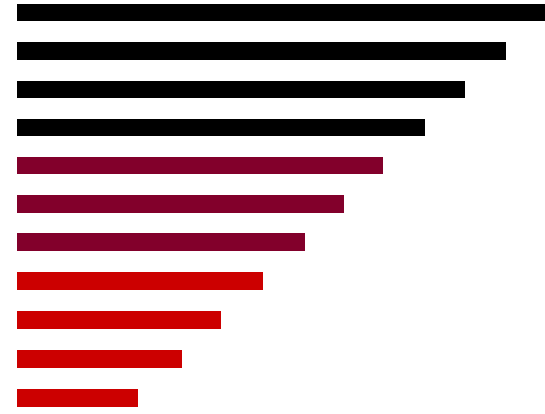




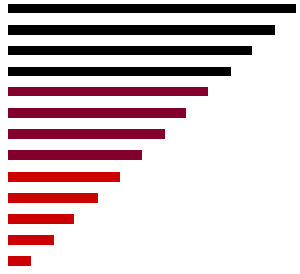
DENISON STREET EXTENSION

Feasibility Study

January 14, 2014
Transportation Committee

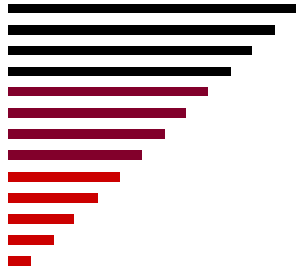


A member of  MMM GROUP



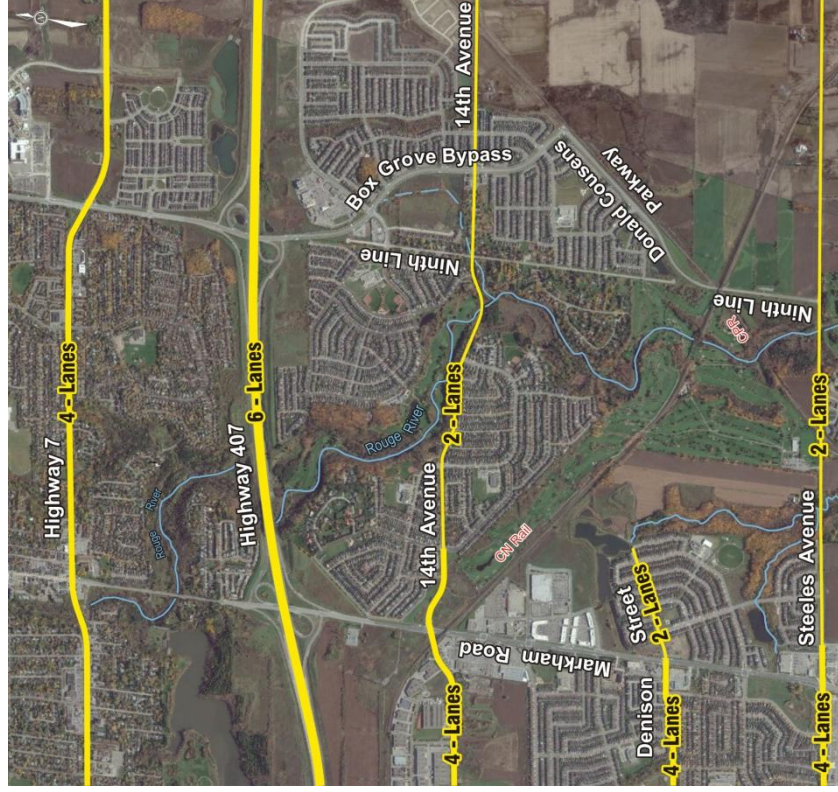
BACKGROUND

- Markham Transportation Strategic Plan (MTSP) analysis completed in 2012 reviewed transportation requirements to accommodate population and employment growth in the City of Markham to 2031
- At the public meeting for the MTSP in Box Grove, public confirmed east-west traffic congestion
- The MTSP recommends that a future study be undertaken for the potential extension of Denison Street to relieve congestion on 14th Avenue
- As an action item under the MTSP, staff committed to undertake a Feasibility Study to provide more east-west transportation capacity in Box Grove and Armadale

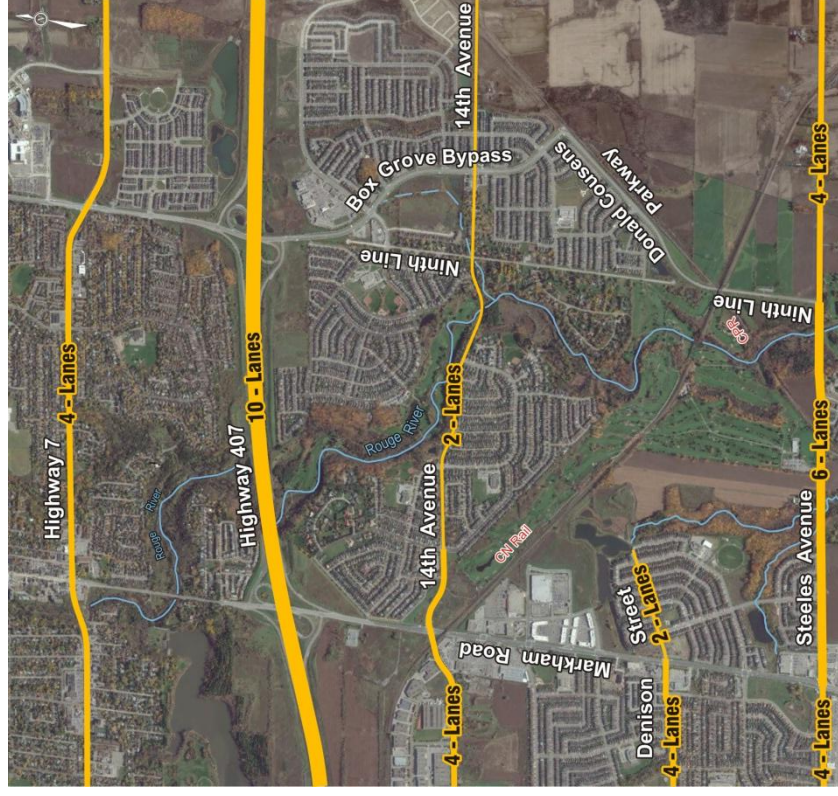


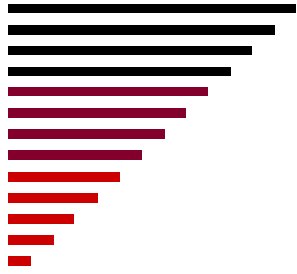
EAST-WEST CAPACITY

EXISTING



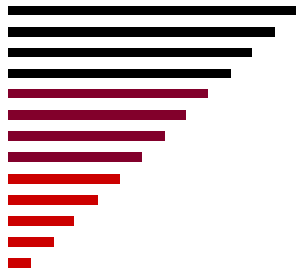
FUTURE





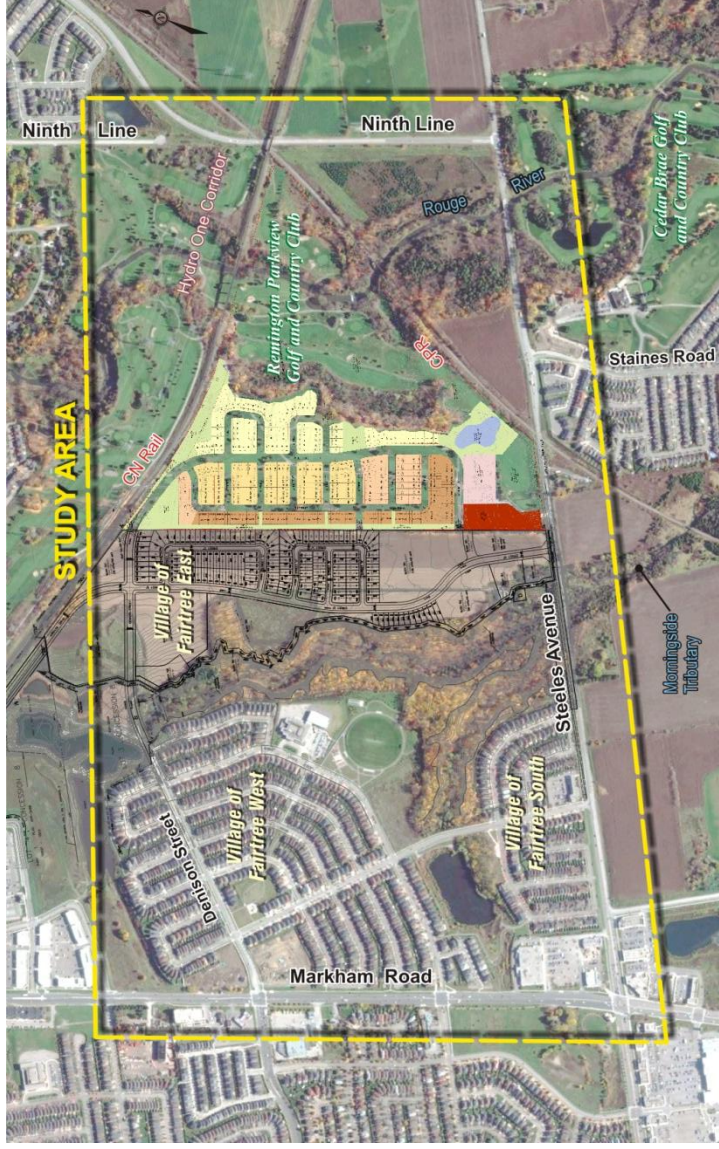
EXISTING & FUTURE TRANSIT

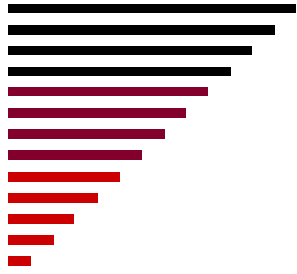




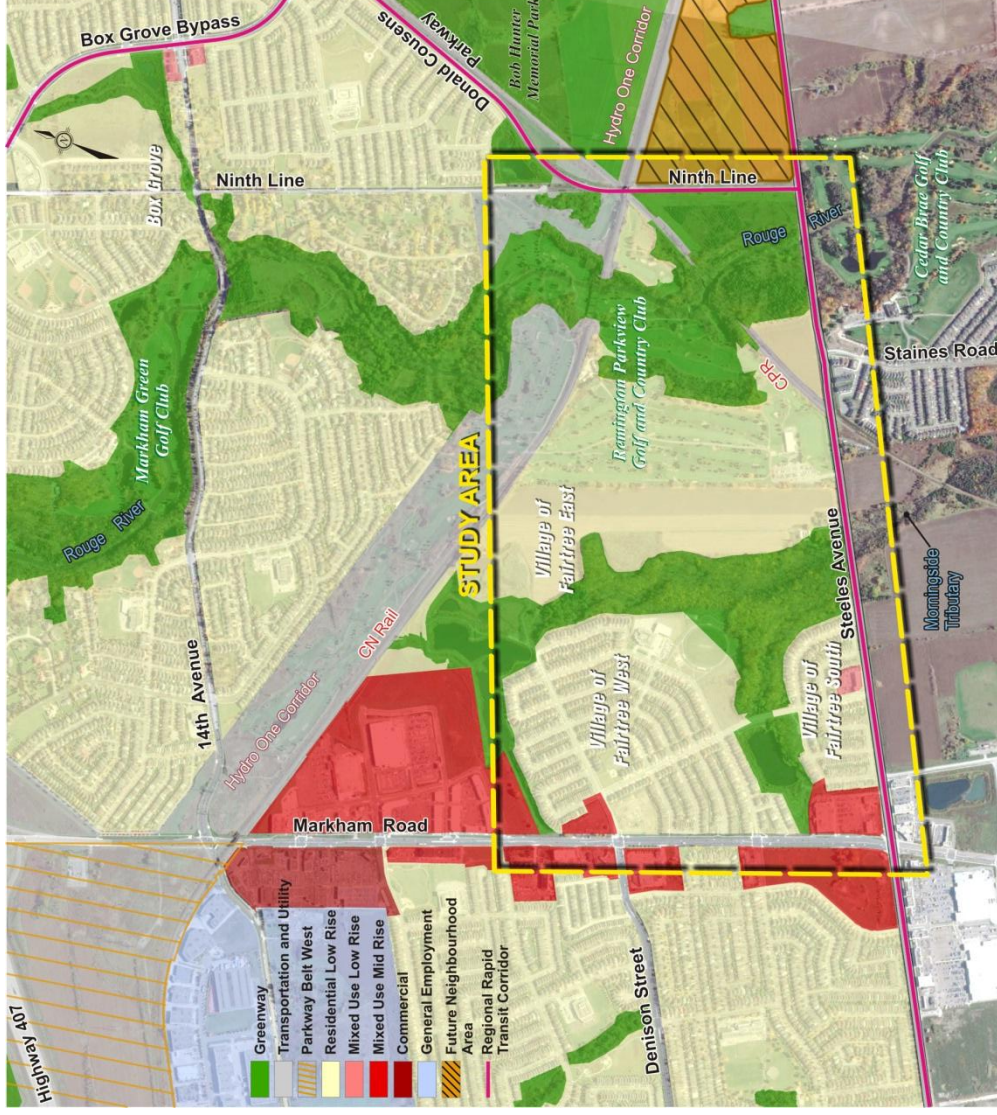
FUTURE RESIDENTIAL DEVELOPMENTS

- Proposed Villages of Fairtree East and Remington Parkveiw Golf & Country Club (proposed Parkview Community)

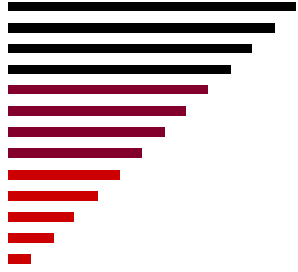




FEASIBILITY STUDY – LAND USE

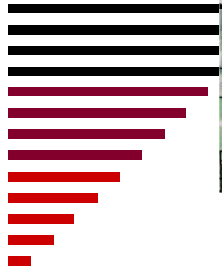


Source: City of Markham New Official Plan (Adopted by Council on December 10, 2013)

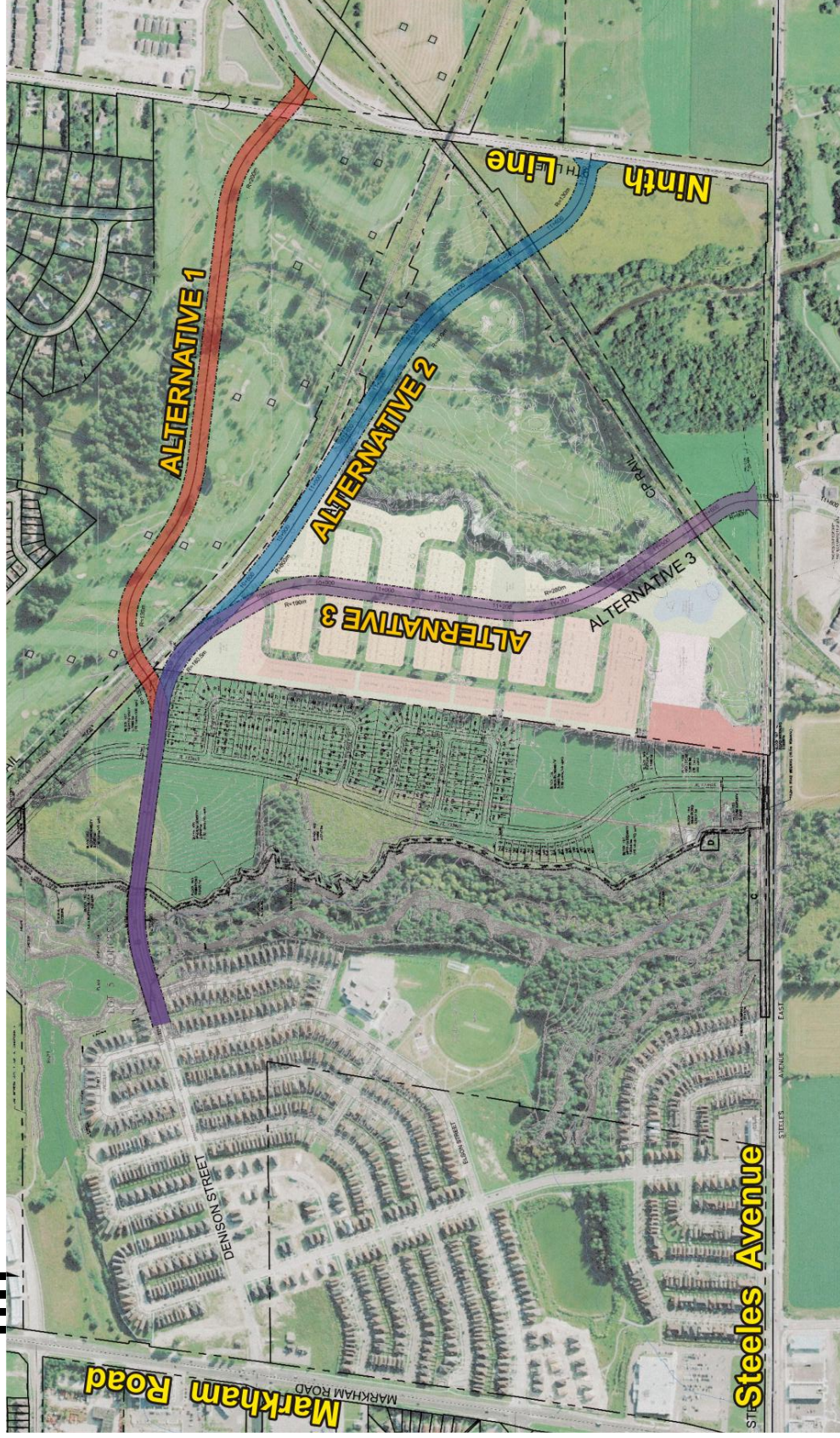


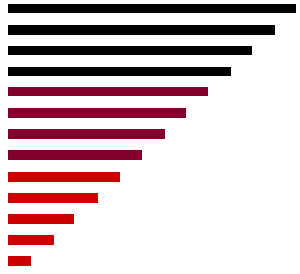
ALTERNATIVES

- Design Criteria:
 - Collector road
 - 2 to 4 lane urban road
 - Minimum 26 m right-of-way
 - 60 km/h design speed
 - Accommodate cyclists and pedestrians
 - Accommodate local transportation needs (i.e. Box Grove and Armadale)



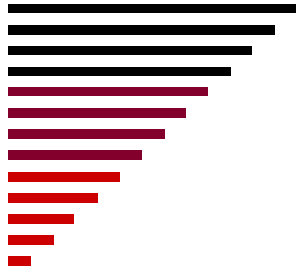
ALIGNMENT ALTERNATIVES





HIGH LEVEL ANALYSIS AND EVALUATION

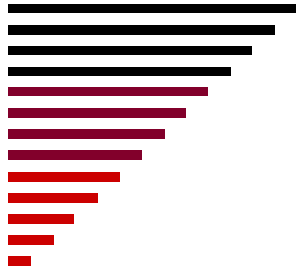
- Consideration of background information review (e.g. relevant planning documents, EA)
- Evaluation factors:
 - Socio Economic Environment
 - Cultural Environment
 - Natural Environment
 - Transportation
 - Costs
- Comments from York Region, Hydro One, and Remington Group



PRELIMINARY SCREENING OF ALTERNATIVES

Alternative 1:

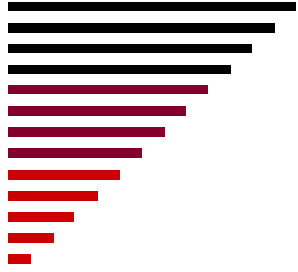
- Crossing of Rouge River (known Reside Dace habitat, Species At Risk)
- Crossing of CN Rail (underpass)
- Impact to Remington Parkview Golf and Country Club north of CN Rail
 - Remington Group has indicated that costs would be incurred due to golf course redesign, construction, and business interruption
- Impact to Villages of Fairtree East high density block
- Would provide additional east-west capacity; however, would not provide transportation need through the proposed Parkview Community (south of CN Rail)
- Hydro One does not permit roadways to run along the Hydro Corridor
- Possible opposition from existing residents to the north
- Approximate construction cost \$24 M (not including cost for property requirement, impact to business operations and maintenance)



PRELIMINARY SCREENING OF ALTERNATIVES

Alternative 2:

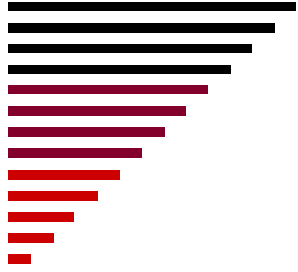
- Crossing of Rouge River (known Reside Dace habitat, Species At Risk)
- Crossing of CN Rail (at grade)
- Impact to Remington Parkview Golf and Country Club south of CN Rail
 - Remington Group has indicated that costs would be incurred due to golf course redesign, construction and business interruption
- Would provide additional east-west capacity including transportation needs through the Villages of Fairtree East and proposed Parkview Community
- Approximate construction cost \$22 M (not including cost for property requirement, impact to business operations and maintenance); additional cost for grade separation (~\$5 M) with CN Rail (if required)



PRELIMINARY SCREENING OF ALTERNATIVES

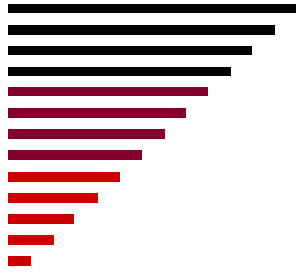
Alternative 3:

- Would not cross Rouge River
- Crossing of CP Rail (at grade); challenge to accommodate a potential grade separation due to close proximity to Steeles Avenue/Staines Road intersection
- May restrict opportunity for a GO Rail Station in the vicinity of Steeles Avenue when the Havelock Subdivision becomes a commuter rail line.
- Impact to Remington Parkview Golf and Country Club south of CN Rail
 - Remington Group has indicated that costs would be incurred due to golf course redesign, construction and business interruption
- Would not provide additional east-west capacity between Markham Road and Ninth Line because Denison Street Extension would terminate at Steeles Avenue
- Need for City of Toronto approval due to jurisdictional issue
- Approximate construction cost \$7 M (not including cost for property requirement, impact to business operations and maintenance); additional cost for grade separation (~\$ 5M) with CP Rail (if required), as well as cost to potentially regrade Steeles Avenue



SUMMARY

- No clear preferred alignment
- Significant environmental and property impacts
- Significant technical issues (i.e. rail crossing, Rouge River crossing and Hydro One)
- Significant cost
- Alternatives provide additional transportation capacity however cost-benefit will be considered in the EA Study
- EA Study required for detailed evaluation of all options including “Do Nothing” and improvements on 14th Avenue/Steeles Avenue



NEXT STEPS

- Alternatives will be carried forward for consideration in future EA Study for a more detailed evaluation
- Impacts to social environment, cultural environment, natural environment, transportation and costs will be assessed in further detail as part of the EA Study
- The EA Study is proposed for 2015 subject to budget approval
- Metrolinx to be requested to protect for future GO Station in the vicinity of Steeles Avenue / CP Rail