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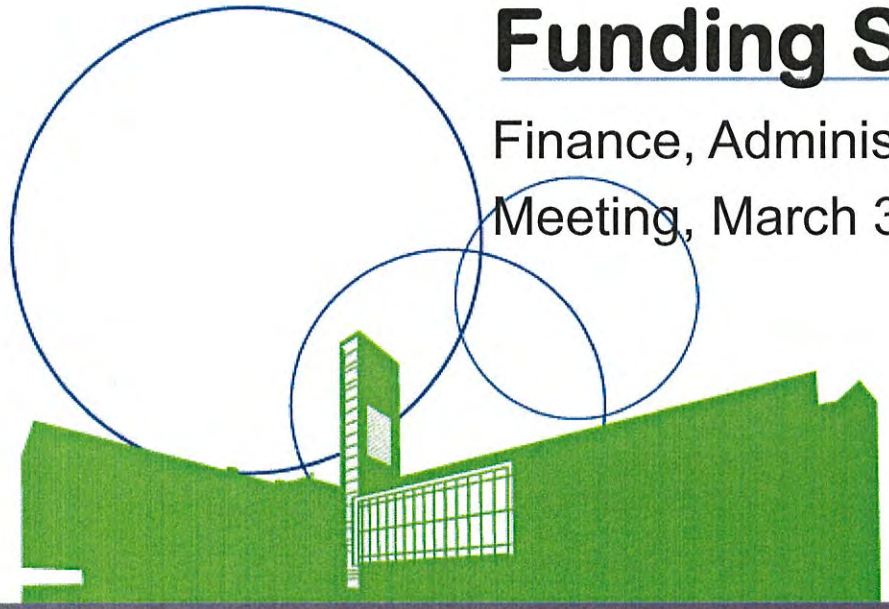
COMMUNICATION
FAA - MAR 31/14
ITEM - 2

Stormwater Infrastructure Funding Study

Finance, Administration and Audit Committee Meeting, March 31, 2014



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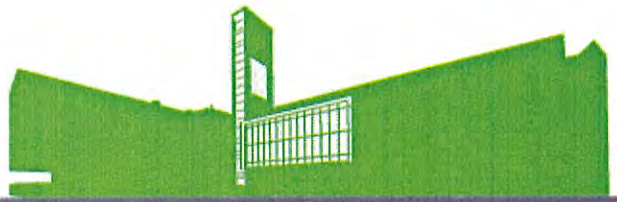
The Objectives of the Stormwater Infrastructure Funding Study

- Understand our stormwater asset needs
- Develop a comprehensive stormwater program
- Develop a funding framework for the stormwater program



Background for the Study

- Council direction at CW (WS) Rpt. No. 1, Item 3, February 2009
  - *"That staff examine funding models for the implementation of the Storm Water Management Retrofit Program and report back to a future Committee of the Whole Meeting"*
- Since 2009, studies, new activities and capital projects have been completed or programmed into the capital budget
- 2014-2017 Budget Guideline and Instructions
  - New User Fees and Service Charges: Departments are encouraged to explore and submit new user fee and service charge opportunities for existing non-revenue generating services.

Objectives of Stormwater Management

- Maintain the natural hydrologic cycle
- Prevent an increased risk to flooding
- Prevent undesirable stream erosion
- Protect water quality

An Introduction to Stormwater Management Planning and Design (MOE, 2003)

Stormwater Management in Vaughan

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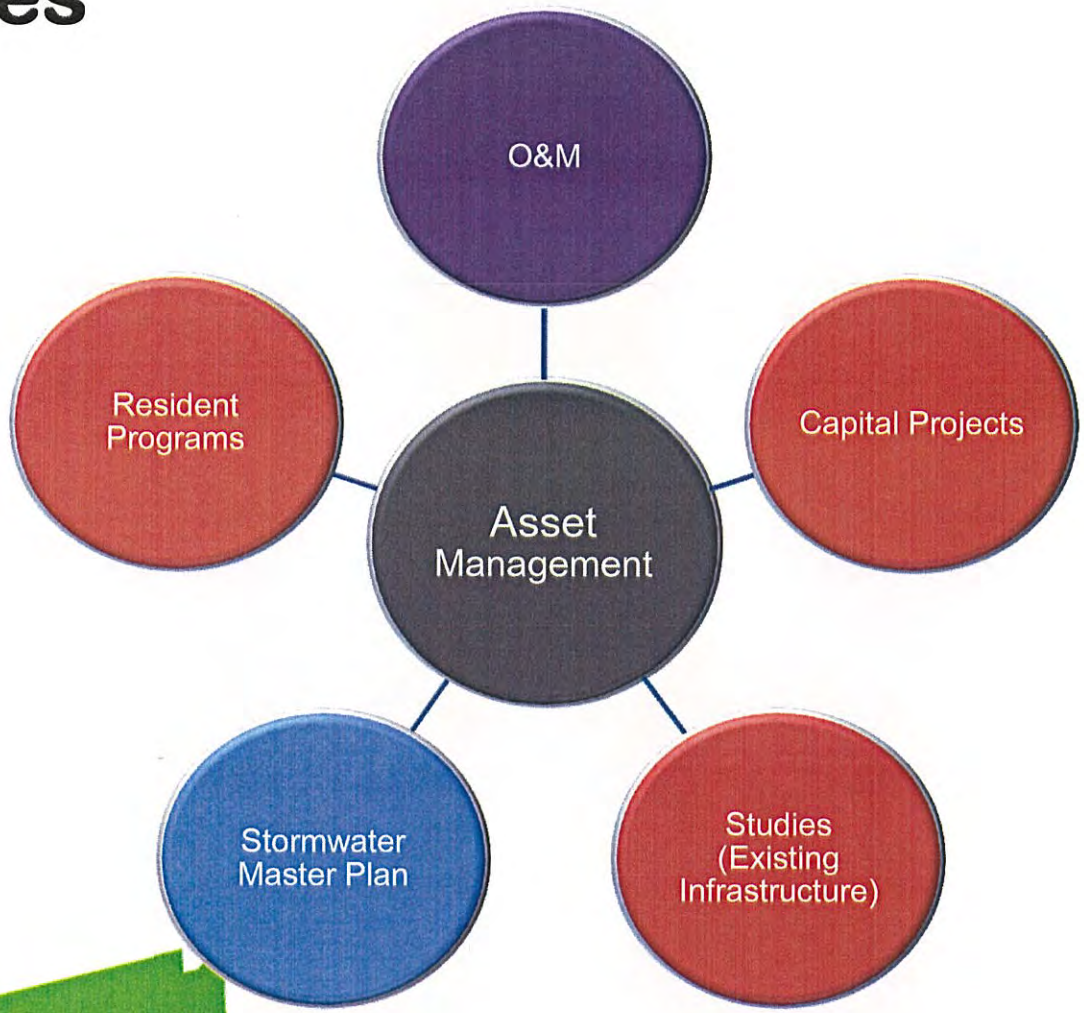
Vaughan's Stormwater Management Activities



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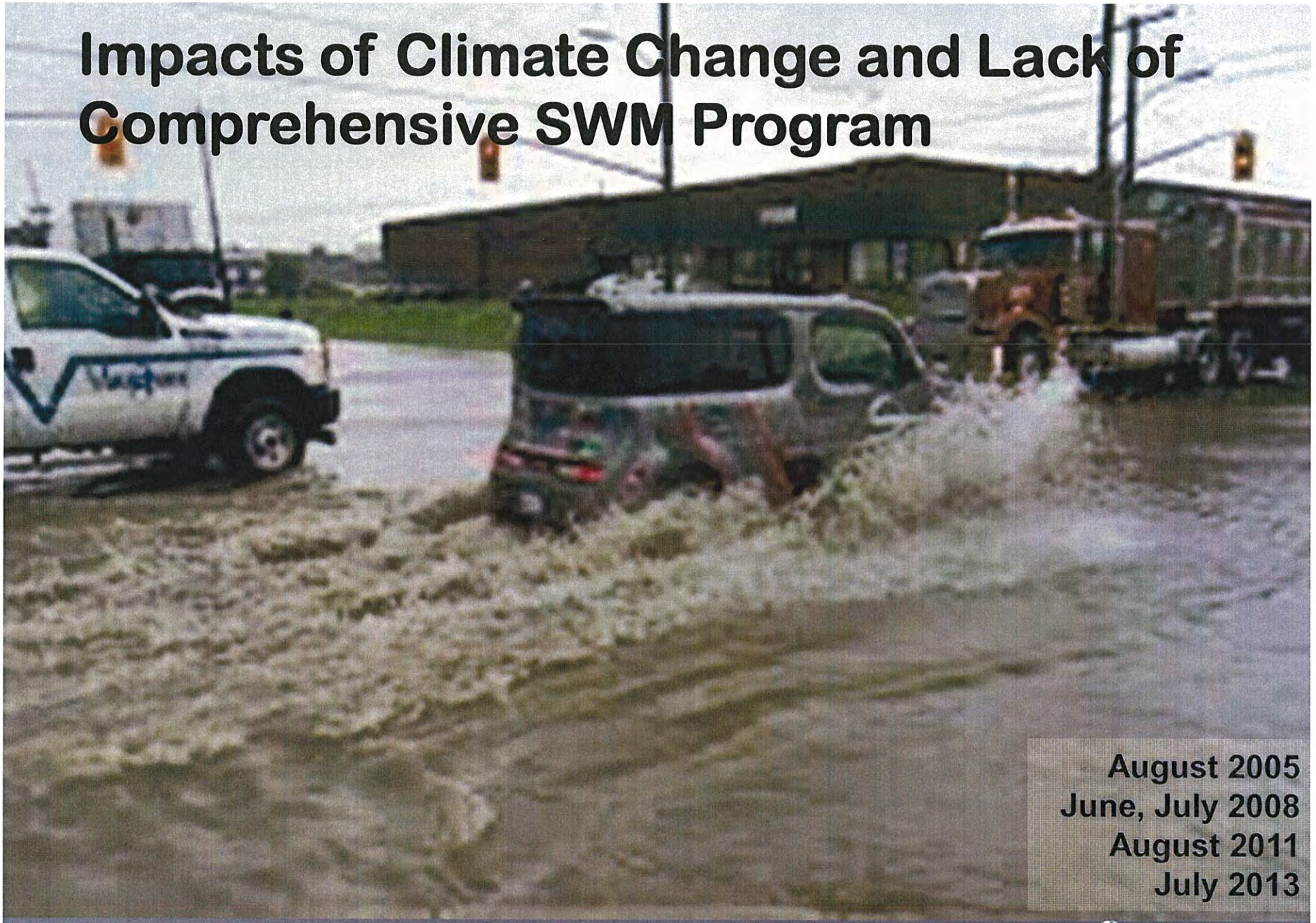
Impacts of Climate Change and Lack of Comprehensive SWM Program



August 2005
June, July 2008
August 2011
July 2013

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Risks Associated with Short, Intense Storms and Lack of Comprehensive SW Program

Quickly rising water in rivers and streams

Can be dangerous to the public

Overland flow routes, pipes and ponds must be maintained to allow water to reach destination

Keep water out of people's basements

Woody and other debris must be managed within water courses to avoid blockages at culverts, outfalls, bridges, etc

Protect properties adjacent to water courses

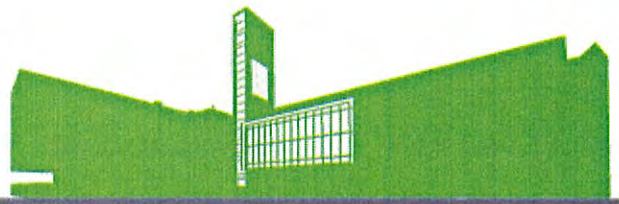
Municipal Liability

- *$9M lawsuit over flooding served against Amherstburg* (Nov 2013) CBC News
- *Thunder Bay $375M flood lawsuit moves ahead* (Sep 2013) CBC News
- *Lisgar Flooding (in Mississauga) leads to $200 million lawsuit* (June 2012) YorkRegion.com
- *City of Stratford Agrees to Settle Class Action Suit Related to 2002 Flood* (March 2010) Press Release City of Statford

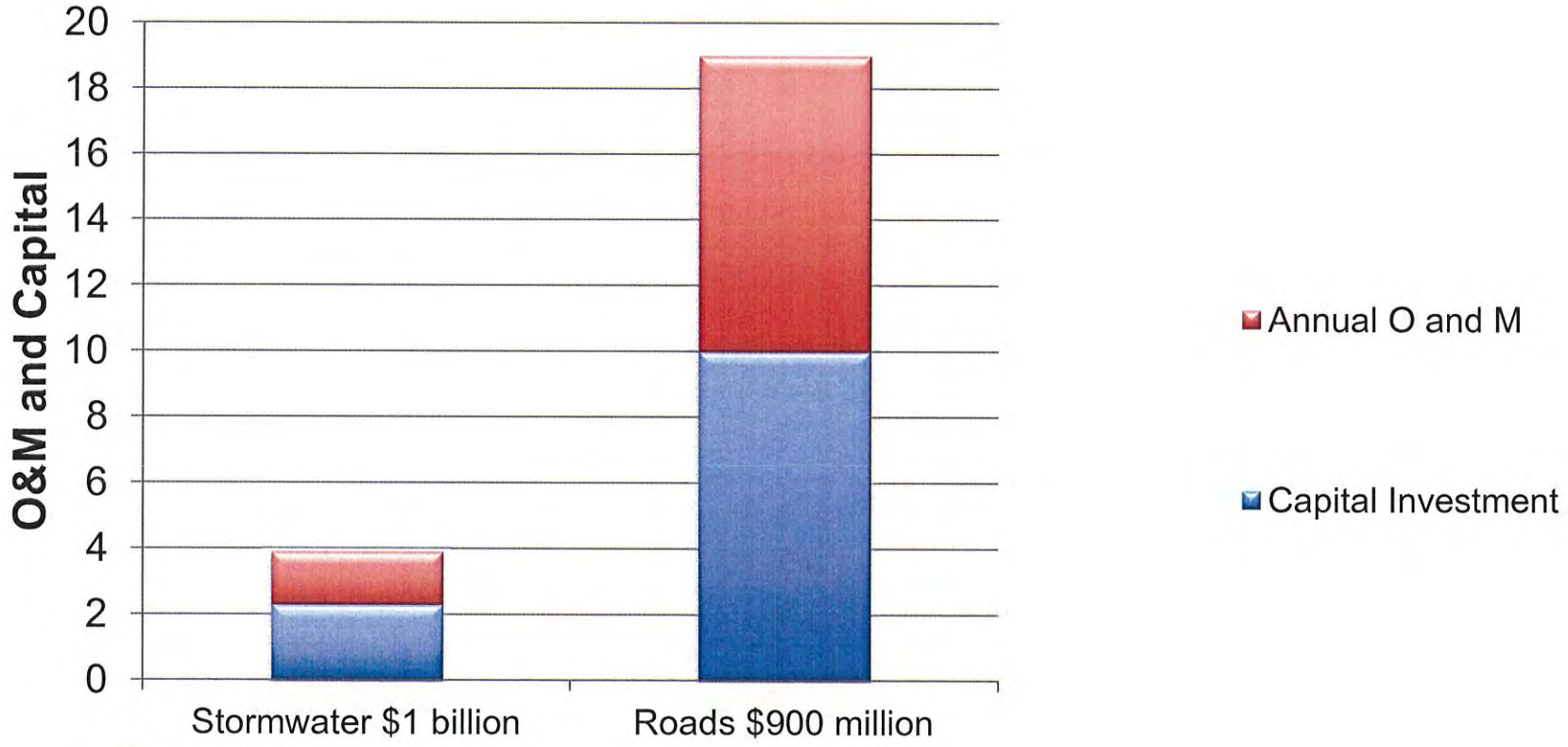
Vaughan's Stormwater Assets

Vaughan's Current Stormwater Assets

Underground Infrastructure and Ponds	Waterways and Overland Flow Routes
Approximately • 850 km pipes • 15,000 catch basins • 73,000 storm connections • 2400 culverts • 100 ponds	• Rivers • Streams • Streets • Ditches • Grassed Swales



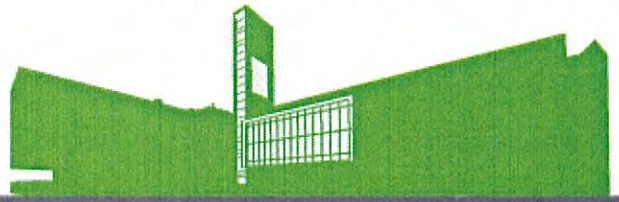
Capital and O&M Costs Comparison against Asset Value (in Millions)



Studies have identified capital works and further studies

Study	Capital Work Identified	Further Studies Identified	
SWM Retrofit Study (2009)	$50 million*		Ponds
SWM Master Plan	$2.12 million	$1.25 million	Undesirable erosion in streams
Phase 2 Drainage Study	$ 1.5 million		Focused studies on 7 areas (flood mitigation)
Total	$ 53.62 million	$1.25 million	

*adjusted for inflation 3% per year



Importance of O&M to Climate Change Risk Management

- *Engineers Canada, Adapting Infrastructure to a Changing Climate: Risk Assessment and Good Engineering Practices*

"Much can be accomplished within operations, maintenance and redevelopment policies, procedures and cycles"

"It's not always about 'building a bigger pipe'"

Current Operations and Maintenance

- Inspection activities mostly programmed for capital works needs
- Pond maintenance is limited and is based on available funds, not necessarily on needs
- Proactive inspection and cleaning of catch basins, channels and watercourses
- Programmed maintenance activities are limited due to:
  - staffing resources
  - O&M funded from wastewater consumption rates

Future O&M and Capital Funding Needs

- Stormwater Master Plan identified new infrastructure which will need to be maintained
  - Developers pay to build the infrastructure but future users (City) fund future repairs and ongoing operations and maintenance costs

Current Stormwater Funding

- Projects have traditionally been funded from Gas Tax, Infrastructure Grants and Road Infrastructure Reserve
- Over the last decade, the City of Vaughan, has collected for stormwater needs in combination with wastewater consumption rates
- Operations and maintenance is funded from wastewater consumption rates

Other municipalities

- Many municipalities have implemented or are in the process of implementing a dedicated stormwater funding framework
  - Markham
  - Richmond Hill
  - Aurora
  - Kitchener
  - Waterloo
  - Mississauga

Stormwater Infrastructure Funding Study Goal

A balanced approach to a stormwater funding framework through level of service review and examining funding options

Stormwater Infrastructure Funding Study

LCC and LOS Review	• Calculate service life costs based on repair, retrofit and eventual replacement, operations and maintenance costs • Determine level of service based on best practices
Funding Options and Models	• Tax vs. Rate • Tiered vs. Straight Dollar Figure • Calculated based on permeable area on property • Other funding options
Policy and By-law Development	• Policy for application of funding framework • Stormwater By-law

Public Consultation and Engagement Plan

- Communication campaign to promote and define stormwater management, the role of the resident and the role of the City

- Public Consultation and Education through Stakeholder Advisory Committee

Proposed Study Schedule

Project Start
- Spring 2014

Council Information Report
- March 31, 2014

SW Assessment, LCC and Funding Analysis
- 2014

Public Engagement and Consultation
- 2014

Report to Council
- Early 2015

Public Engagement and Consultation
- 2015

Final Report, Council Presentation
- Late spring 2015

2016 Budget Process for Funding Framework Implementation
- Fall 2015

Storm Water Funding Framework Implementation
- 2016

Questions?