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eXTEnded AtM for Door2Door travel

X-TEAM D2D

X-TEAM D2D:
WP5: Concept of Operations Validation Results

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(AUAS)

FINAL EXPLOITATION EVENT, 14 September 2022

EUROPEAN PARTNERSHIP

Co-funded by the European Union

WP5: Outline

- WP5 objectives
- Achievements
- Conclusions and lessons learned

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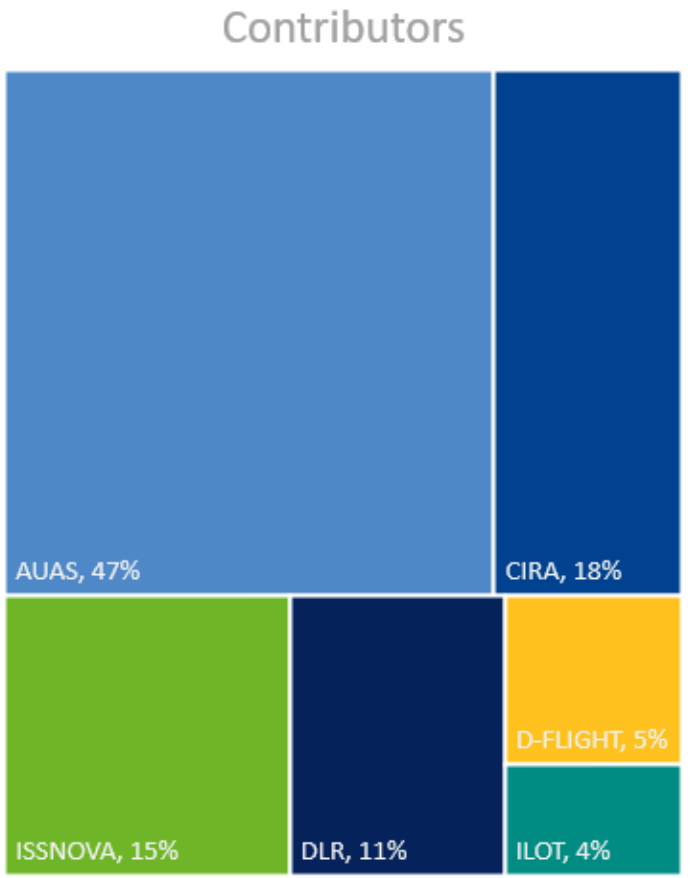
WP5: objectives

1. Validate ConOps by the simulation framework of a D2D case study
2. Assess the ConOps performance between ATM and different transport modes
3. Identify the feasibility and limitations of the designed ConOps

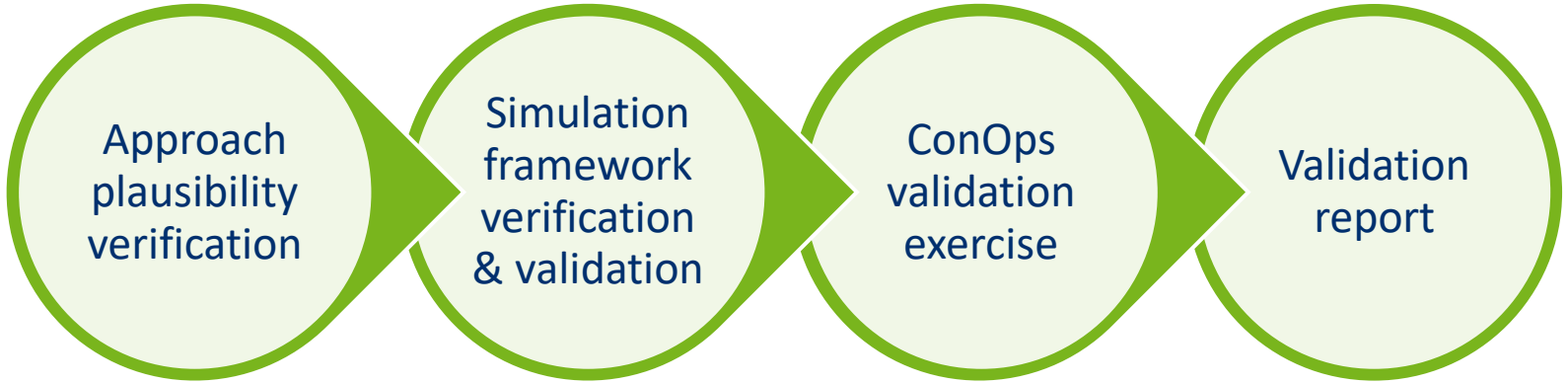
- Deliverable: D5.1: Concept of Operations Validation Report



WP5: Outline

- WP5 objectives
- Achievements
- Conclusions and lessons learned

WP5: ConOps validation methodology



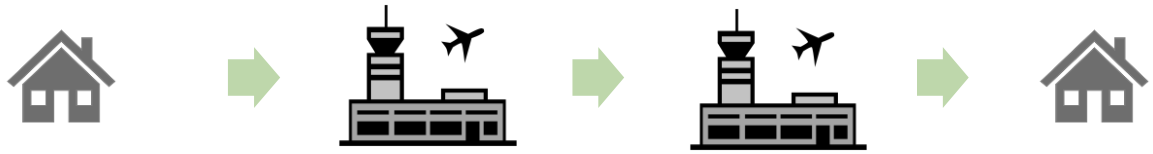
WP5: ConOps validation. Step 1
Expert validation of approach plausibility (AB)

WP5: Simulation framework

Two parts (urban + sub-urban areas):

- Hub APT– small town (codename: “Haarlem – Schiphol”)
- Regional APT – small town (codename: “Brunswick – Hannover APT”)

- Same structure, but different transport options in 2025, 2035 and 2050



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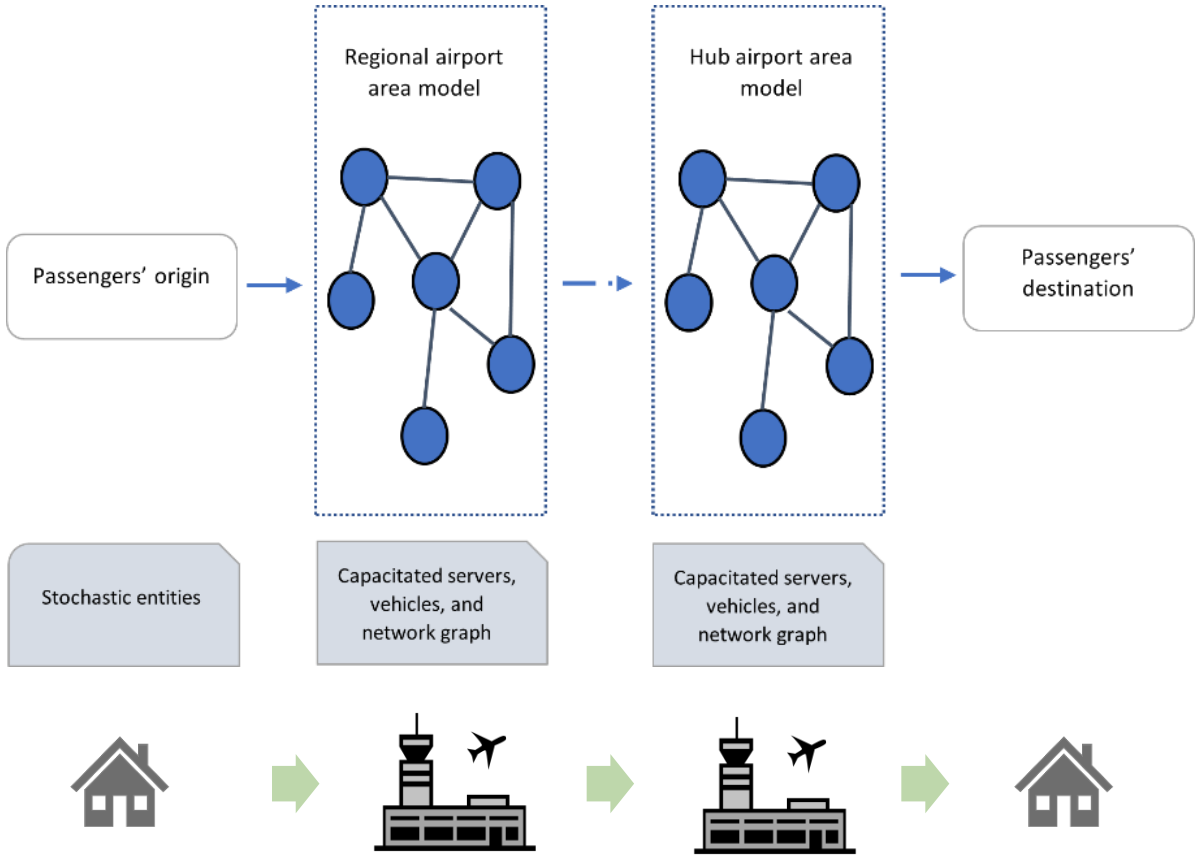
WP5: Simulation framework

- Existing transport options
- Transfer possibilities
- Real-life distances (GIS-Based)
- Real-life travel times (GIS-based)
- Use public transport data (NS.nl, 9292.nl, bahn.de, GoogleMaps, etc.)



WP5: Simulation framework

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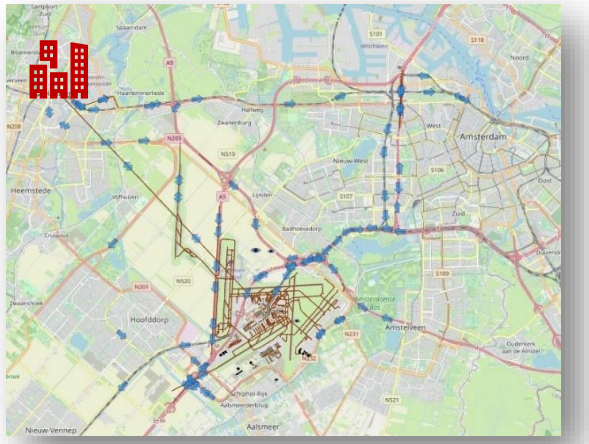
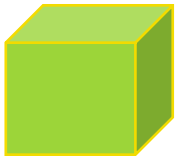
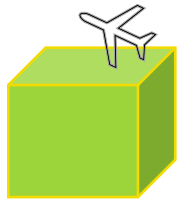
simulation software – Simio (discrete-events – ABM – Process)
multi-model composition
multi-layer approach

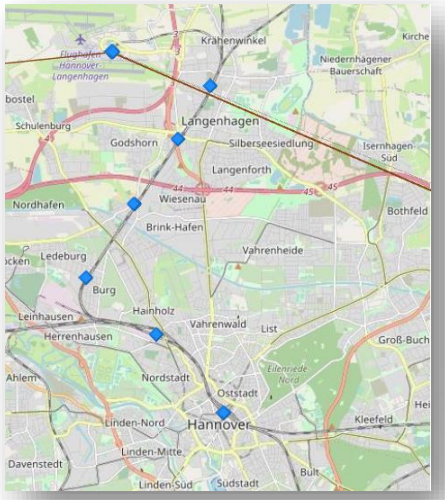




Model 2
Airport-to-door

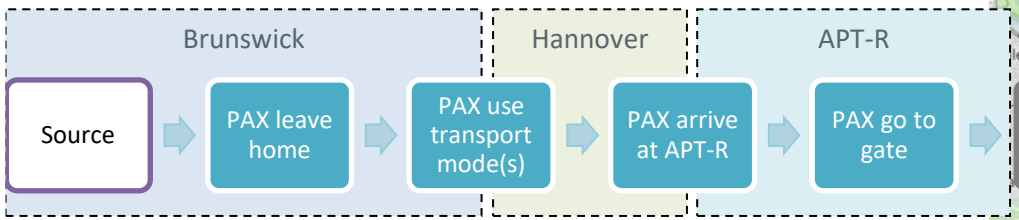


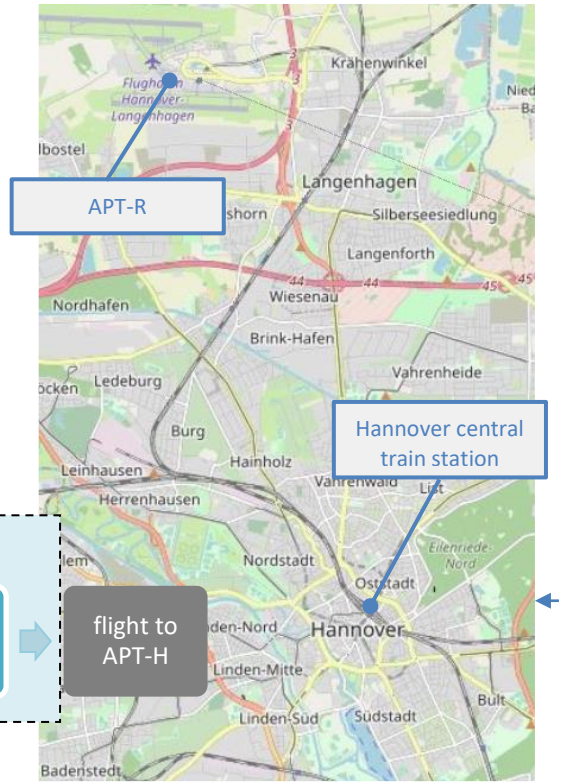
Model 1
Door-to-airport



WP5: Simulation framework

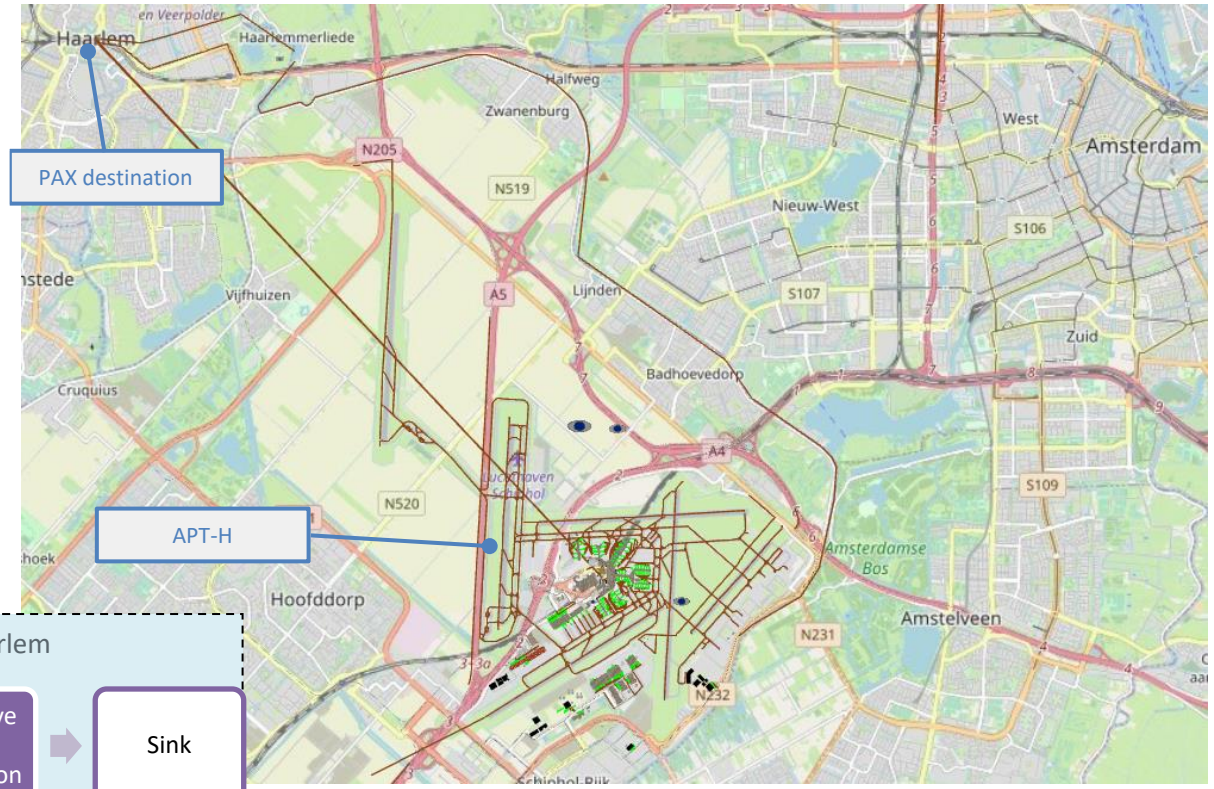
- Door-to-airport
- Brunswick-Hannover APT

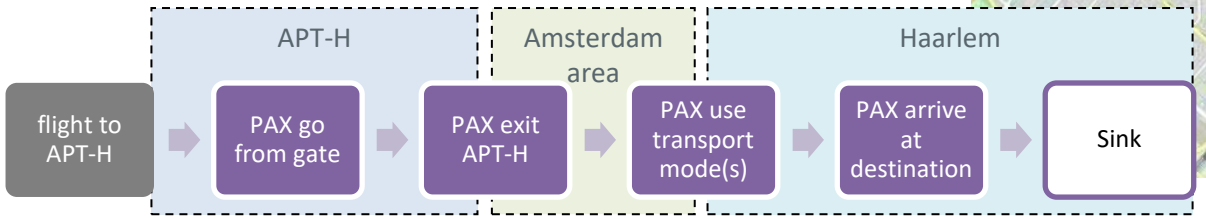




WP5: Simulation framework

- Airport-to-door
- Amsterdam APT - Harlem





WP5: Simulation framework

WP5: ConOps validation exercise. ConOps validation scenarios

Time horizon	2025		2035		2050	
	Traveller		Traveller		Traveller	
Disturbance	Profile B	Profile V	Profile B	Profile V	Profile B	Profile V
no disturbance	B025	V025	B035	V035	B050	V050
5h prior to departure	B525	V525	B535	V535	B550	V550
ad hoc disturbance	Bd25	Vd25	Bd35	Vd35	Bd50	Vd50

B: Business traveller V: VFR - Visiting friends and relatives traveller

Total: 18 scenarios executed in ConOps validation framework

WP5: Step 3. ConOps validation exercise

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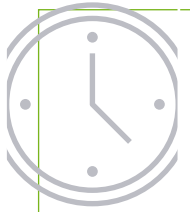
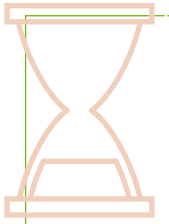
KPIs of interest:

Total distance travelled



Total travel time

Average travel speed

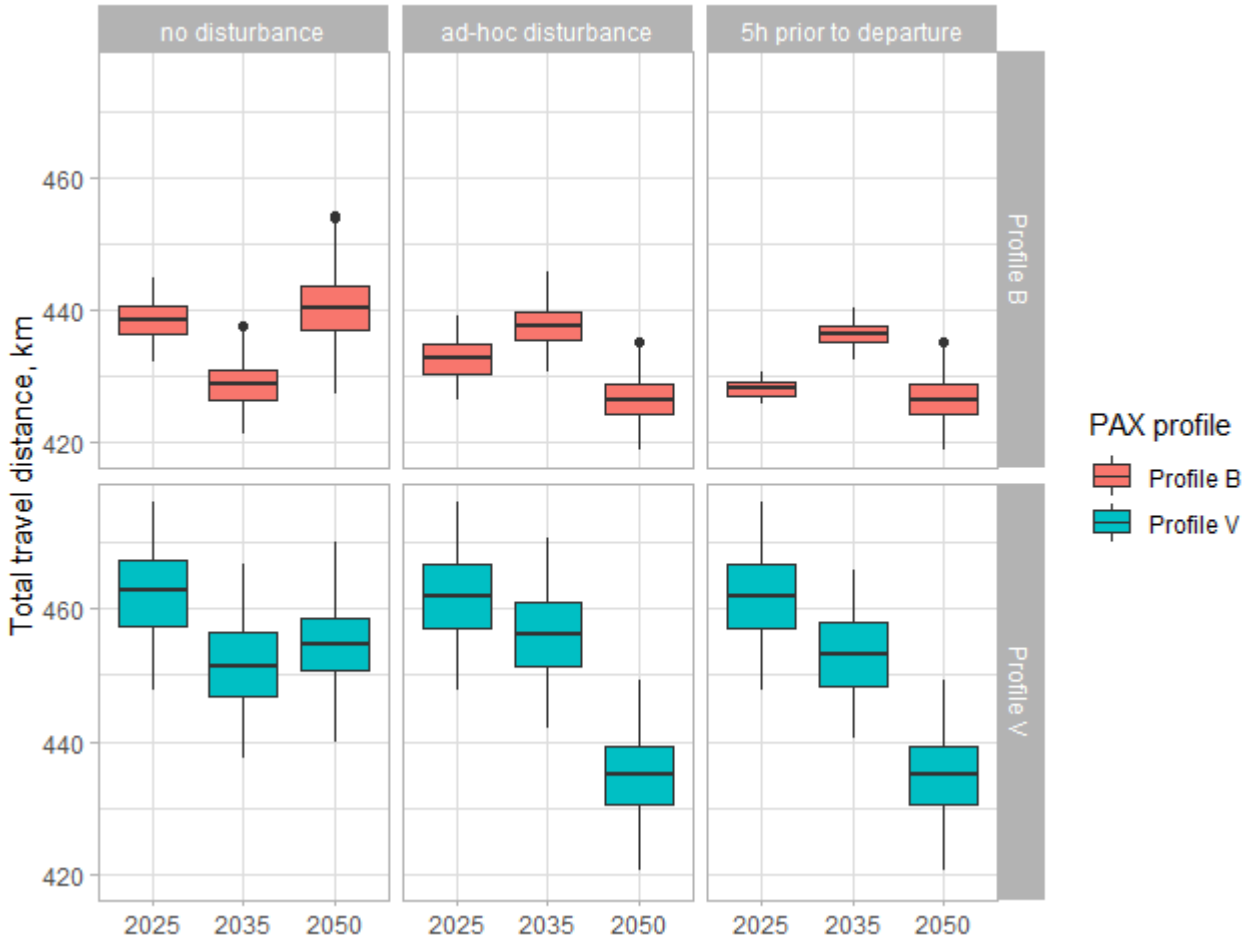


Waiting time at interconnections

WP5: ConOps validation results

(incl. flight)

Total distance travelled



WP5: ConOps validation results

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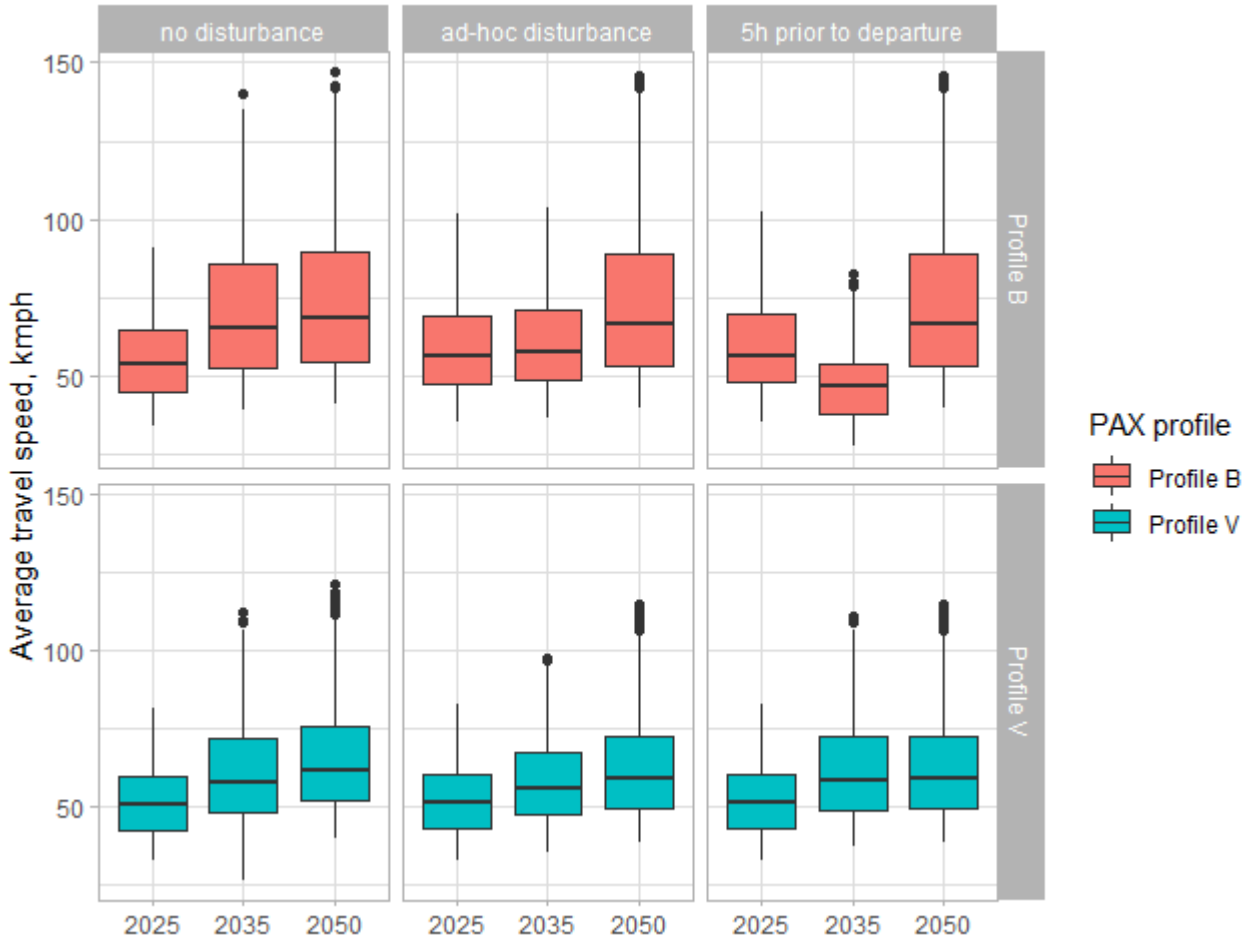
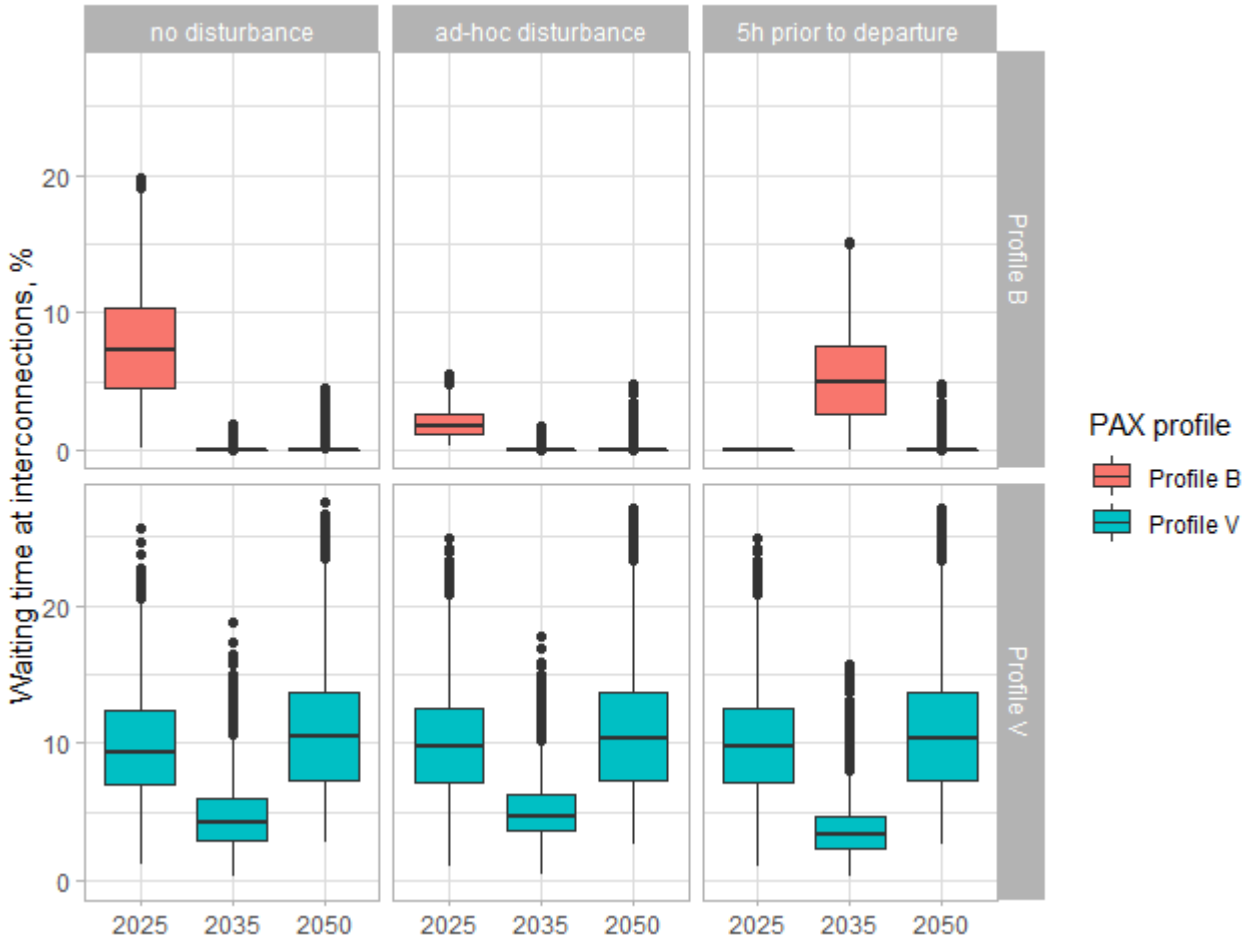


WP5: ConOps validation results

(excl. flight)

Waiting time at interconnections



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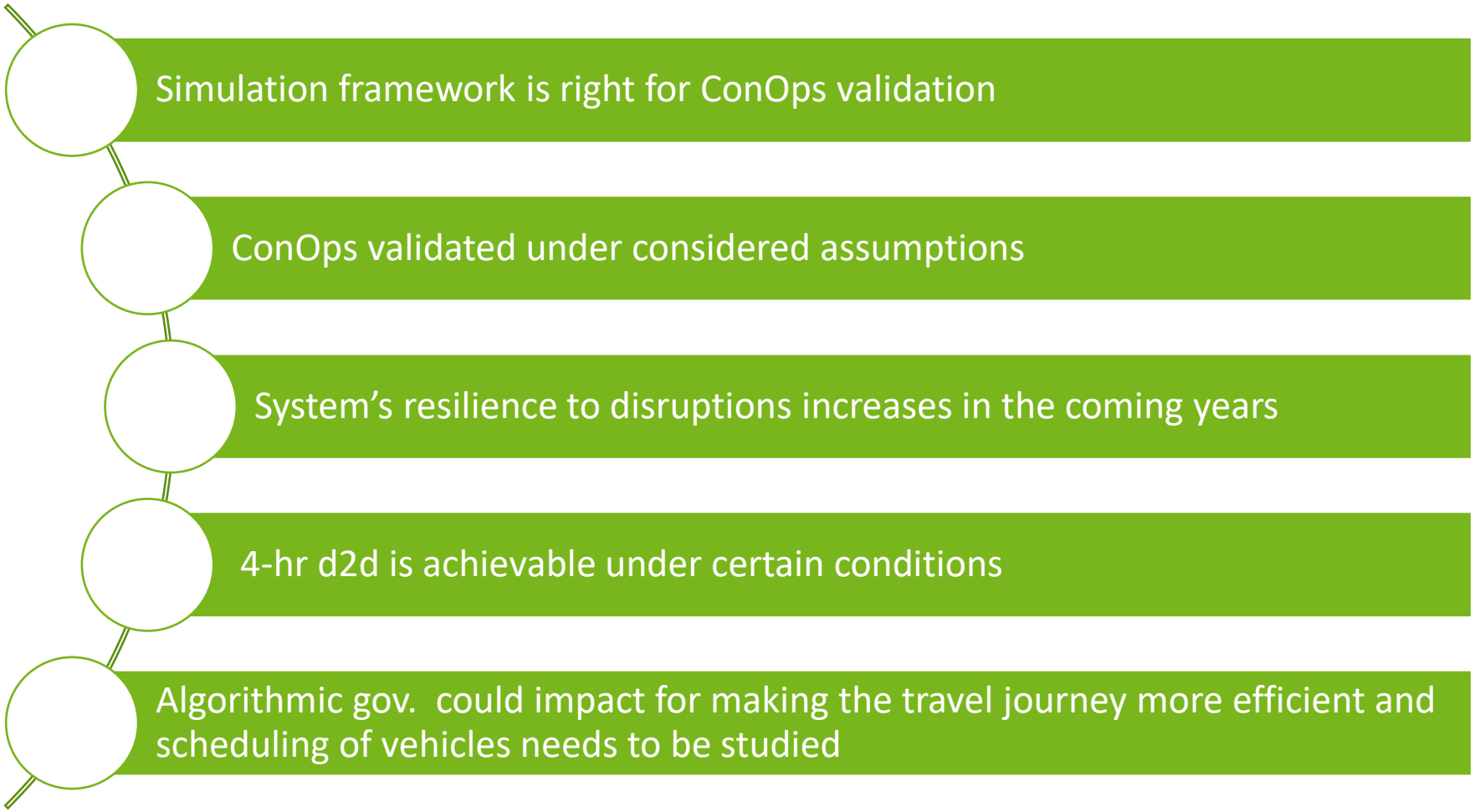
WP5: Conclusions & lessons learned



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