

EM-202 Culminating Assignment: Teachers Toolkit for Grade 10 Students

Topic: Sustainable Cities & Building Communities

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Introduction:

Who is this for?

This teaching toolkit is designed for a Grade 10 classroom with the goal of fostering awareness of our local community, its design, city planning, and transportation infrastructure. These activities are made with the idea of challenging and provoking thinking about how we interact with our communities, whether it is on foot, bicycle, assisted-mobility device, car or train.

The topic of urbanism doesn't really get much coverage in schools, besides the distinct identification of what neighborhoods are described as urban, suburban, and rural. Thing is, it isn't that simple. Some suburbs in Toronto are much denser with urban-like amenities compared to others in the rest of the GTA, but both are still classified as a suburb.

The purpose of this toolkit is to better understand our neighborhoods, their history, and what can be improved on and developed. It connects directly to the United Nations Sustainable Development Goal 11, which encourages us to "make cities and human settlements inclusive, safe, resilient and sustainable" (United Nations, 2025). Students will be encouraged to reflect on how small changes in their local environment can contribute to broader global outcomes.

Who am I?

My name is David Vizelter, I am a 4th year student at Wilfrid University in the Business Technology Management program at the Lazaridis School of Business and Economics. I like to read and engage with media about urbanism, the history of cities in North America and what we can do to improve the quality of life for our neighborhoods and try to promote more active forms of transportation where possible. I love to walk everywhere and only really drive when I absolutely must, I also like to go long-distance cycling, exploring the rail-trails in southwestern Ontario typically on the same paths where many trains used to run almost 100 years ago now and have long since been dismantled. I hope to one day live in a neighborhood where biking with a helmet isn't necessary, not because I don't care about safety, but because I want to live in a neighborhood that is safe enough so I don't have to.

Activity 1: City Feature Photo Walk

Intended Learning Outcomes:

Students will observe and document examples of inclusivity, safety and sustainability in their own neighbourhoods and reflect on how these features could be scaled city-wide.

Resources Needed:

- Smartphone, if they don't own one, provide a digital camera
- Printed checklist of features to observe (See Handout A)
- Paper to write reflection worksheet

Steps:

1. Explain how everyday urban features connect to SDG 11: Sustainable Cities & Communities
2. In pairs, students take a 20-minute outdoor walk, photographing at least five features from the checklist.
3. After returning to class, each pair selects their three strongest photos and completes the worksheet.
4. Pairs present one photo to the class and their idea in a two minute presentation.

Differentiation:

Provide prompts for students who need more structure for writing, and invite advanced students to research local policy that supports each feature.

Assessment:

Grade the worksheet for completion first, then for clarity of observation and expansion idea. Obviously, don't be too hard on their expansion feasibility, there are urban planners who are paid to do that.

Extensions:

Create a digital slideshow of the pictures taken, to share with the school/community

Contribution to Glocal Education:

By taking pictures of local examples, students connect neighbourhood design to global goals for safe, inclusive and strong cities.

Activity 2: Mini Debate on an Urban Issue

Intended Learning Outcomes:

Students will research a current city challenge (for e.g, traffic safety), create pros and cons and develop evidence-based arguments.

Resources Needed:

- Two short news articles on a chosen issue
- Debate preparation template (See Handout B)
- Timer

Steps:

1. Assign each student a position (for or against) on the issue.
2. Give 10 minutes to read the provided articles and fill out the template: main arguments, supporting evidence and potential rebuttal points.
3. Conduct a structured mini debate, each side has two minutes to present, one minute to rebuttal, and 1 minute for closing.
4. Follow with a class discussion not about who's right or wrong, but instead what evidence mattered more to them.

Differentiation:

Offer a graphic organizer for students who need help structuring arguments. Challenge advanced students to locate a third source.

Assessment:

Use a rubric to score clarity, use of evidence and respect for opposing views. Since this is a debate, being civil in the classroom is important, so make that a factor in grading too.

Extensions:

Write a 200-word paper summarizing their position.

Contribution to Glocal Education:

Debating a local issue mirrors conversations in cities (like city hall) worldwide and shows how evidence shapes policy.

Activity 3: Pocket Park Design Poster

Intended Learning Outcomes:

Students will apply ideas of inclusive and sustainable design to reimagine a small unused urban space.

Resources Needed:

- Aerial photo or map handout of small campus or neighbourhood lot (could just be an empty plot of land or empty parking lot)
- Poster paper, markers, ruler
- Basic design guidelines handout (See Handout C)

Steps:

1. Introduce key design elements that make public spaces welcoming and strong.
2. In small groups, students draw a “before” aerial map with current lot use.
3. Groups draft a “after” design on poster paper, labeling features that improve inclusivity and sustainability.
4. Each group gives a one-slide verbal pitch explaining their design choices.

Differentiation:

Provide a template grid for students needing spatial support, ask advanced students/groups to calculate rough cost estimates using online price lists.

Assessment:

Grade posters on creativity, clarity and similarities with SDG 11: Sustainable Cities & Communities.

Extensions:

Digitize the design using tools like Canva and share online to classroom board (Google Classroom)

Contribution to Glocal Education:

This activity links local placemaking to global urban design practices, showing how small interventions can improve community life anywhere.

Activity 4: Transit Trip Analysis

Intended Learning Outcomes:

Students will evaluate different modes of transport within their city/town, compare travel times and emissions and recommend one sustainable option.

Resources Needed:

- Public transit schedules or apps (Transit is free and has detailed transit maps)
- Calculator or spreadsheet
- Emissions data per kilometre (See Handout D)

Steps:

1. Students select a common route (home to school, for example) and list available modes: bus, bike share, walking.
2. They time or estimate each mode's duration and calculate carbon emissions using provided data.
3. Students complete a comparison chart and choose the most sustainable and practical option, writing a short justification.
4. Volunteers share their findings in classroom discussions, talking about trade-offs.

Differentiation:

Offer a partially filled comparison chart as an example and challenge advanced students to factor in cost using online research or factor in accessibility (do platforms have level-boarding?).

Assessment:

Score on accuracy and justification reasoning.

Extensions:

Draft a social media post promoting the chosen mode of transit to peers. (No need to post if you don't want to)

Contribution to Glocal Education:

Analyzing local transit decisions illustrates how cities worldwide pursue low-carbon mobility for safer, cleaner air.

Activity 5: Community Voices Survey and Infographic

Intended Learning Outcomes:

Students will gather community opinions on urban livability, synthesize survey data, and communicate results visually.

Resources Needed:

- Digital survey platform (Google Forms) or make a survey paper yourself
- Access to at least 10 community respondents (friends, family, neighbours)
- Free infographic tool (Canva, PowerPoint, etc)

Steps:

1. Draft survey questions that probe safety, inclusivity and sustainability perceptions in public spaces.
2. In pairs, students collect responses from classmates, family or neighbours.
3. Compile data into simple charts or tables in a spreadsheet.
4. Use an infographic tool to create a one-page visual summary.
5. Present infographic

Differentiation:

Provide a question bank for students who need help writing questions (See Handout E). Encourage advanced students to do basic % calculations.

Assessment:

Grade the infographic based on clarity of data, how its related to SDG 11.

Extensions:

Share the infographic on a classroom blog (Google Classroom post)

Contribution to Glocal Education:

By interviewing their own community, students see how public perceptions shape urban planning in cities around the world.

Appendix

Handout A: City Feature Photo Walk Observation Checklist

Feature Category	What to Look For	Notes / Photos
Green Spaces	Parks, street trees, community gardens	
Seating	Benches, ledges, seating walls	
Accessible Pathways	Ramps, curb cuts, wide sidewalks	
Public Art	Murals, sculptures, interactive installations	
Lighting & Safety	Street lamps, crosswalk signals, visible sightlines	
Bicycle Infrastructure	Bike lanes, racks, signage, bike repair	
Transit Access	Bus stop,s shelters, schedule information	
Signage & Wayfinding	Directional signs, maps distance markers	

Instructions: Take a photo of at least five features from the checklist. Use this sheet to record why each feature matters and one idea to expand or improve it.

Handout B: Mini Debate Preparation Template

Handout B: Mini Debate Preparation Template

Issue: _____

Position (For / Against): _____

Main Argument:

- Claim: _____
- Evidence: _____
- Source / Citation: _____

Rebuttal Points (Anticipated):

- Point 1: _____
- Point 2: _____

Closing Statement (1–2 sentences):

Instructions: use this template in your 10 minute prep time. Fill every section before the debate begins.

Handout C: Pocket Park Design Guidelines

Design Element	Guiding Principle	Examples
Seating	Provide varied heights and back support	Benches, movable chairs
Greenery	Maximize shade and biodiversity	Shade trees, pollinator planters
Accessibility	Ensure zero-stop access and 1.5m clear pathways	Ramps, tactile paving
Gathering Spaces	Create small “rooms” for conversation	Circular benches
Lighting & Safety	Uniform lighting and open sightlines	Low-glare lamps, trimmed hedges
Sustainability Features	Use permeable materials and rain gardens	Rainwater drains, anti-flooding infrastructure
Public Art & Culture	Include local artists and interactive	Mural walls, kiosks

Instructions: When you sketch your “after” design, label each element with a brief note on how it meets the guiding principle.

Handout D: Transit Trip Comparison Chart

Mode of Transport	Est. Travel Time (minutes)	Distance (km)	Emission Factor (g CO ₂ /km)	Total Emissions(g CO ₂)	Cost per Trip(\$)	Accessibility Notes
Walking				0	0	
Bike Share						Dock location, helmet
Bus			105 (g CO ₂ /km)			Schedule frequency
Personal Car			192 (g CO ₂ /km)			Parking availability
e-Scooter			70 (g CO ₂ /km)			Battery swap stations

Instructions: Fill in your own data. Calculate Total Emissions by multiplying distance by emission factor.

Handout E: Community Voices Survey Questions

1. How safe do you feel walking in your neighbourhood during the day? (Very safe / Somewhat safe / Neutral / Somewhat unsafe / Very unsafe)
2. Which mode of transport do you use most often? (Walking / Bicycle / Car / Public transit / Other: ____)
3. What is one thing you would change to make our streets more welcoming?
4. Do you feel there are enough green spaces within a 10-minute walk of your home (Yes / No)
5. On a scale of 1-5, how important is it to you that your city is sustainable? (1 Not important to 5 Very Important)
6. Any additional comments on how our community could be more inclusive or strong?

Instructions: Aim for at least ten responses

Reflection

Working on this toolkit has given me the opportunity to draw together the ideas I explored throughout EM-202. It also gave me a chance to think about how topics like city planning and urbanism can become relevant in a Grade 10 classroom. Typically, classrooms don't really focus on this type of material. In Grade 10, I had a mandatory course on Civics and Careers that was combined into one course, I think that including a course on urbanism and sustainable neighbourhoods could be an interesting topic to explore, maybe as an elective or as a short unit in a course. Looking back at EM, I certainly pulled ideas from working on each of the modules & assignments without really forcing the connections, it sort of naturally occurred.

In Assignment 1, I looked at how politics shapes education in Canada. That stuck with me, especially when thinking about how cities are designed. Things like whether a bus stop exists or if a street is safe to walk at night all come back to policy choices. I carried that idea into Activities 1 and 4, where students are asked to reflect on their own neighbourhoods and how they get around. It made sense to approach it from that angle, where the focus is not just the physical layout of a place but also how it's maintained and who it serves.

Assignment 2 focused on comparing Ontario and Finland's education systems. What stood out to me was the amount of trust placed in Finnish teachers. I tried to reflect that idea into Activity 3 by giving students creative control over redesigning a local space. The goal wasn't for them to come up with perfect solutions, but to explore what an inclusive, sustainable space could look like, even in a basic sketch.

Assignment 3 was centered around education in the DRC. That reminded me how communities, even in the most challenging environments, find ways to rebuild and support itself. That mindset was also in Activity 5, where students gather stories and feedback from their own community. It's meant to show that everyone, whether they're in a classroom or out in the world, has something to say about how we shape public spaces.

In Assignment 4, Andreotti's ideas on global citizenship helped me understand the difference between teaching facts and creating room for reflection. I tried to lean into that through the debate & transit activities. The point wasn't to have students pick sides and win debates, but to think about urban challenges. There sometimes isn't a clear answer, but I wanted to sort of encourage that, some of these are wicked problems.

Overall, this toolkit gave me a way to think about the different ideas from this course into something that I could create and hypothetically share with others. I am doing an education minor but I have no plans to teach, but if students were ever to see this in the future, I hope it makes for a good example and will challenge people to think more about where they live on a local level. The world on a global scale kind of sucks, the news can be scary, but the truth is, there is nothing we can really do about it. In my opinion, it's important to not think too much about what's happening in the world and instead focus on your local community, because that is where you can make an impact and see a difference.

References

United Nations. (2025). *Goal 11 | Make cities and human settlements inclusive, safe, resilient and sustainable*. United Nations; United Nations. <https://sdgs.un.org/goals/goal11>