

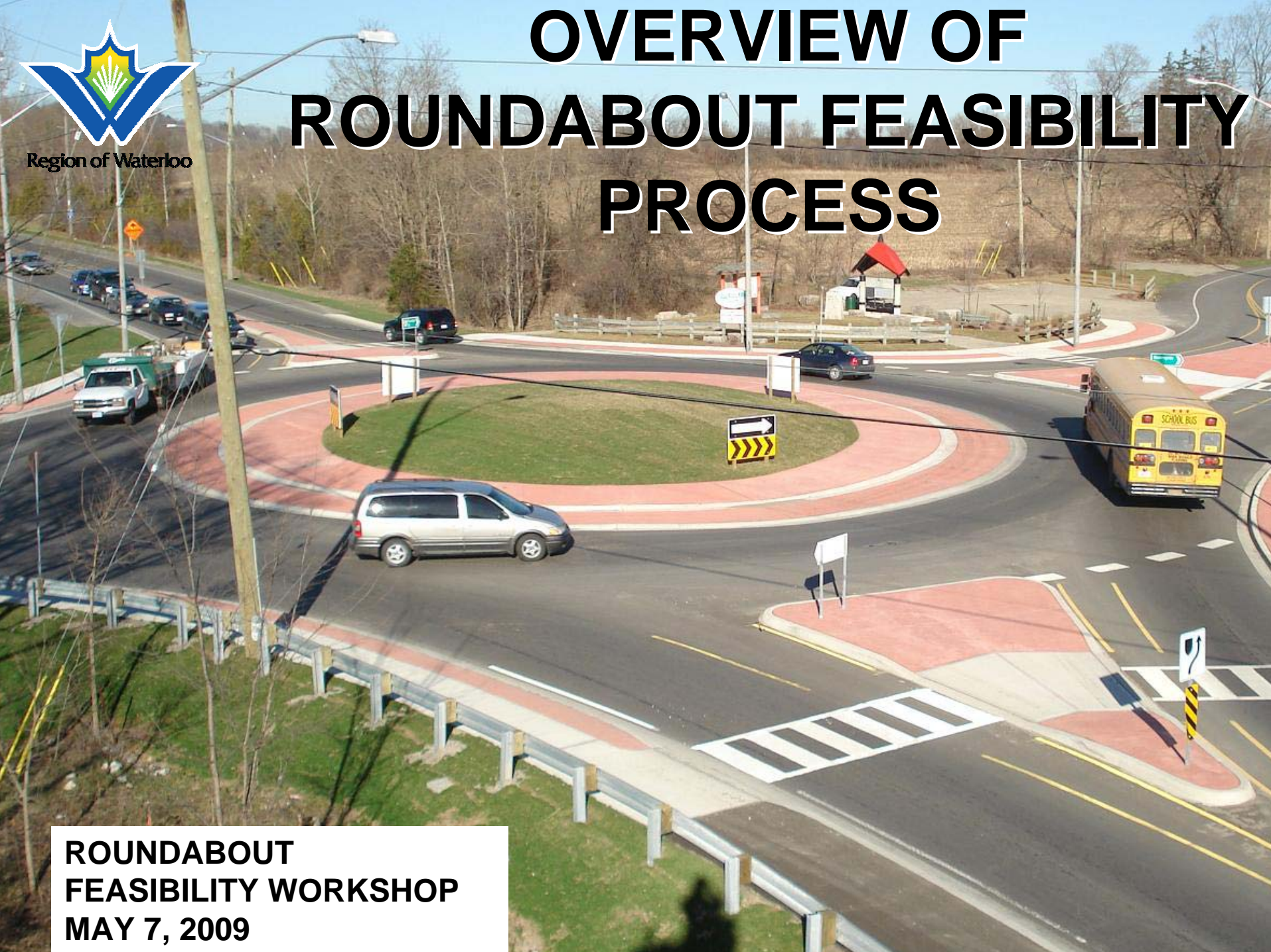


Workshop Agenda

- 9:00-9:05 Welcome
- 9:05-9:35 Overview of Roundabout Feasibility Process
- 9:35-10:00 Q & A Feasibility Process
- 10:00-10:15 Coffee Break
- 10:15-11:30 Roundabout Screening Tool
- 11:30-12:00 Lunch
- 12:00-1:30 Intersection Control Study
- 1:30-2:00 Q & A all Topics



OVERVIEW OF ROUNDAABOUT FEASIBILITY PROCESS



**ROUNDAABOUT
FEASIBILITY WORKSHOP
MAY 7, 2009**

Current Policy

- In April 2003 Regional Council passed a by-law stating that roundabouts must be considered when:
 - A new intersection is proposed
 - Traffic signals are warranted
 - Improvements are planned at an existing intersection to address safety or capacity problems



Planning Process Overview

- 3 Phase Process
- Phase 1: Initial Screening
- Phase 2: Feasibility
- Phase 3: Approvals



Planning Process Overview

- Phase 1: Initial Screening
 - Quick assessment of feasibility of a roundabout vs other forms of traffic control based on order-of-magnitude life-cycle cost
 - Review of Screening Tool by Roundabout Coordination Committee (RCC) (Optional)
 - Decision: Proceed to Feasibility or Discard Roundabout as an option



Planning Process Overview

Phase 2: Feasibility

- More detailed comparison of roundabout vs other traffic control using life-cycle cost
- Intersection Control Study (ICS)
- Technical review of ICS by Roundabout Coordination Committee (RCC)
- Decision by RCC: Proceed to obtain approvals for a roundabout or discard roundabout option



Planning Process Overview

Phase 3: Approvals

- Public consultation
- Council approval
- Other EA requirements



What Triggers the Roundabout Planning Process?

- Need for improvements at an intersection to improve safety or capacity
 - Development-related Traffic Impact Study (TIS)
 - Safety counter-measures program
 - Part of a larger corridor improvements project (Class EA)
 - New intersection



Transportation Impact Studies

- TIS guidelines revised in 2008
 - Studies must consider a roundabout at each intersection where any road improvements are recommended
 - Additional turning lanes, through lanes
 - Traffic signals
 - Developers must complete Initial Screening Tool for staff review
 - Intersection Control Study may be required

Safety Countermeasures

- Region conducts an annual collision survey of all intersections and mid-block locations
 - Identifies priority collision locations based on what has occurred VS what is expected
 - Considers severity, type, time of day, weather, etc.
- Top locations are analyzed to determine if safety counter-measures would be beneficial



Corridor Improvements Projects

- Roundabouts are always considered as part of a Class Environmental Assessment (EA) for any improvements on an existing or new road corridor
 - Widening to add through lanes
 - Intersection improvements, etc.
 - New road corridor

Initial Screening Tool

- 5 page questionnaire designed to be completed in a few hours
- Includes proposed configurations for both roundabout and conventional improvements
- Concept sketches of each config.
- 20-Year Life Cycle Cost Estimate

Intersection Control Study

- More detailed comparison of roundabout to another form of traffic control (signals, 4-way stop, etc.)
- Functional design concepts of the alternatives are developed, and the following are looked at quantitatively:
 - Safety performance
 - Operational performance
 - Life cycle costs (including the societal costs of injury crashes)
 - Other criteria are looked at qualitatively



Roundabout Coordination Committee (RCC)

- Consists of Region staff
 - Design and Construction
 - Transportation
 - Transportation Planning
 - Community Planning
- Staff from local municipalities
- Bi-monthly meetings



Roundabout Coordination Committee (RCC) cont.

■ RCC Mandate

- Develop guidelines for roundabout feasibility
- Develop design standards for roundabout implementation
- Develop roundabout education programs
- Coordinate efforts of Region and local municipalities
- Review feasibility studies and recommend traffic control regimes to staff

RCC Decision

- 20-Year Life Cycle Cost (LCC) is primary criterion
- If Roundabout LCC is within 1.5 times the LCC of the Signals, roundabout is usually recommended
- If intersection is on a Preferred Roundabout Corridor, a roundabout is usually recommended

RCC Decision cont.

Why is the 20-Year Life Cycle Cost (LCC) the primary criterion?

- Capital Program cannot afford to install roundabouts at every location
- Focuses capital investment at the priority locations where the greatest collision reduction is expected
- Maximizes the "Collisions Reduced Per Dollar Spent"

Discussion

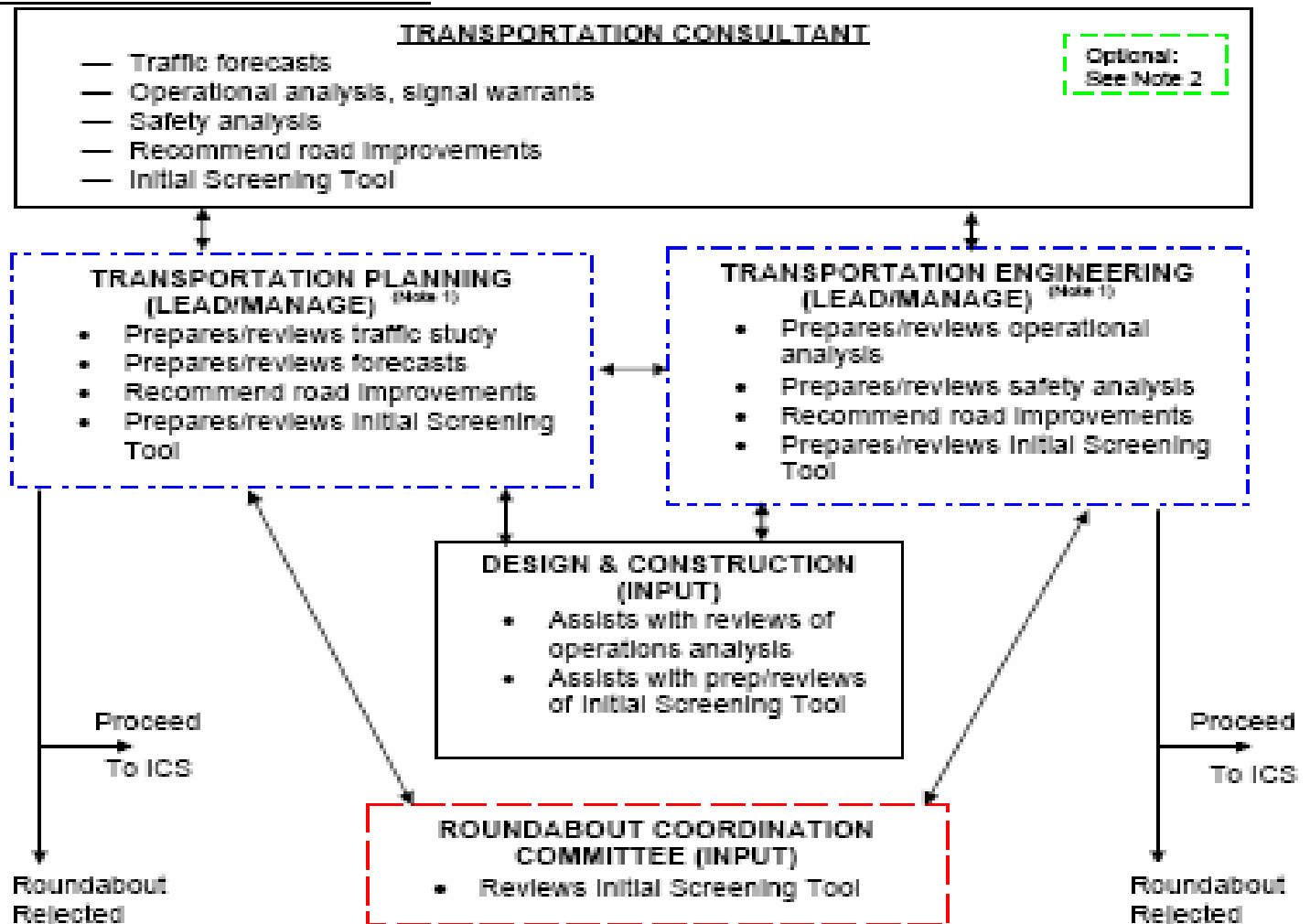
- In every case so far the construction cost for a roundabout has been higher than for signals
- The question becomes whether this additional cost is outweighed by the societal cost of injury crashes
- Current process favours roundabouts over traffic signals at intersections with 4 legs and high volumes where more injury crashes would be expected

Other Considerations

- Recent study (2007) by Transport Canada concluded the average injury collision cost in Ontario is \$82,000
- RCC recently considered adding the cost of motorist delay to LCC cost. Conclusion: Decided against this criterion because if included RCC would never recommend a signal

Planning Process Flowchart

PHASE 1 – INITIAL FEASIBILITY



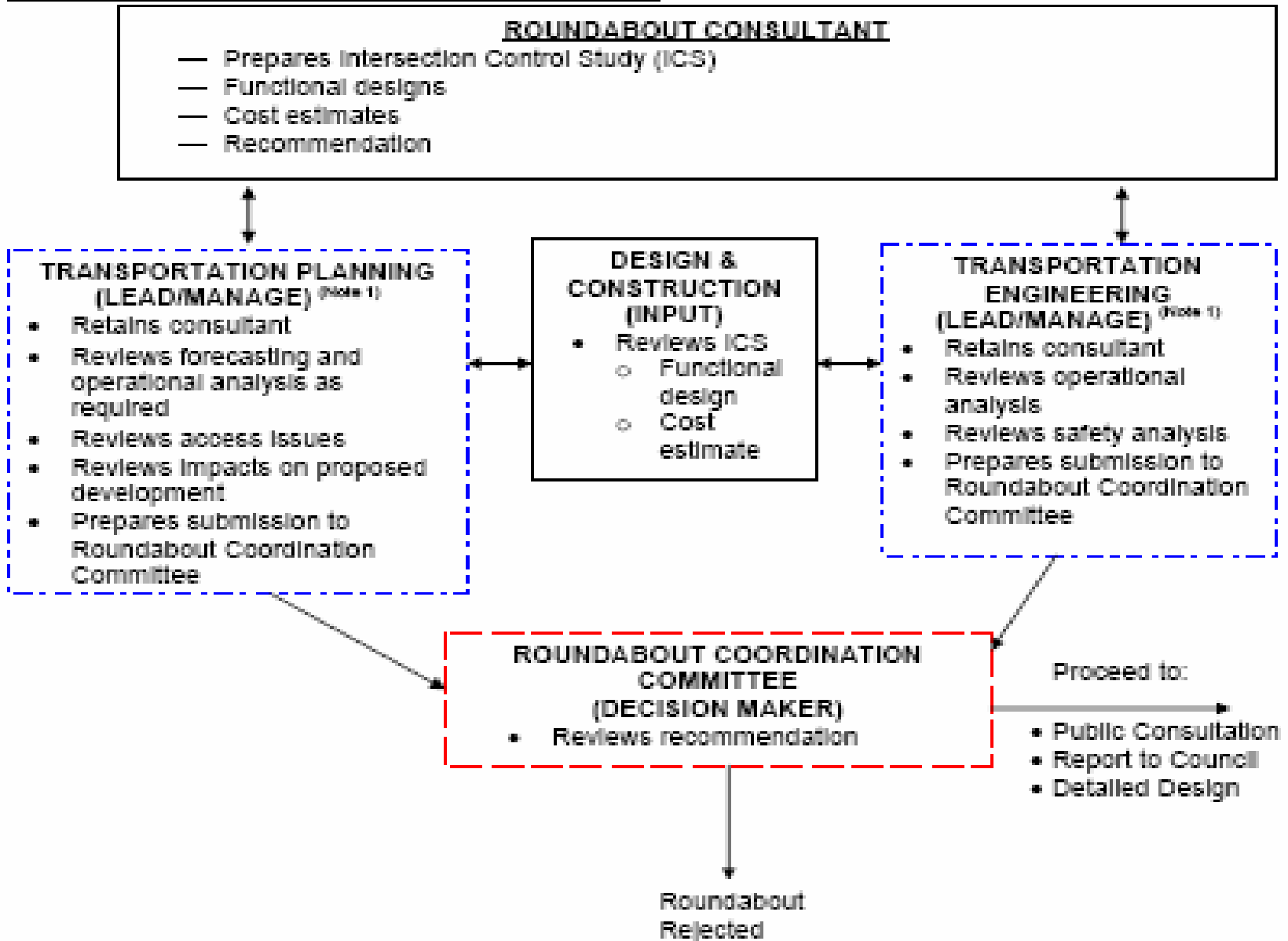
NOTES:

- 1) Leader/Manager will be determined by what is driving the need for improvements. (New development, counter measures, etc.)
- 2) Need for consultant to be determined by managing division.
- 3) If location is being reviewed as part of a larger Capital Project the Roundabout Planning Process will be managed by the Division managing the larger project.



Planning Process Flowchart

PHASE 2 – INTERSECTION CONTROL STUDY (ICS)





Questions?

