

PREPARING FOR THE IMPACTS OF TECHNOLOGY ON THE FUTURE OF TRANSPORTATION IN YORK REGION

PREPARED FOR TRANSFORMATIVE TRANSPORTATION '18 – iCITY
CATTS SYMPOSIUM


York Region

OUTLINE

1. York Region Quick Facts
2. Planning for Advancements in Transportation Technology
3. Challenges and Opportunities Preparing for the Future of Transportation
4. Participation in iCity CATTs – York Region's Objectives
5. Questions / Discussion

YORK REGION QUICK FACTS

YORK REGION - CONTEXT

Population

1.16 million
2015 **to** **1.79** million
2041

Employment

578 thousand
2015 **to** **900** thousand
2041

- Area - 1776 km²
- ~4,170 lane kilometers of Regional roads
 - ~40% Urban
 - ~60% Rural
- ~890 traffic control signals
- YRT ridership of ~77,000 revenue riders per weekday
- 529 BRT & conventional buses servicing over 5,300 bus stops



THE FIVE STRATEGIC OBJECTIVES OF THE 2016 TRANSPORTATION MASTER PLAN POSITION THE REGION FOR THE FUTURE

1. Creating a World Class Transit System



3. Integrate Active Transportation in Urban Areas



5. Make the Last Mile Work



2. Develop a Road Network Fit for the Future



4: Maximize the Potential of Employment Areas



The 2016 TMP objectives support an interconnected multi-modal network

PLANNING FOR ADVANCEMENTS IN TRANSPORTATION TECHNOLOGY

TECHNOLOGY ADVANCEMENTS ARE RAPIDLY TRANSFORMING HOW PEOPLE TRAVEL

- Smartphone apps provide real-time traffic information
- On-demand services allows for Mobility-as-a-Service
- Electric and alternative fuel vehicles are increasingly common
- Connected and autonomous vehicles will revolutionize how we travel



TESTING NEW TECHNOLOGIES IN THE FIELD THAT FOCUS ON SAFETY AND ENHANCED OPERATIONS

- YRT bus and signal control pilot Jane Street
- Regional snow plow signal pre-emption on Rapidways
- Electric bus pilot in the Town of Newmarket



EXPANSION OF YRT MOBILE APP

Expansion in 2019 to support on-demand service

- iOS, Android App
- First-mile/last-mile connection to existing transit
- Real-time operation updates
- Configurable Service for Agency

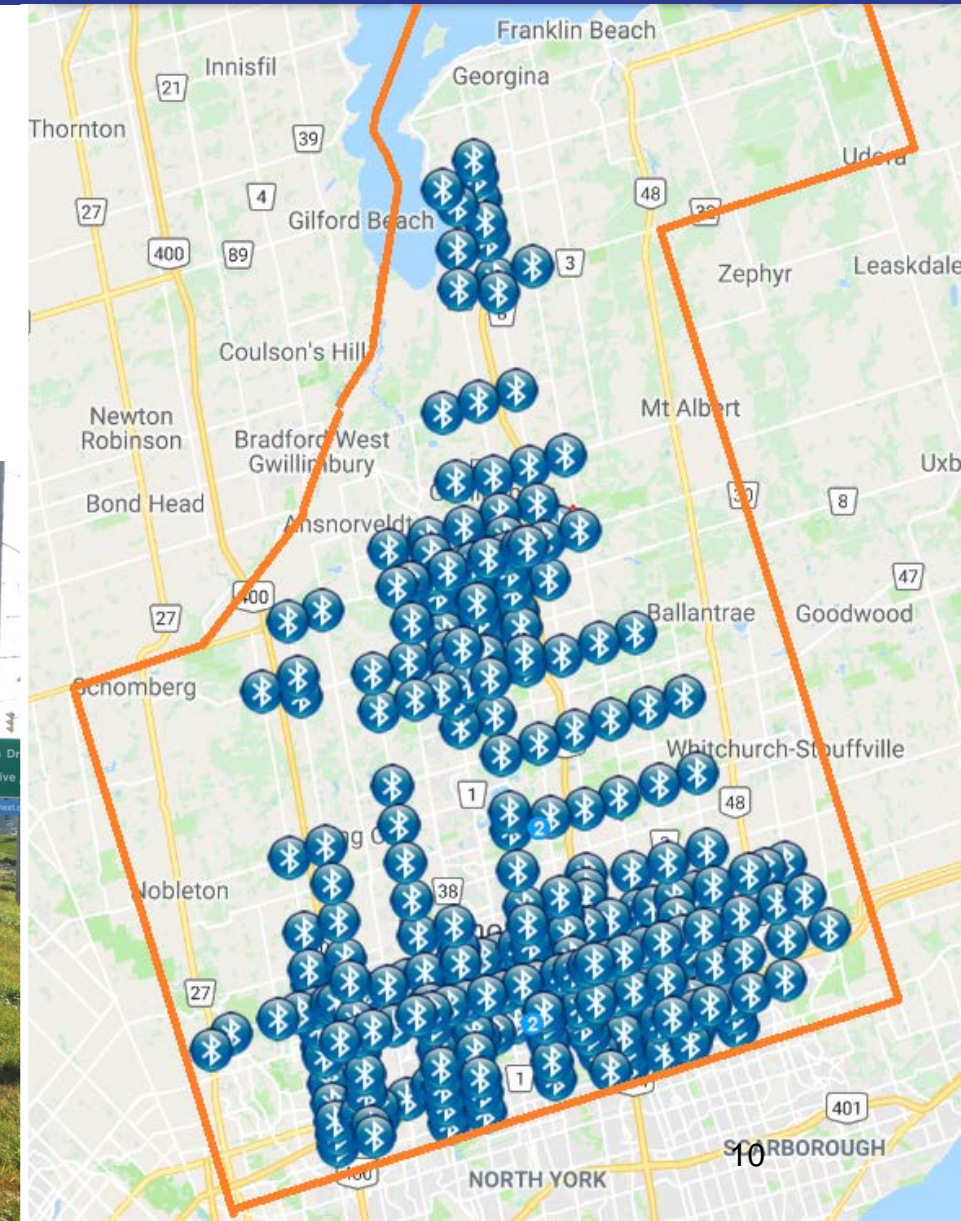
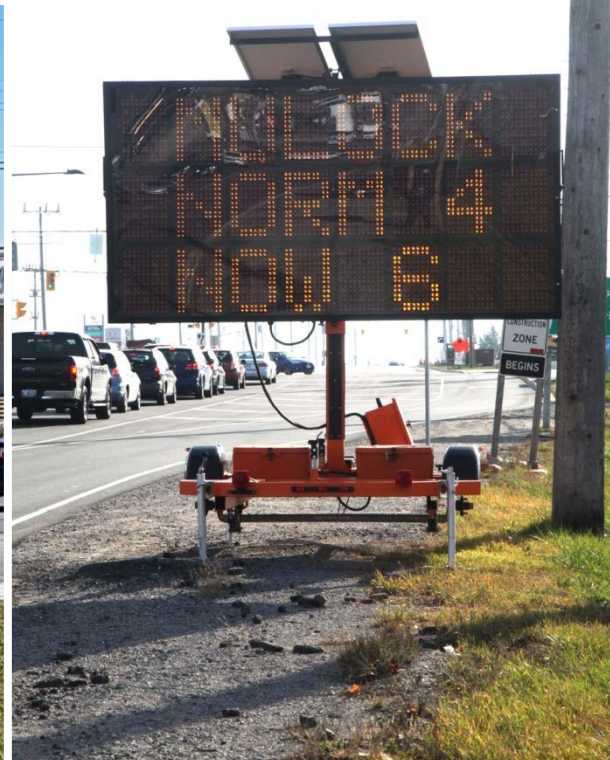


Riders may request a trip from any origin to any destination including Toronto



COLLECT REAL-TIME TRAFFIC DATA TO ENHANCE OPERATIONS

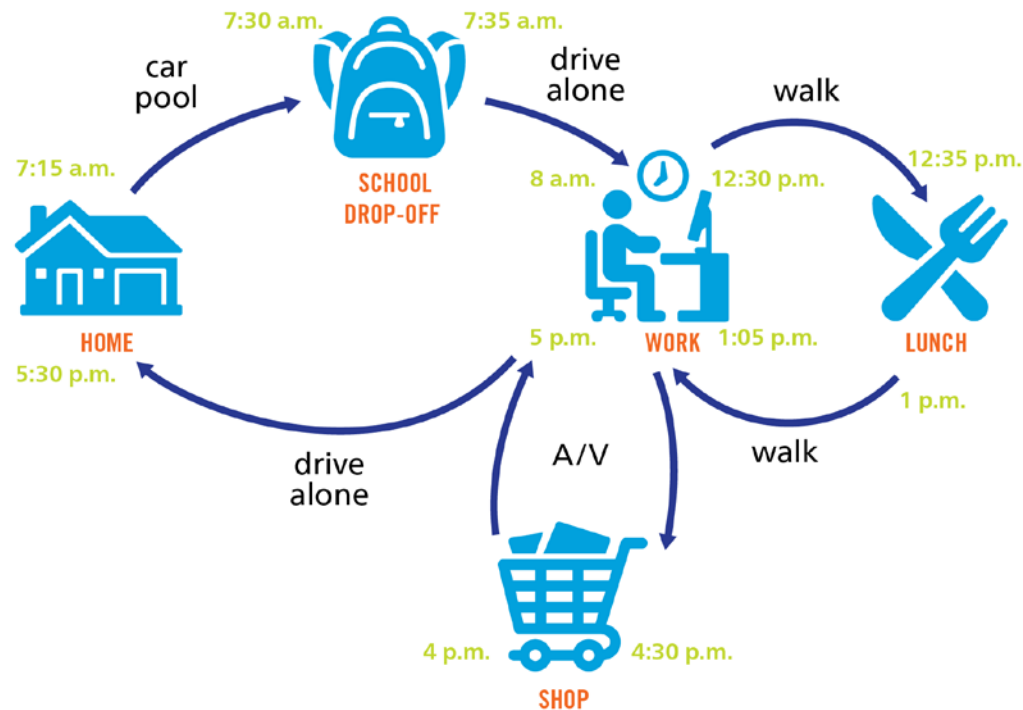
- 270 Bluetooth sensors are installed inside the traffic cabinets
- By 2019, ~400 sensors installed providing 1300+ km coverage on 900+ directional segments



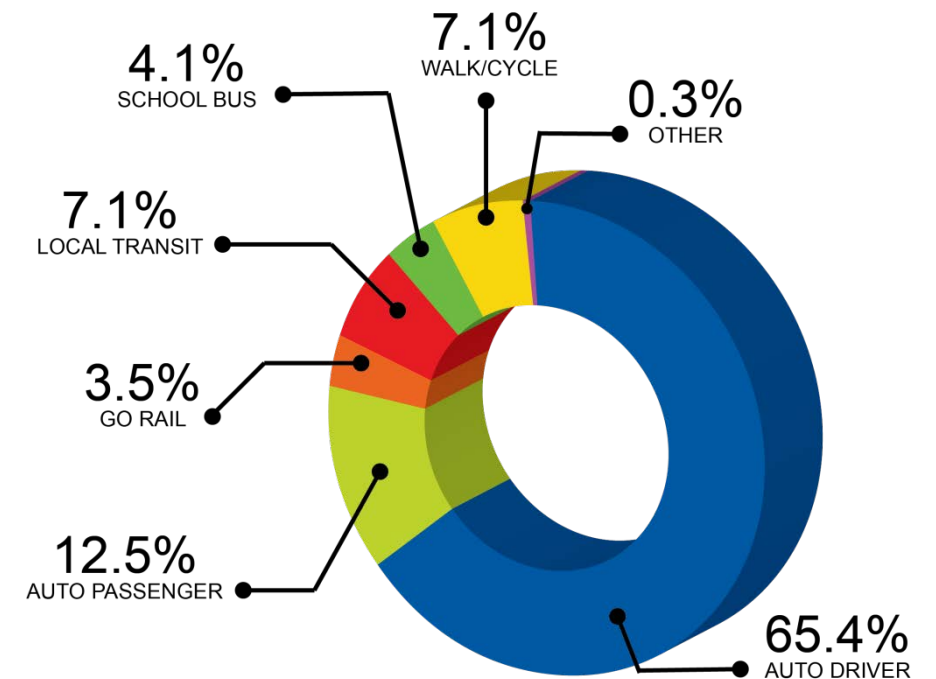
ANALYSE TRAVELLER DATA TO PLAN TRANSPORTATION NETWORK

- Developing state-of-the-practice Activity-Based Model to forecast travel demand
- Captures all-day travel patterns for all modes
- Better understand impacts of emerging trends (e.g. CV/AVs)

POTENTIAL FUTURE

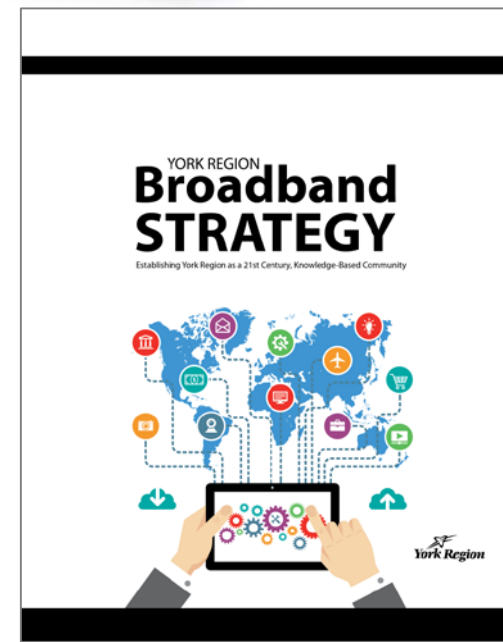


MORNING PEAK MODAL SHARE



YORK REGION'S COORDINATED ACTION PLAN — STRATEGIC INITIATIVES

- Established YorkNet to improve connectivity and broadband availability in the Region
- Updating transportation vision to reflect new technologies and impacts on land use planning
- Establishing partnerships to be responsive to technology advancements
- Engaging in academic research to better understand possible impacts



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CHALLENGES AND OPPORTUNITIES PREPARING FOR THE FUTURE OF TRANSPORTATION

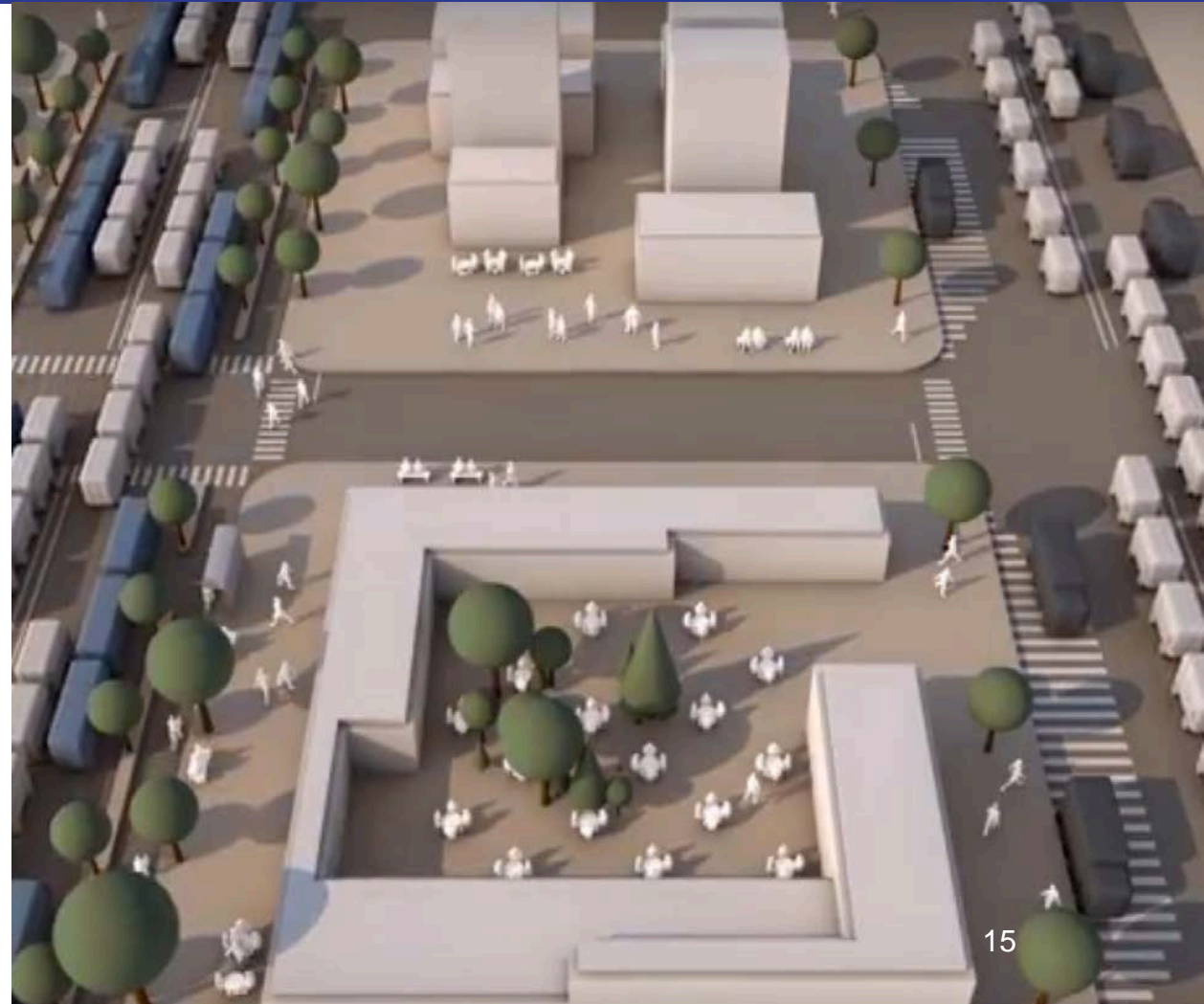
TECHNOLOGY CHANGES ARE GOING TO AFFECT TRANSPORTATION IN THE REGION

- Will autonomous vehicles increase the number of vehicles on the road?
- Will autonomous vehicles increase demand for urban sprawl?
- Will car ownership decrease as residents become more comfortable with the idea of Mobility-as-a-Service?



OPPORTUNITIES TO LEVERAGE TECHNOLOGY TO ENHANCE TRANSPORTATION

- Improve travel across the Region and GTHA
- Make non-conventional transit options more viable
- Source additional data sources
- Investment in telecommunications infrastructure



DOES GOVERNMENT HAVE A ROLE IN SUPPORTING NEW TRANSPORTATION TECHNOLOGY?

- How are municipalities are using technology?
- Municipalities face complex challenges with new transportation technologies
- York Region has a valuable role to play developing policies, guidelines, standards and regulations to best serve the needs of the travelling public



PARTICIPATING IN i-CITY-CATTS - YORK REGION'S OBJECTIVES

KEY iCITY-CATTS OBJECTIVES FOR YORK REGION

- Better understand and respond to technology changes and impacts
- Access to data and research to guide transportation infrastructure decisions and investment
- Use findings to support TMP action plans and future transportation vision



QUESTIONS / DISCUSSION

THANK YOU

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