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GREATER GOLDEN HORSESHOE PLAN

Preparing for Automation

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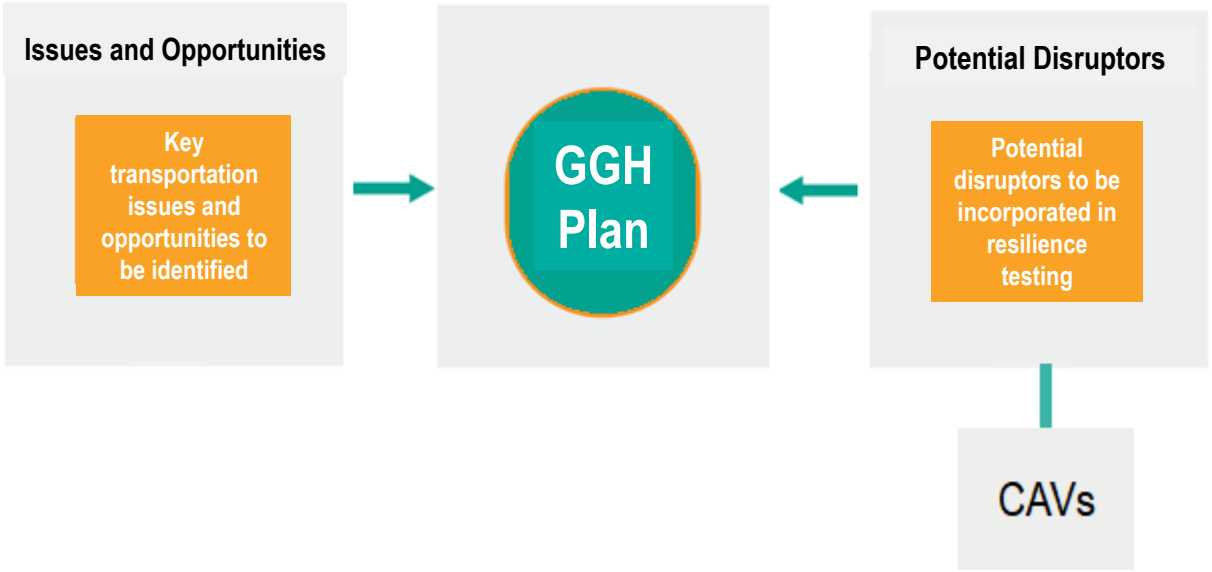
THE GREATER GOLDEN HORSESHOE PLAN

The GGH Transportation Plan, currently being developed by the Ontario Ministry of Transportation, is a long-term, multimodal transportation plan for the GGH to 2051



Major disruptors, including automation are being investigated to support the plan

HOW WILL AUTOMATION IMPACT TRAVEL?

Positive

Increase Highway Throughput

Free up Commuter Time

Relieve Congestion

Improve Road Safety

Reduce Emissions

Complement Transit System

Cut Parking Needs

Enhance Mobility Choices

Negative

Increase VKT

Induce Sprawl

Worsen Congestion

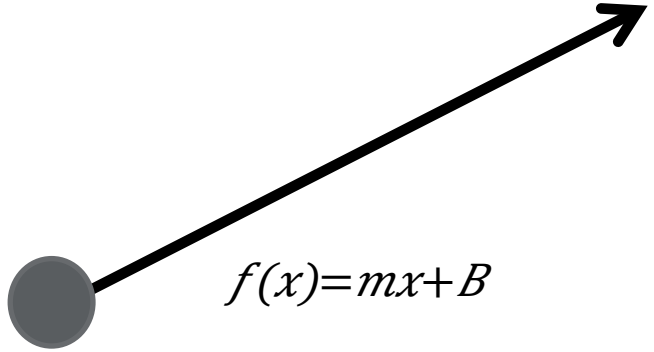
AV / non-AV Conflicts

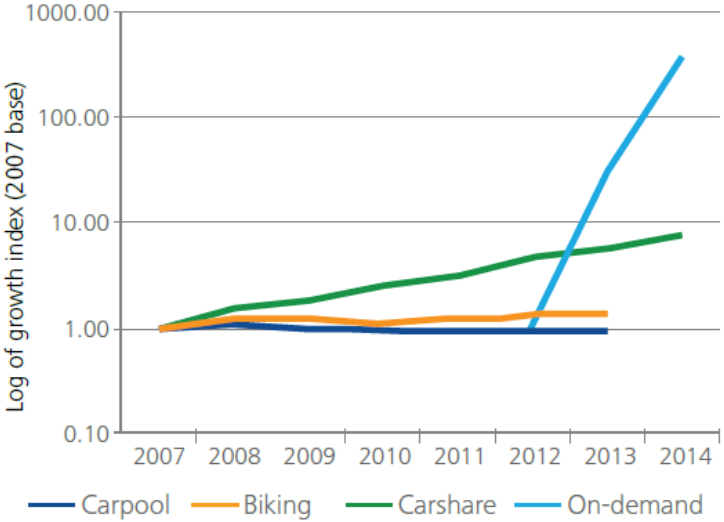
Increase Emissions

Reduce Transit Demand

Lost Municipal Revenue from Parking

TRADITIONAL PLANNING IS BASED ON HISTORIC RELATIONSHIPS



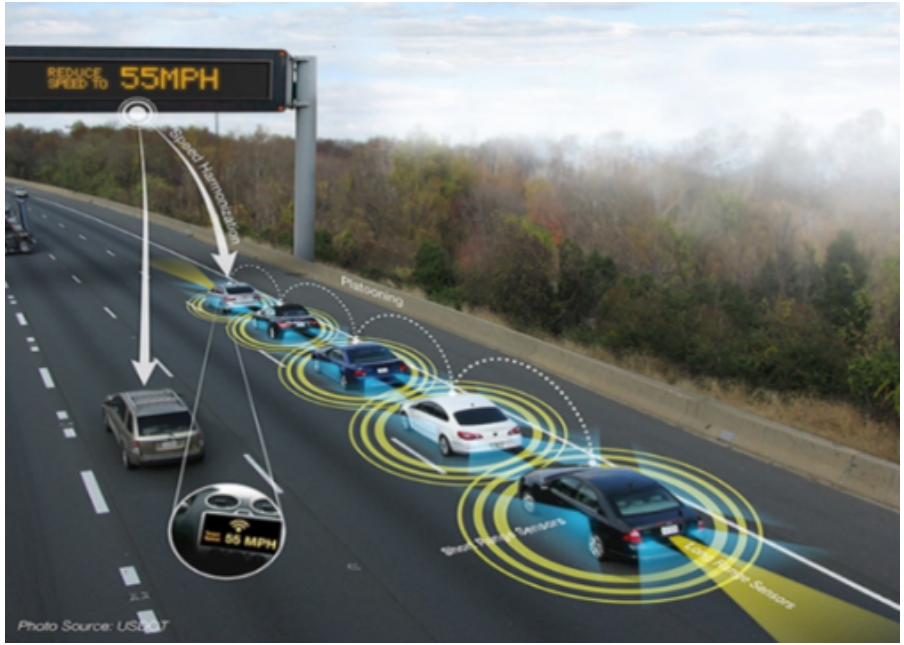


DISRUPTORS BREAK THOSE RELATIONSHIPS

THERE ARE MULTIPLE DISRUPTORS HAPPENING NOW

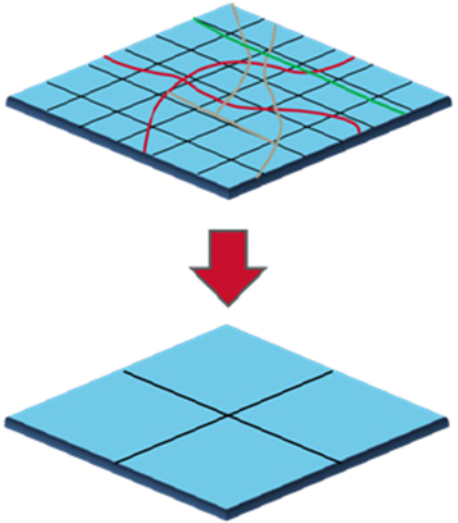
How will these change how people move? How will they interact with each other?

- Automation
- Mobility as a Service
- Connected infrastructure
- Electrification



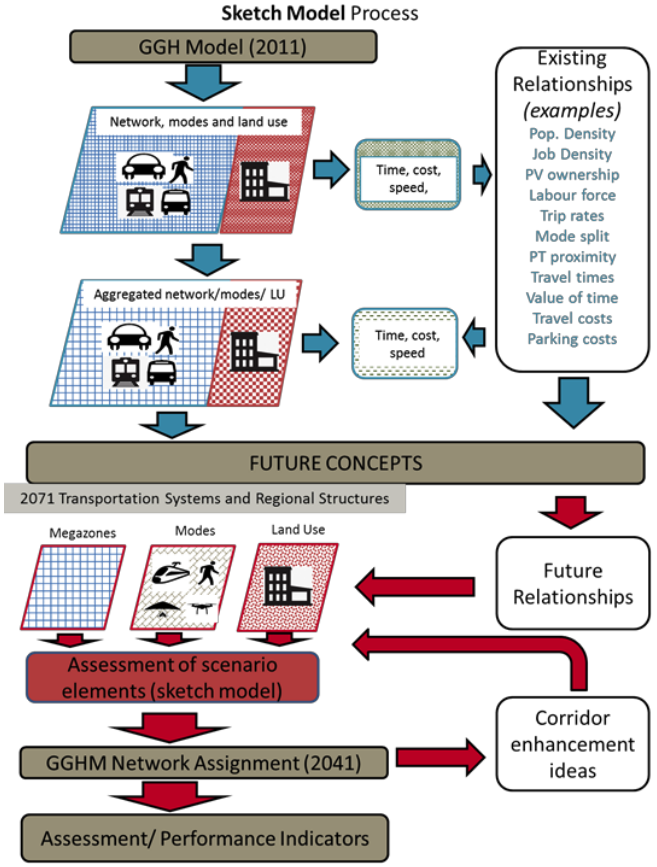
GGH PLAN MODELLING APPROACH

- MTO typically uses the Greater Golden Horseshoe Model (GGHM) for planning
  - Activity-based travel forecasting model using industry-standard methodology
  - Average model run time is approximately 48 hours
  - Not currently coded to account for CAVs
  - Need to test many scenarios due to uncertainty



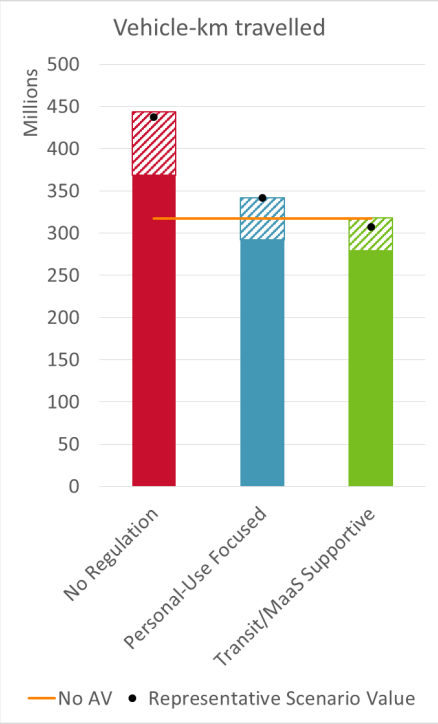
HDR CREATED SKETCHMODEL FOR THIS PROJECT

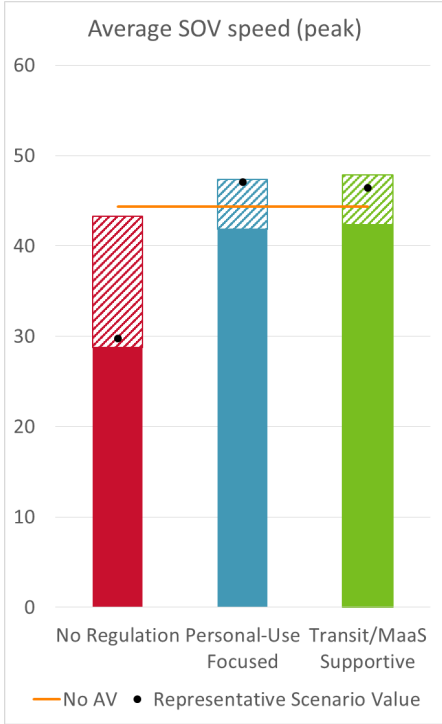
- Simplified modelling tool based on GGHM patterns
- Adapted to test CAV scenarios
- Faster run time (10 minutes per model run)
- Outputs are regional rather than route specific
- Allows for ***exploratory*** modelling with a very high number of scenarios

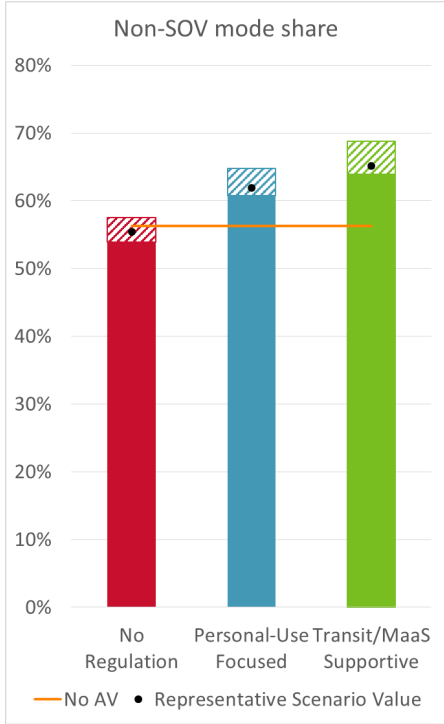


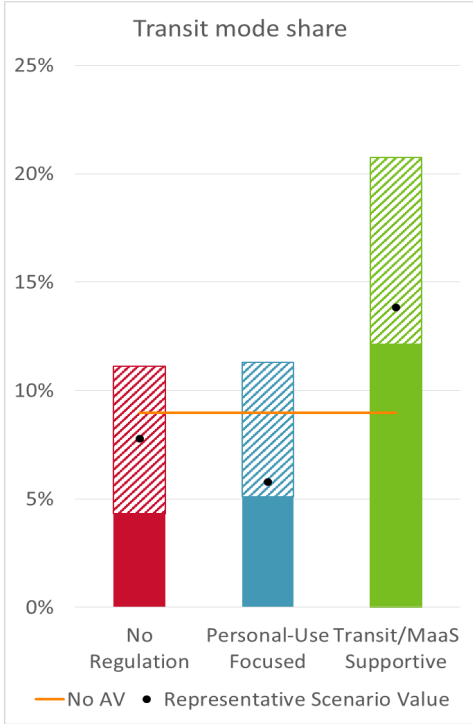
SCENARIO FAMILIES

- **No AV (Current Baseline)**: Does not account for CV/AV impacts
- **No Regulation (Do Nothing)**: CAV is developed and adopted with minimal government involvement
- **Personal-Use Focused**: Regulations and investments to make personal vehicle use efficient and attractive
- **Transit/MaaS Supportive**: Leveraging CAV as first mile/last mile solution for transit







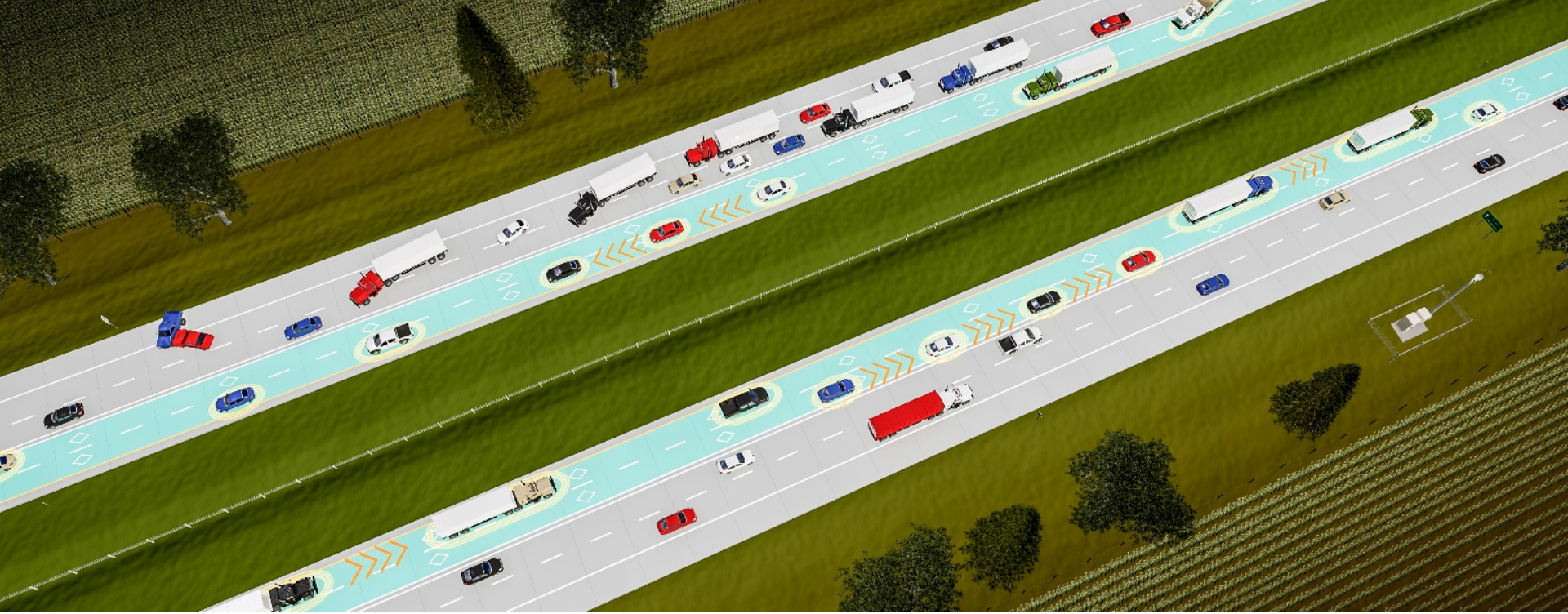


FINDINGS

MaaS/Transit-Supportive Scenario Performs Best due to combination of congestion management, transit access improvements, and high-speed transit investment

FACTORS THAT DRIVE BEST PERFORMANCE

- Mobility Pricing (through a MaaS platform)
  - Incentivize transit and shared modes
  - Manage congestion
- Transit Infrastructure Investment
- Investment in CAV Infrastructure



NEXT STEPS

Incorporate the findings into the plan, and get ready for change