Research Topic: Youth Mobilities

PhD Research Visit Activities in Aalborg University, Denmark
Period - May 04 until May 15

Photo credit: Agni Gregoriou

This report was created as a summary of the activities, observations, meetings, field visits, and research insights developed during Agni Gregoriou's PhD visiting period at Aalborg University (AAU), Denmark, from 04 May to 15 May 2025. The report documents key findings related to youth mobilities, school mobility practices, Heart Zones, active transportation, and child-centred urban planning approaches observed throughout the visit.

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C-MUS Seminar on children's mobility | May 4

Photo credit: Andrea V. H. Bueno

Heart Zones & Schools Mobility in Denmark – Data collection

Evaluering af hjertezoner

Specialeprojekt i samarbejde med Aalborg Kommune

Aalborg Universitet

AALBORG UNIVERSITY

The 15-Minute City in a Danish Context

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Children's velo-mobility – how cycling children ‘made’ and sustained

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Barnetråkk - et norsk verktøy for barns medvirkning i planarbeid

Å få si sin mening er en viktig demokratisk rett. Når det utarbeides offentlige eller private planer, bygges veier eller gjøres andre inngrep i et nærmiljø, er det viktig, at alle innbyggere får en mulighet til å fortelle, hva de ønsker – selv de yngste innbyggerne.

AF OLE EDVARD GROV, UNIVERSITETET I BERGEN

Tidlig på 1980-tallet ble en metode, som har fått navnet Barnetråkk, utviklet av planleggere i Vestfold fylke i Norge. Planleggere hadde på det tidspunkt mye informasjon om, hvordan dyr som elg og hjort beveget seg, men hadde lite kunnskap om, hvordan barn brukte sitt nærmiljø. Gjennom 1980 -og 1990-tallet ble Barnetråkk gjennomført på papirkart

omtaler barn og unge spesielt: "Kommunen har et særlig ansvar for å sikre aktiv medvirkning fra grupper, som krever spesiell tilrettelegging, herunder barn og unge ...". Nasjonal Transportplan (NTP) vedtas av Stortinget hvert fjerde år og gjelder for 12 år. De siste utgavene av denne planen har også omtalt barns medvirkning til samferdsels-

According to the Danish study “Sund Skolevej” (Healthy School Route, 2022), almost 3 out of 10 children are driven to school by car, even though the average distance between home and school is only 1.5 km.

The study found that most children in Denmark live within walking or cycling distance from school. Around 65% of children live less than 2 km from school, while the majority live within 4 km.

According to the research, there is strong potential to increase active mobility, as around one-fifth of school trips could shift from passive transport to walking or cycling, particularly for distances between 0-4 km.

The study also showed that cycling is the most common mode of school transport in Denmark: 42% of students cycle to school, 22% walk, 27% arrive by car, and 9% use public transport.

Finally, the study highlighted that traffic safety and children’s sense of security are the most important factors influencing parents’ transport decisions. Parents who perceive school routes as unsafe are significantly more likely to drive their children to school.

Vejgård School visit | May 5 & 12

Photo credit: Agni Gregoriou

Vejgård School visit | May 5 & 12, 2026

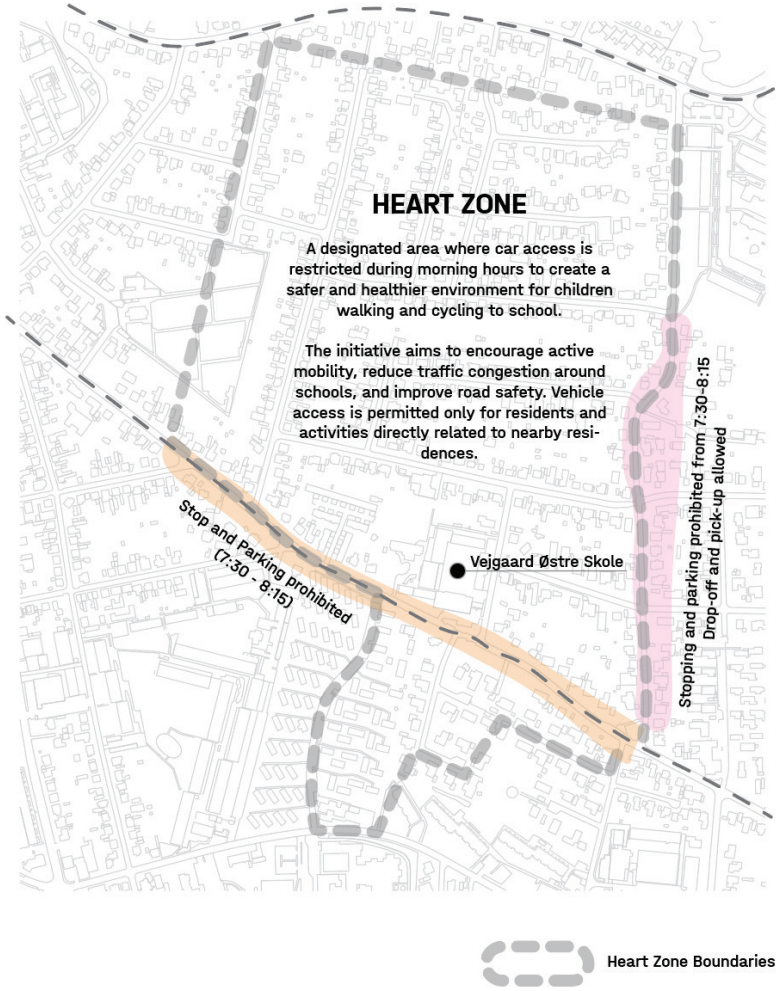
Key notes:

- The students were mostly moving on foot, with some using bicycles, a few riding scooters, and others travelling by cargo bike.

- Some were travelling independently, leaving their homes and walking to school on their own or with friends or siblings, while others were accompanied by their parents.

- They seemed relaxed, calm, and happy, greeting their classmates in the morning.

- It was my first experience of a heart zone hearing nature sounds, with no gas emissions, no stress, and no cars just children going to school.



“Infrastructure, Green Spaces, and Regulations”
Mapping of the Vejgård School Area

Legend

- Bus stops
- Bike parking at the school entrance
- Crossing
- Shared street (Vehicles, Bikes, Scooters) & Sidewalks

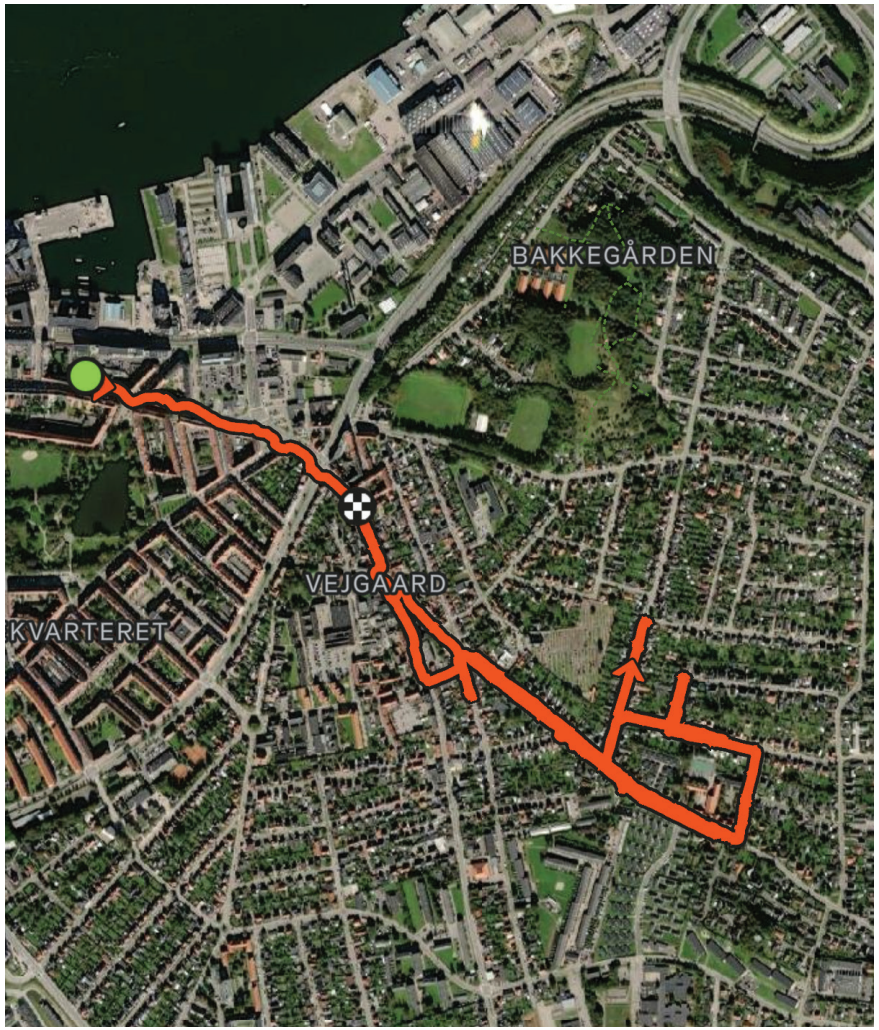
Vegetation:

- moderately dense vegetation
- low-density vegetation
- Car Parking
- Parking is prohibited during the following hours:
  7:00-9:00
  14:00-15:00
- H.Z — Heart Zone streets
- School

The permitted speed limit in the area is 40km/h

Mapping by Agni Gregoriou

Route Tracking from Aalborg City Centre to Vejgård School



Stigsborg School visit | May 7 & May 11

Photo credit: Agni Gregoriou

Stigsborg School visit | May 7 & 11
Time: 11:00 - 13:30 PM

Key notes:

- Stigsborg school has a total of 1,000 students.

- As the Head of Mobilities mentioned during the interview, immediately after the study visit, this school is considered one of the best case study examples in Aalborg.

- The school is surrounded by wide, connected, and protected cycling lanes, pedestrian paths, and safe routes from all directions, allowing children to arrive safely.

- A traffic-safe drop-off zone - kiss-and-goodbye- area is located directly by the school.

- A mobility hub is located 110 meters from the school, offering free short-term parking and a bicycle workshop.

- Bus stops are situated just a few meters away from the parking area, providing easy access to public transport.

- Children arrive at and leave school independently by bicycle, on foot, alone, with friends, or accompanied by their parents.

Interview with the Head of Mobilities, Aalborg Municipality | May 7

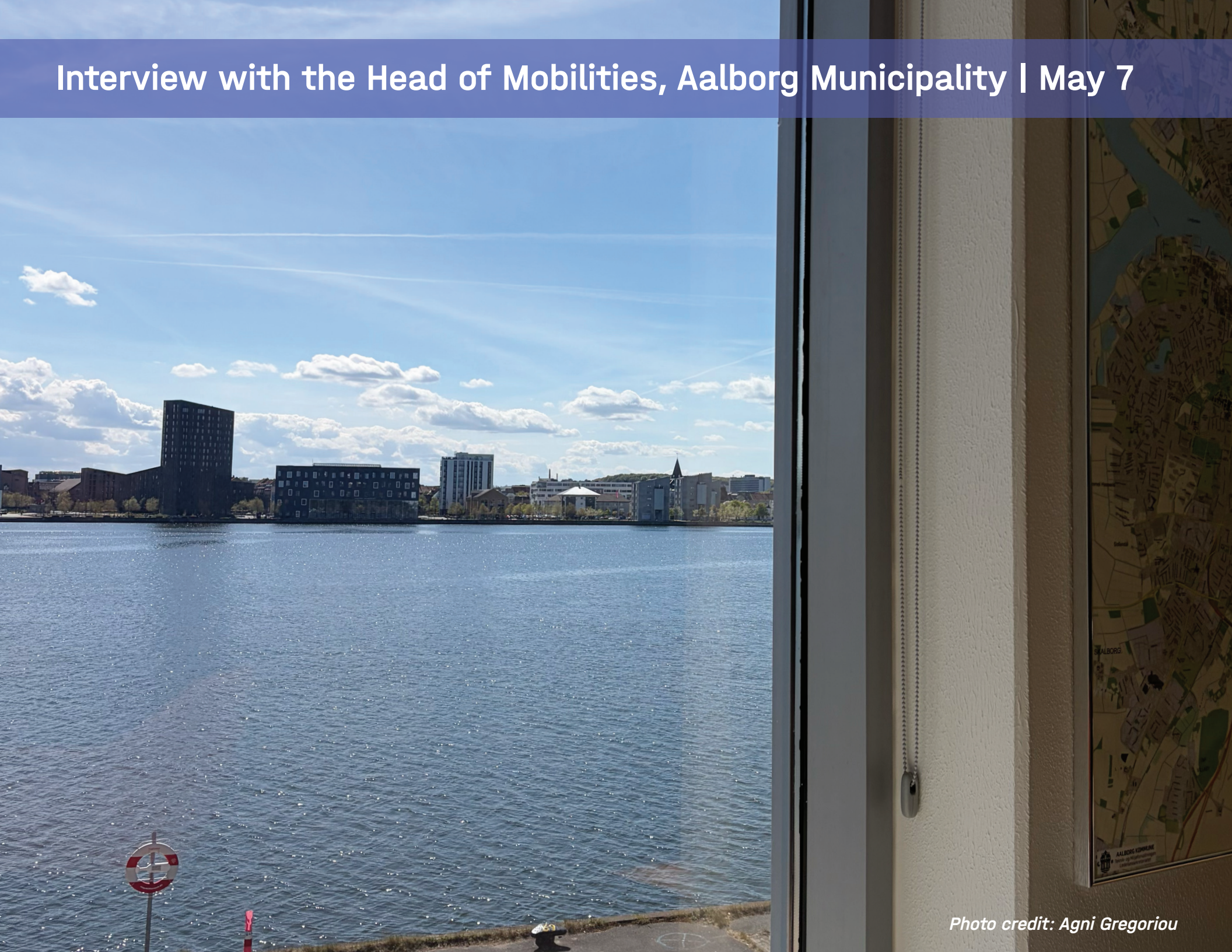


Photo credit: Agni Gregoriou

Interview with the Head of Mobilities, Aalborg Municipality | May 7
Time: 14:00 - 15:00

Key notes:

- The Aalborg Mobility Plan 2040 is currently being updated, as children and youth mobilities were not sufficiently considered in the previous version.

- Aalborg Youth 2040 aims to promote independent and healthy young people who can navigate the city on their own and enjoy a more independent and free youth life.

- Mobility 2040 envisions a city where a 15-year-old should be able to travel everywhere independently and feel safe.

- According to the Head of Mobilities, the most successful project has been the Heart Zones, although some challenges still exist, such as teachers parking in the kiss-and-ride areas. According to her, the most successful case study school is Stigsborg School.

- When it comes to Heart Zones, they do not work with all schools every year. Instead, they select a few case study schools and focus more deeply on them.

- The long-term goal is to make the city centre car-free, which is quite challenging. However, creating car-free roads around schools is considered more achievable, using youth mobility as a way to support broader agendas related to safer public spaces and environments for children.

- The calculation and definition of Heart Zones are not based on square meters. Instead, they depend on the existing infrastructure and on which streets can function as the boundaries of the zone. Therefore, each case is different. For example, in one case, a sports area was used as a designated drop-off and parking location for cars. The solution depends heavily on the local geography and urban context.

- Legislation has a major impact on mobility planning. Regulations regarding speed limits and traffic restrictions strongly influence what can be implemented. In many areas, there is a desire to reduce speed limits, but this is often difficult due to legal constraints. Therefore, legislation has a significant effect on mobility planning and interventions.

- The solution is not to create more parking spaces, but rather to reduce the number of cars around schools. Active mobility has declined in recent years, with children becoming increasingly dependent on being driven instead of travelling independently.

- It is important to identify routes that are safe and secure, as this is a key concern for parents.
They do not evaluate the emotional or psychological impact of traffic conditions on students.

- It is always challenging to remove parking spaces, as this often leads to complaints.

- Many people feel that a privilege or convenience is being taken away from them.
The police are not fully supportive of the Heart Zones, as they must ensure that regulations are properly followed and enforced.

- In the morning, the street operates as a one-way road, while the other lane can be used for drop-off activities.

Højvangskolen school visit | May 8 & 12

Photo credit: Agni Gregoriou

Højvangskolen school visit | May 8
Time: 14:30 - 15:00 PM

Key notes:

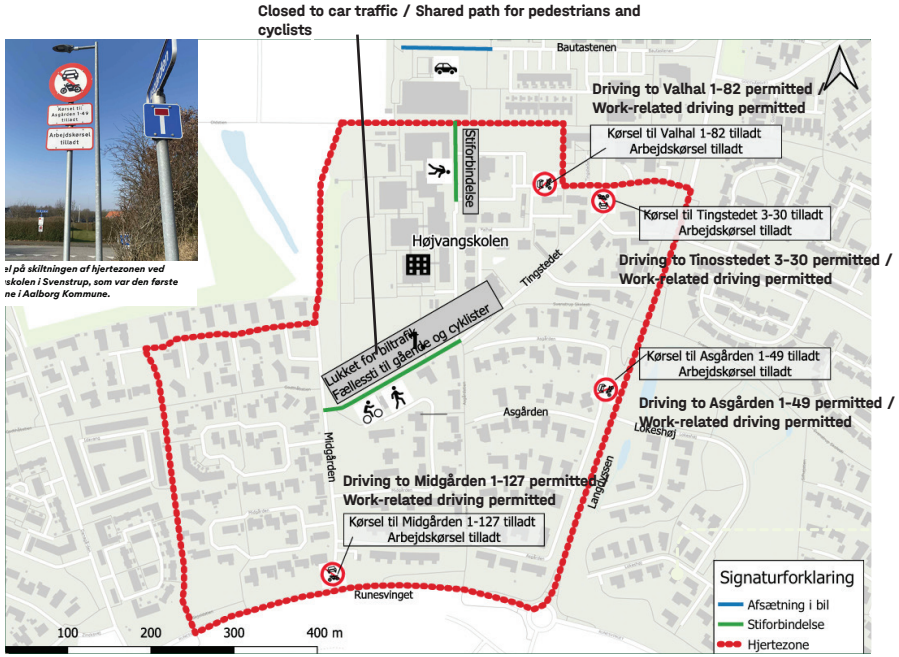
- It was the first example of a Heart Zone in Aalborg.

- The school, parents, and students are generally positive about the initiative.

- However, there are some issues with parents not complying with the driving restrictions.

- The shaded areas and dense vegetation, in contrast to other schools such as Stigsborg School, make the area easier and more pleasant to navigate.

- Cycling lanes and pedestrian paths are well connected throughout the school area and along the main road.



And now, the question is:
How do we translate strategies and policies into difficult car-centric contexts?

Comparative Matrix:

Aalborg Heart Zones and Potential Applications in Limassol

Heart Zone Principle / Strategy	Scandinavian Context	Challenges in Car-Centric Cities (e.g. Limassol)	Possible Adaptation for Limassol	Expected Impact	Notes*
Reduction of car traffic around schools	Streets partially or fully restricted during student's arrival/departure from school	Strong dependence on private cars for school commuting	Introduce temporary morning street closures around selected pilot schools	Safer arrival environment and reduced traffic conflicts	
Prioritisation of walking and cycling	Existing high-quality pedestrian and cycling infrastructure	Fragmented sidewalks and limited cycling networks	Focus first on safe walking corridors rather than large-scale cycling infrastructure	Improved walkability and parental trust	
Safe and secure routes to school	Continuous pathway systems and low-speed streets	Parents perceive routes as unsafe due to traffic and crossings	Identify and redesign "safe school routes" with crossings, shading, lighting, and traffic calming	Increased independent mobility for children	Proximity is important, but experiences matter too.
Kiss-and-ride management	Organised drop-off areas away from school entrances	Chaotic parking and informal stopping behaviour	Create controlled drop-off zones within short walking distance from schools	Reduced congestion directly outside schools	
Traffic calming measures	Existing culture of low-speed environments	Legal and political difficulty in reducing speeds	Pilot tactical urbanism interventions and school-hour speed reductions	Lower perceived and actual danger	Currently in Aalborg it is 40km/h Police does not accept to lower it to 30km/h
Flexible zone boundaries	Zones adapted according to street network and geography	Dense urban fabric and mixed land uses	Define school zones based on	More context-sensitive interventions	

			existing street hierarchies rather than fixed dimensions		
Community acceptance and participation	Strong public understanding of sustainable mobility	Resistance to removing parking or road space	Use participatory workshops with parents, schools, and students	Increased legitimacy and local ownership	In Aalborg there are still some parents and teachers who refuse to accept heart zones
Temporary vs permanent interventions	Permanent infrastructure often accepted politically	Political hesitation for permanent change	Begin with temporary pilots using paint, signage, and movable barriers	Easier testing and evaluation	
School involvement	Schools actively support the initiative	Schools may lack resources or mobility culture	Develop school-led mobility campaigns and educational activities	Behavioural change and stronger support	
Independent youth mobility	Cultural acceptance of children moving independently	High dependence on parental driving	Frame independent mobility as linked to health, freedom, and social development	Cultural shift over time	
Legal framework and governance	Municipalities supported by national road regulations	Regulations may limit experimentation	Develop pilot exemptions or temporary mobility frameworks	More flexibility for innovation	
Reallocation of parking space	Parking reduction accepted in some contexts	Strong resistance from drivers and businesses	Gradual reduction combined with alternative drop-off solutions	Lower vehicle dominance	

Use of surrounding facilities	Sports halls and public areas used as alternative drop-off points	Lack of integrated mobility planning around schools	Use nearby churches, sports facilities, or municipal land as shared mobility hubs	Reduced pressure near school entrances	
Emotional and psychological safety	Focus mainly on physical traffic safety	Emotional impacts rarely measured	Include children's feelings, stress, comfort, and perceptions in evaluations	More child-centred mobility planning	Experiential and social aspects are very important, although Aalborg does not currently take them into account. For example, issues such as bullying can strongly affect the commuting experience.
Shade and climatic comfort	Cooler climate supports active mobility	High temperatures discourage walking	Introduce shaded paths, trees, water points, and cool materials	Increased comfort for walking	Not all streets in Aalborg are lined with dense vegetation.
Active mobility culture	Walking and cycling already socially normalised	Driving perceived as default and socially desirable	Promote mobility campaigns focused on independence and local identity	Long-term behavioural transformation	
Pilot school approach	Municipalities test interventions in selected schools	Limited municipal resources	Work with a small number of strategic	Easier scaling and learning	

			pilot schools first		
School streets as catalysts	School interventions support wider urban agendas	Car-centric planning dominates urban development	Use school streets to introduce broader conversations about public space and urban liveability	Wider policy influence	A UN funded program in collaboration with municipalities to create safer streets.
Child-centred urban planning	Youth mobility integrated into planning agendas	Children often overlooked in mobility planning	Include children and teenagers in mobility consultations and workshops	More inclusive planning processes	The 15-minute city concept is very important.
Data collection and evaluation	Surveys, observations, and interviews support interventions	Limited local data on youth mobility experiences	Combine behavioural mapping, surveys, and emotional mapping methods	Stronger evidence base for policy	Aalborg does not evaluate the situation using clear data; it is mostly based on parents' perspectives.

Key Lessons for car-centric meditteranean cities

1. One of the most important lessons from the Heart Zone concept is that solving school traffic congestion does not necessarily require additional parking spaces. Instead, it requires reducing unnecessary car dependency and improving conditions for short-distance active mobility.

2. Safety is both physical and emotional. Parents are primarily concerned with safety and security. However, safety should not only be understood in terms of traffic engineering and accident prevention, but also in relation to emotional comfort, independence, stress reduction, and the overall quality of the journey.

3. Every school requires a different approach. Heart Zones cannot be standardised through a single spatial formula or fixed radius. Their design depends on:

- Existing infrastructure
- Street hierarchy
- Urban density
- Geography and topography
- School culture
- Nearby public spaces
- Traffic patterns

4. Temporary interventions can create long-term change. In politically sensitive and car-centric environments, temporary interventions can help municipalities test ideas before permanent implementation. Tactical urbanism approaches may reduce resistance while allowing behavioural adaptation over time.

5. Youth mobility can support wider urban transformation. School mobility projects can become entry points for broader discussions about:

Public space, Climate adaptation, Health, Social cohesion, Urban liveability, Car dependency

Possible Pilot Actions for Limassol

1. Temporary school street closures during morning arrival times
2. Mapping and redesigning safe routes to school
3. Shaded walking corridors using trees and lightweight structures
4. Tactical urbanism interventions around school entrances
5. Controlled kiss-and-ride areas away from gates
6. Student-led mobility workshops and mapping exercises
7. Parent engagement sessions focused on safety concerns
8. Emotional mapping of children commuting experiences
9. Pilot speed reduction zones near schools
10. Integration of school mobility into broader sustainable mobility plans

PhD Visitor in AAU

Research Topic: Youth Mobilities

Data and Activities Report

Period - May 04 until May 15

Photo credit: Agni Gregoriou