# **WAT’s Sustainable Episode 08 Transcript**

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WAT is up, Waterloo? Welcome to WAT’s Sustainable, the official podcast of the University of Waterloo's Sustainability Office. My name is Jenna and I am the host of this episode. Today, on episode eight, we are talking about: WAT is an auto city? First, we will start by defining an auto city and what that actually means. We will then talk about the history of auto cities and how our communities became so dependent on the car, and then we will talk about some next steps and what we can do to make our cities more sustainable.

As always, make sure to subscribe to the podcast if you haven't already, share it with your friends and family, follow us on social media @UWsustainable on Instagram and Twitter to see what other sustainability content we are sharing. And if you have any questions or ideas for future podcast episodes, you can email us at sustainability@uwaterloo.ca.

Before we get into the content, we need to discuss our Global Hurray. So this Global Hurray comes from Infrastructure Canada and the article that we are sharing is called “Abegweit First Nation to benefit from active transportation and social infrastructure investments.” So Abegweit First Nation in Prince Edward Island are receiving funding for active transportation and social infrastructure. These investments will support the implementation of the Abegweit Connects Project, which will build active transportation infrastructure to connect the First Nation community to the Hillsborough River and the Confederation Trail, which is around their community. This project includes the construction of several structures to create a safe and direct access to the waterfront and multi-use trail. This is beneficial to the community because it provides them with new ways to be active, which will promote their health and wellbeing, it reconnects the residents with the Hillsborough River, which was an essential transportation route and food source for past generations, and it will support pandemic response and **economic recovery efforts**. It also will support new economic development initiatives for Abegweit First Nation and will likely be one of the first steps towards making their community healthier and more accessible for all.

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All right, let's get into the main content for today. Let's start by answering the question: WAT is an auto city? To summarise it, the most basic definition of an auto city is really when a city design makes people dependent on cars, so you can't really get around by walking or by cycling. You have to take a car because things are so spread out, a term related to auto city or automobile community, whatever it may be is automobile dependency.

The Victoria Transport Policy Institute in Canada defined “automobile dependency” or what can also be called automobile-oriented transportation and land use patterns, “transportation and land use patterns that favour automobile access and provide relatively inferior alternatives.” It means that people find it difficult to reach services and activities without using an automobile. So this is exactly what I just described, where you can't really go get your groceries or go to work, or even maybe go to school by walking. Things are just so spread out that it's next to impossible to use more sustainable alternatives, or it is incredibly inconvenient. Let's say you needed to walk an hour and a half to go to the grocery store versus drive 10 or 15 minutes. You *could* walk to the grocery store in an hour and a half, but do you really want to do that? Because the round trip would be three hours not to mention however much time you’d spend in the grocery store.

So an auto city is a place that encourages the use of private transportation, in other words personal vehicles, and not just encourages it, but almost makes it a necessity. These cities are characterised by large distances between services, like I mentioned grocery stores as well as recreational facilities, workplaces and so on; a lack of public or active transportation routes that can benefit the broad community; on the social side of things, more a sense of disconnect between the community because you don't really get to know the individuals and the businesses in your community when you're reliant upon the car, and you can't use public transit or active transportation opportunities to connect with your community.

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You may be wondering, how did we become so dependent on the car? While The Canadian Encyclopaedia breaks down the timeline of not just cars in Canada, but cars in North America, and even with some connections to around the world, and how cars became so dependent in our communities. We began paving roads in the 1800s when automobiles first started developing, because they weren't really great at navigating mud and unpaved surfaces, so we needed better roads to handle the earliest cars that we had.

Around the 1920s we saw a big boom in the development of cars, with millions of cars being produced and sold every year, this is around the time when the Ford T model came out and as you may know, that was one of the very first accessible cars to regular people like ourselves, because it was affordable and allowed families to travel longer distances. And cars were so attractive to families because it offered freedom that people didn't have before, and it meant that you could travel further distances in shorter periods of time for a relatively affordable price at that period.

The auto industry then had a major economic role in national growth here in Canada, as well as in other communities around the world. And we began to develop our cities around the car. We had these paved roads, but we needed places to park our cars, we needed places to repair them, to get gas, all these things, and so that required infrastructure in our cities. As we got more freedom to travel, we wanted to travel more, and so we needed the car to do that. So it's almost like this constantly reinforcing structure of we're building cities spreading outwards because we want to travel more, and we can, but in order to do that we need the car. So it's very cyclical in nature.

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As cars became more popular, we naturally saw a reduction of space for other forms of transportation such as sidewalks instead being taken up by these paved roads that were required for cars, and even as cars did become more all-terrainif you will, those aren't really the ones that we are using every day on our streets, in our cities, and having paved roads just provides a much smoother and safer transportation option.

Another key player in the dependency on cars became the highways because they were ways that we could not just connect with neighbouring communities, but we could connect across the country, and even across other countries, and so highways became pivotal and crucial to the dependency on the car because highways both require vehicles but also divide up communities and cities from all other modes of travel in a way that is different than all other streetscapes. In most cases, you not only have a car to go on a highway, but there are actually very few corridors to get over, under and around the highway except on the road. Only in a few instances such as certain areas of Toronto do we have sidewalks and other modes of transportation around highways. We can see this in our community, and in many cases there are big equity implications across history as to which communities were impacted and segmented by the development of highways. Both racially and economically disadvantaged groups are much more likely to be impacted negatively by the choice of where highways go.

This gradual change in the structure of cities from having lots of sidewalks and other infrastructure to support more community-connected transition towards a more independent, personal vehicle supportive environment is described a lot by Jane Jacobs, who was an activist in urbanism and explored urbanism particularly in New York City as well as Toronto. So one of her most notable works is called *The Death and Life of the Great American Cities*, which came out in the 1960s, and she is talking about the almost degradation of communities as a result of the emergence of automobiles, and how the city and the idea of what a city is really influenced the growth of cars.

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One thing that she said is that cities are an opportunity for “multiplicity,” which is the word that she used. So there are so many diverse opportunities in cities. But you can't really take advantage of those diversity opportunities without being able to get around easily. And thus, we need cars to take full advantage of those opportunities.

She also made a point to recognise the fact that automobiles aren't really the villains that we might make them out to be, because there were clearly some issues with city planning and not recognising how the lack of green spaces or the lack of sidewalks and things that would support more active and public transportation would lead to the downfall of people's health, wellbeing, the environment and so on. So we can't really blame cars for being problematic in a sense, we also have to look to our city planning and the infrastructure that allowed cars to flourish. From out Travel Survey that we conducted in 2018, we found that 91% of student trips to campus from through active transportation or more sustainable transportation, such as walking, cycling, carpooling, public transit, or through online learning. However, only 43% of employee trips were through the same modes, indicating that employees tend to live further away from the university on average, so they need to rely on the car. This makes sense if you’ve been to the University, you can see that there are so many apartments and housing nearby, whereas the more family-oriented and non-student communities are further away and thus require a car. This is pretty reflective of other communities as well, where you tend to have students concentrated around the university area, but those who are not students, such as staff and faculty that have to commute to campus, tend to live further and may not have access to active and public transportation options as accessible or convenient as students might have.

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If we flash forward to the present, we drive everywhere and almost everybody drives now. It's almost like a sort of cultural passage here in Canada. To go for your first drivers test, it's the G1 at least in Ontario, when you turn 16, and to start getting your licence and your full licence by the time you graduate high school. And if you're, let's say in your twenties, thirties or even you're an older adult and you don't have a licence, that puts you in the minority. Majority of people have their licence because it's almost expected of us to start driving.

In 2016, Statistics Canada found that 12.6 million Canadians reported that they commuted to work by car, and for these commuters, the average commute duration – so the amount of time that they spent driving to work – was 24 minutes. The median distance to work among those who had a set workplace – in other words, they didn't travel for work, they may be worked at an office constantly – the average distance was 8.7 kilometres. Now if you are taking a hike on the weekend, an 8.7-kilometre hike isn't too bad, but to walk 8.7 kilometres to work and walk 8.7 kilometres back from work is not realistic, and so we need cars to be able to work to live, to have fun.

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Why are cars so significant in the way that we operate life today, and why do we need to be examining them from a critical lens? Not to say that they are bad, because they have given us so many opportunities, they have allowed us to travel the world, experience new things, connect with people. But there is a danger in the way that we have structured our societies around the car, which we will explore now.

One of the most significant ones is related to the environment, and specifically the increase in emissions. In Waterloo Region alone, 49% of our emissions are coming from the transportation sector. And these emissions are contributing to climate change, which is kind of an important topic right now, and we need to be doing our part to reduce climate change. The average Canadian vehicle, which burns approximately 2,000 litres of gasoline every year, releases around 4,600 kg of carbon dioxide into the atmosphere, according to NRCAN in 2014. We also see a significant increase in other pollutants, such as gasoline leakages, other debris or litter that might fall out of the car, which can leak into waterways or other land structures, and this can harm ecosystems. And then there's also things like noise and light pollution which can confuse or harm wildlife and lead to road mortalities and other things like that.

As I mentioned, cities expanded outwards and we needed cars to do that, but cars also *enabled* us to expand outwards and as a result we needed to change a lot of land to accommodate this growth. And so we also saw a lot of habitat degradation as land use change became prominent to accommodate the cars with roads, parking lots, gas stations and more. This was critical for suburban sprawl, which as we are now realising is a significant problem for our environment.

In addition, we are seeing the increased gentrification of communities because only those with personal vehicles have access to certain services, such as well-paying jobs or even stable jobs to begin with. So it's not just about the environment, it's also about humanity and the social impacts that cars have on us.

Then there's health impacts for humans, not just the environment. We are living a more stationary lifestyle. The pollutants in the air can impact our health and cause respiratory illness, and it's just a more stressful environment, which isn't great for our mental health. According to Statistics Canada, in 2016, approximately 854,000 car commuters spend at least 60 minutes travelling to and from work each day. And from 2011 to 2016, the number of car commuters that took a least 60 minutes to get to work by car increased 5%, while the total number of commuters increased 3%. This means that we have more people on the road and we have more people on the road for longer. There's definitely congestion. If you've ever driven on the 401 during rush hour, you know what I mean, especially when you're passing through the Toronto area. Don't even get me started on the Don Valley Parkway! So longer commute times are resulting in higher levels of cortisol – in other words, stress.

There’s alsoincreased levels of disease due to less activity, chronic injuries such as in your back and neck due to poor ergonomics in cars and more. Not to mention the number of car accidents that are happening. For instance, in 2018 the number of motor vehicle fatalities in Canada was 1,922 according to Transport Canada. And in 2019 in Ontario, there were thirty 3,137 reported collisions that resulted in fatality or injury, according to the Ministry of Transportation.

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And another important issue that I haven't touched on yet is the economic impact. Not only does more congestion on the roads lead to longer commutes and more stress, but it also leads to more infrastructure damage and less productivity. A 2021 study by CAA found that car damage and operating costs are increasing due to poor road construction, and it's costing Canadians $3 billion annually. In addition, the Pembina Institute released a study in 2012 and found that the average Canadian consumes about 1,926 litres of gasoline every year and spends approximately $10,500 per year on driving their car.

And lastly, something I briefly touched on, but we are less connected to our community without the opportunities to physically connect with people. We are isolated in our cars. We talked about this in our last episode with TravelWise, as well. You don't have the opportunity to engage with people the same way you would as you pass the same people every day on the sidewalk or the people you sit across from on the bus when you're doing your daily commute. You don't have that opportunity on the road.

All this to say, cars have been an amazing development in our society and they have allowed us to do so many things that wouldn't be possible without them. But they do have some downsides, and the way that we have structured our cities around them and the way that city structure reinforces the need for cars has had some negative side effects, which we just explored.

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Now I want to talk about “now WAT?” WAT we can do to protect our health, protect the environment, save money and reduce damage to infrastructure. The way that I can put it most simply is that, because our communities are designed around the car, we need to start redesigning our communities. We need to start creating “smart communities.” Smart cities as you might have heard, or Smart Towns. They refer to similar topics and have similar criteria. I will use the definition of a “smart city” according to Future Cities Canada, which is “a resilient, inclusive and collaboratively built city that uses technology and data to better the quality of life for all people.” Related to this is the concept of smart growth, which is characterised by many different things, including transportation, and it's looking more holistically at how we can make our communities healthier, happier, and resilient to climate change and other stresses.

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So transportation is a key part of smart growth and smart cities. We need to start turning parking lots to parks, roads to walkways or cycling paths, long drives to work to flexible, fun ways of commuting that are affordable, efficient, promote healthy lifestyles and are environmentally friendly. Auto cities and auto communities were built around the idea of empowerment, of being able to travel, but now there were realizing the impacts of looking at that through a siloed lens, not seeing the broader picture, we are realizing that we *can* be empowered to travel, but we can do it in a “smarter” way. We can focus on our local community and getting to know each other and the businesses, and supporting what we have here, while still enabling people to travel freely.

Now to achieve smart growth and really start transitioning to more sustainable cities and transportation options, there are two key categories of things that we need. The first is we need more active and public transportation options, and in order to achieve that, we can encourage local officials to produce these services by writing letters, attending town halls and planning meetings, and considering spaces in our community that could be made more accessible and sustainable through these transportation options. Also, local officials need to see the demand in order to create the spaces. For instance, the City of Waterloo recently put a call out for public input to update their Transportation Master Plan, and this is a key opportunity for citizens like ourselves to illustrate the need for active transportation over cars. I’ll note that the time we have closed this, the Transportation Master Plan feedback is actually closed, but you can make sure to keep an eye out for the results of this Master Plan feedback.

If you are in Waterloo, you may have noticed that there are more bike lanes, there's more pathways. Even right now, they've been putting patios out on roads. That's not just to benefit people who want to eat and dine on the patio, but it's also to make travelling by car more inconvenient and encouraging more active in public transportation by making it easier and more accessible. So the first thing we need is the infrastructure in place.

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The second thing we need to promote sustainable transportation is to actually *use* these services. We need to be promoting sustainable transportation options wherever possible. So for instance, in your community, do you drive to the store because it's more convenient and less strenuous? Or is it actually inaccessible? There’s an idea of creating cities with a 5-kilometre radius. In other words, all of the essential services and programming that you would need to thrive are within 5 kilometres. This is a reasonable distance for majority of able-bodied individuals to travel through active transportation means, and if you don't have necessarily the physical accessibility to do this, there are also public transportation options to get you within 5 kilometres of where you need to be.

So next time you are travelling to the store or going to work, try walking, try cycling, try scootering or rollerblading if those interest you. Or if that's not accessible to you but there is a bus route or a train or other forms of more sustainable transportation that promotes communal travelling, then try that out. Of course, don't participate in things like carpooling with individuals outside of your household during COVID-19, but those are some great options once it is safe to do so and we are allowed to be engaging with individuals outside of our own households. In Waterloo, you can use services like TravelWise, which we discussed in our last episode, and I'll also link in the show notes to explore all the sustainable options available to you.

You may be thinking, if our cities are built around the car, how can we ever transition into a city without a car or a cities with fewer cars? There are many cities in Europe that are modelling what a car-free city can look like. There are places like Barcelona, Helsinki, Oslo and Paris that have taken steps to reduce private vehicle use, such as removing parking spots at apartments and on streets, converting them into parks, increasing public and active transit networks and more.

This is less common so far in North America and especially Canada, given how much urban sprawl there is and how large our land mass is. But some places like Montreal and Toronto have more than 30 kilometres each of underground passageways solely for pedestrians, with shopping and coffee to make them more attractive, especially during the cold winters. And even in Waterloo, we are seeing the uptake of active transportation routes with more and more bike lanes being implemented as we speak.

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So while it may seem difficult, as long as we are demanding this change and then we are taking advantage of change as it is happening, we will see more positive change. An important caveat to add is that cars aren’t going away. In fact, we are seeing a new revolution in cars, and that is with the electrification of cars. Yes, we would love to have non-auto cities, so cities reliant on public and active transportation, but this isn’t always going to be a possibility, or at least not a possibility in many communities that are already grounded in the idea that we need cars. So electrification of vehicles has been really beneficial in increasing accessibility of certain communities while promoting sustainability in a sense. While we’re not saying that cars are not totally evil and we do recognize that cars are going to be a part of our lives for the foreseeable future, this discussion is around what a non-auto city would look like, and it’s more of a holistic planning discussion of how we can make our communities more accessible.

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In summary, the car, the personal vehicle, has played a crucial role in the development of our society and has enabled so much freedom in the way that we live and operate today. That said, the way that we take advantage of these cars has led to some unsustainable habits, and in particular environmental, social and economic problems. We can still be using vehicles, but it would be more encouraged to do it through public transportation options. So instead of driving yourself, taking a bus or a train or other forms of public transportation and using active transportation more often, which can promote your physical health and wellbeing, can enable reconnection with your community, and help fight climate change.

I encourage you to check out the resources in your community to learn more about what sustainable transportation options there are. Of course, I will provide a bunch in our show notes and I will encourage you to check out the resources that we shared in our last episode with TravelWise.

I hope you enjoyed this episode about an auto city. If you never knew what they were before, please share this episode with your friends and family, and start having conversations about your own dependency on a car and ways that you can reduce that and start promoting sustainability in your transportation habits.

If you enjoyed, make sure to subscribe if you haven't, and follow us on social media on Instagram and Twitter @UWsustainable. If you have any questions or ideas for future podcasts, remember to email us at sustainability@uwaterloo.ca. As well, special thanks to Bennett Gallant for our amazing jingle music!

That's WAT’s up, Waterloo. Thank you for tuning into episode eight of the podcast. I hope you enjoyed. This is Jenna signing off, and we will see you in the next episode!