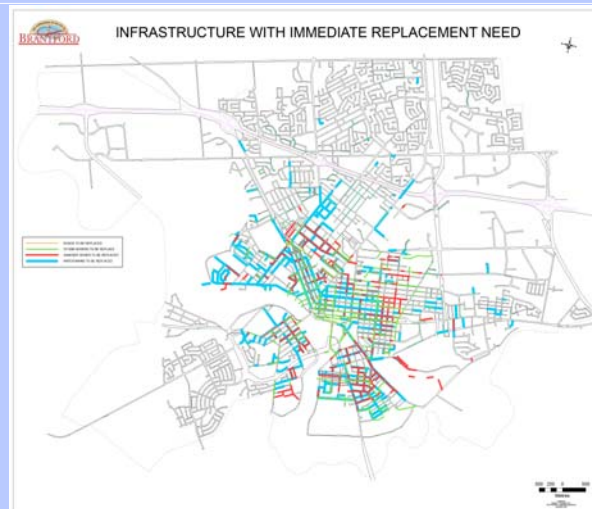
# Challenge #1 – Aging Infrastructure



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# Challenge #2 – Competing Priorities



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## Challenge #3 – Financial Limitations

### Current Budget Allocation (approx)

- \$2 million per year for water renewal
- \$1 million per year for sanitary renewal
- \$600,000 per year for storm renewal
- \$5 million per year for road renewal

## Challenge #4 – New Mandates

- PSAB 3150



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## Obstacles and Solutions

- Data Management
  - Solution → City developed LADR (Linear Asset Data Repository)
  - Solution → Creating integrated information solutions
- Meeting new legislated requirements
  - Solution → Leverage existing data
  - Solution → Use as an opportunity to develop the AM program
- Managing Infrastructure with limited funds and resources
  - Solutions → customized tools that specifically address Brantford's needs (Road Tour, LADR, LINES etc...)



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## Recommendations and Benefits

- **Data Management and Data Registry**  
Benefit → Information is organized, complete, comprehensive and responsive.  
Benefit → Information available to support optimized and better informed decisions.
- **Engage stake holders and experts**  
Benefit → making use of internal and external expertise and knowledge
- **Use existing data and information solutions for new purposes**  
Benefit → effective use of existing technology and cost savings



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## Lessons Learned

- First and foremost, “garbage in, garbage out. Clean, accurate data is a must!
- Data collection is an enormous effort, don’t under-estimate this task.
- Your data is never as good as you think it is, what we thought was good still needed a lot of effort to fix.



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## Lessons Learned

- Use technology to automate data collection where you can
  - i.e. relationships between roads to build the sidewalk inventory
- Document all your assumptions
  - For future reference
  - To support PSAB audit trails



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## What should I do?

- Start with a plan:
  - Establish your asset hierarchy so you agree what you have & level of detail
  - Think about what info you need (AMS, PSAB, CMMS)
  - Develop a data collection plan (don't wing it)
- Think about where the data will reside (plan you asset registry)



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## What should I do?

- Utilize existing resources, there is a lot of knowledge/info out there
  - Staff knowledge
  - In stand-alone spreadsheets & other files
  - In other departments (planning, etc.)
  - In other agencies (upper/lower tier municipalities, utilities, etc.)



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## Questions?

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