Cornell Secondary Plan Transportation Study

Presentation to

Development Services Committee

October 2, 2007
Engineering Department
Town of Markham

Overview

- ***Introduction***
- ***Study Area***
- ***Existing Traffic Conditions in Cornell***
- ***Transportation Model Assumptions***
- ***Findings of Transportation Study***
- ***Infrastructure Improvement Needs***
- ***Next Steps***

Introduction

- *At April 17, 2007 DSC meeting, additional information was requested pertaining to the Cornell Secondary Plan Transportation Study*

- *McCormick Rankin Corporation (MRC) was retained to undertake the transportation study for the revised draft Cornell Secondary Plan*

- *Land use assumptions at full build-out (2031) :*
  - *Population: 40,000*
  - *Employment: 14,000*
  - *Dwelling units: 16,000*
  - *Employment and Institutional Lands: 6.8 million sq. ft.*

- *Major changes from the original Cornell Transportation Study (2003) include:*
  - *Intensification of residential and employment densities*
  - *Addition of retail and mixed use development within Avenue 7 corridor*

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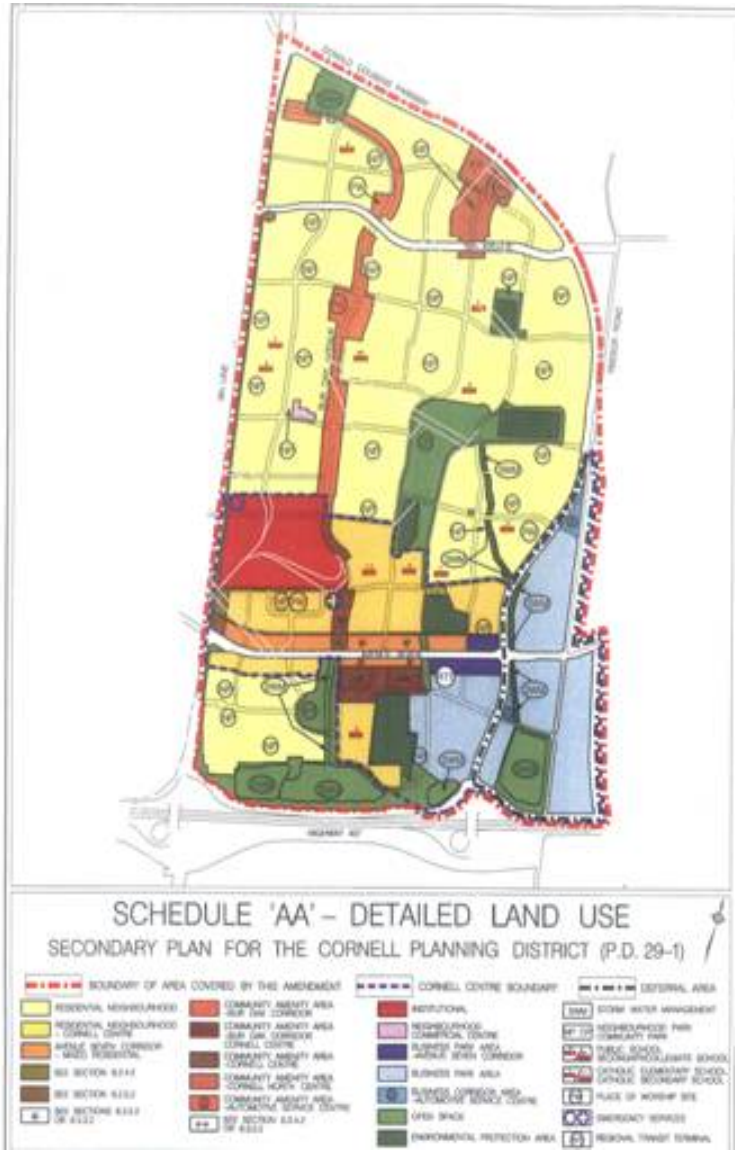
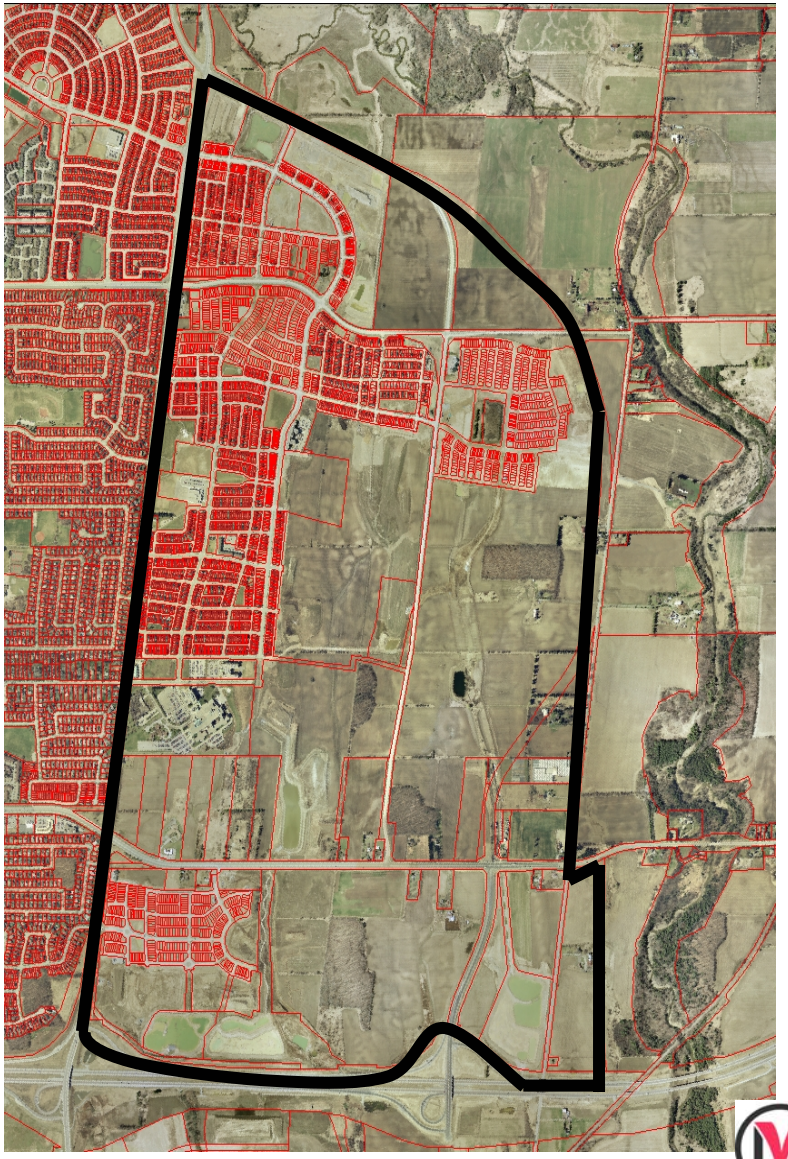
Study Area

Draft Cornell Secondary Plan





Existing Conditions

- *Cornell is at an early stage of development (approx. 20% built)*
- *Major roadway intersections are currently operating at acceptable Levels of Service during peak hours*
- *Donald Cousens Parkway (Hwy 407 to Major Mackenzie) is open to traffic*
- *9th Line widening currently underway and scheduled for completion in 2008*

Transportation Model Assumptions

- ***A transportation model was created to assess the demand on the transportation infrastructure***

- ***The model incorporates all planned roadway network improvements in the study area upon full build-out***

- ***A 20% transit mode split and 5% walk/cycle mode split was assumed by 2031***

- ***The 2031 transit mode split assumes implementation of higher order transit in the area including, Bus Rapid Transit on Highway 7 and 407 transitway; GO rail service improvements and other YRT service improvements***

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Levels of Service

- *There are six levels of service defined for each type of road for which analysis procedures are available.*

- *Each Level of Service (LOS) is given a letter designation representing operating conditions, from 'A' (best) to 'F' (worst)*

- *<u>LOS 'A'</u> – This level represents free flow conditions where drivers are virtually unaffected by the presence of others in the traffic stream.*

- *<u>LOS 'F'</u> – This level is used to defined forced or breakdown flow in the traffic stream. This condition exists where the traffic volume exceeds the capacity that the road is designed to handle.*

Findings – AM Peak Hours (2031)

- ***The proposed arterial and collector road network is projected to be capable of handling traffic during the AM peak hour***

- ***The screenline located north of Hwy 407 is forecast to operate close to capacity in SB direction (9th Line and Donald Cousens Parkway) in the AM peak hours***

- ***Anticipated intersection LOS:***
  - ***Donald Cousens Pkwy and Hwy 7 – 'D'***
  - ***9th Line and Hwy 7 – 'D'***
  - ***9th Line and 16th Avenue – 'C'***
  - ***9th Line and Donald Cousens Pkwy – 'C'***

- ***Minor intersection improvements will be required at locations that are operating at or near capacity (LOS 'D')***

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Findings – PM Peak Hour (2031)

- ***The proposed arterial and collector road network is projected to be capable of handling traffic during the PM peak hour***

- ***Roadway locations just north of Hwy 407 are forecast to operate close to capacity in the NB direction***

- ***Anticipated intersection LOS:***
  - ***9th Line and Hwy 7 – 'E'***
  - ***Donald Cousens Pkwy and Hwy 7 – 'E'***
  - ***9th Line and 16th Avenue – 'C'***
  - ***9th Line and Donald Cousens Pkwy – 'C'***

- ***Major intersection improvements will be required at locations that are operating at or above capacity (LOS 'E').***

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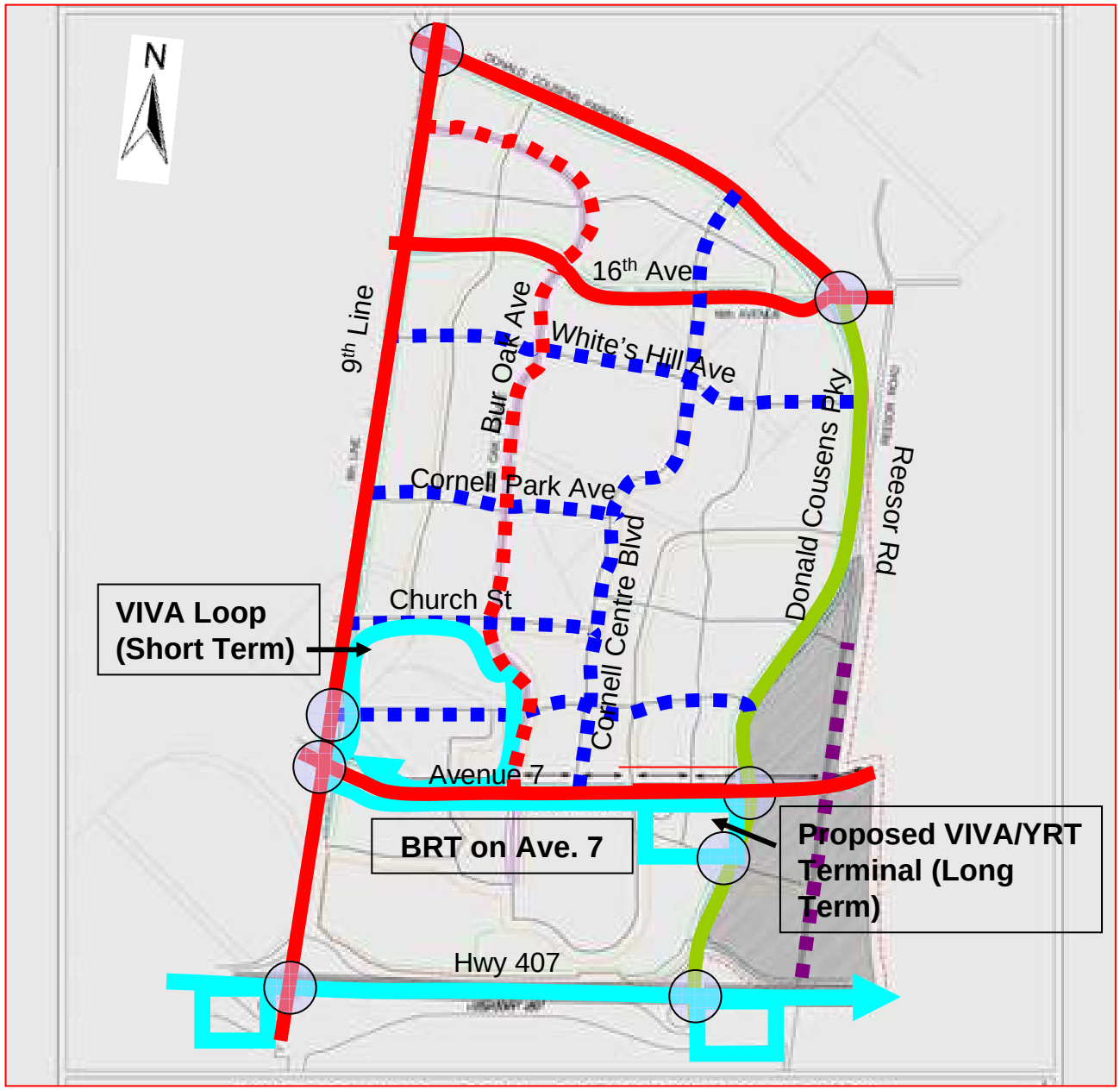
Infrastructure Improvement Needs



Legend

	Regional Road	Town Road
6 Lanes		
4 Lanes		
2 Lanes		
Parkway		
Intersection Improvements		
Transit Improvements		

Additional Network Requirements

➢ Regional Roads

- ❖ Donald Cousens Pkwy: 4 lanes (9th Line to 16th Ave)
  6 lanes (16th Ave to Hwy 407) (TBF)
- ❖ 9th Line: 4 lanes (Hwy 407 to Donald Cousens Pkwy)
- ❖ Hwy 7: 4 lanes (9th Line to Reesor Road) (TBF)
- ❖ 16th Avenue: 4 lanes (9th line to Donald Cousens Parkway)

➢ Town Roads

- ❖ Bur Oak Avenue: 4 lanes (Hwy 7 to 9th Line)
- ❖ All other roads: 2 lanes

➢ Transit

- ❖ Implementation of BRT along Highway 7 and 407 transitway, GO and YRT service improvements
- ❖ Extended and more frequent services on Bur Oak Avenue, 16th Avenue, White's Hill Avenue, Country Glen Road, Reesor Road and Cornell Centre Boulevard

Next Steps

Development scenarios leading to full build-out (2031) will be assessed:

- ***Broad level development staging scenarios at interim projected modal splits will be analyzed to develop an updated phasing plan and capital works program***

- ***Traffic conditions before and after the implementation of BRT and other roadway improvements will be assessed***

- ***Detailed traffic impact studies will be reviewed at the block plan level for future developments***

- ***Development approvals will be subject to required transportation infrastructure improvements***

Next Steps – Future Operations of Existing Road Network

As population and vehicular activities increase in the study area, there will be a need to:

- ***Identify and implement appropriate devices to assist pedestrians crossing the roads***
- ***Re-evaluate key all-way stop controlled intersections for traffic control signals***
- ***Identify and implement appropriate parking facilities to accommodate demand***



Thank you