

## FUTURE AUTOMATED TRANSPORTATION SCENARIOS

**Main question to answer:** *What development model do citizens prefer and how do various tradeoffs affect this preference?*

### **Briefing (To be read by the table facilitator):**

Since driverless mobility systems don't exist yet as commercial offerings but are under development, there is no set way for how they could develop. Different development scenarios involve different tradeoffs that we should consider alongside our personal values and what we think is important for our communities.

In this session, we are going to read about some commonly discussed scenarios involving the future of driverless mobility. Keep in mind that these scenarios do not represent the *only* potential driverless mobility scenarios, and there is significant uncertainty about their outcomes. We will also read some stakeholder cards so that we can think more about the diverse members of our communities and how they might be affected by these systems.

As you think about which scenarios you prefer, you may want to consider factors such as cost, sustainability, equity, safety, and effects on traffic congestion.

### **STEP 1: TRANSPORTATION SCENARIOS**

- Introduce Step 1 of the session (Initial impressions about proposed models):
  - o "Let's start by reading about some commonly discussed scenarios involving the future of driverless mobility."
- Pass out the **Scenario Cards** and have participants read them aloud and then place them in the center of the table for other participants to see.
- Open up a group discussion about the scenario cards.
  - o "What are your initial thoughts about the different scenarios?"
  - o "What do you see as some of the advantages and disadvantages of each scenario?"
  - o "How do you think each of the scenarios would affect the environment?"
  - o "What effects do you think each of the scenarios would have on the economy? Would more jobs be created or lost?"
- Discuss as a group and then have one group member record 1 advantage and 1 disadvantage/area of concern per scenario on the **Worksheet**.
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**NOTES:** "Maintaining and Improving the Current System" means that participants do not want driverless technology to develop beyond what we have now. Also, all other scenarios assume the highest level of automation (i.e., no human driver).

## STEP 2: SCENARIO STAKEHOLDERS

- Introduce the stakeholder cards:
  - “While we represent different members of our community today, we also want to highlight some additional voices in our discussion. As we read the stakeholder descriptions, understand that you are not playing the roles of these people, but rather, considering additional perspectives as you make decisions. Keep in mind, these are not the only perspectives you can consider and you will have the opportunity to write down other considerations you feel are important at the end.”
- Pass out all the purple **Stakeholder Cards**. Have participants read them aloud and then place them in the center of the table for other participants to see.
- Go around the table and ask each participant to share one reflection about the stakeholders.
  - “Did anything that the stakeholders shared surprise you or did any of the stakeholders share any information that was new to you?”
  - If not every stakeholder is mentioned during this discussion, ask participants what they think about whichever stakeholder was not discussed. (For example, if no one mentions the Disability Advocate, ask participants “What do you think about what the Disability Advocate mentioned?”).
- Open up a group discussion about the stakeholders and scenarios:
  - “How do you think each of the four scenarios we discussed would affect these different stakeholders?”
  - As the group discusses the stakeholders, use the second chart on the **Worksheet** to indicate how the group thinks the various stakeholders will be affected in each scenario.
  - **Start with the scenario your group was discussing the most. Move on to other scenarios if time permits.**

## STEP 3: SELECTING DESIRED SCENARIO(S)

- Open up a group discussion about the different scenarios. Have the group discuss and select its preferred scenario. Record the group’s choice and rationale on the **Group Worksheet**.
  - “Now that we’ve had a chance to think about the different scenarios and how members of our community might be affected, which scenario or combination of scenarios would you all prefer?”
  - Groups are allowed to make changes to the scenario, noting any specific requirements that they would want. They can also choose to mix and match the different scenarios.

## STEP 4: REPORT BACK

**What does your group feel are the main benefit and main disadvantage/area of concern for each of the four scenarios?**

|                              | Main Benefit | Main Disadvantage/area of concern |
|------------------------------|--------------|-----------------------------------|
| Improving the Current System |              |                                   |
| Individual Ownership         |              |                                   |
| Ride Share Model             |              |                                   |
| Public Transportation Model  |              |                                   |

**For each scenario, write in the names of the stakeholders whose lives you think would be worse off, better off, or whose lives would stay the same.**

|                              | Worse off | Stays the same/ unsure | Better off |
|------------------------------|-----------|------------------------|------------|
| Improving the Current System |           |                        |            |
| Individual Ownership         |           |                        |            |
| Ride Share Model             |           |                        |            |
| Public Transportation Model  |           |                        |            |

**Preferred scenario(s):**

**Main benefit:**

**Main disadvantage/  
area of concern:**

**Please explain your group's rationale and note any changes your group would like to make to the scenario or if your group would like to combine any of the scenarios. Also note the main benefit and disadvantage.**

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## WEEK 7 In-Class Exercise

1. Each group is assigned a scenario:
  - a. *More of the Same*: continue on current trend of car-oriented transportation system, sprawling land use (into suburban and exurban areas), limited population growth, an aging population, slow growing regional economy, decreasing public funds for transportation, limited alternative transportation options
  - b. *Tech Triumph*: CVs are common, AV shuttles are increasingly available, and there are some AV cars; moderate population growth, significant job growth (including gig economy work), several smart corridors, and sprawl continues
  - c. *Eco Minded*: carbon and VMT fees; great availability of multi-modal options and shared options via smart phone apps; limited sprawl; moderate population growth, including more young people; significant job growth
  - d. *Buffalo Rising*: millennials and empty nesters return to the City of Buffalo; increase in walkable neighborhoods with amenities; some AV shuttles in downtown core; significant increase in jobs in the urban core
2. Groups create two personas and describe a “Day in the year 2030” for each
  - a. Describe this person’s daily travel activities
  - b. Describe this person’s travel challenges
  - c. Describe this person’s ideal transportation system
3. Report back and present to the class

## PERSONA EXAMPLES



An Example Customer Persona:

### Lucinda

*"I am 72, retired, and helping to raise my granddaughter. I've moved closer to be nearby. I can't drive so I get around by bus when I can or simply hang around the house. My daughter gives me a ride home after dinner."*

| Profile  | Mobility  |
|--|---|
| <ul style="list-style-type: none"><li>Age: 72</li><li>Location: Suburbs</li><li>Education: Advanced, Lifesciences</li><li>Technology: Smart phone novice</li></ul>                         | <ul style="list-style-type: none"><li><b>Car:</b> Passenger, when possible</li><li><b>Bus:</b> When possible</li><li><b>TNC:</b> Never</li><li><b>Carpool:</b> Never</li><li><b>Walk:</b> For exercise</li><li><b>Bike:</b> Never</li></ul> |
| Goals and Regular Trips  | Frustrations  |
| <ul style="list-style-type: none"><li>Care for granddaughter</li><li>Explore metro-Boston car-free</li><li>Get groceries weekly</li><li>Thrice-weekly trips to the Senior Center</li></ul> | <ul style="list-style-type: none"><li>The bus service is not reliable and wayfinding is challenging</li><li>There are not enough sidewalks to feel safe when traveling with my granddaughter</li></ul>                                      |

## PARENT WITH YOUNG CHILDREN



My name is Carlos. Recently a driverless car company started testing its vehicle in my neighborhood. I feel nervous every time my two children are playing outside and the automated car drives by. I have read stories about these test vehicles killing people, even with a human behind the wheel. I do not feel comfortable having my children put in harm's way just so these vehicles' programs can learn. I am nervous, but my neighbor's teenage son is excited about getting around without having to learn to drive.

## RURAL COMMUNITY MEMBER



My name is Hannah. I live in a small rural community with almost no public transportation options. It would be nice to have driverless vehicles in town that could come pick me up from the auto repair shop, for instance, and drive me the 20-30 minute journey home. I am worried, however about automated freight trucks taking my friends' jobs. Long-haul trucking is one of the few well-paying jobs in our area.

WEEK 7 In-Class Exercise

**THE TIME & BALANCE SEEKER**




**Raymond**

**Age:** Early-40s  
**Live:** Suburbs | **Work:** Toronto  
**Travel:** Prefers the car, but will take transit, carshare, and ridehailing services on occasion.  
**Technology:** ♥♥♥♥

*Hard-working and family-oriented. Values safety, cleanliness, value, and speed. Likely to keep driving, but open to taking transit.*

**THE ASPIRING YOUNG TRAVELLER**



**Camille**

**Age:** Early-20s  
**Live:** Toronto | **Work:** Toronto  
**Travel:** Uses a variety of modes, including transit, cycling and walking.  
**Technology:** ♥♥♥♥

*Young and active, but with lower income. Values affordability, safety, and reliability in travel. Open to trying new things.*

**THE SATISFIED MATURE URBANITE**




**Barbara**

**Age:** Late-50s  
**Live:** Toronto | **Work:** Toronto  
**Travel:** Prefers to walk or take transit for most trips.  
**Technology:** ♥

*Intellectual and environmentally conscious. Values punctuality, safety, and affordability. Unlikely to cycle or use ridehailing services.*

**THE TRADITIONAL SUBURBAN TRAVELLER**



**John**

**Age:** Late-40s  
**Live:** Suburbs | **Work:** Suburbs  
**Travel:** Heavily reliant on the car. Might consider taking GO, but only for fun and entertainment.  
**Technology:** ♥

*Car-lover and homebody. Values convenience, speed, and control. Willing to drive long distances (up to 50 km one way)*

**THE CONNECTED OPTIMIZING URBANITE**



**Dev**

**Age:** Mid-30s  
**Live:** Toronto | **Work:** Toronto  
**Travel:** Typically drives, using either a personal vehicle or carshare. Will occasionally take GO or use a ridehailing service.  
**Technology:** ♥♥♥♥

*Educated, spontaneous, and ambitious. Usually drives or takes transit, but not a fan of either. Likes exercise but not while commuting. Likely to keep driving, but open to taking transit.*

**THE FRUSTRATED SOLUTION SEEKER**



**Susan**

**Age:** Late-40s  
**Live:** Suburbs | **Work:** Suburbs  
**Travel:** Drives all the time, but open to taking GO, provided that they have an easy way to get to the station.  
**Technology:** ♥♥♥♥

*Highly-educated and affluent. Values punctuality, convenience, safety, and personal space. Finds travelling the region frustrating, and sometimes works from home.*





*URP / STL / END 544*

## *Final Project Introduction*

Instructors: Stephen Still, Lisa Kenney

Date: February 27, 2020

Location: Hayes 217

# Overview

- Group oriented process
- Each group has a study areas in the Buffalo region:
  - Urban, suburban, or rural villages
  - Study area = a few “blocks” to visualize in detail
  - Mix of current land uses
- Multiple portrayals what your area looks like in 30 years (2050) under different scenarios in terms of:
  - Land use
  - Streetscapes
  - Transportation system

# Steps in the Project

1. Site selection
2. Description of current land use, streetscape, transportation system
3. Scenario definitions and descriptions
4. Potential future land use, streetscapes, transportation system
5. Statistical comparison
6. ~3pg report: Planning process and obstacles
7. Summary

# Scenarios

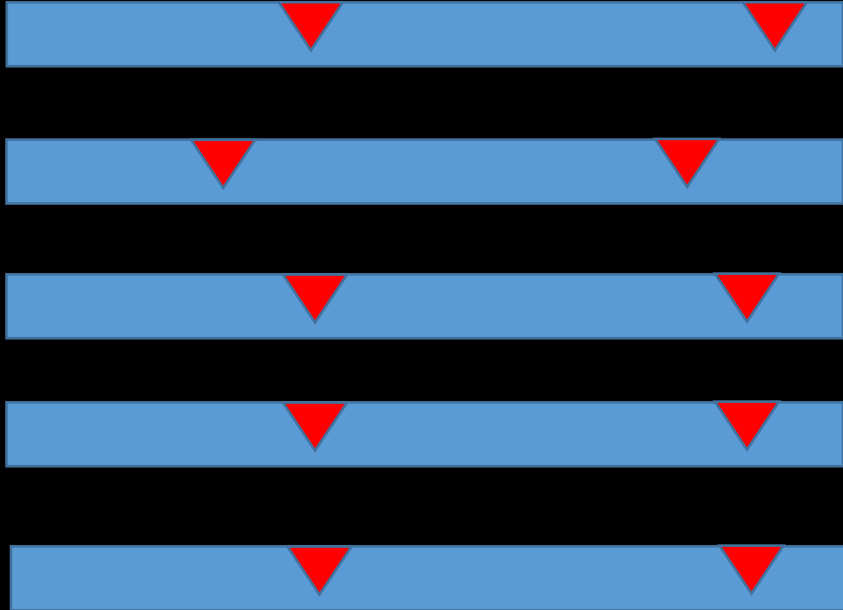
- Define 2 scenarios: One “moderate”, one “aggressive”
- Definitions are specific to Buffalo – and your group’s opinions

*Scenario 1: **Slow and Steady Wins the Day***



*Scenario 2: **Boldly Buffalo***

**MUST Include these drivers of change:**



New transport technology adoption

Climate change disruption and impacts (e.g., refugees)

Changes in population, demographics and equity

Economic changes (job types, industries)

*Optional: Building design*

# Constants for all Scenarios

- Growing aging population – with emerging millennial and Gen Z forces in years ahead
- Buffalo is diverse – not homogeneous

# Regional Context

For each scenario:

- What changes do you see in the broader WNY region, and how did this influence your thinking in your micro-study area?
- In what ways is your micro-study area unique within its type (urban, suburban, village)
- What other regional context do you want to add?

# Describe the Scenario Planning Process

What are your two scenarios?

1

What is the desired outcome?  
(select all that apply)

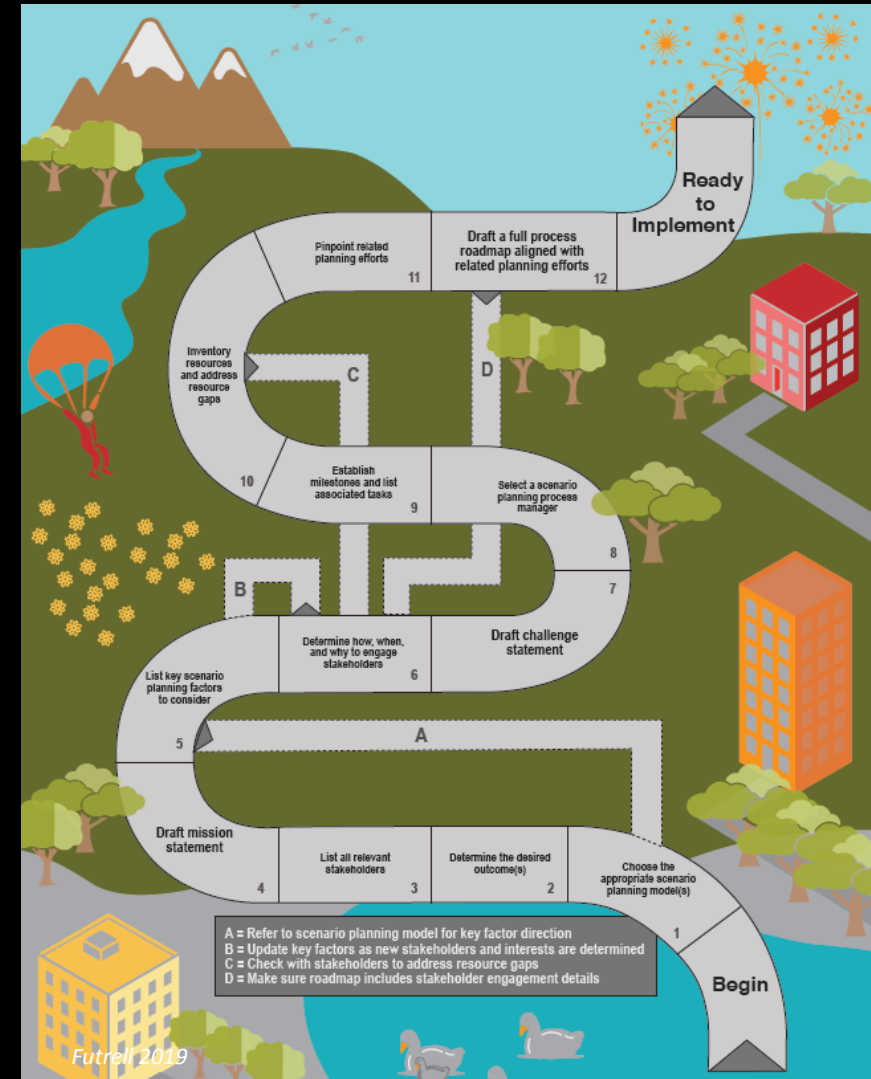
- Education and awareness
- Strategic direction
- Action identification

2

Who should be involved?  
(select all that apply)

- Internal stakeholders
- External stakeholders
- Special interest groups
- Members of the general public
- Other \_\_\_\_\_

3



How should stakeholders be engaged?

4

| Stakeholders | Interaction Approach & Influence Level |
|--------------|--|
|              |  |
|              |  |
|              |  |
|              |  |
|              |  |
|              |  |

What resources are required?

5

| Required |
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|          |
|          |
|          |

| Currently Available (of required) |
|-----------------------------------|
|                                   |
|                                   |
|                                   |
|                                   |
|                                   |
|                                   |

| Currently Not Available (of required) |
|---------------------------------------|
|---------------------------------------|

Zoning?  
Funding?  
Legislation?



**What related planning efforts  
should be aligned?**

**6**

**Describe specific actions or strategies to  
pursue now in order to achieve or avoid  
the scenarios**

**7**