

Evaluation Methodology Workshop

Saturday February 4th, 2006

Session 1A – Doug Allingham

Introduction to the 407 East Individual Environmental Assessment

Study Purpose

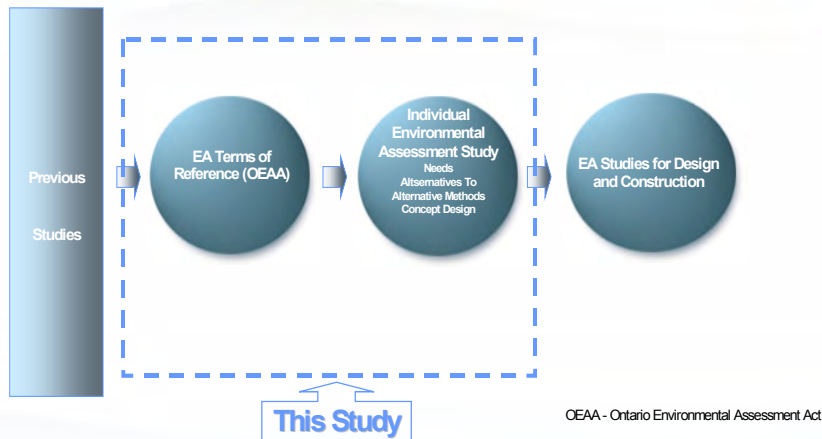
The purpose of this Environmental Assessment Study is to assess existing and anticipated future transportation capacity deficiencies within the Region of Durham and surrounding areas and determine the need for transportation improvements from a Provincial perspective.

Analysis Area

The study area for this project includes the area between Brock Road in Pickering and Highway 35/115 in Clarington, north to the Oak Ridges Moraine and south to Lake Ontario



Environmental Assessment Process



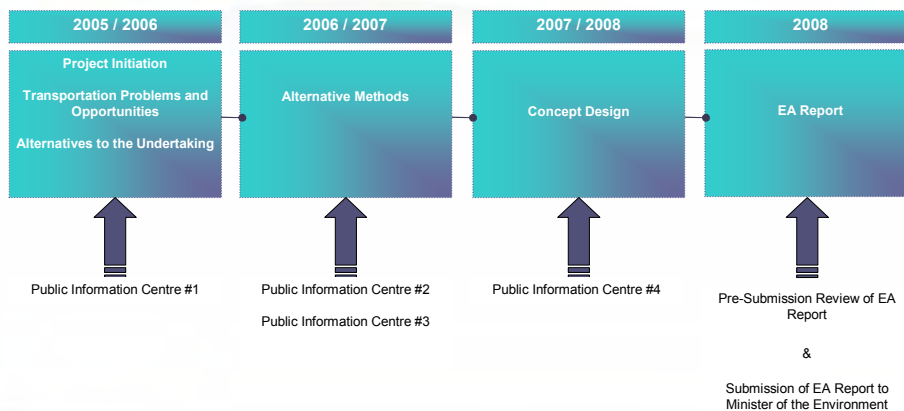
Terms of Reference (ToR)

- The EA ToR document is a "process" document only.
- The EA ToR provides a framework for the preparation of the Individual EA.
- The 407 East EA ToR was approved in January 2005.
- The Individual EA commenced in February 2005.
- Notification of Study Commencement to stakeholders and public in February 2005.

Environmental Assessment

- This project is being undertaken as an Environmental Assessment.
- An EA is required under the Ontario Environmental Assessment Act.
- The EA must satisfy the Federal EA Requirements (CEAA)
- The EA must be approved by the Minister of Environment.

Project Process and Schedule



Purpose of the Workshop

- To discuss the identification and assessment/evaluation of the Alternatives to the Undertaking
- To present and receive feedback on the criteria and measures which the alternatives will be assessed

Session 1B – Ian Dobrindt

The Evaluation Methodology – Alternatives to the Undertaking

Class EA vs Individual EA

Class EA

- Undertaking or project is pre-approved under the EA Act
- Self-assessment proponent driven process
- Relatively shorter time frame

Individual EA

- Undertaking or project requires Minister of the Environment approval
- EA Act driven process
 - ToR
 - Government Review
- Relatively longer time frame

Alternatives To vs. Methods

Alternatives To

- Alternative ways of solving an identified problem (deficiency) or addressing an opportunity, from which a preferred alternative is selected
- Also referred to as “Alternatives To” or “Alts To”
- Typical alternatives to include “Do Nothing”, Transit system improvements, Roadway improvements etc.

Alternative Methods

- Alternative ways of designing or carrying out the Preferred Alternative To
- As an example, if a highway / transitway is selected as the preferred alternative to the undertaking for the 407 East project, alternative methods will involve
 - Alternative routes
 - Interchange locations
 - Grade separations
 - Transit stations
 - Commuter parking lots
 - Etc.

Proposed Evaluation Approaches

Reasoned Argument

- Provides a clear presentation to stakeholders of the key trade offs between various evaluation factors and the reasons why one alternative is preferred over another

Arithmetic

- Provides a means to compare the alternatives based on a numerical scaling with weights assigned by the Project Team and other stakeholders

Alternatives To Evaluation

- A Reasoned Argument approach will be utilized
- A multi-step process:
 - Collection of secondary sources of information associated with the initial EA Study Area
 - Net Effects Analysis (impacts after all mitigation measures have been applied)
 - Comparative Evaluation (Reasoned Argument)

Alternative Methods Evaluation

- Both a Reasoned Argument approach (primary) and an Arithmetic approach (secondary) will be utilized
- A multi-step process:
 - Detailed field inventory of conditions associated with each alternative method
 - Net Effects Analysis (potential effects, mitigation measures, and net effects)
 - Comparative Evaluation (Reasoned Argument first followed by Arithmetic)

Evaluation Principles

Five key evaluation principles:

- The evaluation of alternatives must be **comprehensive**;
- The process must be **understandable**;
- The results must be **replicable**;
- The data must be **traceable**; and
- The entire activity must be completed in **consultation** with the public, stakeholders, regulatory agencies, and municipalities.

Session 2 – Doug Allingham

Alternatives To the Undertaking

Alternatives to the Undertaking

Goals for Generating Alternatives:

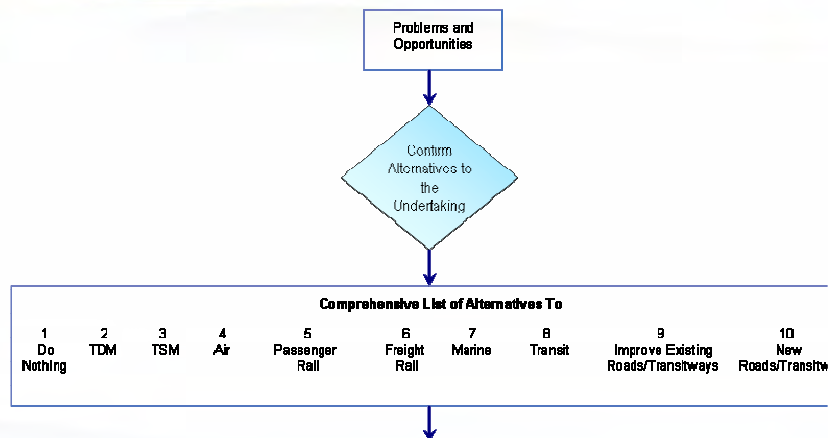
- Manage economic growth and accommodate the future employment and population growth forecasted for the GGH;
- Make effective and efficient use of existing infrastructure;
- Develop a network that results in the safe and efficient movement of people and goods;
- Develop an integrated transportation network that provides choice for users; and
- Develop a network, mobility strategies and technologies that foster a clean and healthy environment.

Alternatives to the Undertaking

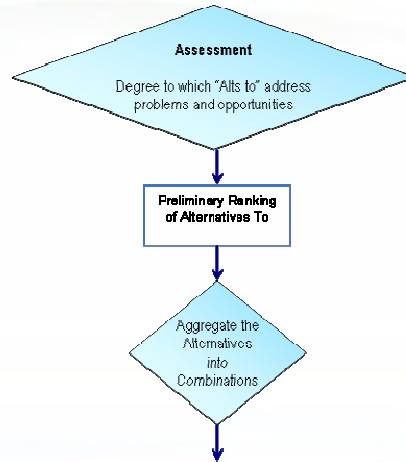
Comprehensive List of Alternatives:

1. Do Nothing (“Planned Improvements”)
2. Transportation Demand Management (TDM)
3. Transportation System Management (TSM)
4. Improved Air Transport System
5. Improved and/or New Passenger Rail System
6. Improved and/or New Goods Movement by Rail
7. Improved and/or New Marine Service
8. Improved and/or New Transit Services
9. Improved Roadways/Transitways
10. New Roadways/Transitways

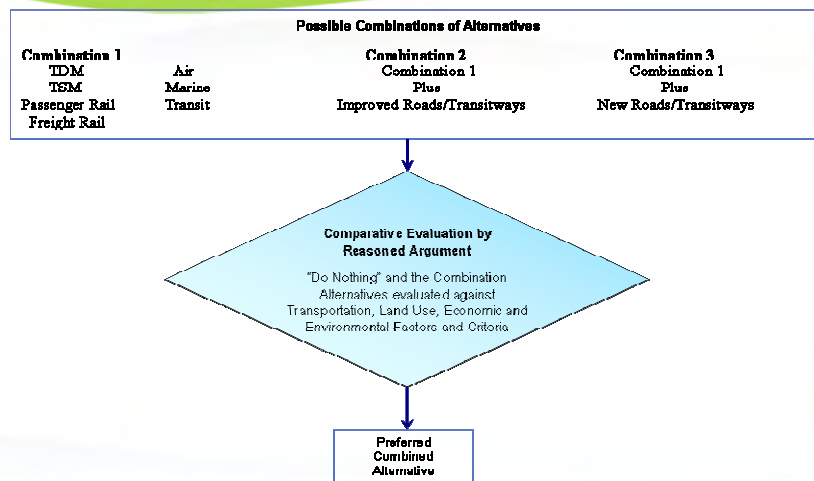
Assessment and Evaluation Process



Assessment and Evaluation Process



Assessment and Evaluation Process



Alternatives to the Undertaking

Possible Combinations of Alternatives

- Combination 1

TDM	Air
TSM	Marine
Passenger Rail	Transit
Freight Rail	

- Combination 2

- Combination 1 + Improved Roadways/Transitways

- Combination 3

- Combination 1 + New Roadways/Transitways

Session 2A – Alternatives to

Breakout Group

Session 3: Ian Dobrindt

Evaluation Criteria

Goals in Identifying Evaluation Criteria

The Goals which were used to form the criteria and measures are as follows:

- Safe and efficient movement of people and goods
- Provide sustainable transportation choices
- Provide Transportation Infrastructure required to link economic nodes and centres within and outside of Durham Region
- Plan and Manage Growth to Promote Sustainable Economic Growth
- Protect, conserve, enhance and wisely use natural resources

Terms of Reference (ToR)

Factors & Criteria

- The evaluation criteria described in the ToR was organized under three factors:
 - Transportation
 - Economy
 - Environment

Terms of Reference (ToR)

Transportation	<ul style="list-style-type: none"> •The degree to which the proposed transportation system modification supports the movement of people and goods •The degree to which the proposed transportation system modification reduces growth in peak hour travel demand •The degree to which the proposed transportation system modification resolves the defined problems •The degree to which use of the existing road and transit system is maximized and optimized through the use of TDM and TSM strategies •The degree to which the proposed system modification enhances interconnectivity between regional economic centres and designated growth areas by individual travel modes •The degree to which the proposed transportation system modification improves modal choice and creates a more balanced transportation system •The degree to which the proposed transportation system modification supports, or is consistent with federal, provincial and municipal plans and policies
Economy	<ul style="list-style-type: none"> •The degree to which the proposed transportation system modification supports provincial, regional and municipal policies for: <ul style="list-style-type: none"> -Trade -Tourism & Recreation -Economic development (including agriculture) •The degree to which the proposed transportation system modification supports existing land use and growth including recognition of growth management plans and policies as articulated in provincial, regional and municipal plans and policy documents (existing or amended, including the proposed Greenbelt and proposed Greater Golden Horseshoe Growth Plan)
Environment	<ul style="list-style-type: none"> •The degree to which the proposed transportation system modification impacts environmental features, functions, systems and communities. •The degree to which the proposed transportation system modification minimizes resource consumption (e.g. mineral, aggregate, agricultural land). •The degree to which the proposed transportation system modification minimizes toxic and greenhouse gas emissions. •The degree to which the proposed transportation system modification supports federal, provincial and municipal environmental protection policies, existing or amended, including the proposed Greenbelt and proposed Greater Golden Horseshoe Growth Plan.

EA Factors & Criteria

- In June 2005, the *Places to Grow Act* received Royal Assent. The act provides a legal framework for growth planning in Ontario.
- In November 2005, the *Proposed Growth Plan for the Greater Golden Horseshoe* was released for comment.
- To reflect these new Provincial Government policies, evaluation criteria were enhanced, and a new factor for Land Use and related criteria were added
- For reference – Handouts of the ToR Criteria and the EA Criteria are provided

Sample Evaluation Criteria & Measures

Transportation:

Criteria	Measure
The degree to which the proposed transportation system modification supports the efficient movement of people	<ul style="list-style-type: none"> •Average speed by facility type (urban area versus rural area): (Quantitative) <ul style="list-style-type: none"> ▪Freeways ▪Arterials ▪Lower Tier •% of system operating at Level of Service D threshold (Quantitative)
The degree to which the proposed transportation system modification improves modal choice through a balanced and integrated transportation system	<ul style="list-style-type: none"> •System coverage – transit (Qualitative and Quantitative) <ul style="list-style-type: none"> ▪Level of Transit Service within urban centres ▪Provision of Transit Service connections between urban centres

Session 3A – List of Criteria

Breakout Group

Next Steps

- Finalize Problems and Opportunity Report
- Finalize Assessment and Evaluation Methodology and Table
- Public Review... Website
- Complete assessment and evaluation
- PIC #1 – Spring 2006
 - Problems and Opportunities
 - Assessment of Alternatives to the Undertaking