

KONE

People Flow at Building scale

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Dedicated to
People Flow™

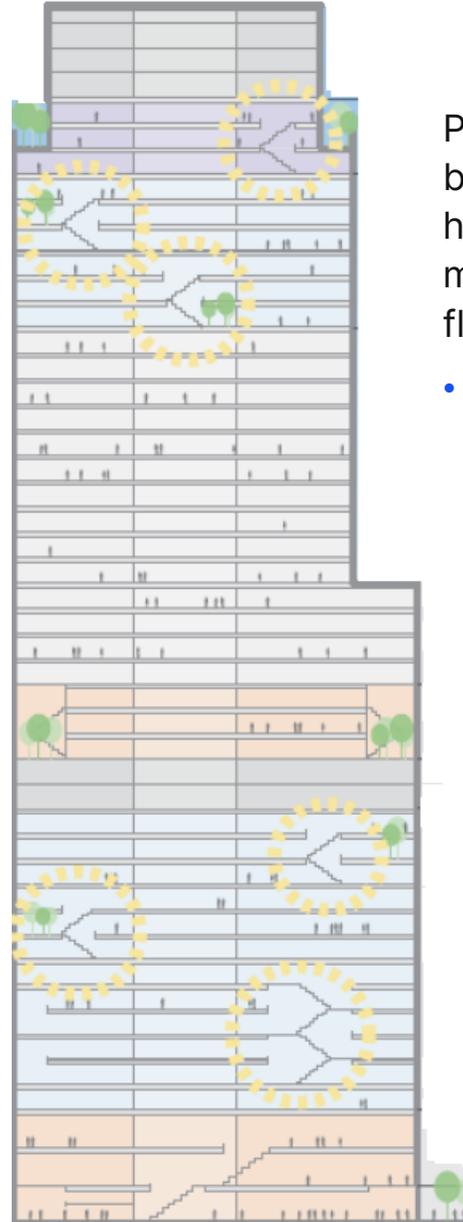
For planning
traffic in city area
scale, it is useful
to understand
traffic in
individual
building scale

Vertical Transport in Buildings



Understand

- Different users in building utilize facilities and lifts with different ways
- During the lifetime of the building it can go through multiple changes in how floors are utilized
 - Tenants change
 - Restaurants & cafes added or removed
 - Floor use changed to apartments
 - Floors added etc.
 - Internal stairs added etc



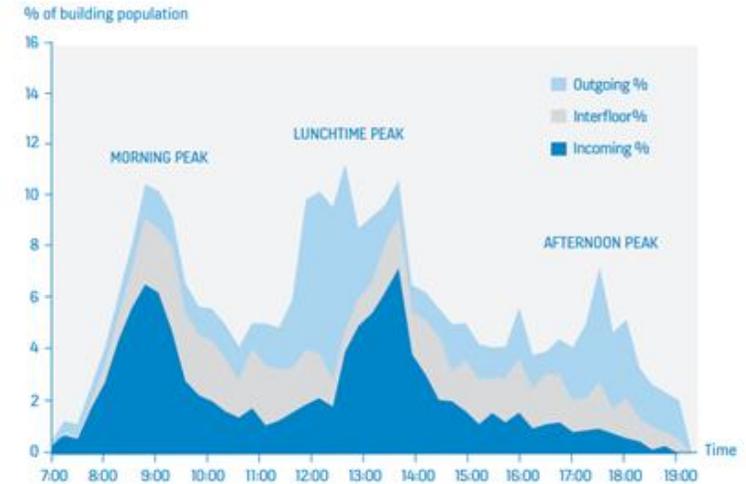
People flow in parts of the building with single tenancy have higher portion of movement between upper floors through the day

- **Demand for lift system is heavy**

People flow in parts of the building with multiple tenants is more stable and movement between upper floors is limited

- **Demand for lift system is moderate**

PEOPLE FLOW
MULTI-TENANT OFFICE, FLEXIBLE WORKING HOURS





Building-specific simulations

- Better understanding of building by simulation tool for complex configurations and using latest technology



Visualization of solutions and end-user experience

- Deeper understanding of building behavior with in-depth simulation tool for more flexibility and complex configurations

Modern commercial buildings

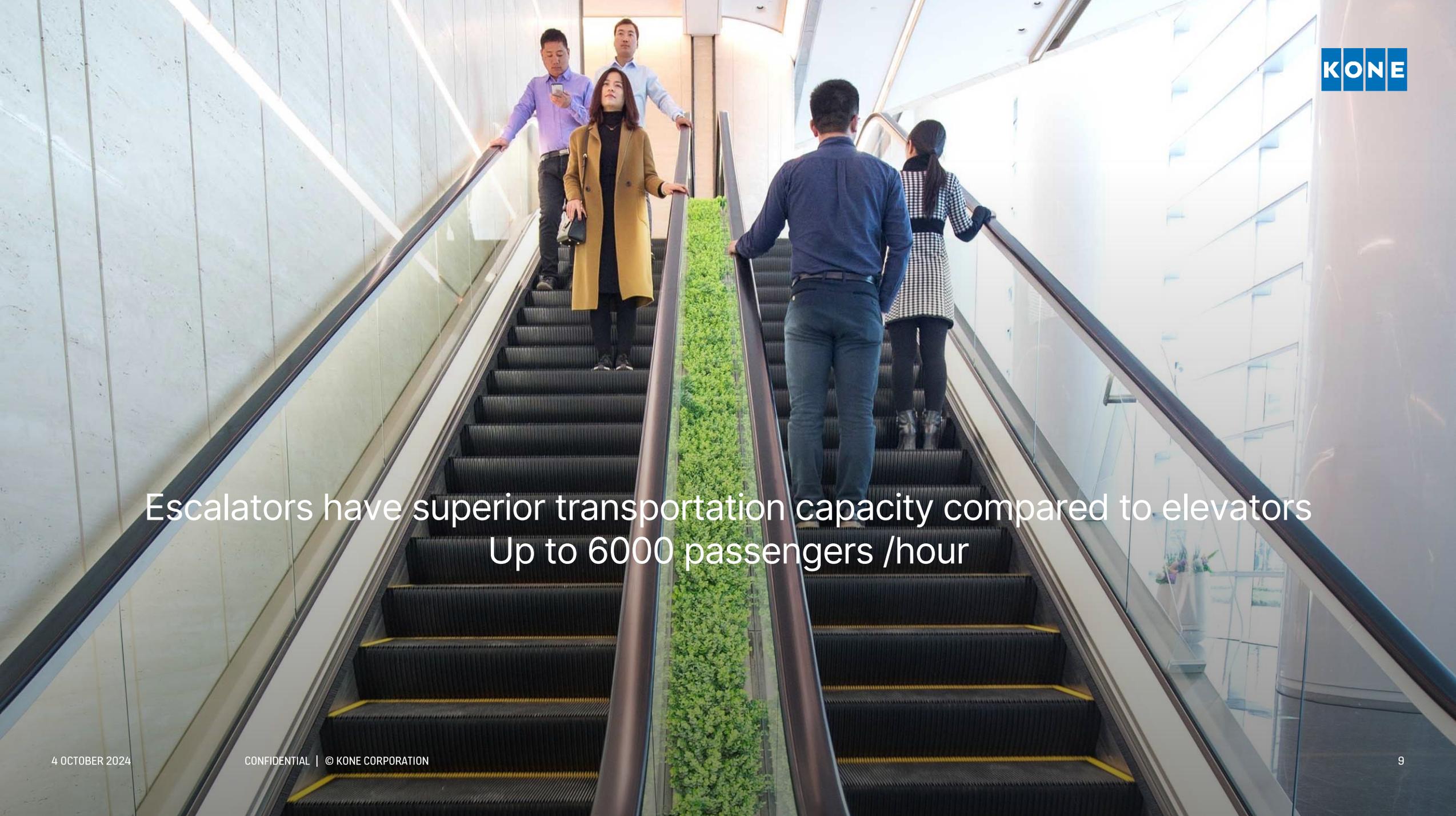
Mixed use buildings instead of single purpose

Combining public and private functions

Busy intersections of crossing Traffic patterns

Traffic dynamics require careful analysis

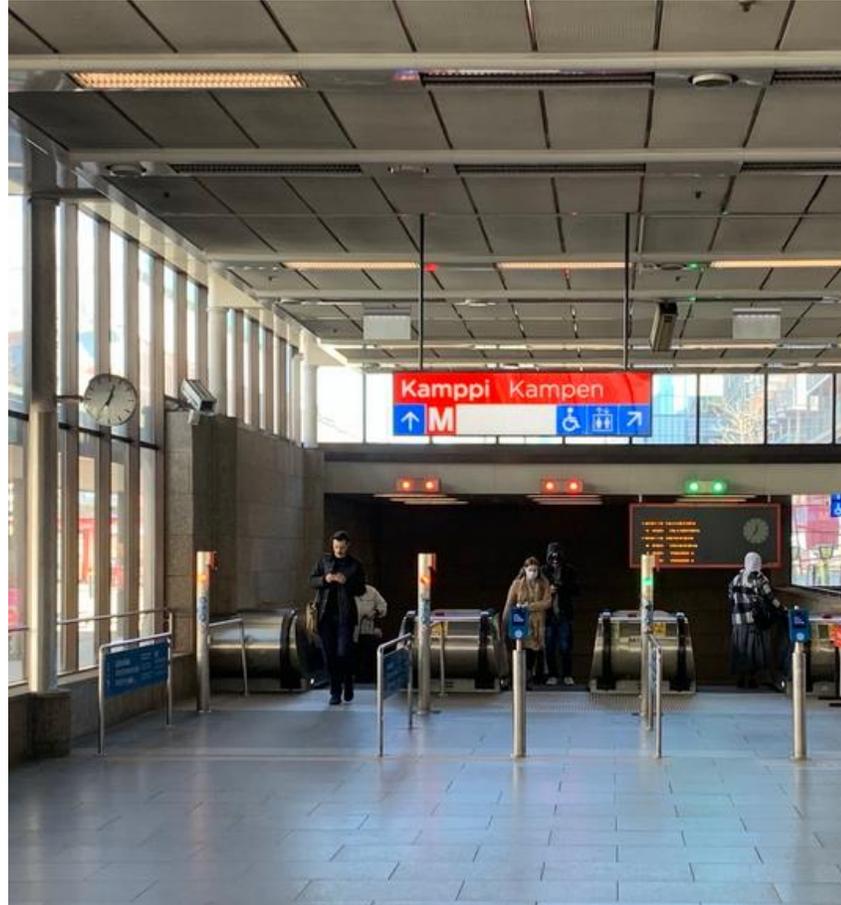


A wide-angle, low-angle shot of a modern escalator system. The escalator is split into two directions by a central vertical wall covered in green plants. People are using the escalators: three people are going up on the left, and two are going down on the right. The environment is bright and modern, with glass railings and a clean, industrial aesthetic.

Escalators have superior transportation capacity compared to elevators
Up to 6000 passengers /hour

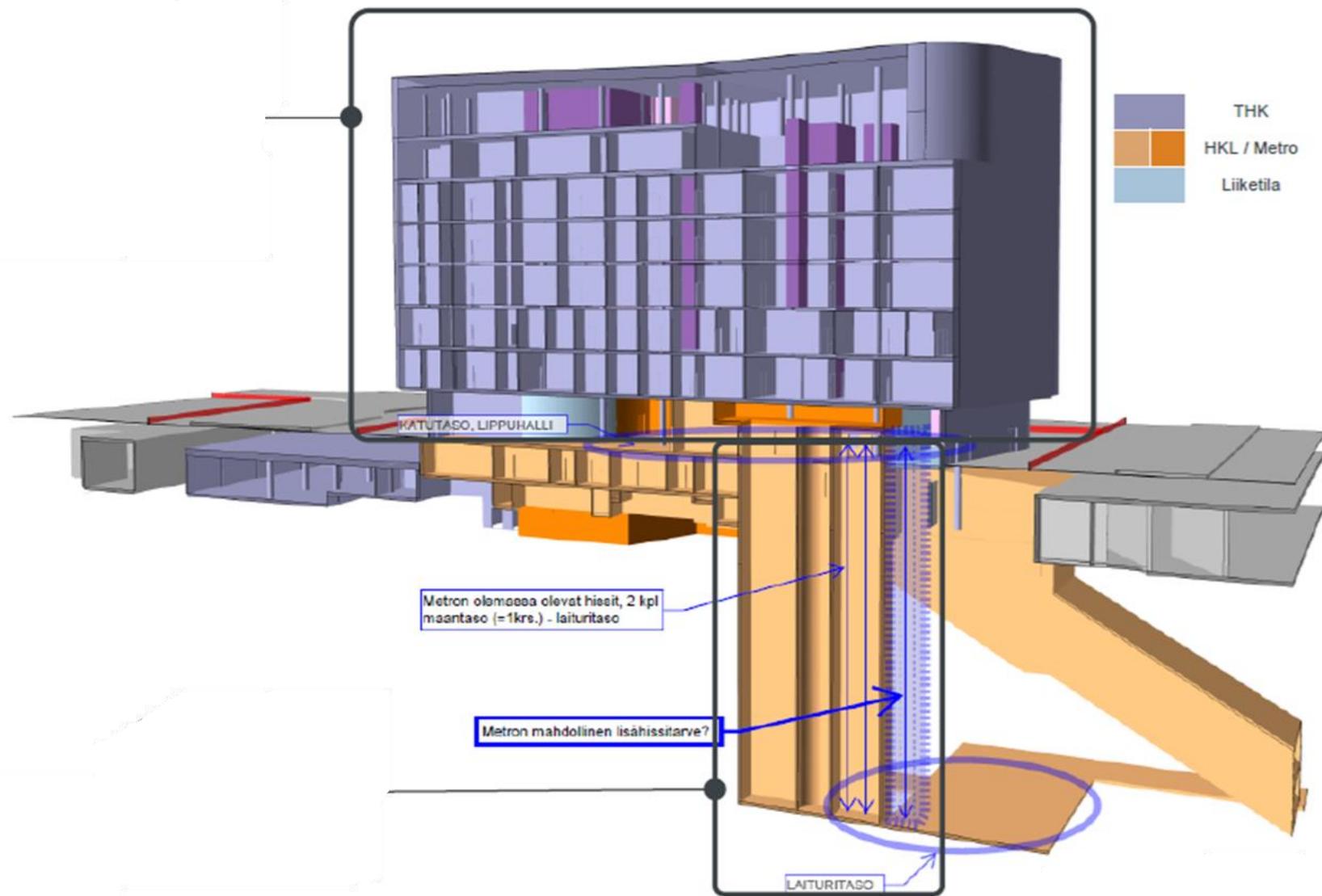
Case Kamppi

- Existing Helsinki Metro station
- Busy city center hub
- New development on top of the station **Kamppi Health and Wellbeing Center**



City of Helsinki builds a Health and Well-being Centre on the top of a busy metro station

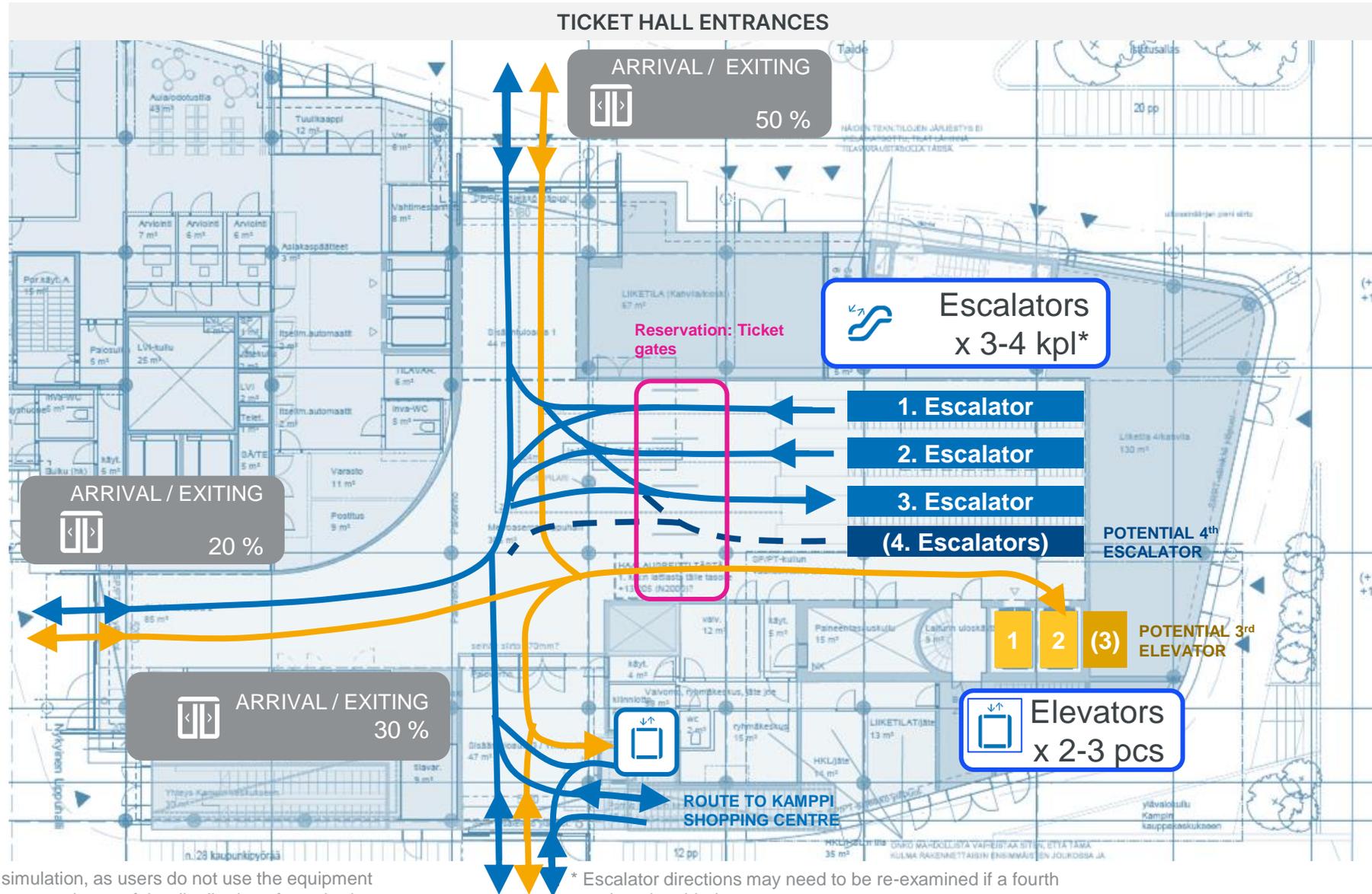
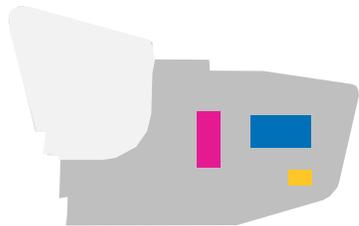




Horizontal and vertical routes

		EQUIPMENT								
		ESCALATORS				ELEVATORS				
		1	2	3	(4)	1	2	(3)		
1	Street level, ticket hall	■	■	■	■	■	■	■	■	■
K1	Bicycle park and route into THK premises	↑	↑	↓	⋮					Only for THK staff
K2	Possible route to bicycle park and THK Premises	↑	↑	↓	⋮					
M	Platforms	■	■	■	■	■	■	■	■	■

- Current escalator: served floors
- ➔ Current escalator: direction
- Planned escalator: served floors
- ➔ Planned escalator: direction
- Current elevator: served floors for metro passengers
- ▨ Current elevator: served floors– THK staff
- Planned elevator: served floors
- ▨ Planned elevator: served floors– THK staff
- ➔ Accessibility route to elevators



Note: Transit traffic is not taken into account in the simulation, as users do not use the equipment (elevators, escalators, access gates). Source: Customer estimate of the distribution of weathering volumes.

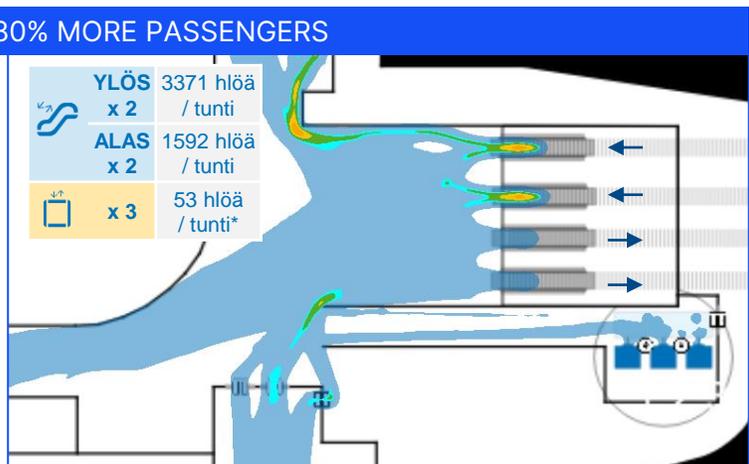
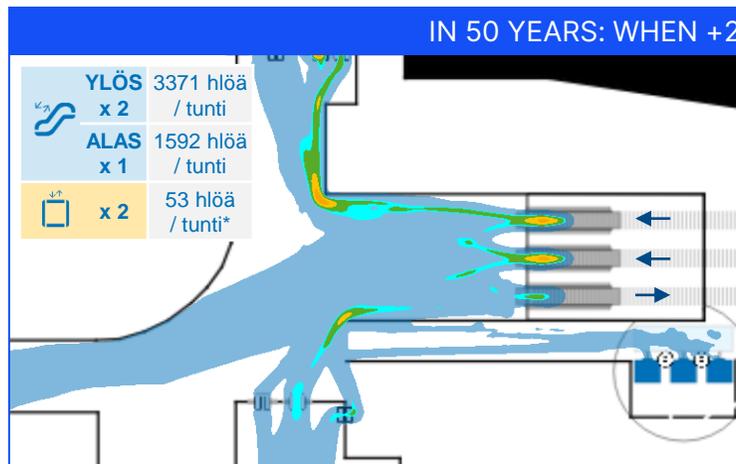
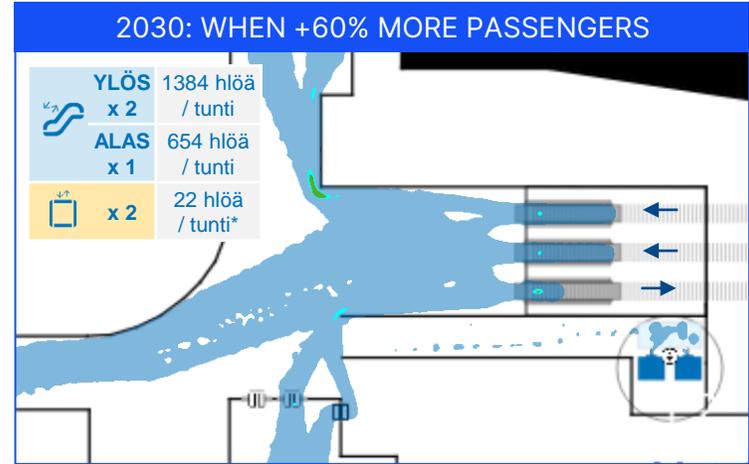
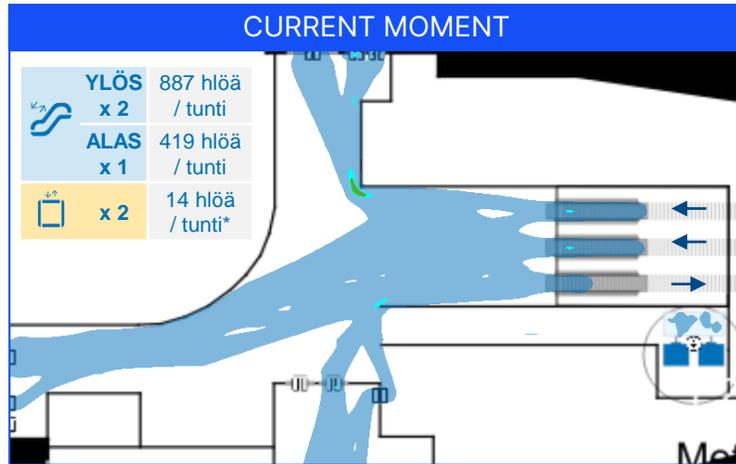
* Escalator directions may need to be re-examined if a fourth escalator is added.

The increase in passenger flows will not cause significant congestion in the ticket hall

FRUIN LEVEL OF SERVICE TICKET HALL TRAFFIC

A ≥ 3.3 m ² /person	<p>LEVEL OF SERVICE A Walking speeds freely selected; conflicts with other pedestrians unlikely.</p> 
B 2.3 – 3.3 m ² /person	<p>LEVEL OF SERVICE B Walking speeds freely selected; pedestrians respond to presence of others.</p> 
C 1.4 – 2.3 m ² /person	<p>LEVEL OF SERVICE C Walking speeds freely selected; passing is possible in unidirectional streams, minor conflicts for reverse or cross movement.</p> 
D 0.9 – 1.4 m ² /person	<p>LEVEL OF SERVICE D Freedom to select walking speed and to pass others is restricted; high probability of conflicts for reverse or cross movement.</p> 
E 0.5 – 0.9 m ² /person	<p>LEVEL OF SERVICE E Walking speeds and passing ability are restricted for all pedestrians; forward movement is possible only by shuffling; reverse or cross movements are possible only with extreme difficulty; volumes approach limit of walking capacity.</p> 
F < 0.5 m ² /person	<p>LEVEL OF SERVICE F Walking speeds are severely restricted; frequent, unavoidable contact with others; reverse or cross movements are virtually impossible; flow is sporadic and unstable.</p> 

STREET LEVEL MORNING TRAFFIC at 8-9 AM

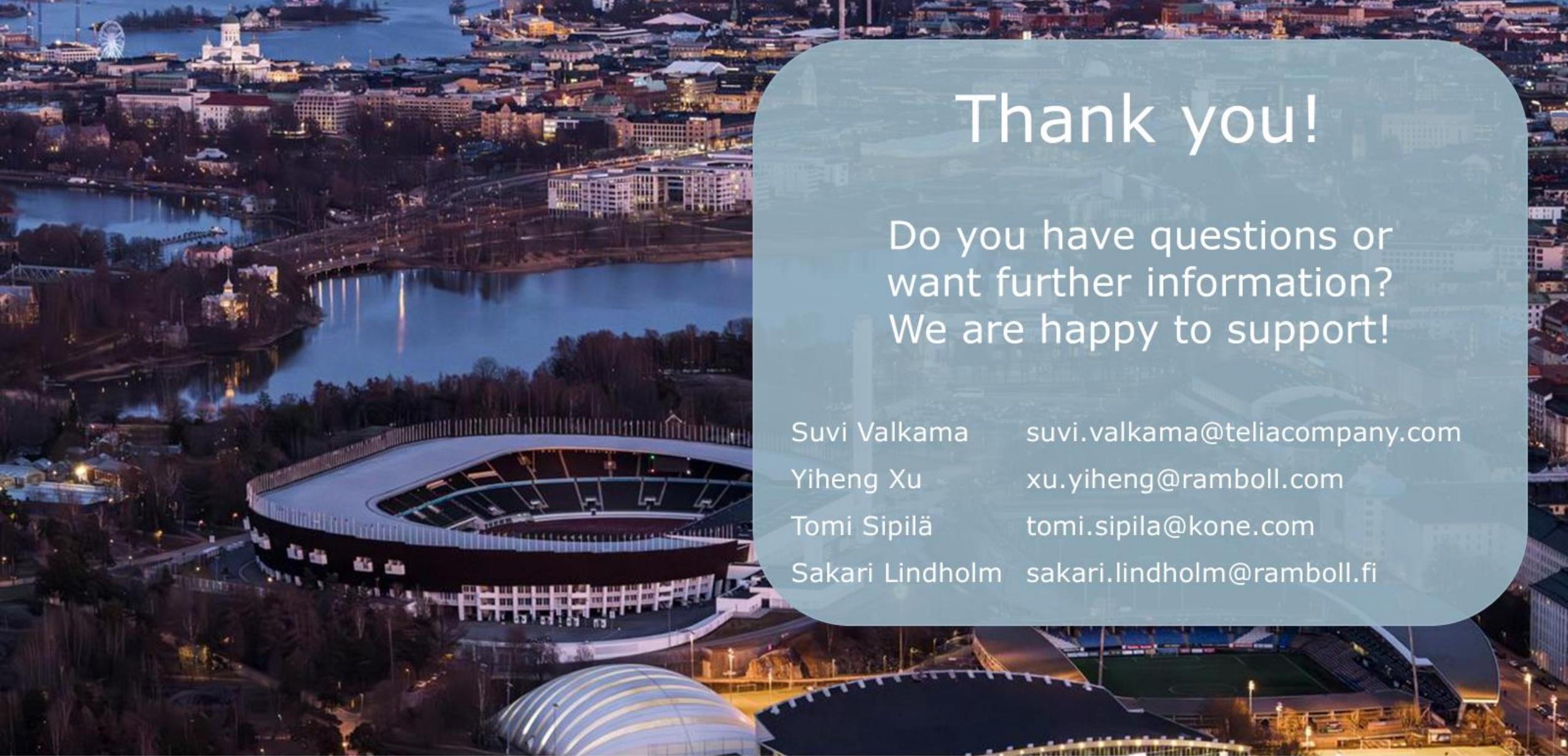


Transit hubs and City centers of the future

Urban environments are evolving fast. Cities need to cater to a growing number of people, their ever-changing needs and lifestyles.

It is necessary to ensure that city hubs and buildings are designed to meet modern-day people flow dynamics - sustainability, efficiency and ensuring accessibility for all.





Thank you!

Do you have questions or
want further information?
We are happy to support!

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