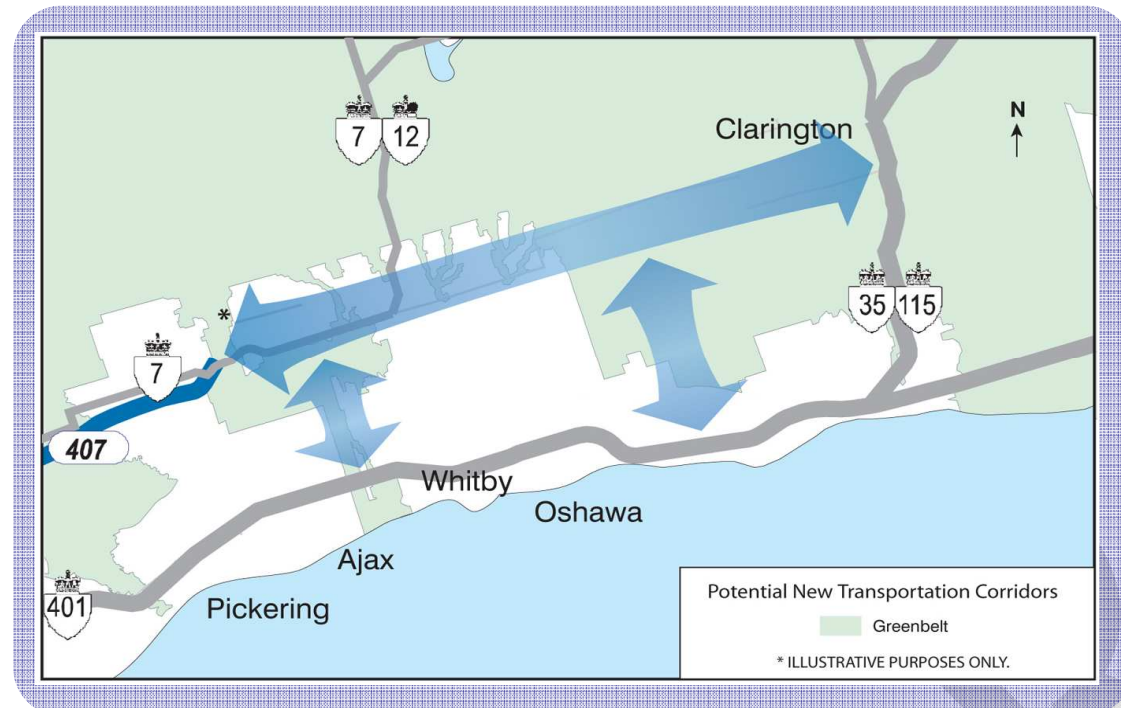


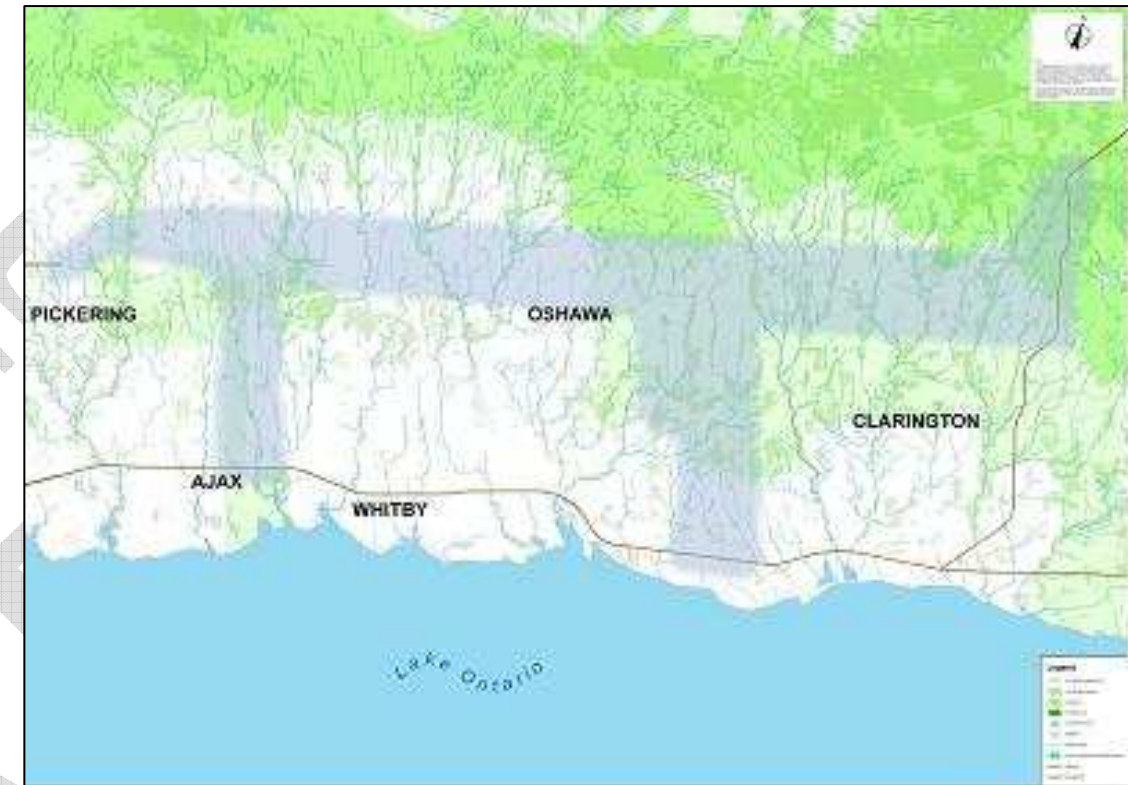
# 1. Introduction

The preferred Transportation Alternative documented in the Alternatives to the Undertaking Report includes a new east-west transportation corridor extending Highway 407 from Brock Road in Pickering to Highway 35/115 in Clarington and two north-south transportation corridors (links) connecting the proposed east-west corridor to Highway 401 in Durham as shown conceptually in **Figure 1.1**. **Figure 1.2** illustrates the preliminary study area associated with this corridor and links.

**Figure 1.1: Preferred Alternative to the Undertaking**



**Figure 1.2: Preliminary Study Area**



Route alternatives (alternate methods) for implementing the new east-west corridor and the north-south links were generated, screened, assessed, and evaluated leading to a Technically Recommended Route (TRR) in accordance with the methodology proposed in the approved 407 East EA Terms of Reference (ToR) (see **Section 2**).

First, route alternatives were generated based on transportation engineering principles and avoidance of significant environmental and land use features in order to arrive at a long list (see **Section 3**). Next, the generated long list of route alternatives was screened considering transportation, environmental, and land use features and constraints to arrive at a short-list (see **Section 4**). The established short-list of route alternatives was then assessed through a “net effects analysis” followed by a detailed comparative evaluation using two evaluation methods; specifically the reasoned argument approach and an arithmetic approach (see **Section 5**). On the basis of the results of both evaluation methods, a technically recommended route was selected for the proposed east-west transportation corridor and the two north-south links (see **Section 6**).

In summary, this report documents the generation, screening, assessment, and evaluation of route alternatives for a new highway/transitway as part of the 407 East Environmental Assessment (EA).