High-Level Performance Review of Airside and Terminal Capacity Projects

Prepared in support of CIP 2026 evaluation process

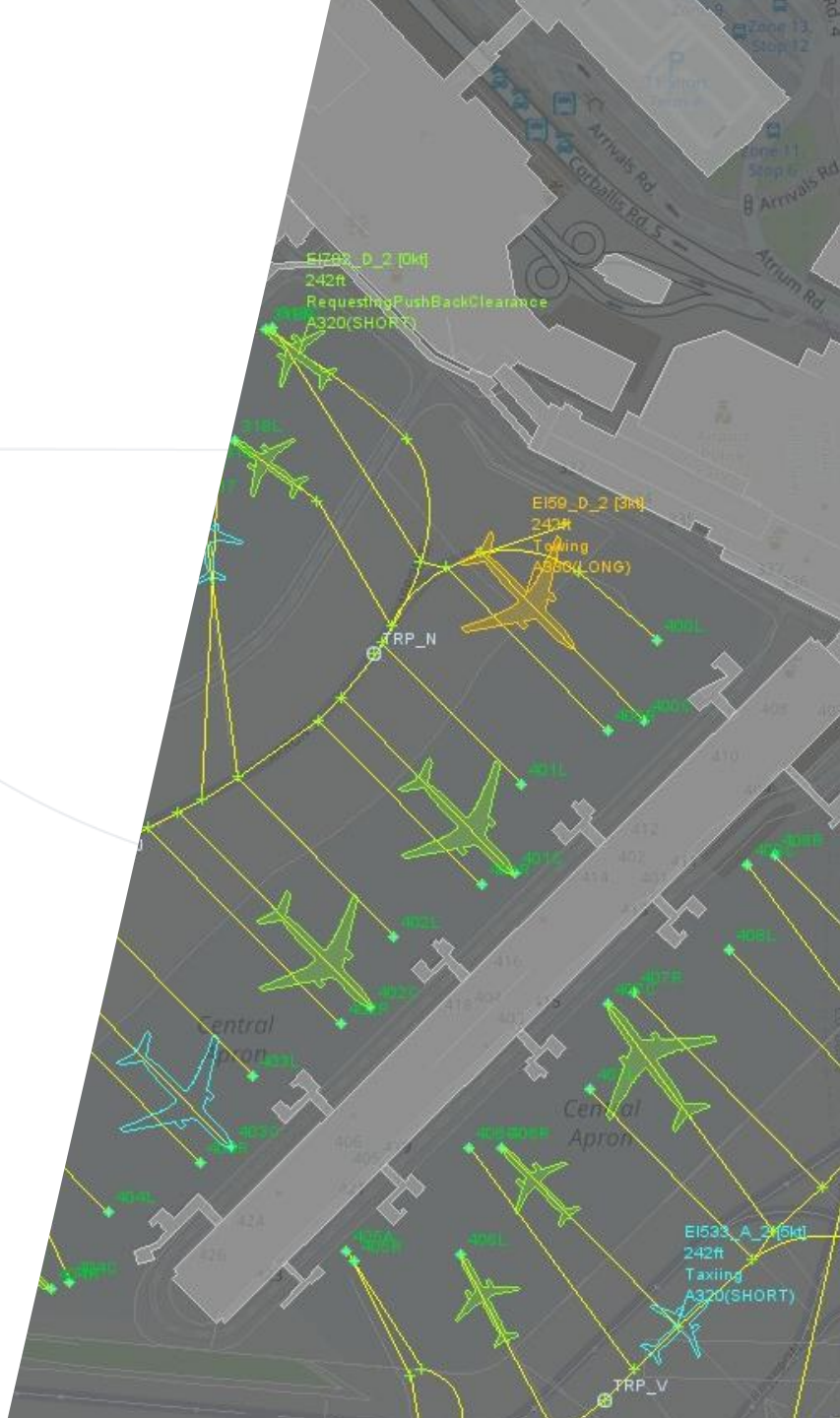
May 2026

Context

- In March 2026, the Irish Aviation Authority (IAA) published the final version of Dublin Airport Authority (daa) Capex Investment Programme 2027-2031 (CIP) outlining daa's intended airport development projects.
- IAA is the body responsible for review and approval of the CIP, in terms of deciding if and how the associated funding can be recovered from airport users in the form of Airport Charges.
- IAA requested To70 to perform a high-level feasibility and operational impact assessment of those CIP projects that can be satisfactorily simulated using IAA's existing set of fast time-simulation models.
- This document represents draft assessment of selected airside and passenger terminal building (PTB) projects.

Contents

- Methodology,
- Data and assumptions,
- Definitions of metrics measured,
- Results:
  - Assessment of airside performance:
    - Runways,
    - Taxiways,
    - Aprons/stands,
  - Assessment of terminal building performance:
    - Space standards,
    - Queueing times,
- A brief commentary on observed performance levels.



Methodology

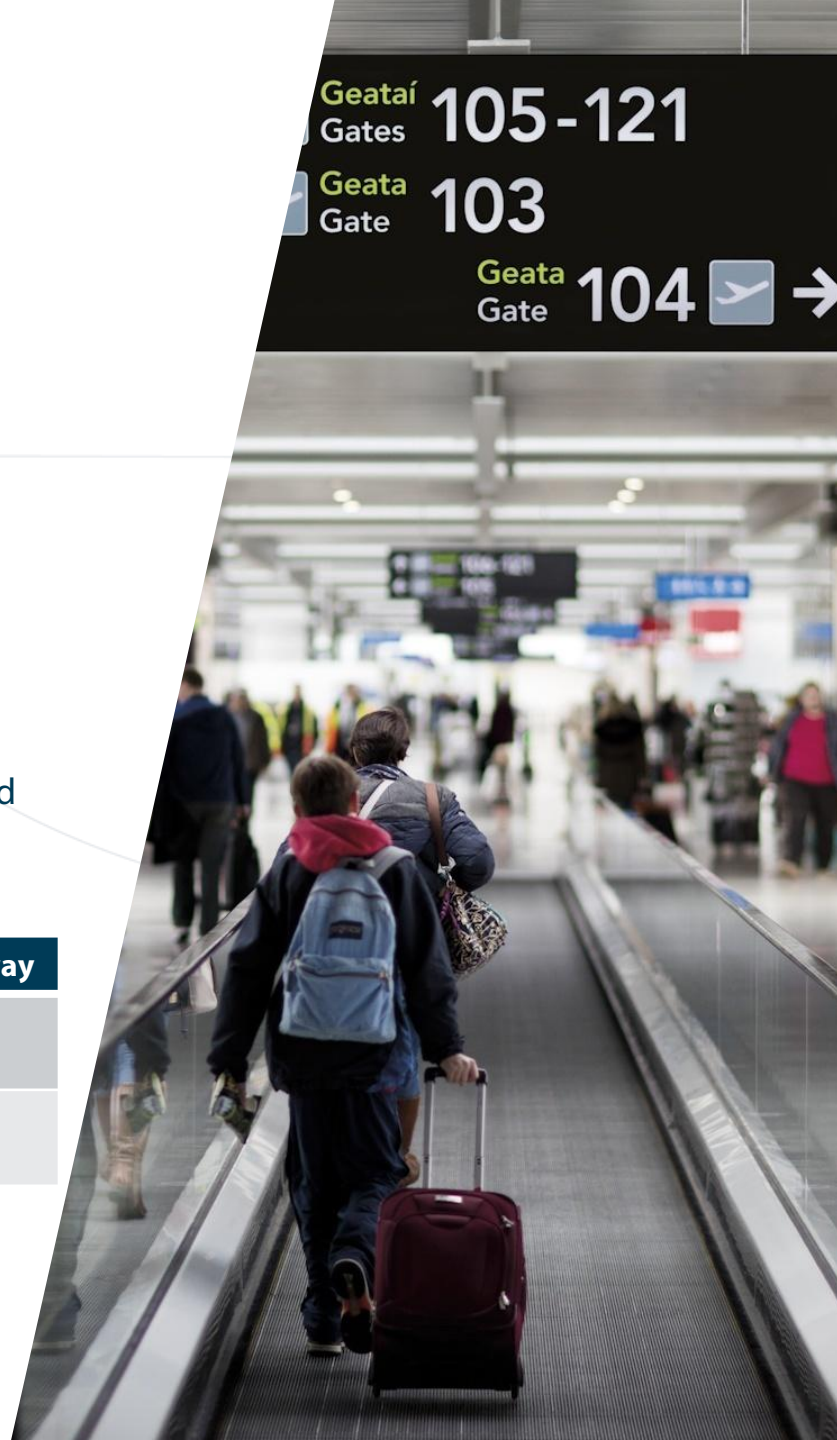
- Consultations with daa and IAA to understand the target operating concept and any potential limitations of the future airfield layout.
- Agreement with IAA on what elements of CIP to model.
- Data collection, validation and pre-processing.
- Reviews and update of the existing fast-time simulation model of Dublin airport.
- Simulations runs of the updated model containing selected CIP projects.
- High-level qualitative and quantitative assessment of selected airside and terminal building metrics.

Data and assumptions

- CAD drawings of the existing and future airfield layout provided by daa,
- Flight schedule with traffic levels representative of anticipated future 'busy day' provided by daa,
- Assumed airside and airspace operational concept provided by daa, IAA and AirNav Ireland,
- Assumed operational concept for each process inside the PTB provided by daa,
- For the PTB capacity assessment, it was assumed that all resources are available and used by the passengers during the full simulation cycle,
- Other model-specific input data and assumptions provided by daa, IAA and AirNav Ireland,
- Stand allocation based on flight schedule provided by daa,
- As Dublin Airport operates predominantly in a westerly direction, only operations on runways 28L and 28R were simulated,
- The runway opening times and operating modes modelled in this assessment are presented below:

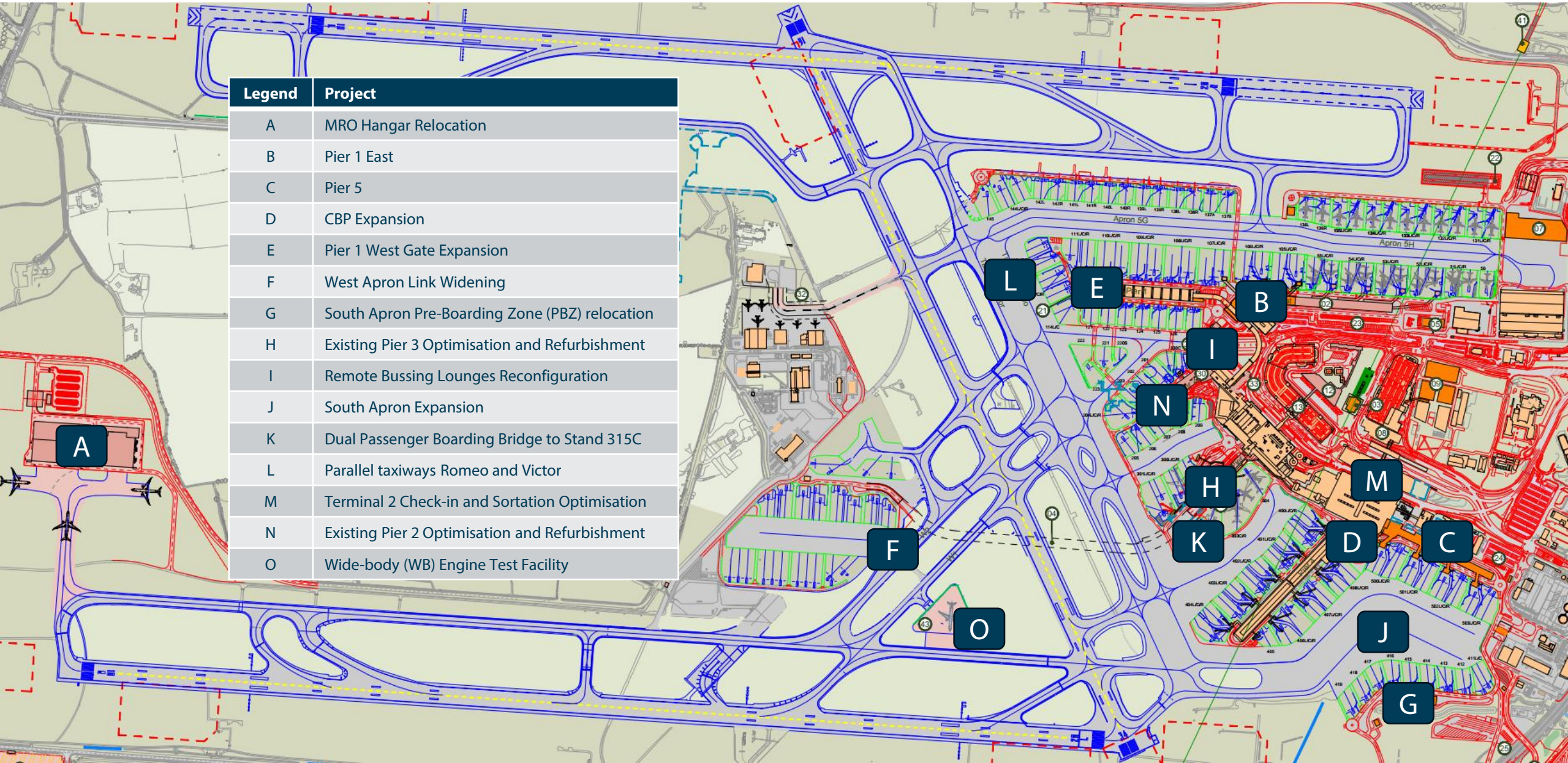
Runway configuration	From	To	Arrival runway	Departure runway
Single runway in mixed mode	00:00:00	05:59:00	28L	28L
Segregated operations on two parallel runways	06:00:00	23:59:00	28L	28R

Details on model development and calibration process, as well as values of the key variables and parameters are provided in a separate document available at IAA website titled "*Combined terminal/airside/airspace model of Dublin airport*".



The key elements of the CIP included in the model

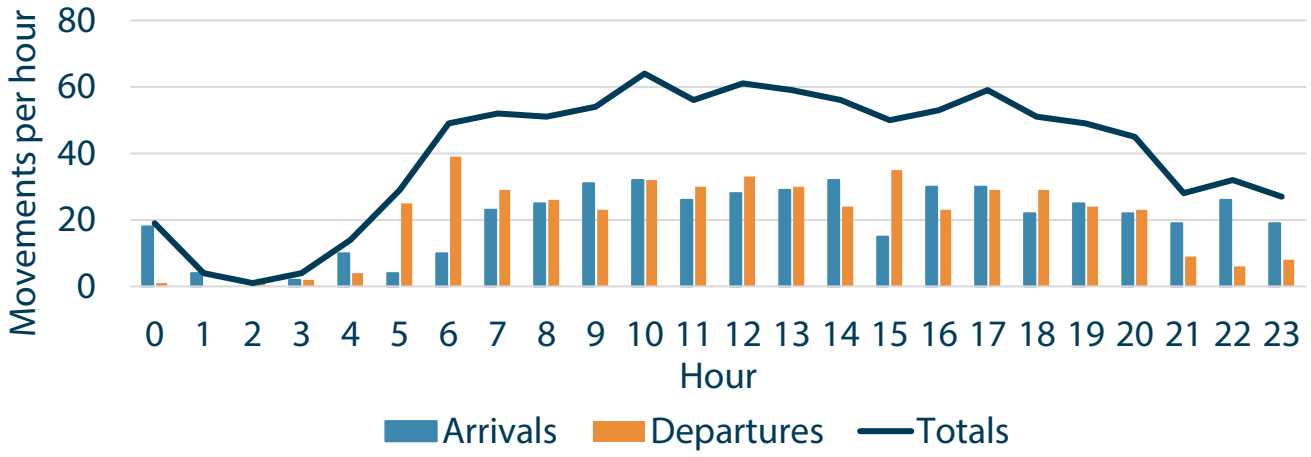
Legend	Project
A	MRO Hangar Relocation
B	Pier 1 East
C	Pier 5
D	CBP Expansion
E	Pier 1 West Gate Expansion
F	West Apron Link Widening
G	South Apron Pre-Boarding Zone (PBZ) relocation
H	Existing Pier 3 Optimisation and Refurbishment
I	Remote Bussing Lounges Reconfiguration
J	South Apron Expansion
K	Dual Passenger Boarding Bridge to Stand 315C
L	Parallel taxiways Romeo and Victor
M	Terminal 2 Check-in and Sortation Optimisation
N	Existing Pier 2 Optimisation and Refurbishment
O	Wide-body (WB) Engine Test Facility



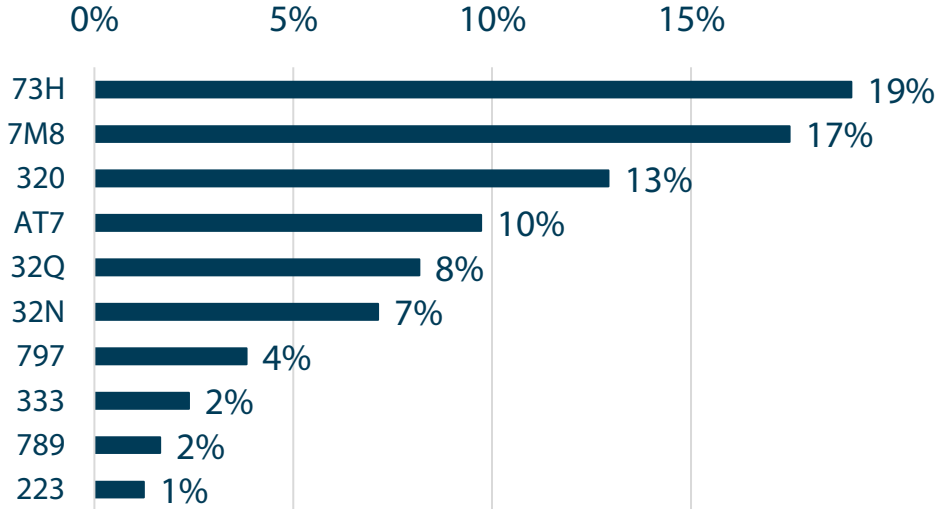
Flight schedule

- The flight schedule provided by daa for modelling of the future airport performance contained 967 flights split into 482 arrivals and 485 departures. This represents roughly 10% increase in movements against the flight schedule assumed for the Summer 2026 (S26) season (+41 arrivals and +49 departures against the S26 schedule).
- Majority of the new slots in the CIP schedule were assumed mainly during the day and during the evening period.
- In terms of aircraft size categories*, the CIP schedule assumes the current fleet mix (as of Summer 2026) will be kept constant (i.e. no shift towards larger or smaller aircraft size categories is noticeable in the data).

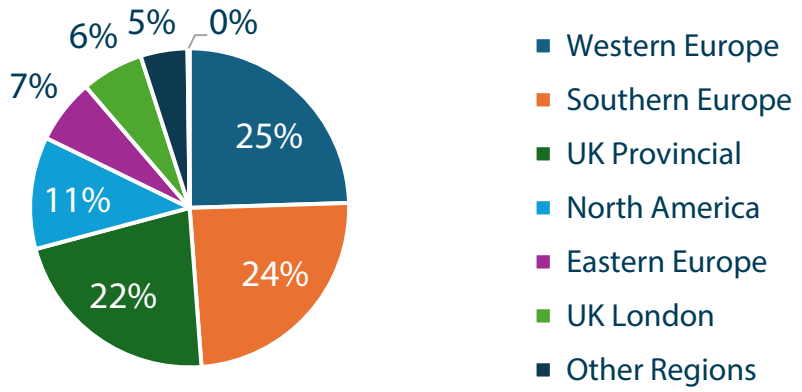
Hourly number of movements in the CIP flight schedule



Top 10 aircraft types accounting for 84% of all flights in the CIP flight schedule



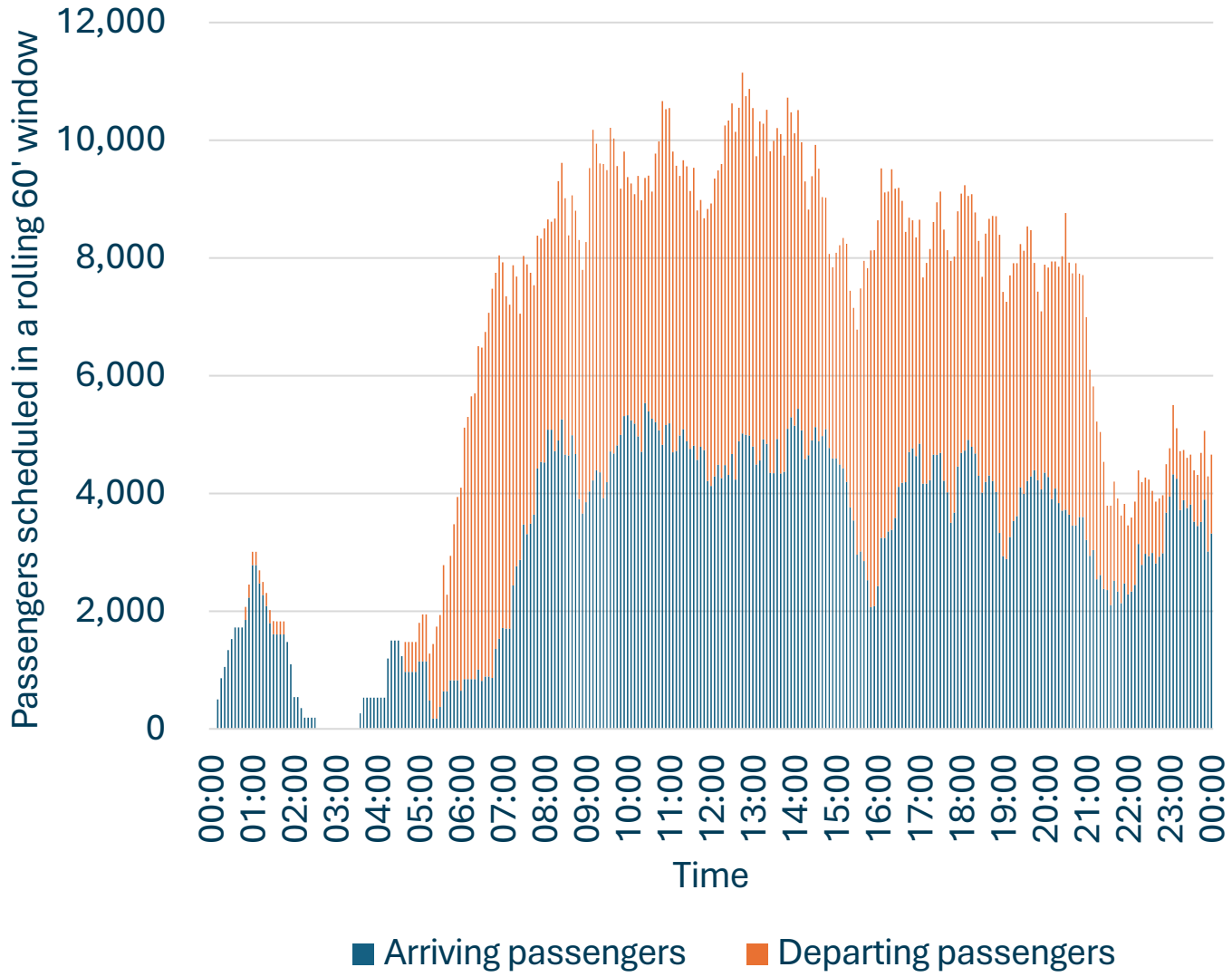
Share of regions served in the CIP flight schedule



*The International Civil Aviation Organization (ICAO) classifies aircraft into six standard size categories (A through F) based primarily on their wingspan. These codes dictate critical airport infrastructure requirements, for example, stand spacing.

Scheduled passenger services

- CIP flight schedule assumes 154,000 passengers will pass through the airport during a future busy day.
- CIP passenger volume is by 15% greater than the passenger volume assumed for the Summer 2026 busy day. As the same seat load factor was used in both schedules and as the share of ICAO aircraft size categories remains constant between Summer 2026 and CIP, the possible explanation of the perceived discrepancy between growth of aircraft movements (+10%) and passenger volume (+15%) is through operation of aircraft types with more seats within the same ICAO aircraft size category (for example, shift from A320 to A321).
- The graph on the right shows the number of passengers planned to land at or depart from Dublin during the CIP busy day. The graph sums all passengers over the last 60 minutes of the measurement.



Busy hour characteristics

- As the flight-schedule-based passenger numbers are based on scheduled off-block time (SOBT) and scheduled in-block time (SIBT) of their flights, the actual number of passengers simultaneously present at the airport will be larger, because there will be arriving passengers still waiting at immigration or baggage reclaim and departing passengers who arrived well before SOBT of their flight.
- To understand how "busy" the airport is during the peak hours identified from the CIP flight schedule, an observation of the corresponding time-period in the simulation was done. This was a single "point-in-time" observation and unlike the CIP schedule peak estimates, this observation is not summing up passengers over a rolling period. Instead, it is merely a snapshot at the given time.
- The values in the tables on the right are airport-wide numbers. Peaks presented for various areas and processes presented later in this document can occur at different times.

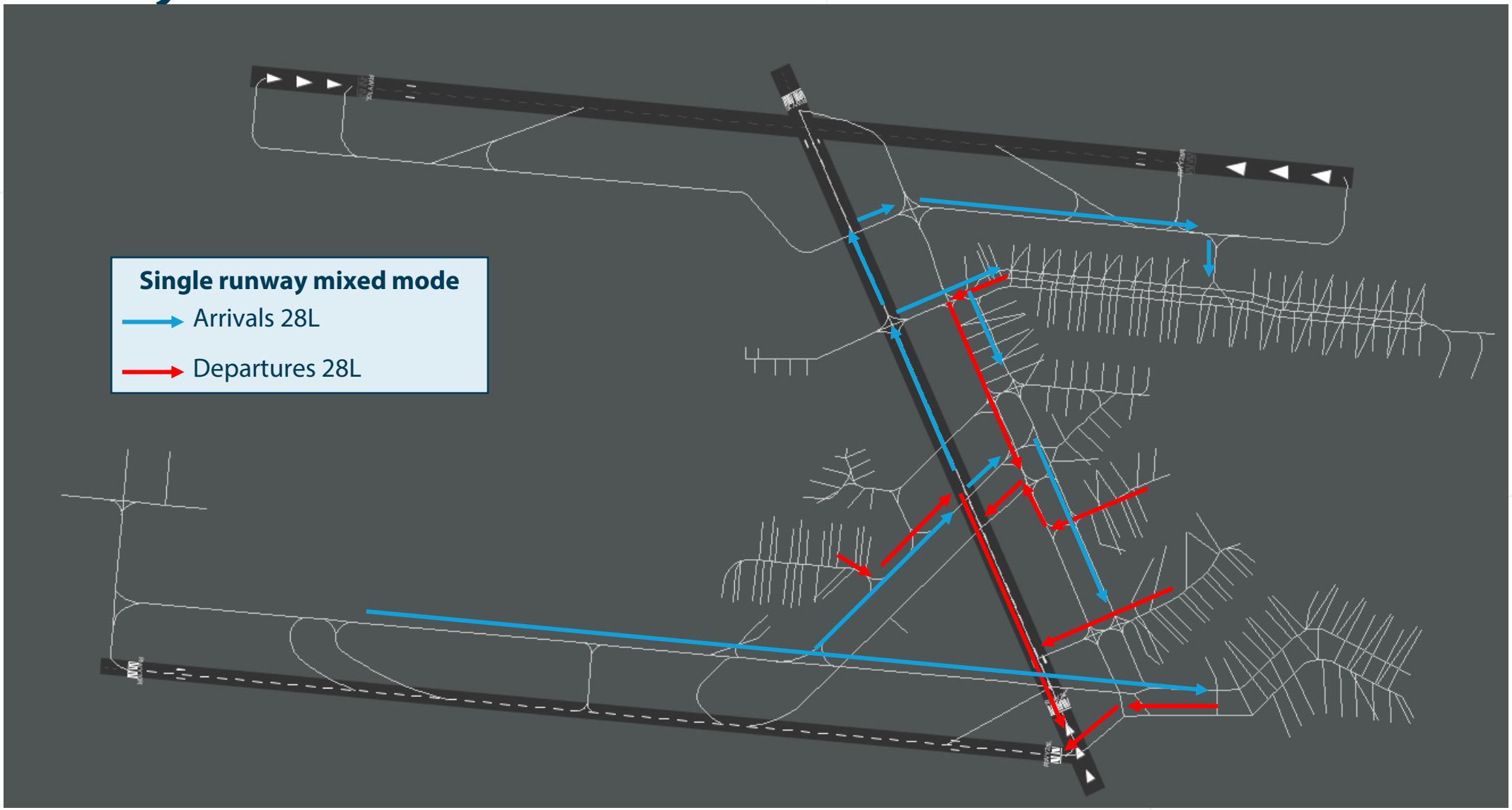
Busiest 60-minute interval identified from CIP flight schedule data

	Arrivals peak	Departures peak	Absolute peak
Peak start	09:25:00	05:45:00	11:45:00
Peak end	10:25:00	06:45:00	12:45:00
Peak pax (schedule)	9,359 total PAX 5,534 arriving PAX (59%) 3,825 departing PAX (41%)	7,478 total PAX 864 arriving PAX (12%) 6,614 departing PAX (88%)	11,150 total PAX 5,017 arriving PAX (45%) 6,133 departing PAX (55%)

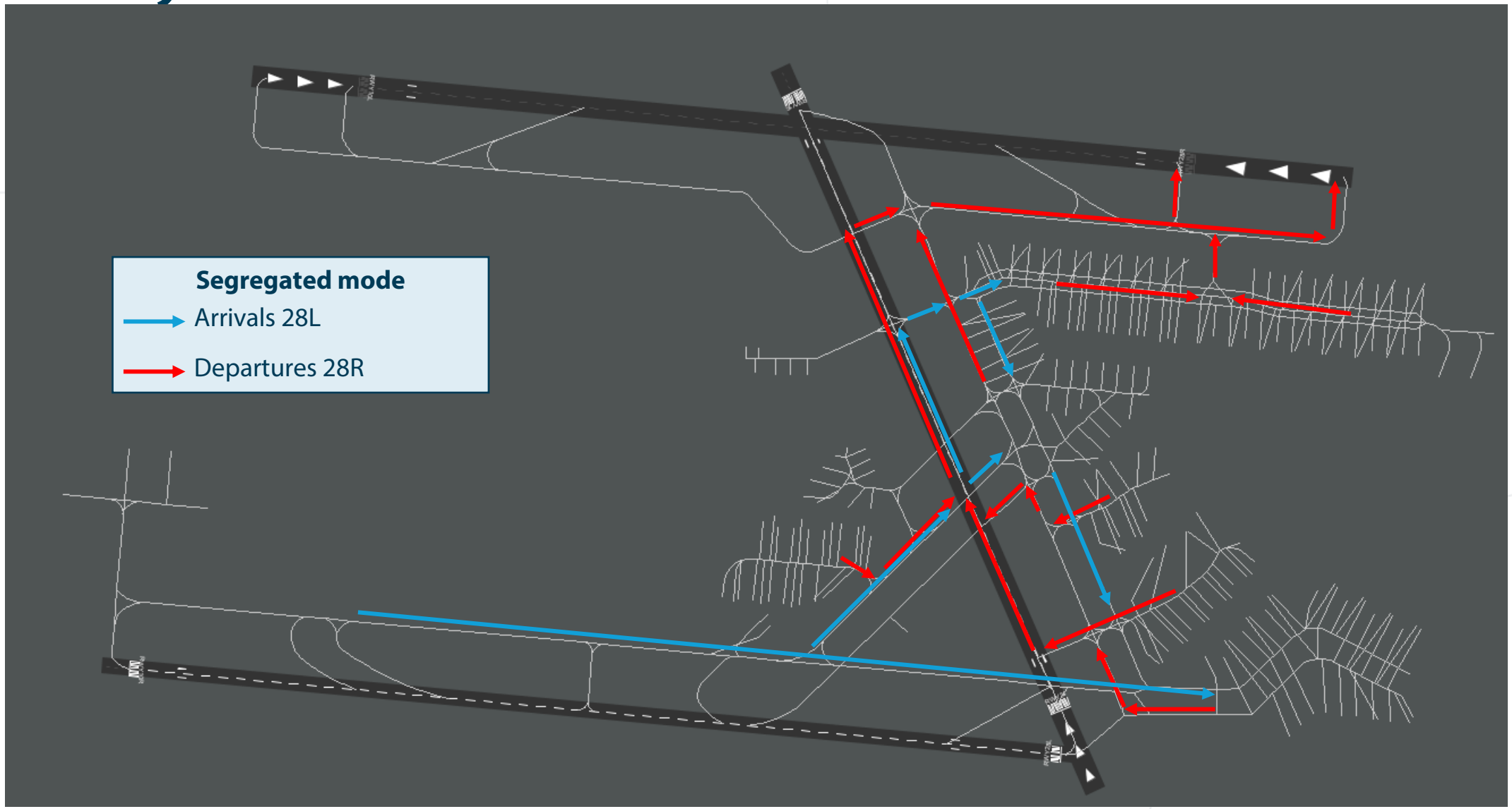
Corresponding situation observed in the simulation model

	Arrivals peak	Departures peak	Absolute peak
Observation time	10:20	05:50	11:45
Peak pax (airport)	20,000 total PAX 3,700 arriving PAX (19%) 16,300 departing PAX (81%)	12,850 total PAX 850 arriving PAX (7%) 12,000 departing PAX (93%)	21,000 total PAX 4,200 arriving PAX (20%) 16,800 departing PAX (80%)

Taxiway flows modelled



Taxiway flows modelled



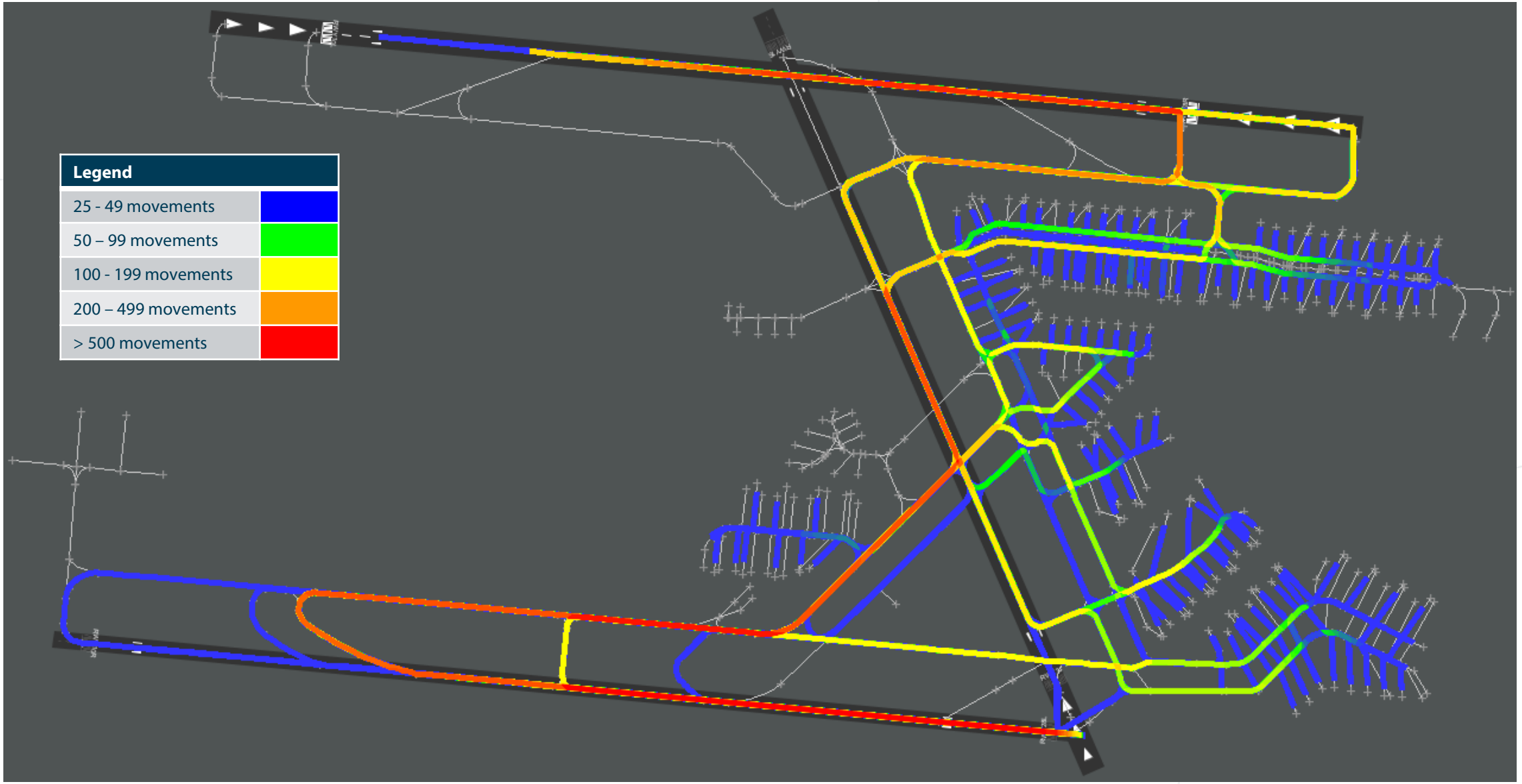
Airside - results

Airside metrics measured

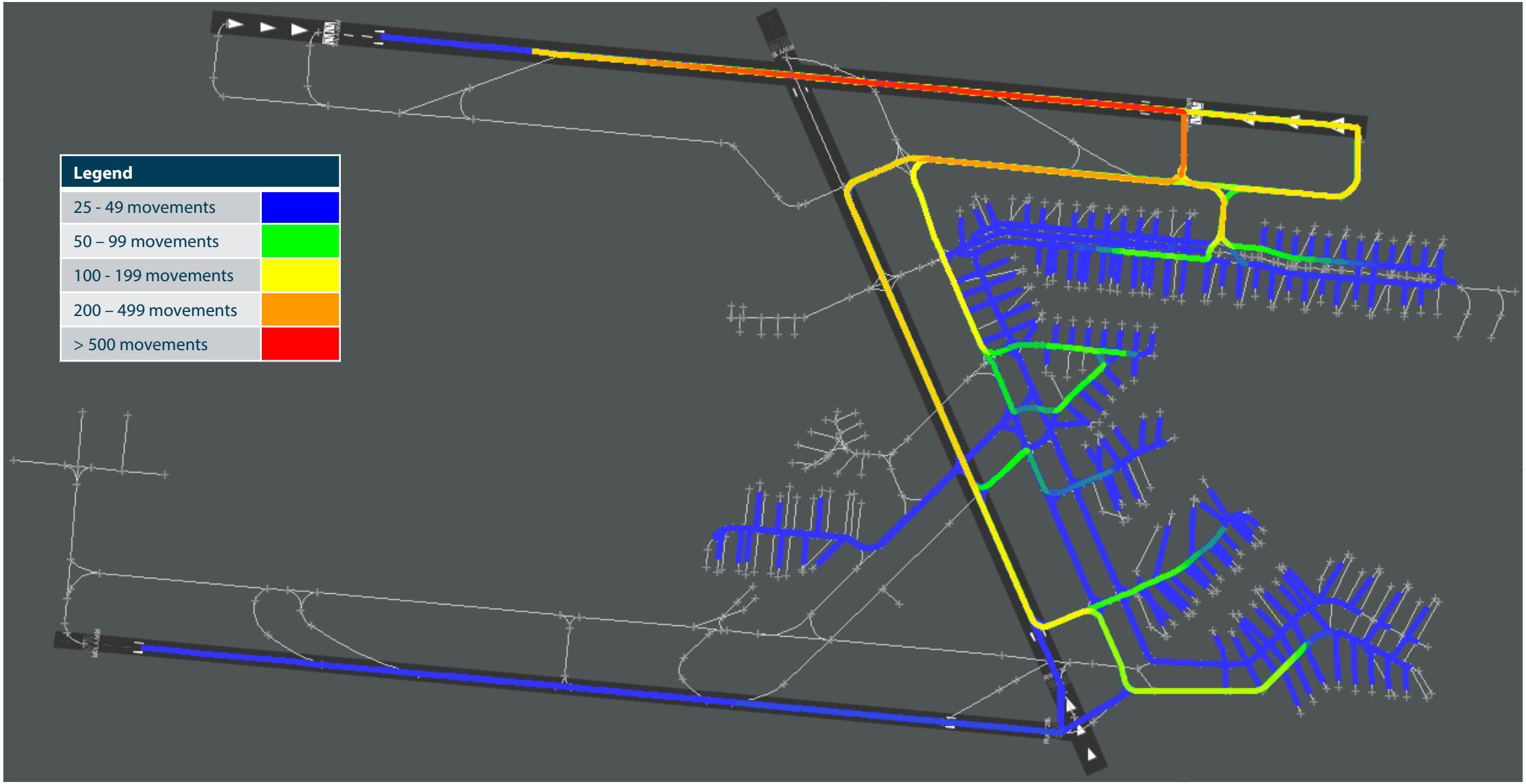
Metric	Definition
Departure taxi out time	Is defined to be the time period between off-block and the time the aircraft lifts off. This value is updated every second of simulation time when the aircraft is taxiing for departure, even if the aircraft is stationary.
Arrival taxi in time	Is defined to be the time duration the arriving aircraft is taxiing between vacating the runway and reaching its final parking position. This value is updated every second of simulation time when the aircraft is taxiing to its arrival parking position, even if the aircraft is stationary.
Departure runway delay	Is defined as the delay experienced while the aircraft is queueing for runway entry. The delay can be caused by other aircraft (being slowed down or stopped) or when waiting at runway stop-bar (because the runway is not free for lining up). This metric is defined to be the time period between joining the back end of the queue and the time the aircraft reaches its stop bar for runway entry.
Runway throughput	Is defined as the sum of all aircraft touching down and lifting-off within a 60-minutes rolling period. For departures, the count is incremented every time the aircraft passes over the opposite end of runway. For arrivals, the count is incremented every time the aircraft touches down.
Stand demand	Is expressed as number of code-C equivalent stands being occupied at any time during the simulation. In case of stands in MARS configuration, the central position counts as two Code C equivalent parking positions.
Average delay accumulated on taxiway segments	Is defined as the average duration (per aircraft) which has spent at least 1 second stopped on the taxiway segment during the monitored period. It is calculated as the delay duration of all aircraft on the given taxiway divided by the total taxiway occupancy during the monitored period.
Number of aircraft stoppings on taxiway segments	Is defined as the number of times an aircraft had to be stopped on the taxiway segment during the monitored period. This metric includes all reasons for stopping.
Number of delayed aircraft on taxiway segments	In this case, a delayed aircraft is an aircraft which has been stopped on a taxiway segment during the simulation time-frame, but it is only counted once even if it may have been stopped several times (for example departure runway queue slowly moving towards the stop-bar).

Taxiway flows and taxiway network utilisation

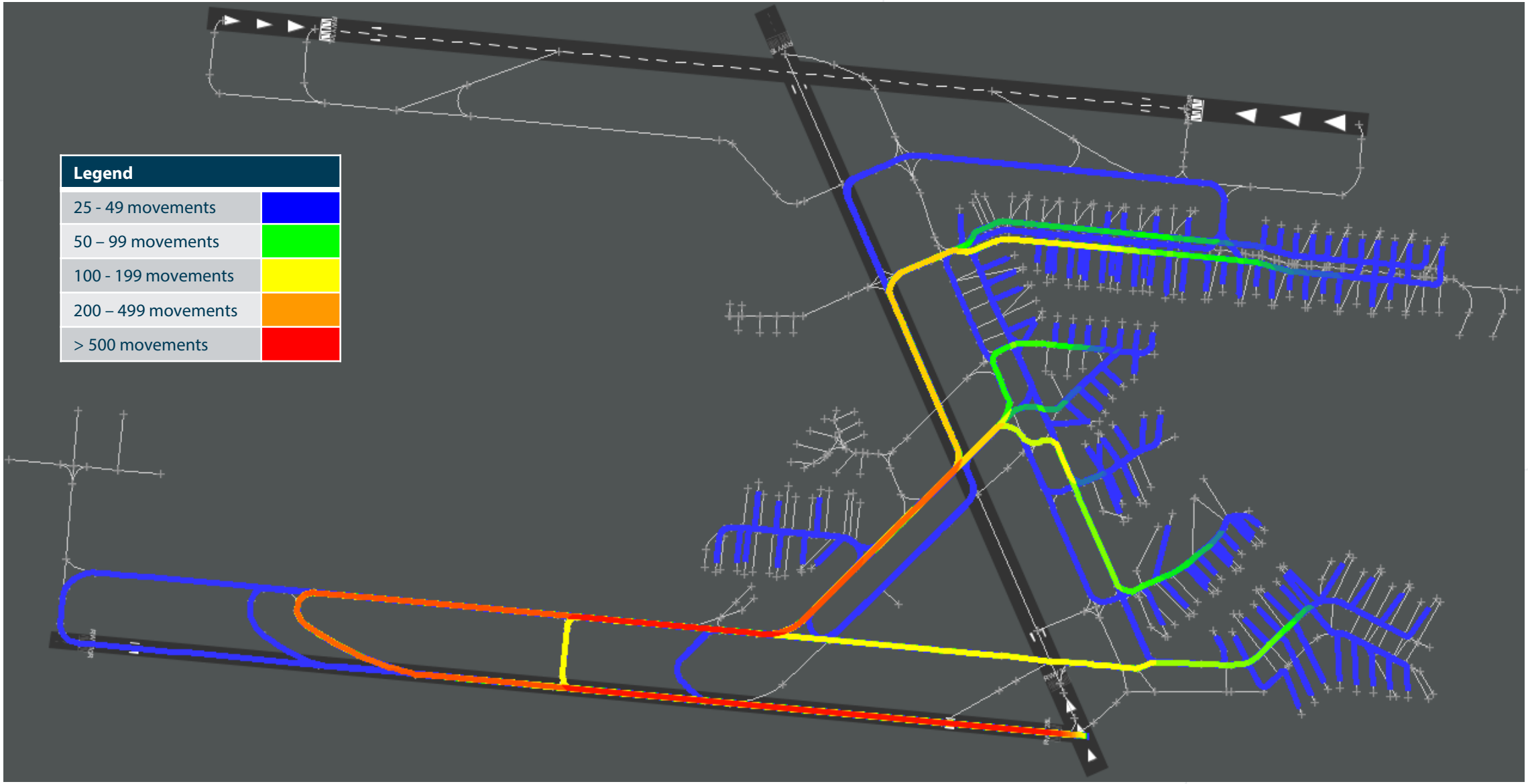
Taxiway flows - all traffic



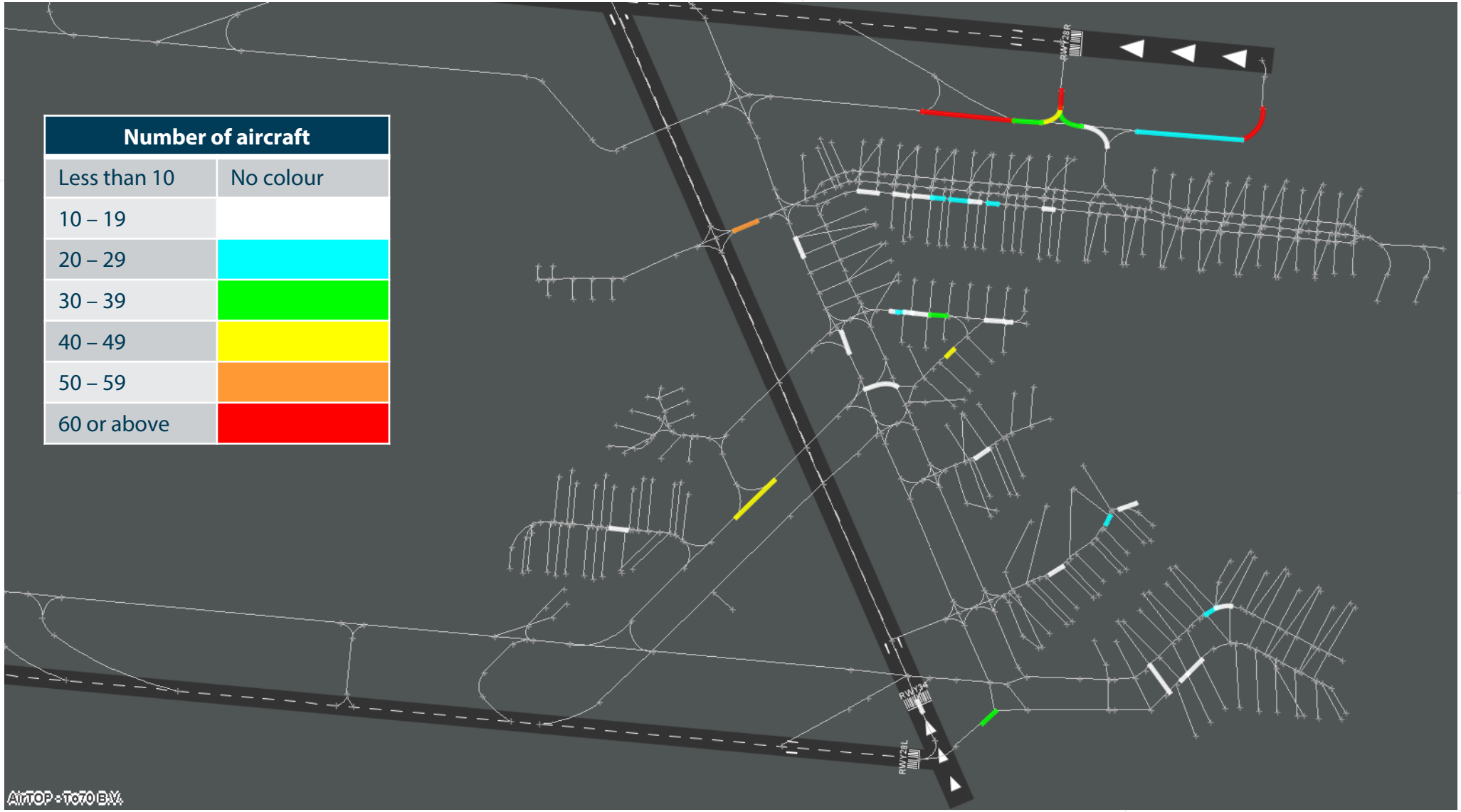
Taxiway flows - departures



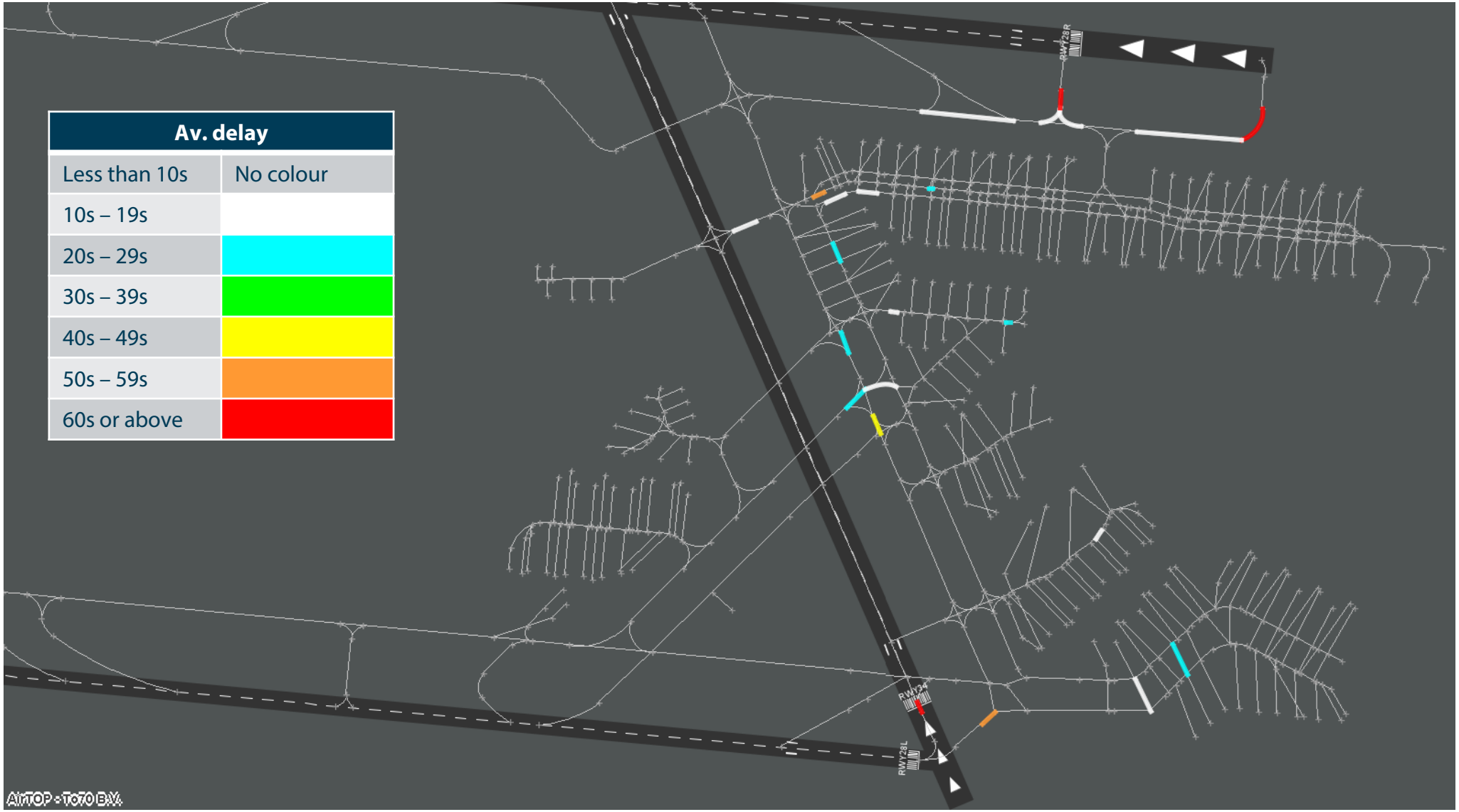
Taxiway flows - arrivals



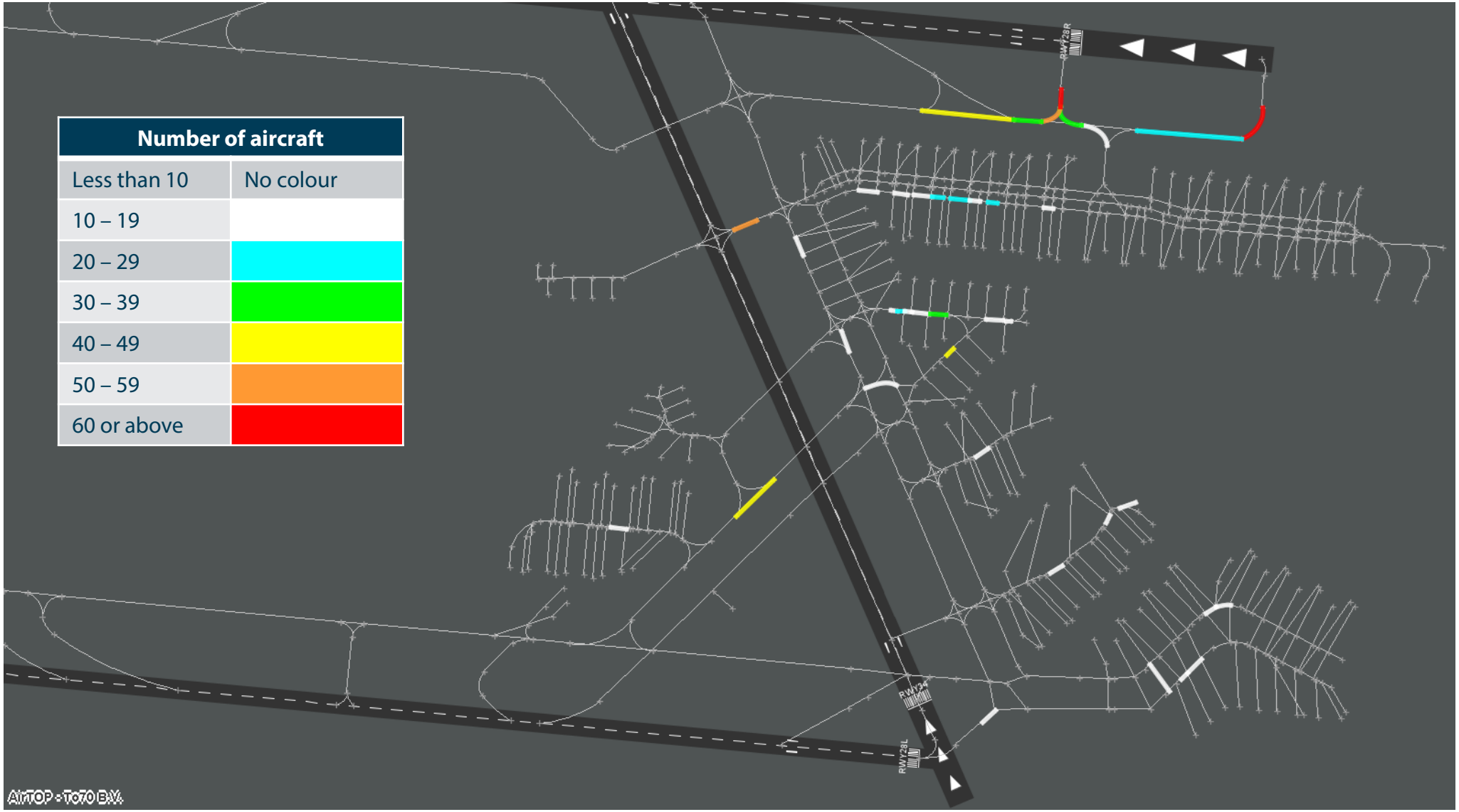
Number of aircraft stoppings



Average delay on taxiway segments

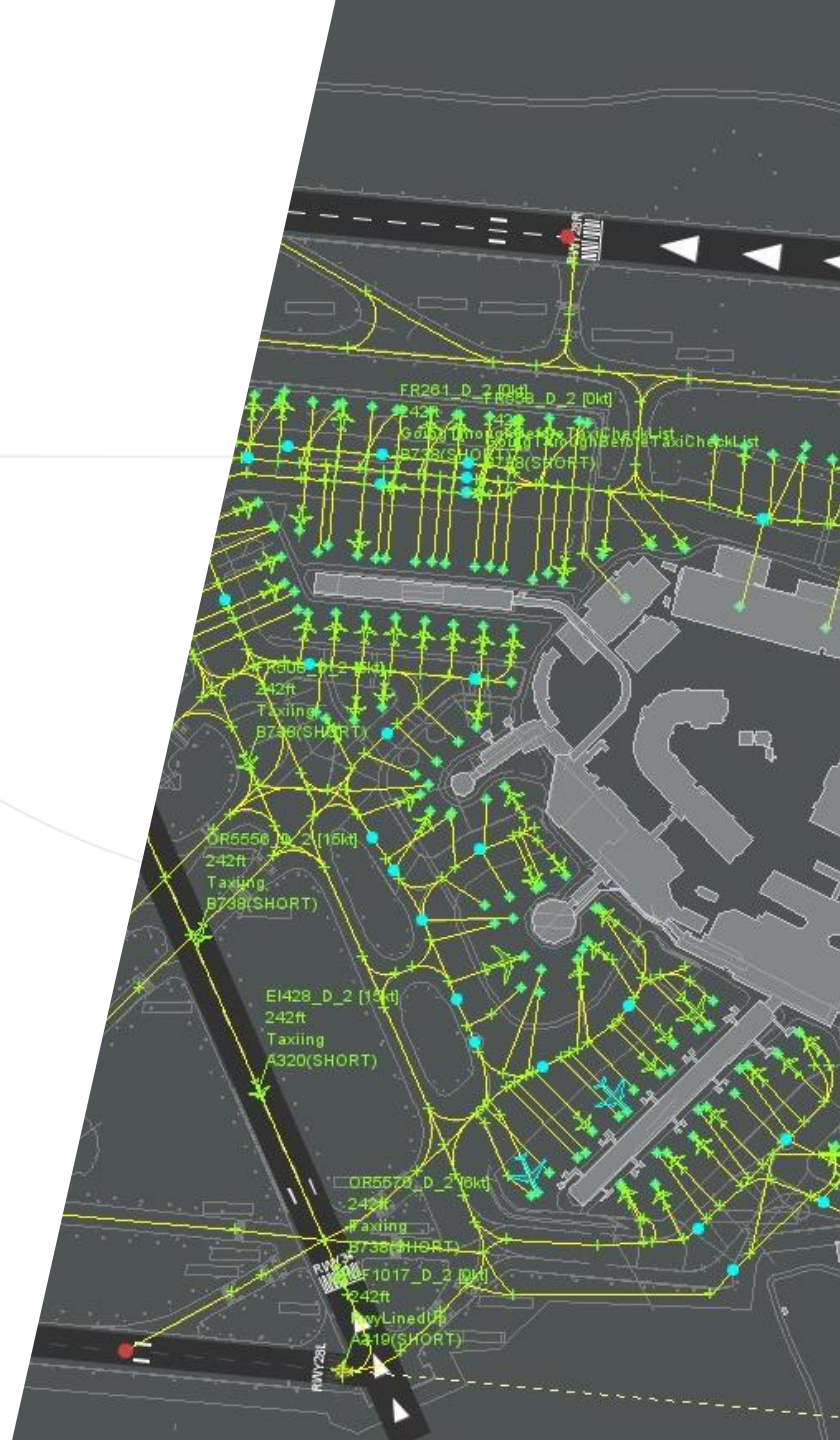


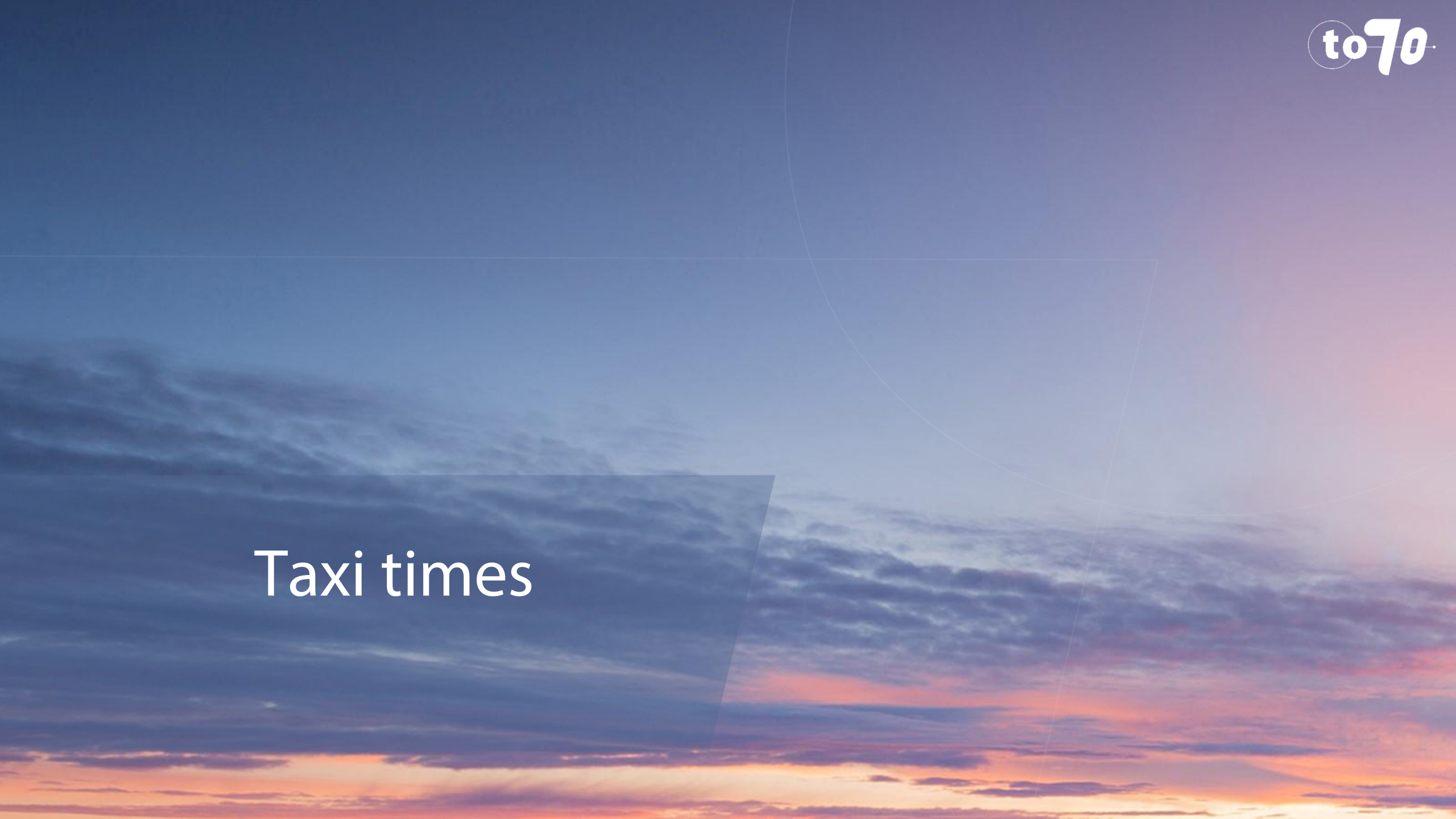
Count of delayed aircraft



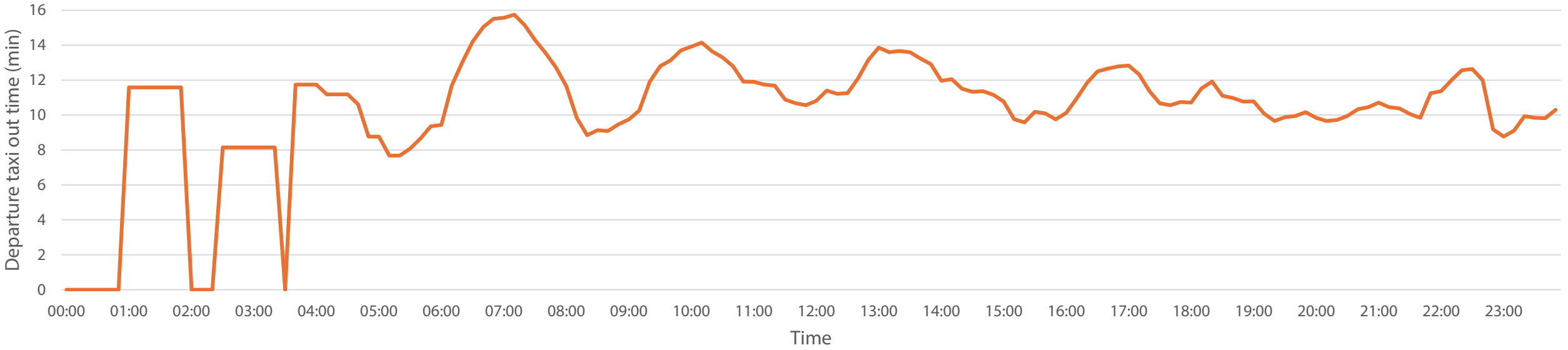
Taxiway network - observations

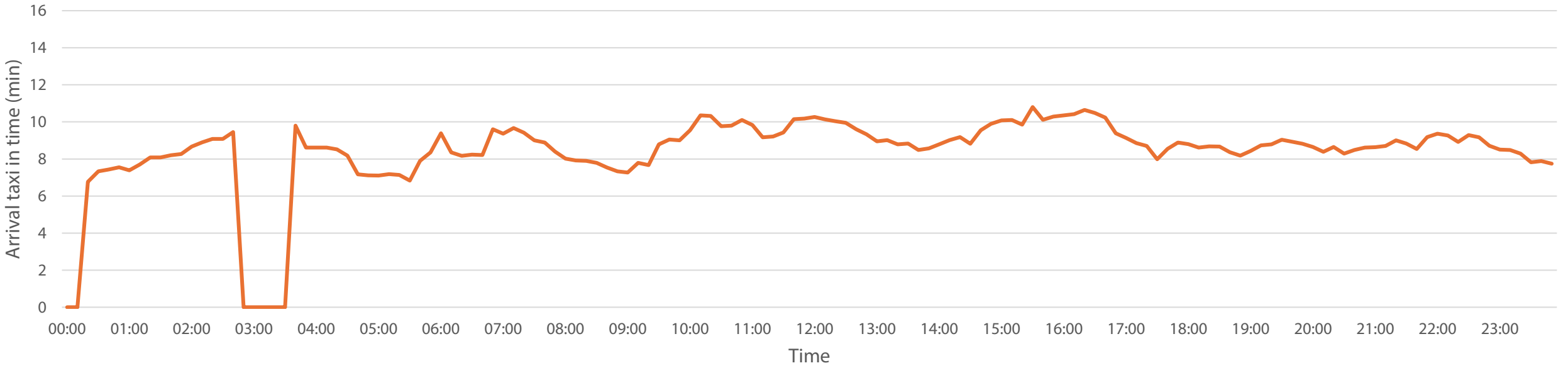
- The taxiway network is capable of handling the anticipated volume of traffic without any significant operational issues.
- Two parallel taxiways spanning across the whole airport (from Apron 5G to South Apron) contribute significantly to efficiency of ground taxi operations.
- Simulated aircraft stoppings and delays are marginal (given the volume of traffic) and can be observed in areas where they can be expected (taxiway junctions, areas around the piers (impact of aircraft pushing back) and taxiway segments near runway entries where aircraft move in a queue waiting for departure.



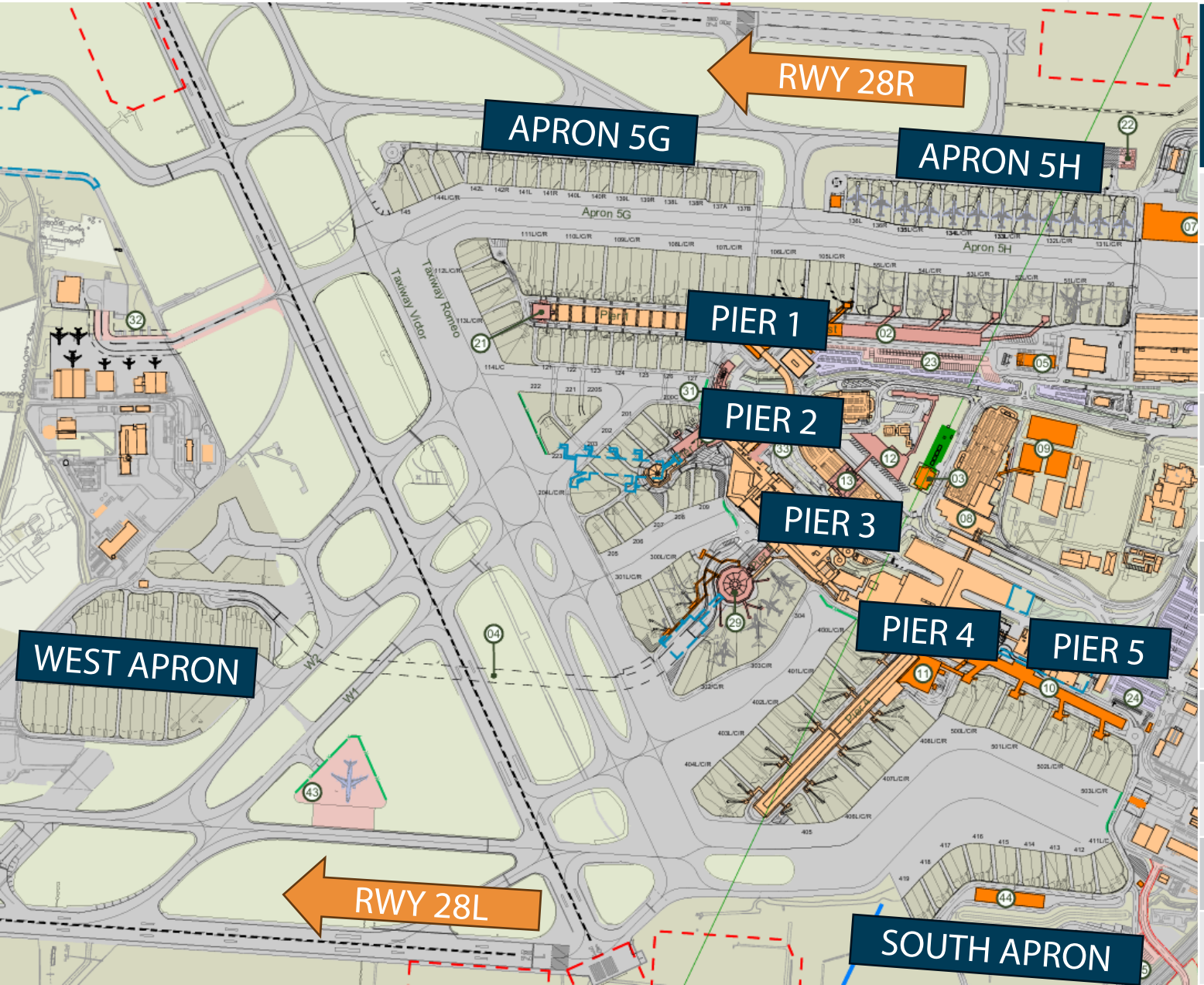

Taxi times

Average taxi time durations





Average taxi times by pier



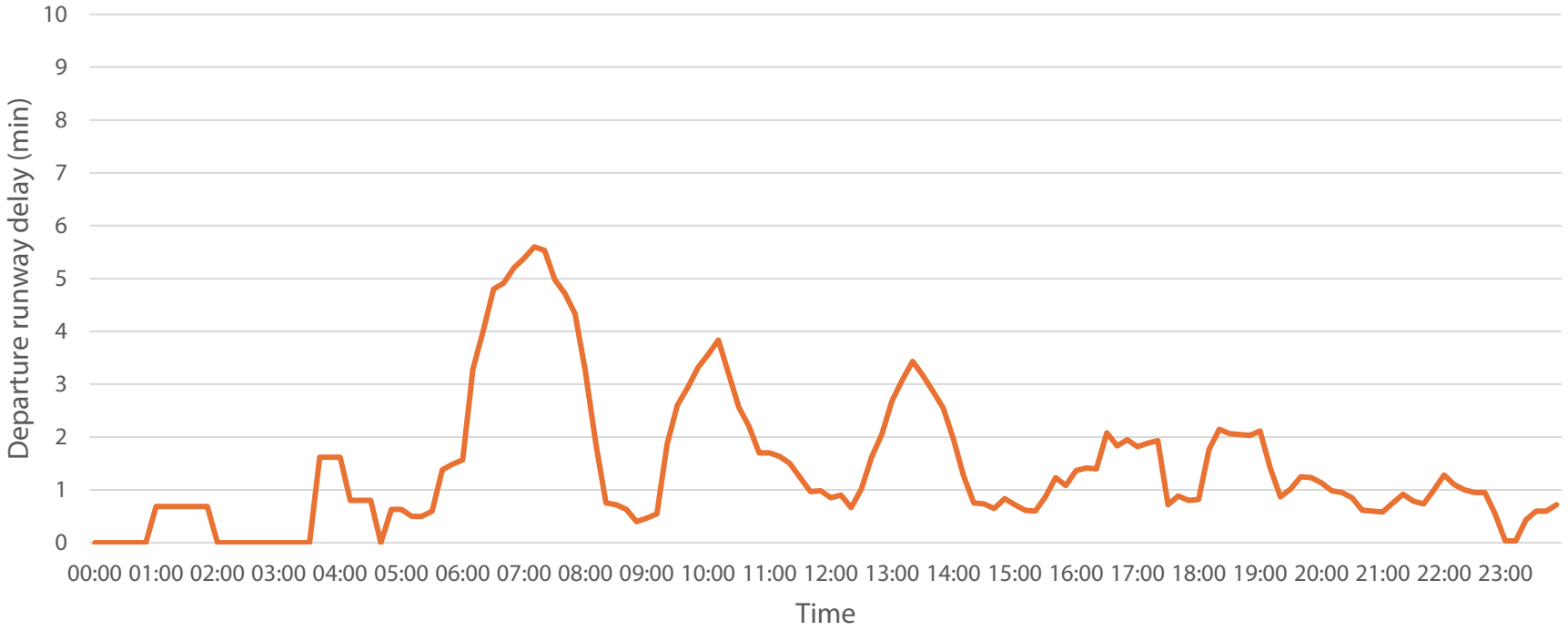
Area	Average taxi out time			Average taxi in time
	Airport-wide	To RWY 28R only	To RWY 28L only	
APRON 5G	00:09:41	00:09:20	00:12:11	00:09:21
APRON 5H	00:08:25	00:08:25	-	00:12:05
PIER 1	00:10:07	00:10:03	00:12:16	00:09:36
PIER 2	00:13:22	00:13:26	00:12:22	00:06:40
PIER 3	00:14:08	00:14:08	-	00:07:13
PIER 4	00:13:52	00:14:43	00:08:21	00:08:48
PIER 5	00:16:44	00:16:44	-	00:09:09
SOUTH APRON	00:13:44	00:14:21	00:08:49	00:07:22
WEST APRON	00:13:27	00:13:36	00:12:58	00:05:31
Average	**00:11:36**	**00:11:41**	**00:10:13**	**00:08:58**

Taxi times - observations

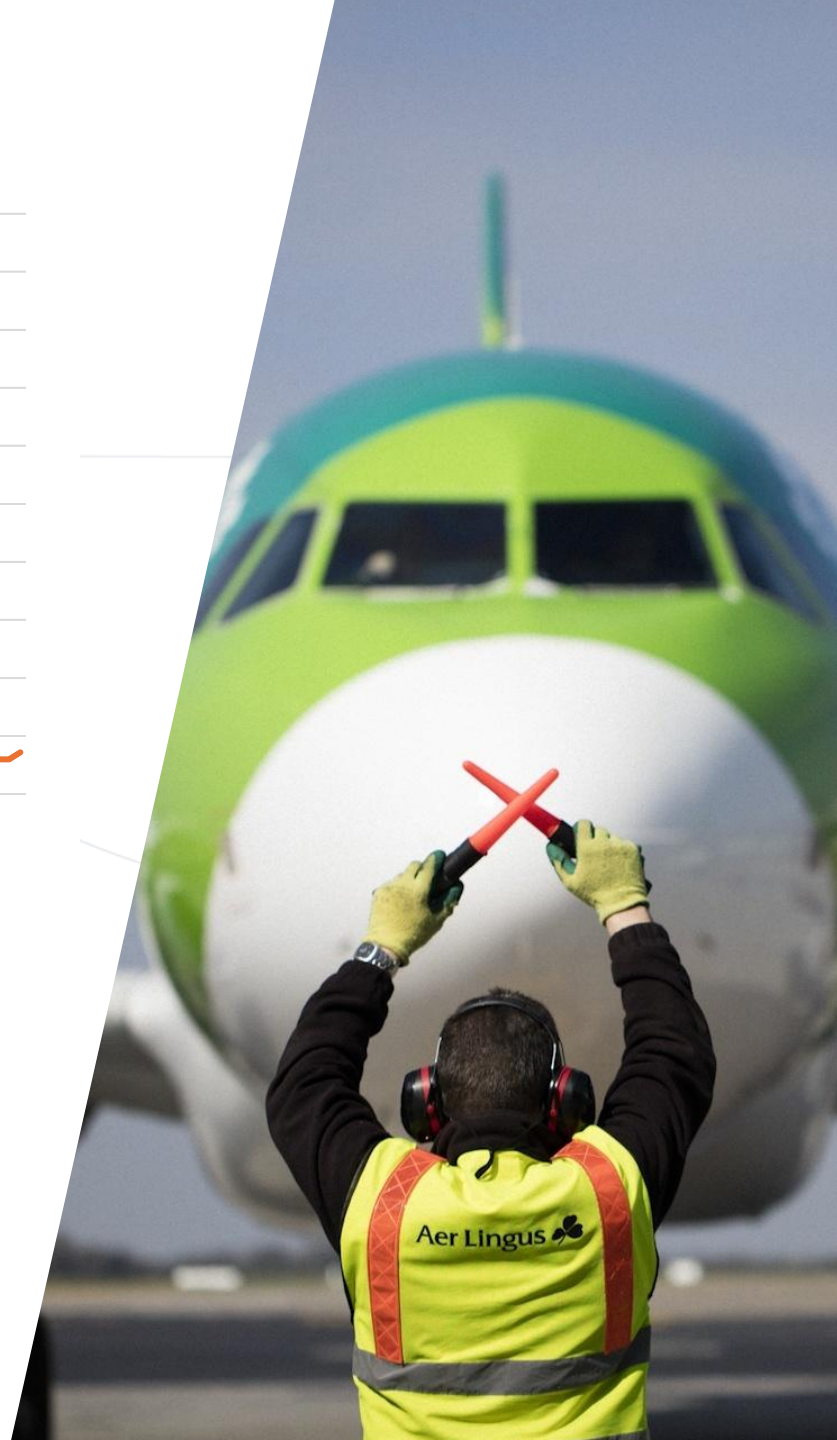
- Despite 10% higher traffic levels proposed in the CIP flight schedule (compared to current traffic levels), the model showed similar taxi time durations as for the latest summer season (S26). This further confirms the taxiway network is capable of handling the anticipated increase in traffic without major issues.
- Departure taxi out time (TXOT) peaks at 15 minutes and 45 seconds during the morning wave of departures. This is comparable to the S26 TXOT projection – however, the CIP schedule contains no new flights added in this period.
- Instead, additional departures are scheduled later in the day and in the evening period. This increases existing and creates new localized TXOT peaks during the day and also increases the average TXOT by more than a minute per flight (compared to S26 TXOT projection).
- The average unimpeded TXOT, however, has reduced by about a minute. This can be attributed mainly to the benefits introduced by the Critical Taxiway project and changes in the South Apron area.
- The arrival taxi-in time (TXIT) does not show significant peaks throughout the day and is around 9 minutes on average – despite increases in traffic levels, this TXIT value is comparable with the S26 TXIT projection.

Runway performance

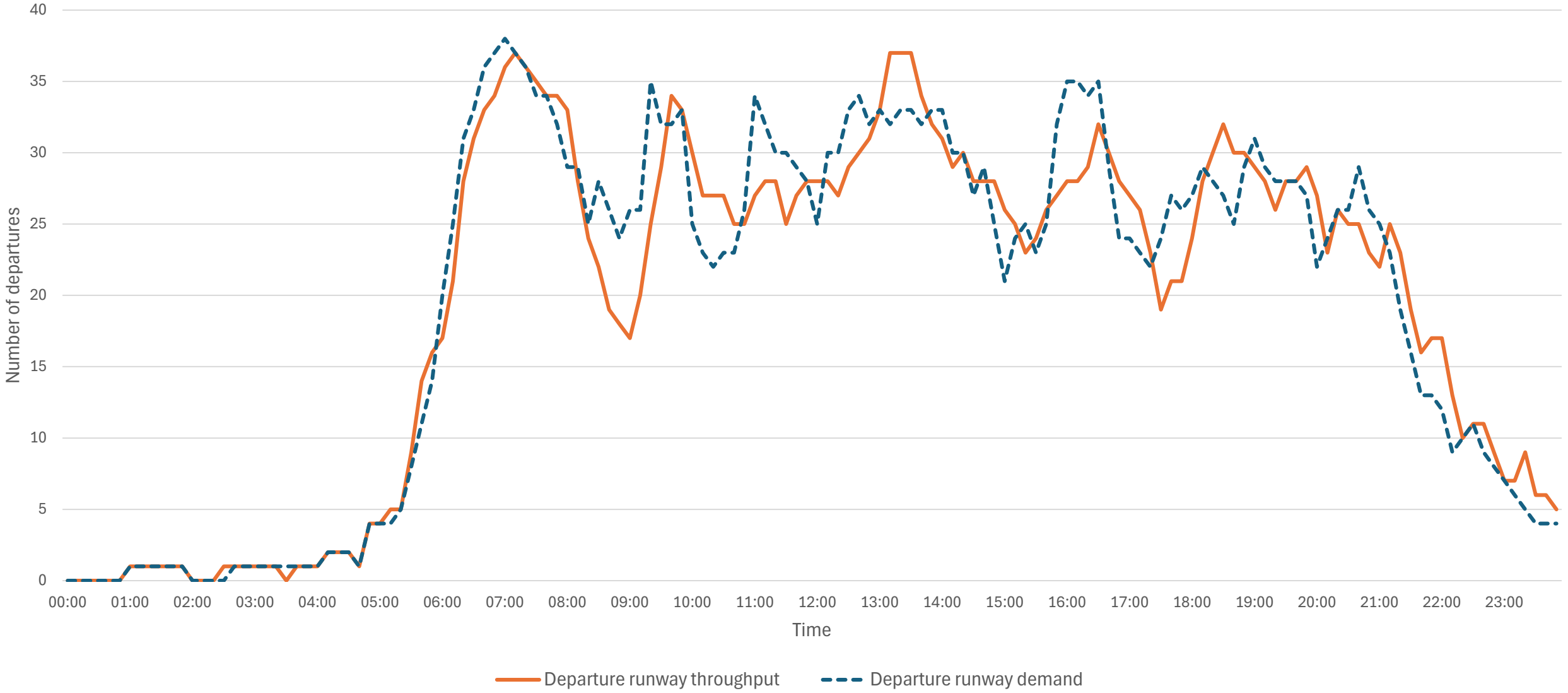
Departure runway delay



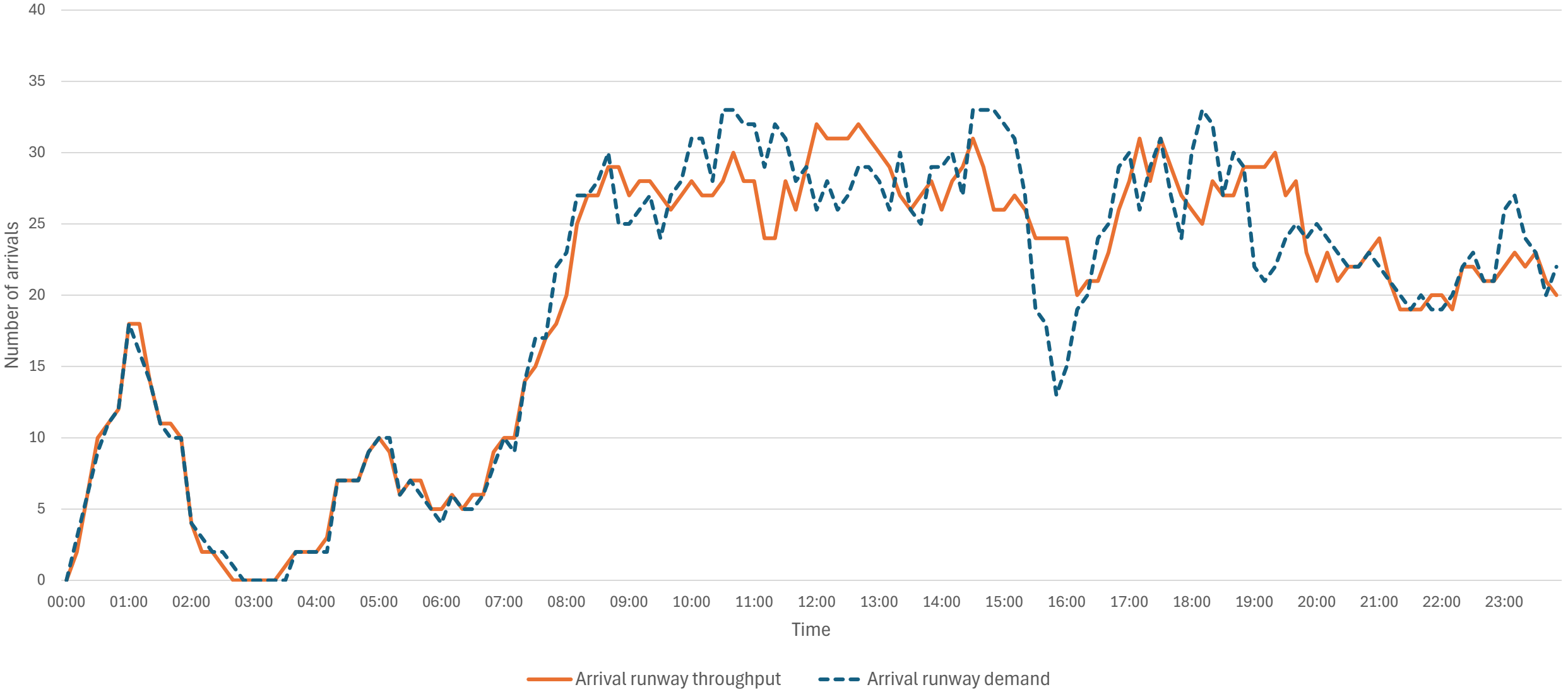
- Departure runway delay peaks at 5 minutes and 36 seconds during the morning departure wave.
- Another two peaks can be observed at 10:00 and 11:30. These are larger than comparable peaks projected in the S26 assessment and are caused by additional movements scheduled into these periods and a higher proportion of wide-body aircraft - which trigger bigger departure-departure separations if followed by a smaller aircraft type.



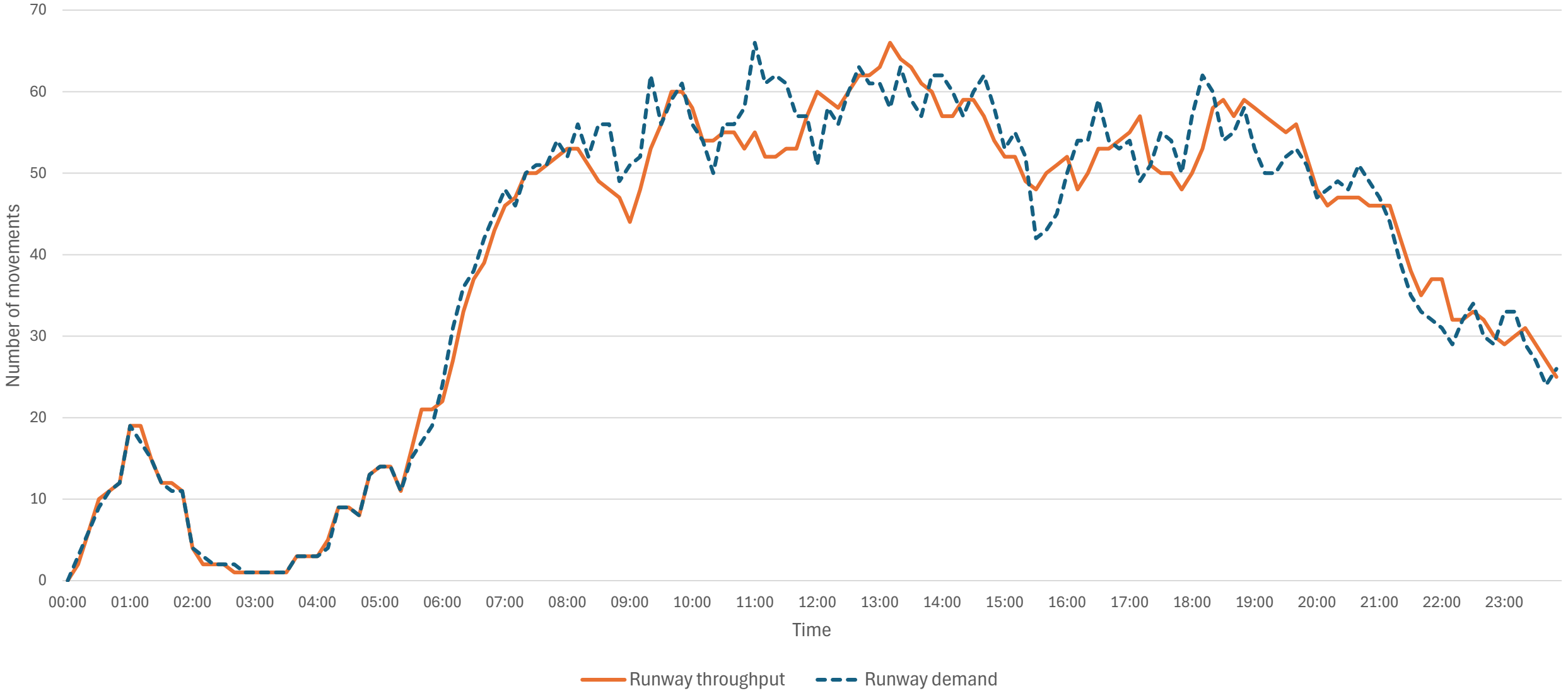
Departure runway throughput (Runways 28L & 28R combined)



Arrival runway throughput (Runway 28L only)



Total runway throughput (Runways 28L & 28R combined)



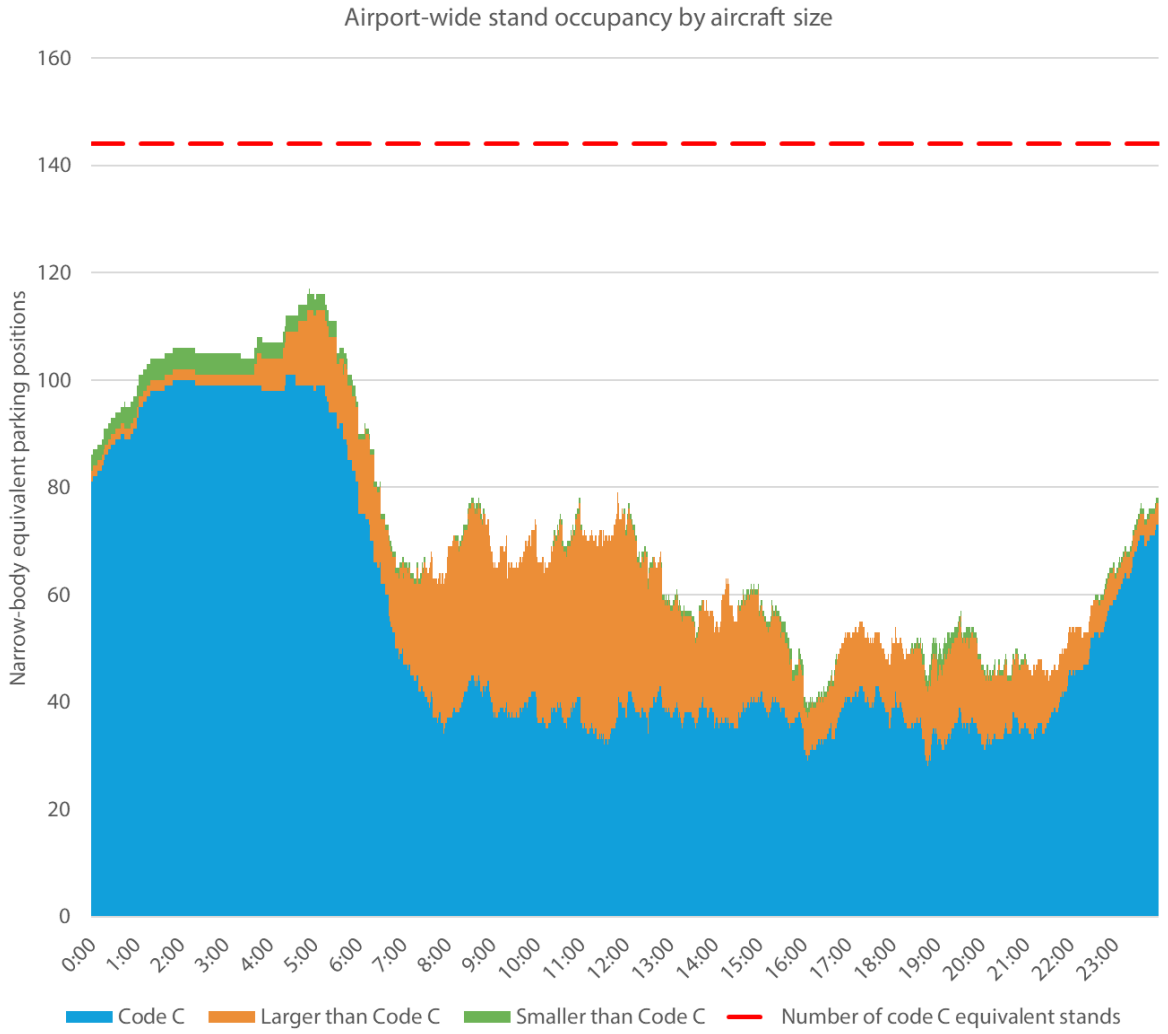
Runway throughput - observations

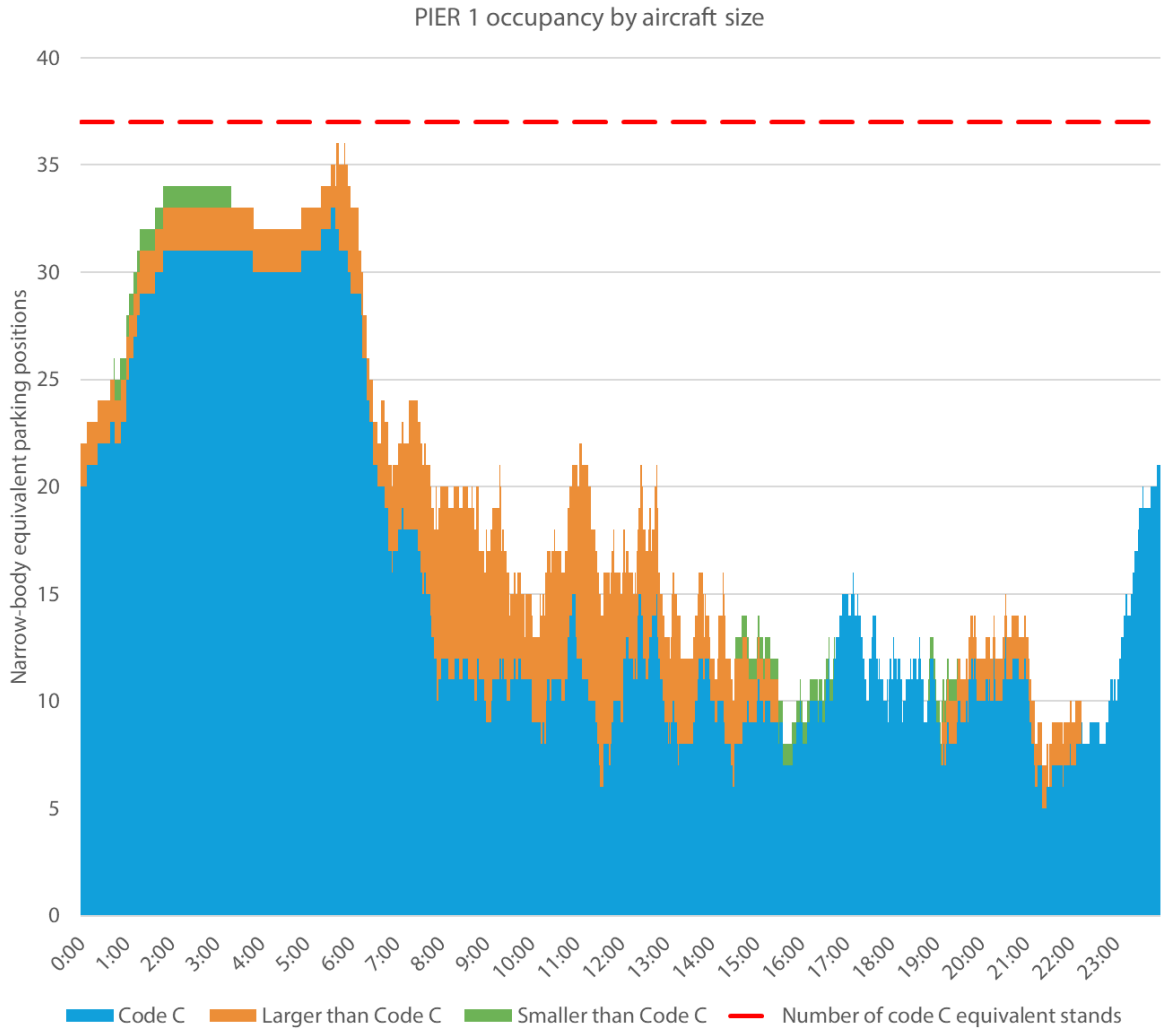
- During early morning single runway operations, the demand is not high enough to cause noticeable increases in runway delays compared to S26 projections.
- The peak runway performance simulated with the CIP schedule in place is comparable to the runway performance observed during seasonal assessments – this is expected, as no runway-related parameters were changed in the model.
- Switching to segregated parallel runways operations ensures the departure demand can be satisfied in a timely manner.
- It is interesting to see the North runway reaching its maximum throughput for a second time in a day (around lunchtime). Departure runway delays in this mid-day period are noticeable, but lower than during the morning peak. This is because departure demand around lunchtime is slightly smaller compared to departure demand in the morning period.
- The South runway seems to operate close to its maximum arrival throughput several times a day, suggesting a need for a careful arrival management including coordination with upstream ATC units and possibly also an increased risk of issuing ATFM regulations due to airport capacity. Although not published in this report, the average arrival airborne holding delays observed with the CIP flight schedule seem higher than those observed at the Summer 2026 projection.
- The peak runway demand and throughput observed in the simulation are presented below.

Runway performance	Departures	Arrivals
Peak demand	38	33
Peak throughput	37	32

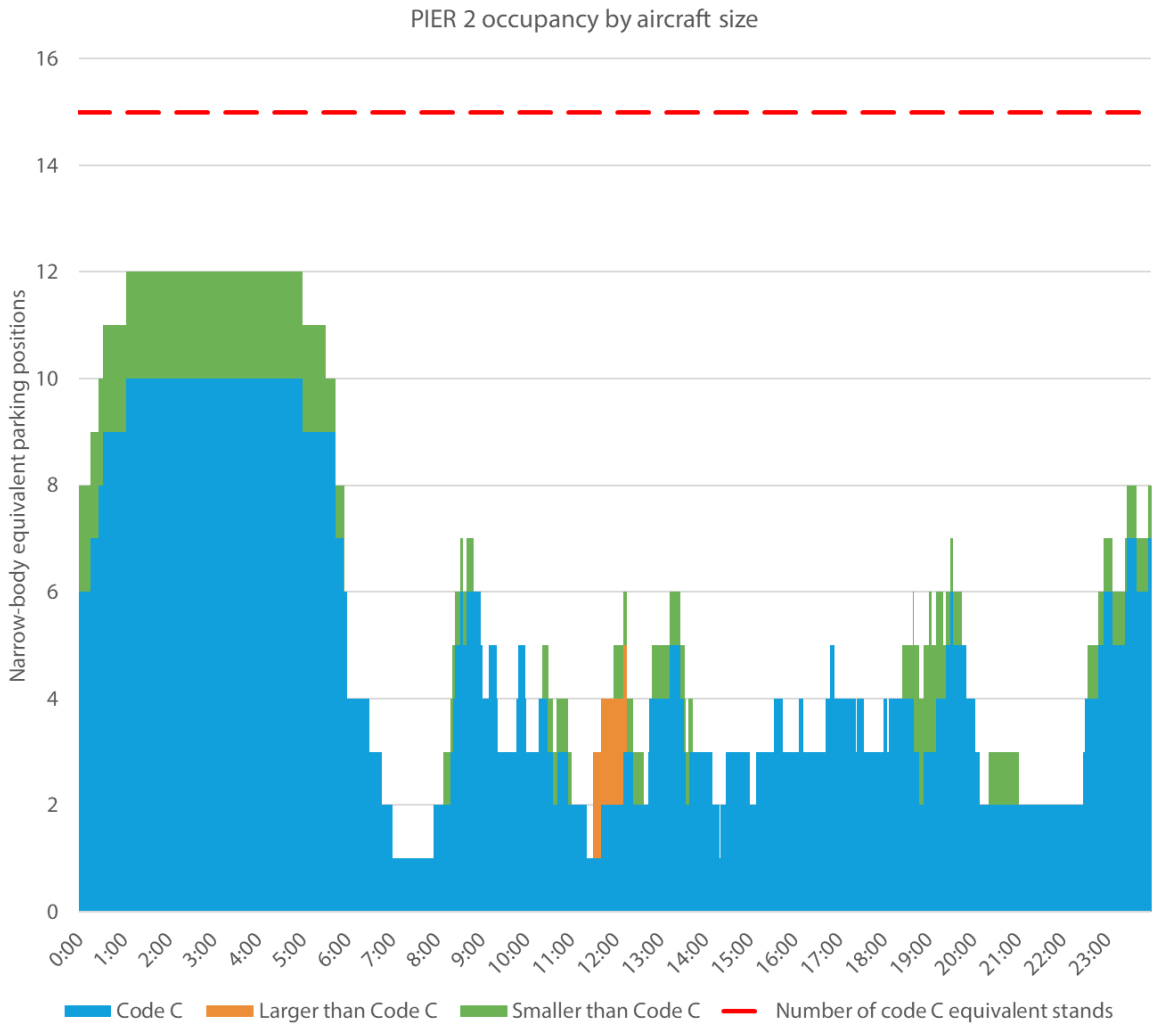
Stand demand

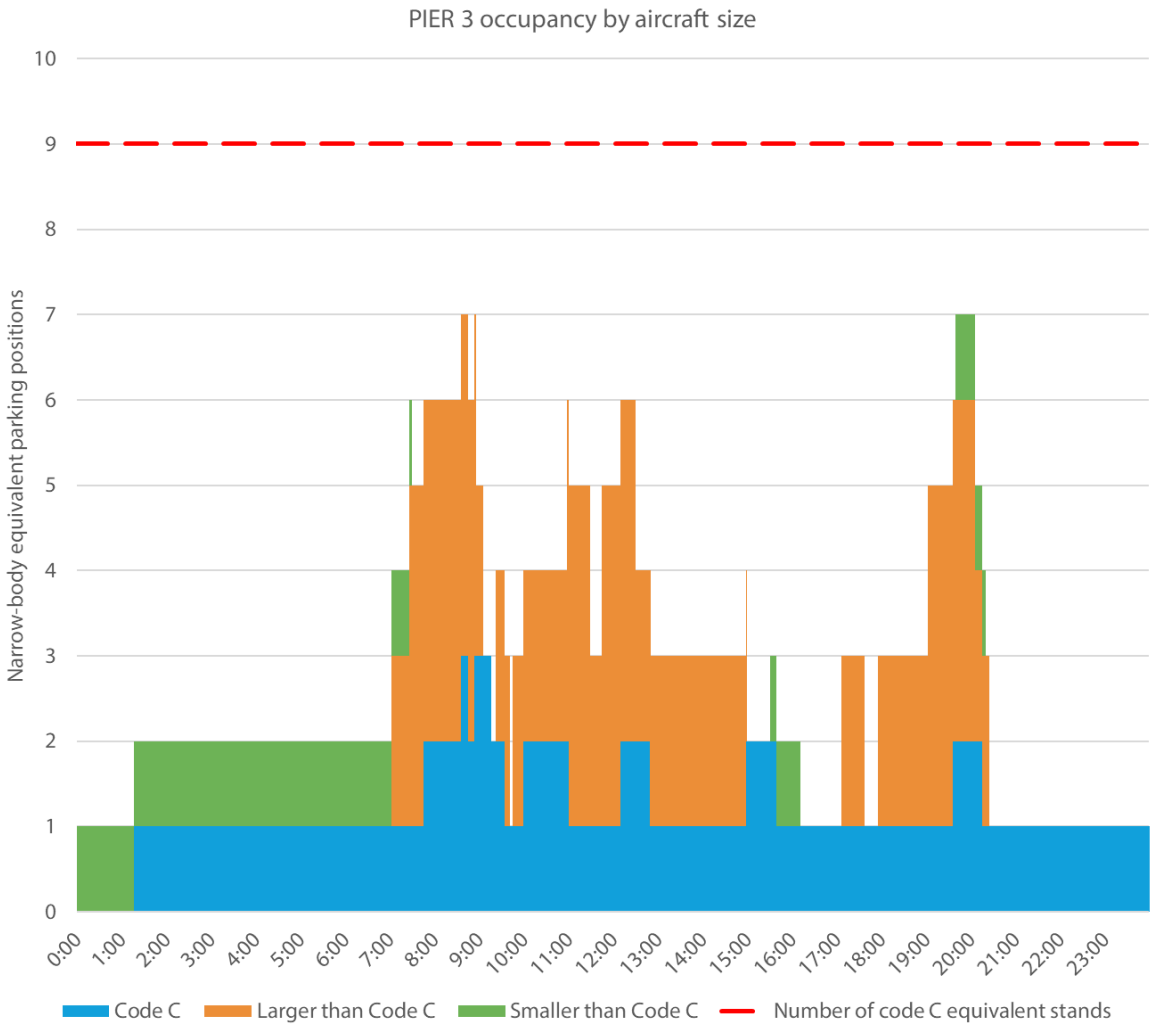
Stand demand



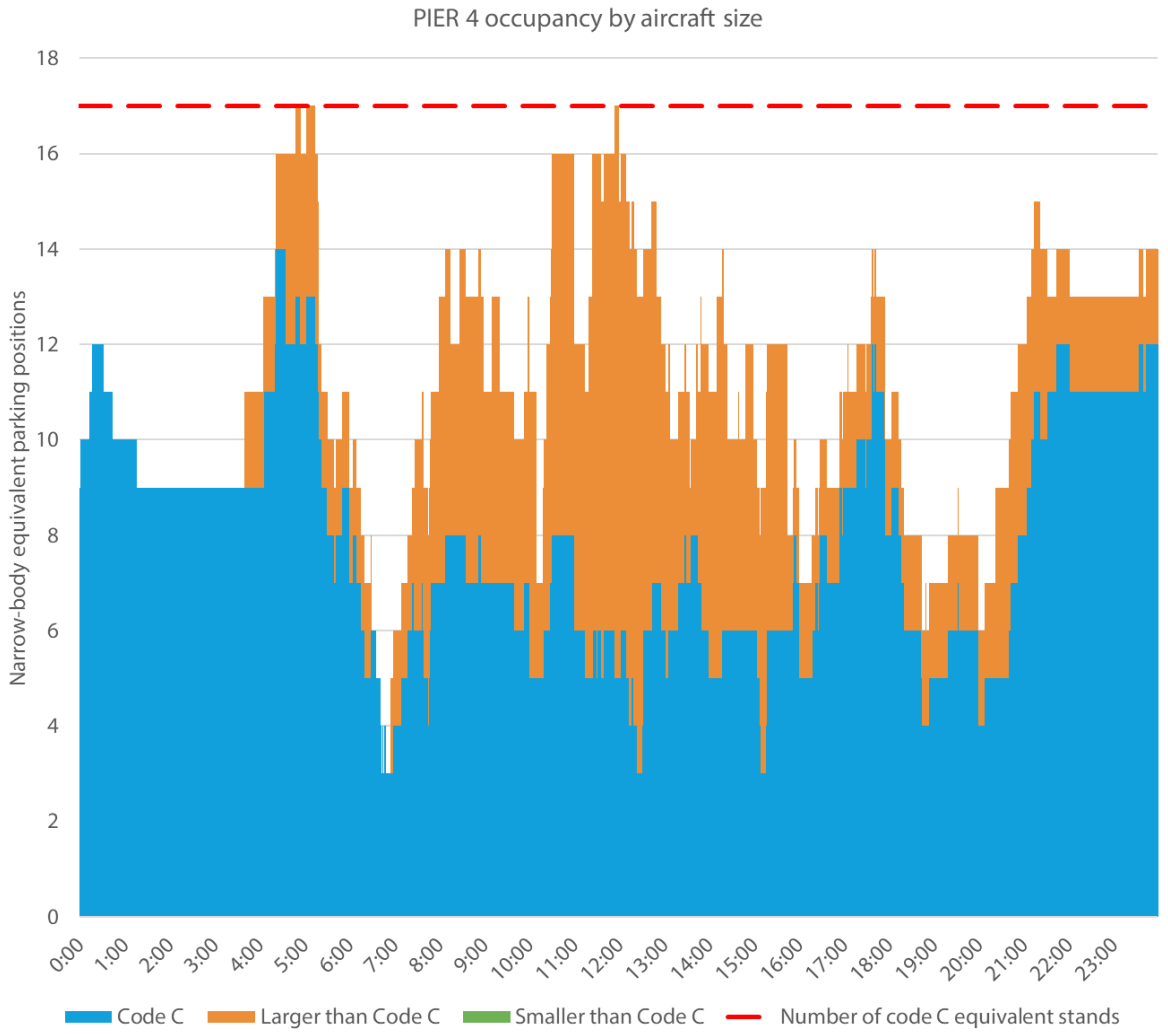


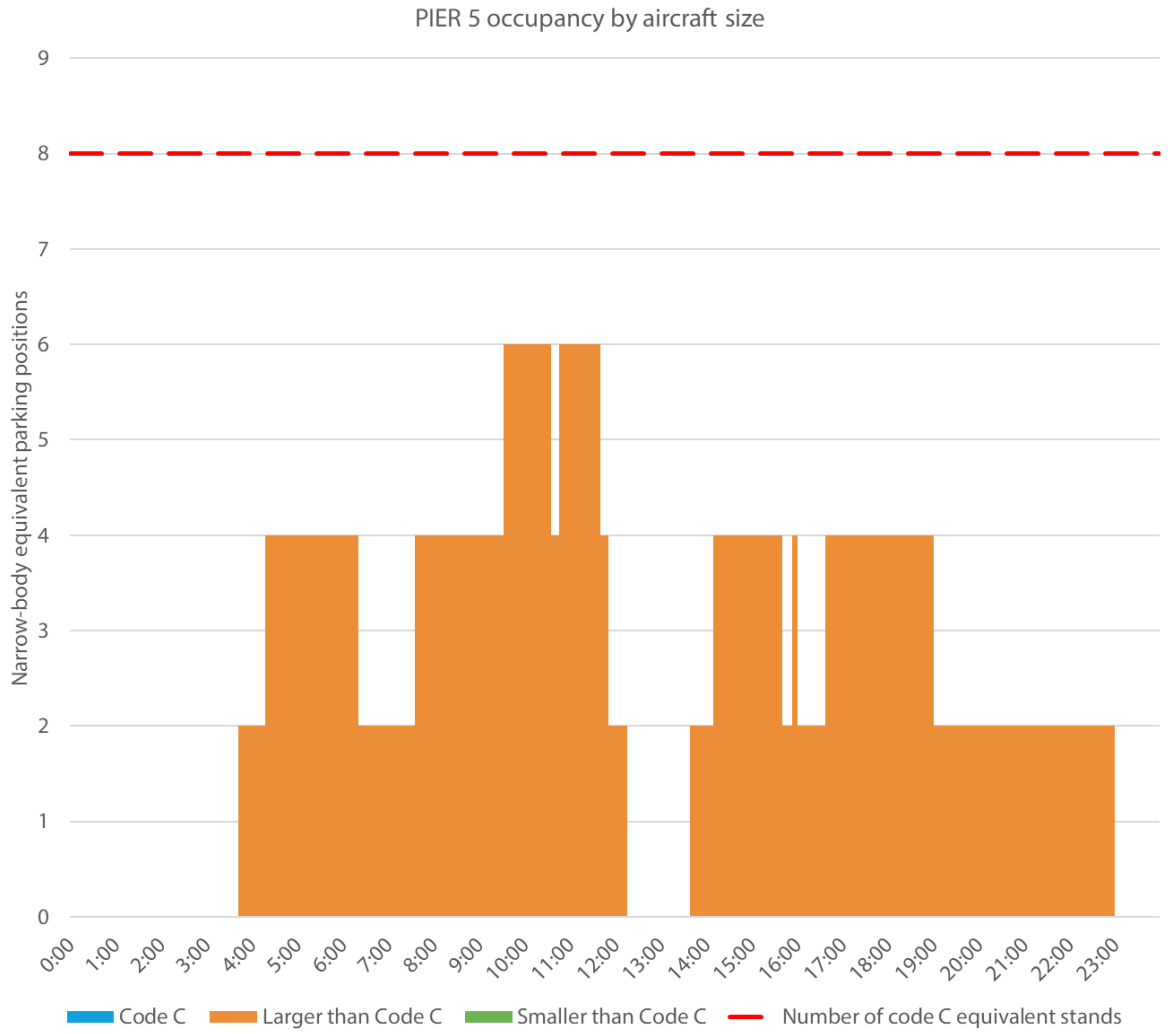
Stand demand





Stand demand





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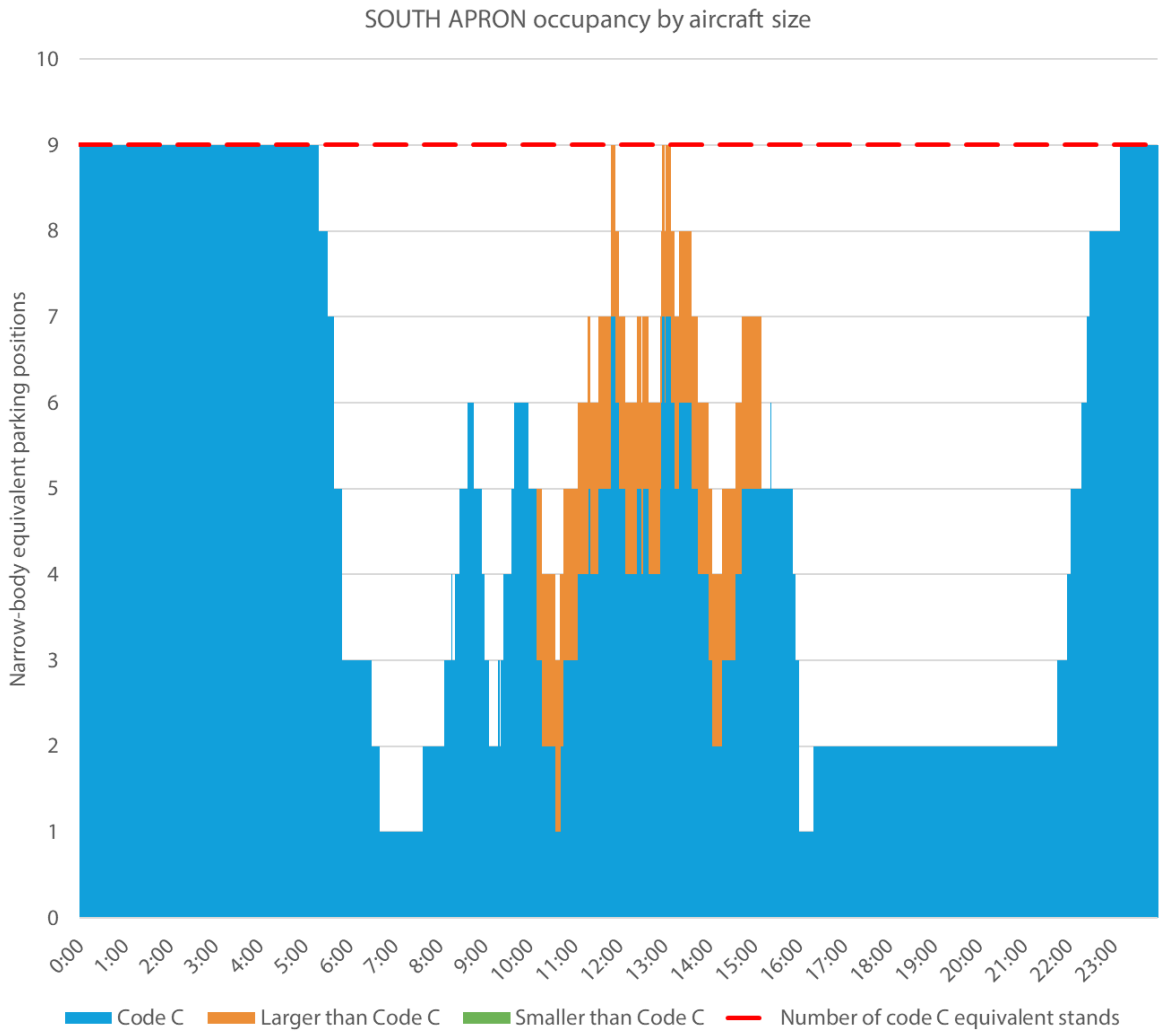

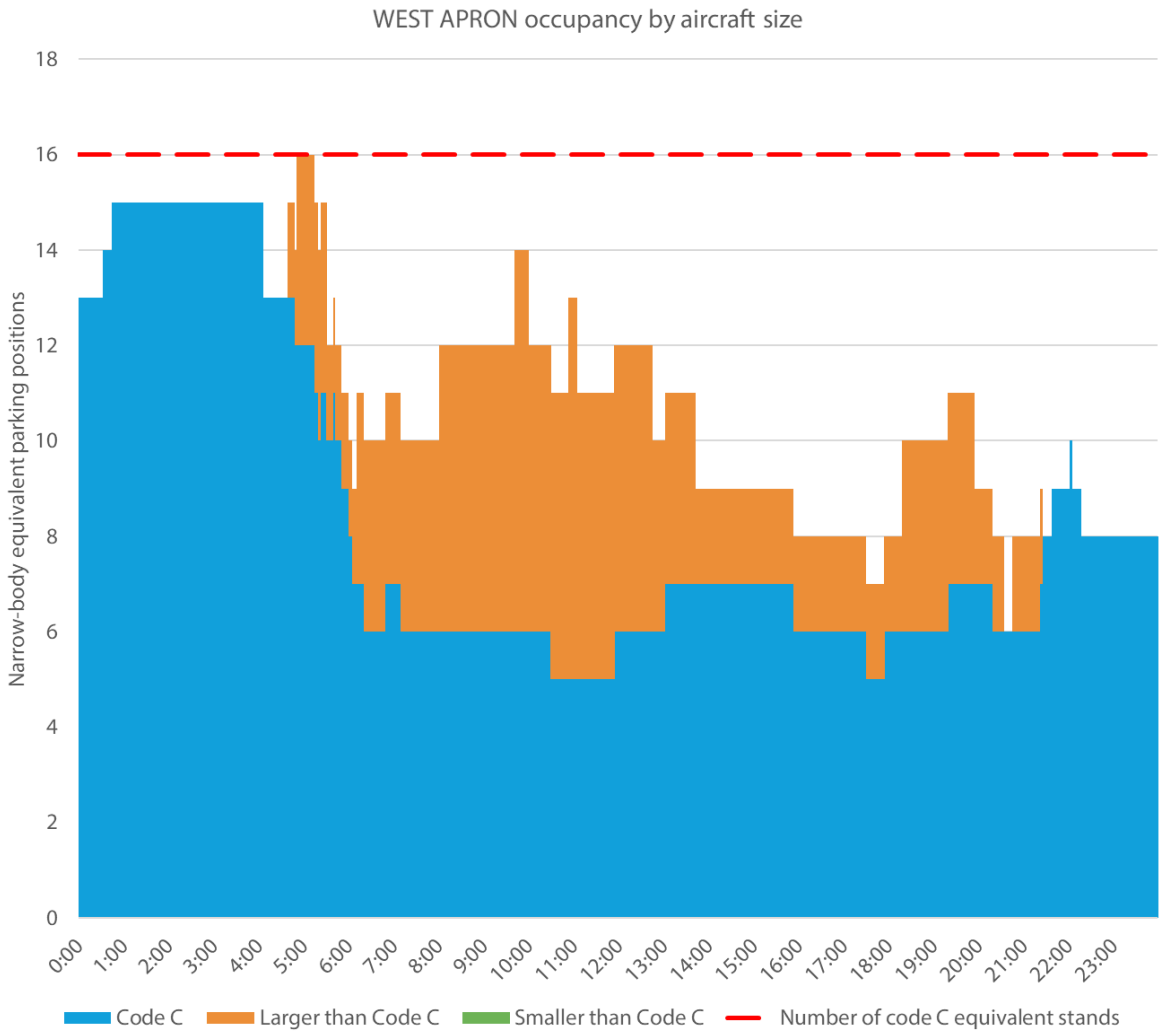

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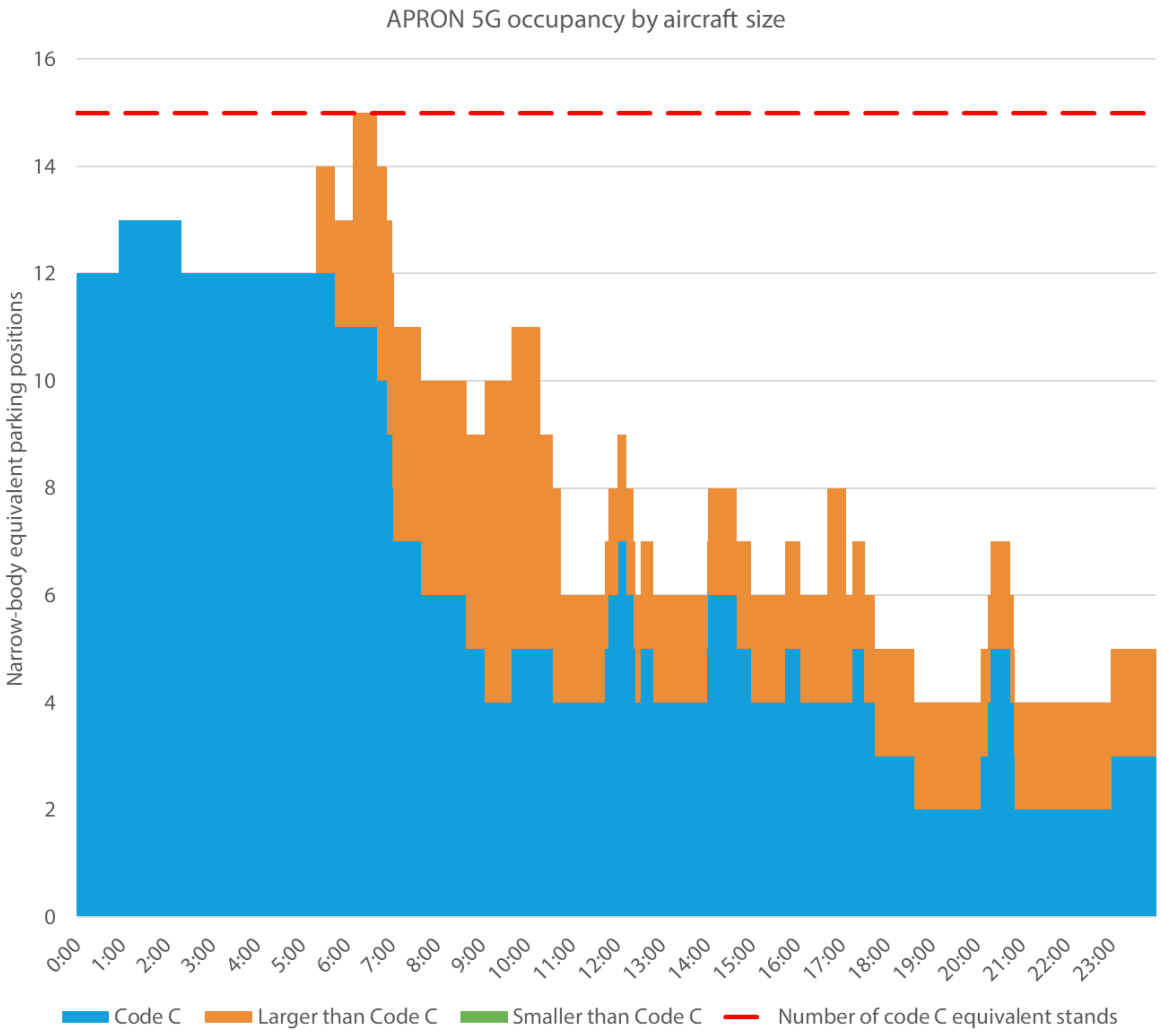
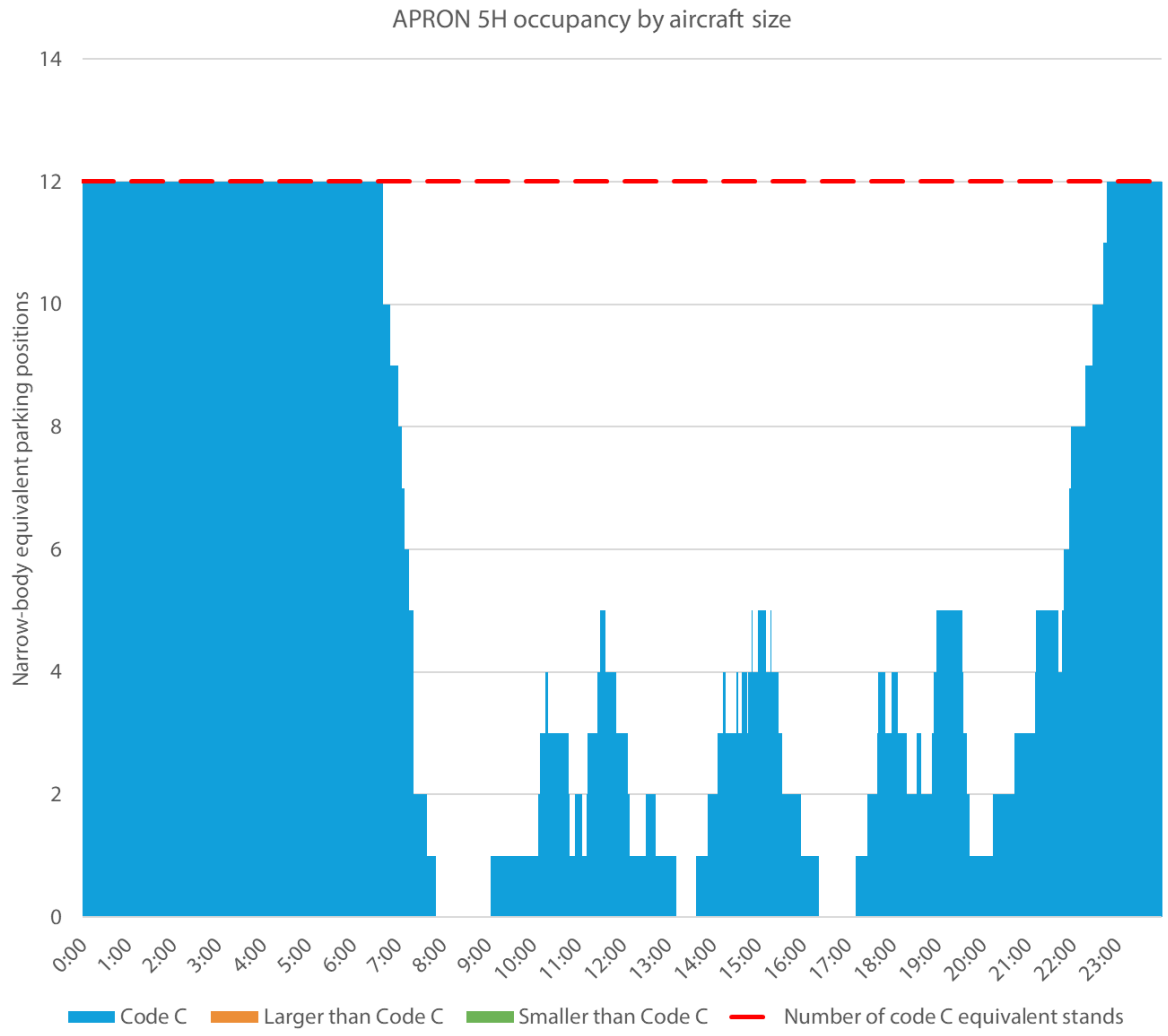




Stand demand

- Stand demand is driven primarily by Code C aircraft.
- Peak stand demand can be observed at around 05:30 local time and is driven by aircraft staying overnight that have not yet left, and early morning arrivals which have arrived before 05:30.
- On an airport level, overnight parking remains a challenge and requires increasingly complex stand planning practices. Additional four wide-body stands at Pier 5 do help a lot with accommodating the growth in heavy traffic, however, they do not seem to fully alleviate the need for frequent tow-on/tow-off operations.
- Even if the CIP schedule does not materialise as expected, those extra stands at Pier 5 will provide a valuable space that can be used to limit the amount of towing in the southern parts of the airport.
- Pier 4 and South apron parking positions were simulated close to (or at) capacity levels in the early morning, late evening and during the day.
- Pier 1 and Pier 2 seem busy in the morning but are quieter for the rest of the day.
- There seems to be some localised spare overnight parking capacity at Pier 3 or potentially Pier 5.

PTB - results

IATA Level of Service

- For the analysis of the terminal building facilities and processors , IATA Level of Service (LoS) thresholds and limits were used as a reference.
- IATA provides the LoS thresholds for queueing/waiting time (minutes) and space per passenger (m^2/pax).
- *"Until the airport reaches the forecast level of activity, the facilities will function at a higher LoS. Depending on the timeframe (usually between 5 and 10 years) and forecast milestones being considered in the planning stage, facilities are often planned to fall into the over-design category during the new facility's initial start-up period."* (IATA paper on Best Practices in application of the Level of Service concept).
- In this document we use pax/m^2 - a metric equivalent to IATA's m^2/pax metric - as we believe it is easier to interpret.

LoS Parameters			SPACE		
			Over-Design	Optimum	Sub-Optimum
			Excessive or empty areas	Sufficient space to accommodate necessary functions in a comfortable environment	Crowded and uncomfortable
QUEUING TIME	Over-Design	Overprovision of resources	OVER-DESIGN	Optimum	SUB-OPTIMUM ► Consider Improvements
	Optimum	Acceptable queuing times	Optimum	OPTIMUM	SUB-OPTIMUM ► Consider Improvements
	Sub-Optimum	Unacceptable queuing times	SUB-OPTIMUM ► Consider Improvements	SUB-OPTIMUM ► Consider Improvements	UNDER-PROVIDED ► Reconfigure

IATA Level of Service thresholds used

LoS Guidelines		Space guidelines [sqm/PAX]			Queuing time guidelines [minutes]					
					Economy Class			Business Class / First Class / Fast Track		
Area / Process	Subcategory	Over-Design	Optimum	Sub-Optimum	Over-Design	Optimum	Sub-Optimum	Over-Design	Optimum	Sub-Optimum
Public Departure Hall		> 2.3	2.0 - 2.3	< 2.0	n/a			n/a		
Check-In	Self-Service Kiosk	> 1.8	1.3 - 1.8	< 1.3	< 1	1 - 2	> 2	< 1	1 - 2	> 2
	Bag Drop Desk	> 1.8	1.3 - 1.8	< 1.3	< 1	1 - 5	> 5	< 1	1 - 3	> 3
	Check-in Desk	> 1.8	1.3 - 1.8	< 1.3	< 10	10 - 20	> 20	< 3	3 - 5 (business class)	> 5
Security Control		> 1.2	1.0 - 1.2	< 1.0	< 5	5 - 10	> 10	< 1	1 - 3	> 3
Emigration Control	Staffed Emigration Desk	> 1.2	1.0 - 1.2	< 1.0	< 5	5 - 10	> 10	< 1	1 - 3	> 3
	Automatic Border Control	> 1.2	1.0 - 1.2	< 1.0	< 1	1 - 5	> 5	n/a		
Gate Holdrooms	Seating	> 2.2	1.8 - 2.2	< 1.8	n/a			n/a		
	Standing	> 1.5	1.2 - 1.5	< 1.2						
Immigration Control	Staffed Immigration Desk	> 1.2	1.0 - 1.2	< 1.0	< 5	5 - 10	> 10	< 1	1 - 5	> 5
	Automatic Border Control	> 1.2	1.0 - 1.2	< 1.0	< 1	1 - 5	> 5	n/a		
Baggage Reclaim	Narrow Body Aircraft	> 1.7	1.5 - 1.7	< 1.5	< 0	0 / 15	> 15	< 0	0 / 15	> 15
	Wide Body Aircraft	> 1.7	1.5 - 1.7	< 1.5	< 0	0 / 25	> 25			
Customs Control		> 1.8	1.3 - 1.8	< 1.3	< 1	1 - 5	> 5	< 1	1 - 5	> 5
Public Arrival Hall		> 2.3	2.0 - 2.3	< 2.0	n/a			n/a		

PTB areas and metrics analysed

Area	T1	T2	Space standards (pax/m²)	Waiting times (minutes)	Density maps
Check-in	✓	✓	✓	✓	✓
Boarding pass scan	✓	✓	✓	✓	✓
Security	✓	✓	✓	✓	✓
TSA-CBP	N/A	✓	✓	✓	✓
Transfer facilities	✓	✓	✓	✓	✓
Immigration	✓	✓	✓	✓	✓
Baggage reclaim	✓	✓	✓	N/A	✓
Departure lounge	✓	✓	✓	N/A	N/A
Piers	✓	✓	✓	N/A	N/A

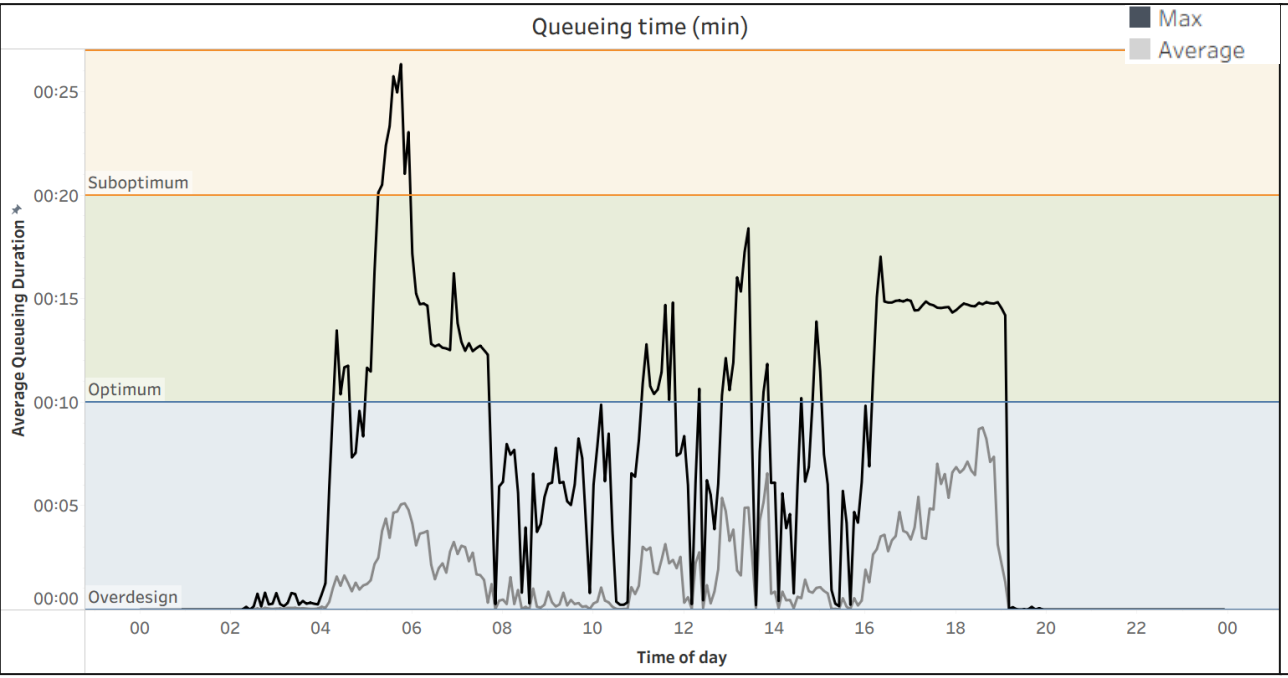
- **Space standards (pax/m²):** Number of passengers per square meter present in an area. Plotted the maximum value every 5 minutes for the given day of interest against the corresponding IATA LoS threshold for each terminal area of interest.
- **Waiting times (minutes):** Equivalent to queueing times in this context. Maximum and average time spent in a queue or waiting for a processors to become available. Plotted every 5 minutes for the given day of interest against the corresponding IATA LoS threshold for each terminal area of interest.
- **Density maps:** Maps of the different terminal areas analysed showing the aggregation of all passenger trajectories for the analysed day.

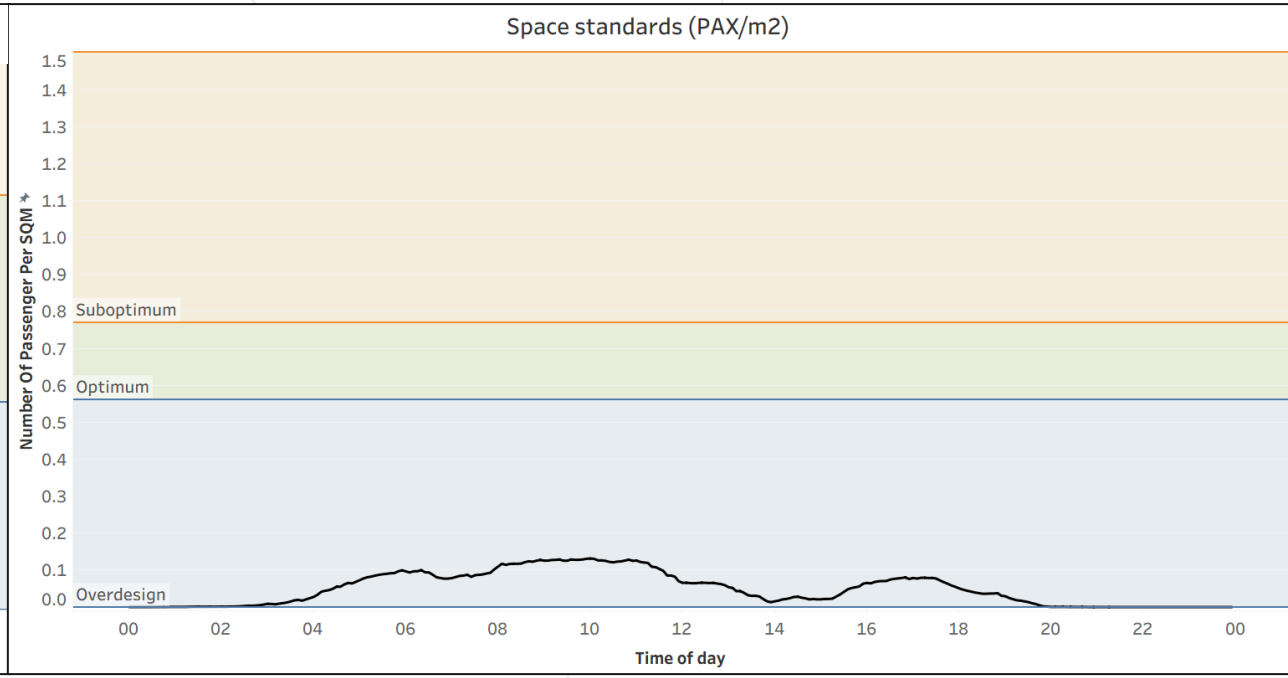
All the results presented on the next slides were calculated with all processors open and available to passenger use.

The purpose of this analysis is to test the ultimate capacity of the infrastructure – whether it can handle the volume of passengers presenting in the busy hour(s). Therefore, all the processors were assumed to be available all day. However, in real-world operations, the available resources will be planned and managed in the most efficient manner and several processors may be closed during periods of low demand.

Check-in T1

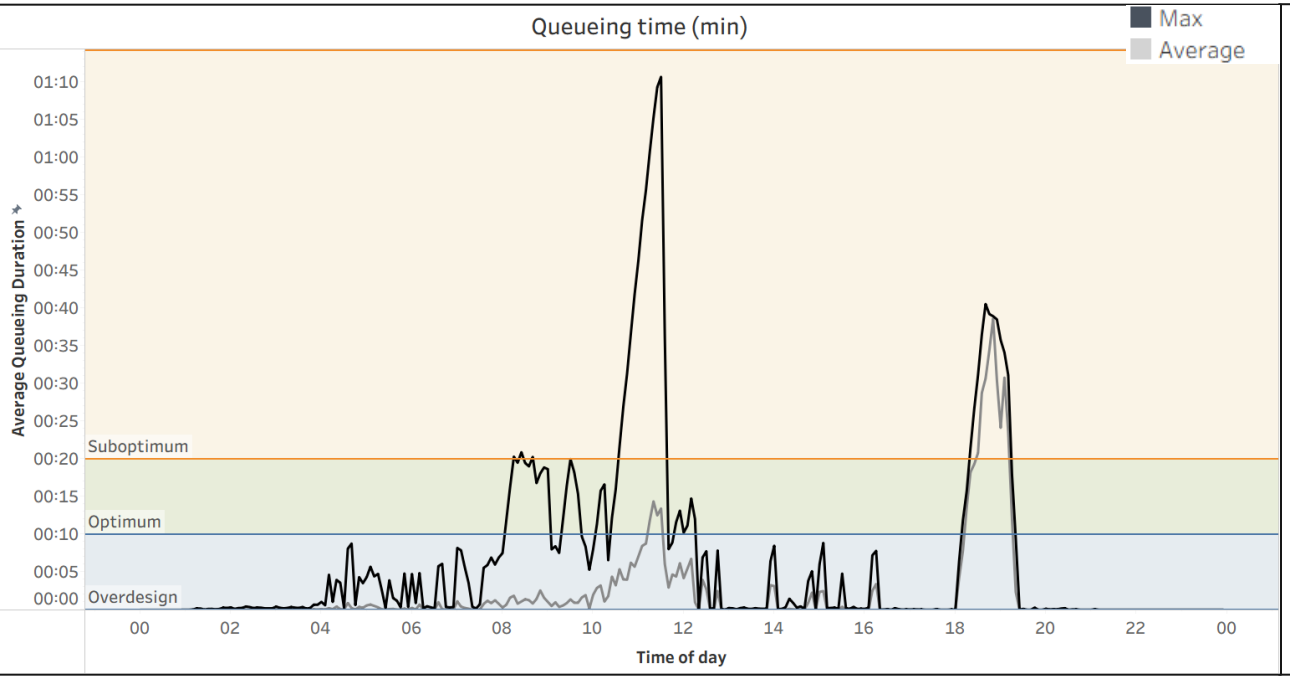
- T1 check-in area has enough space and passenger processors to provide an adequate level of service, as both time and space metrics stay at acceptable levels.
- There is a brief peak of 26 minutes of queueing time at around 6:00 that quickly drops back to lower levels. This is still acceptable as per IATA guidelines.

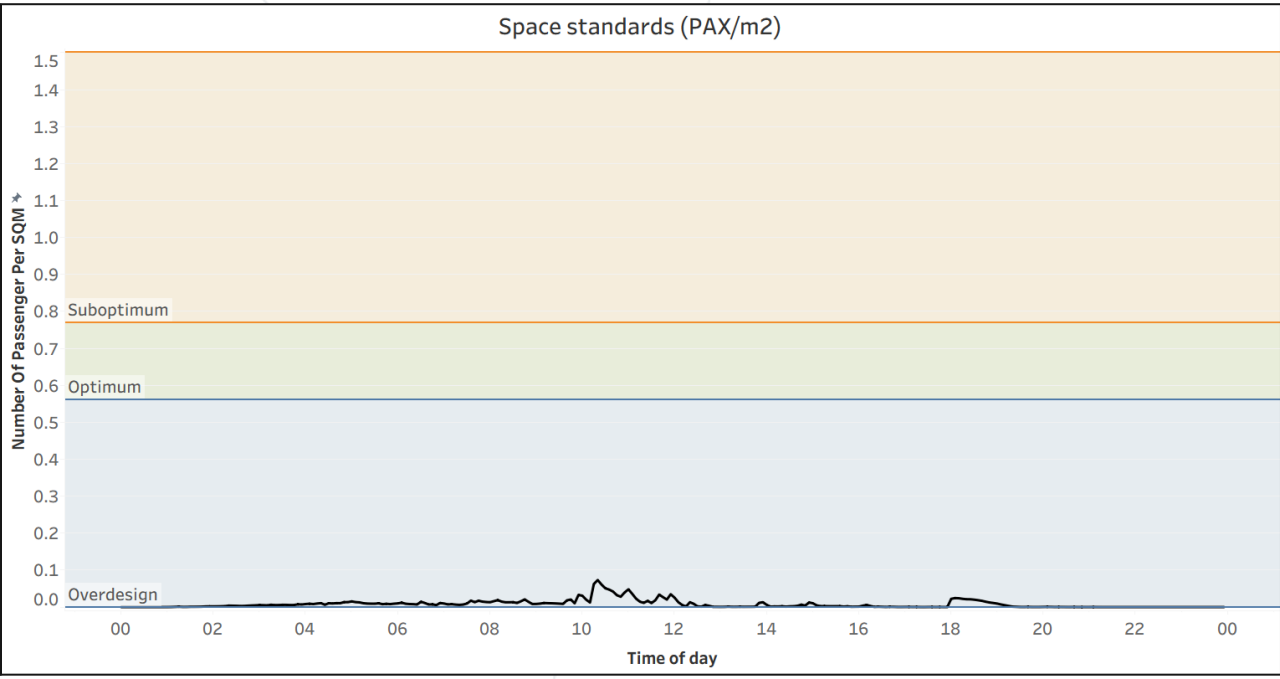




Check-in T2

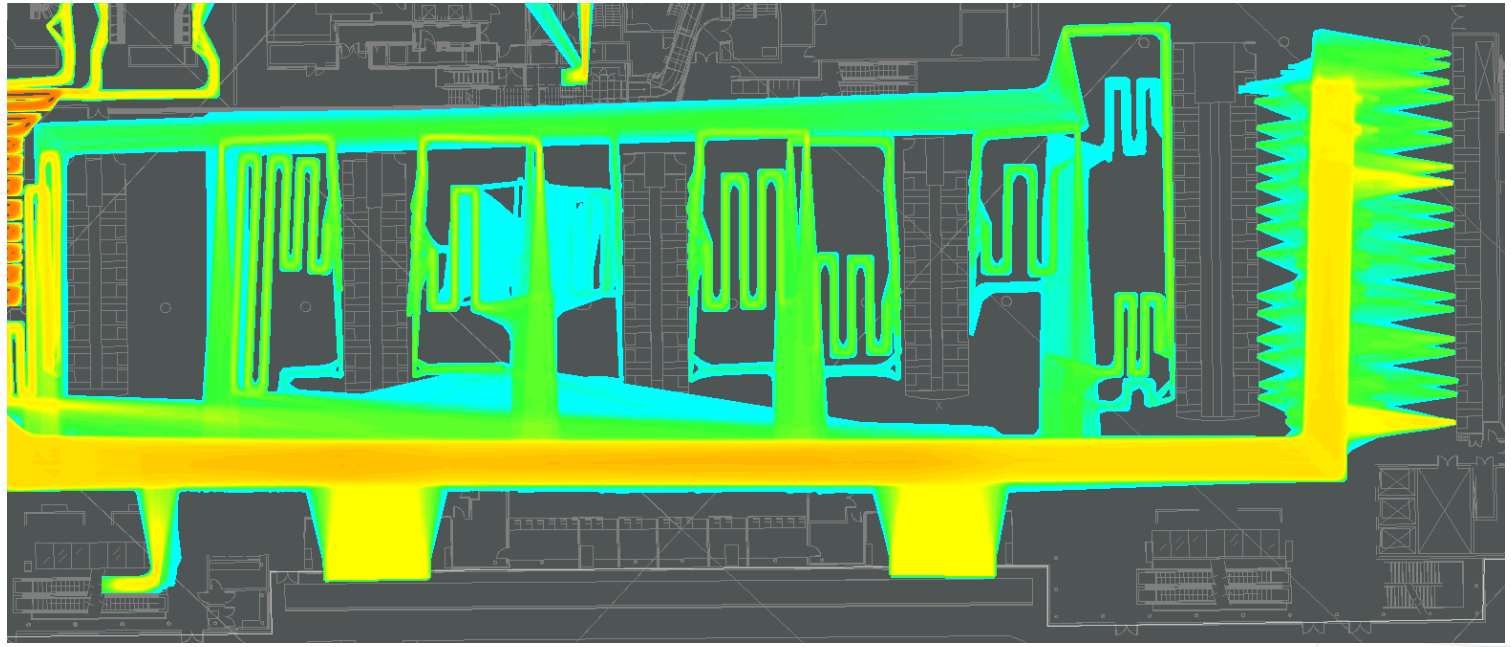
- For most of the day, T2 check-in area has enough space and passenger processors to provide an adequate level of service, as both time and space metrics stay within acceptable levels, with two notable exceptions:
- There are two large queueing time peaks of 1 hour and 10 minutes at 11:00 and another one of 40 minutes at 19:00. These peaks are exclusively due to one specific airline operating a wide body aircraft with a modest number of check-in processors in T2.
- The additional check-in counters envisioned in CIP project CIP27.02.48 could alleviate this issue. Since at the time of performing this analysis, it was not known how these processors would be used in the future, it was assumed that they would be allocated to the airline with the most traffic in T2. But if these check-in processors were to be used in a flexible manner, they would help alleviate the two queueing peaks observed.



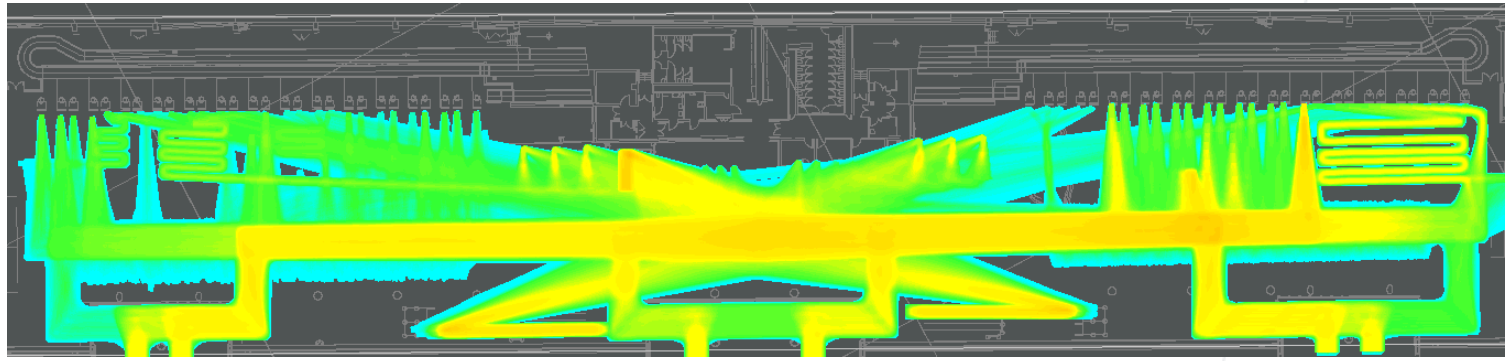


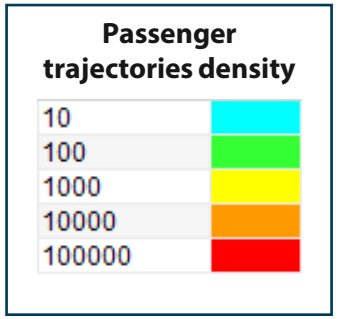
Check-in T1 and T2 density maps

Terminal 1 check-in area



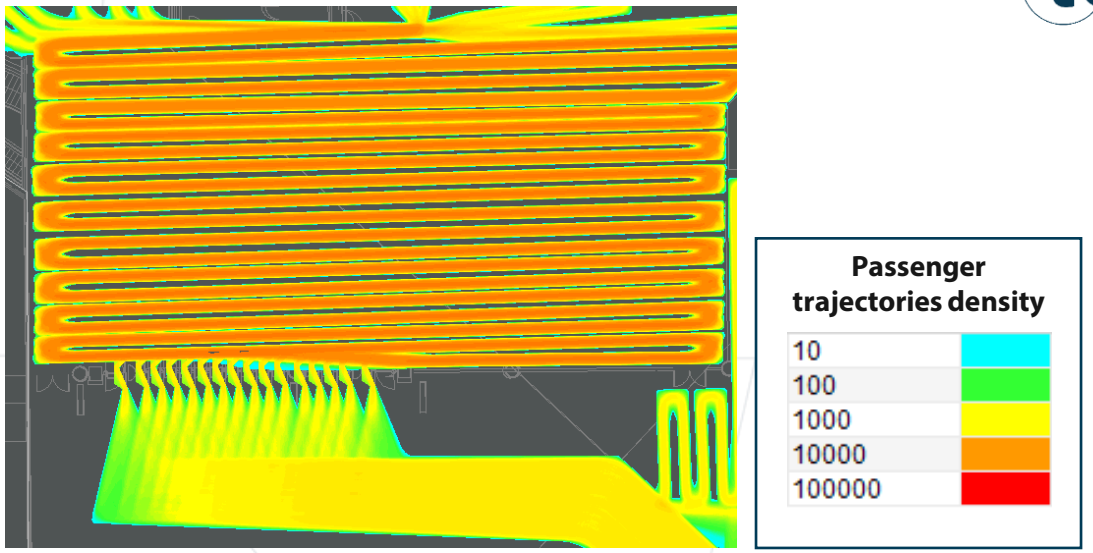
Terminal 2 check-in area

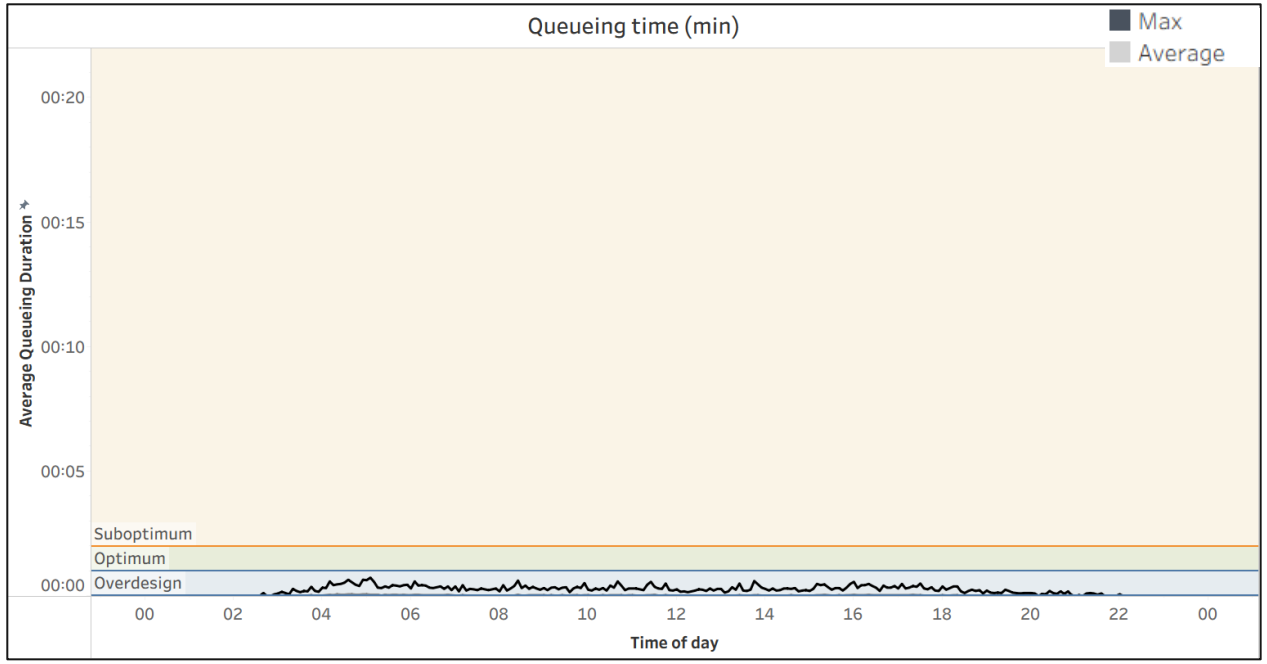


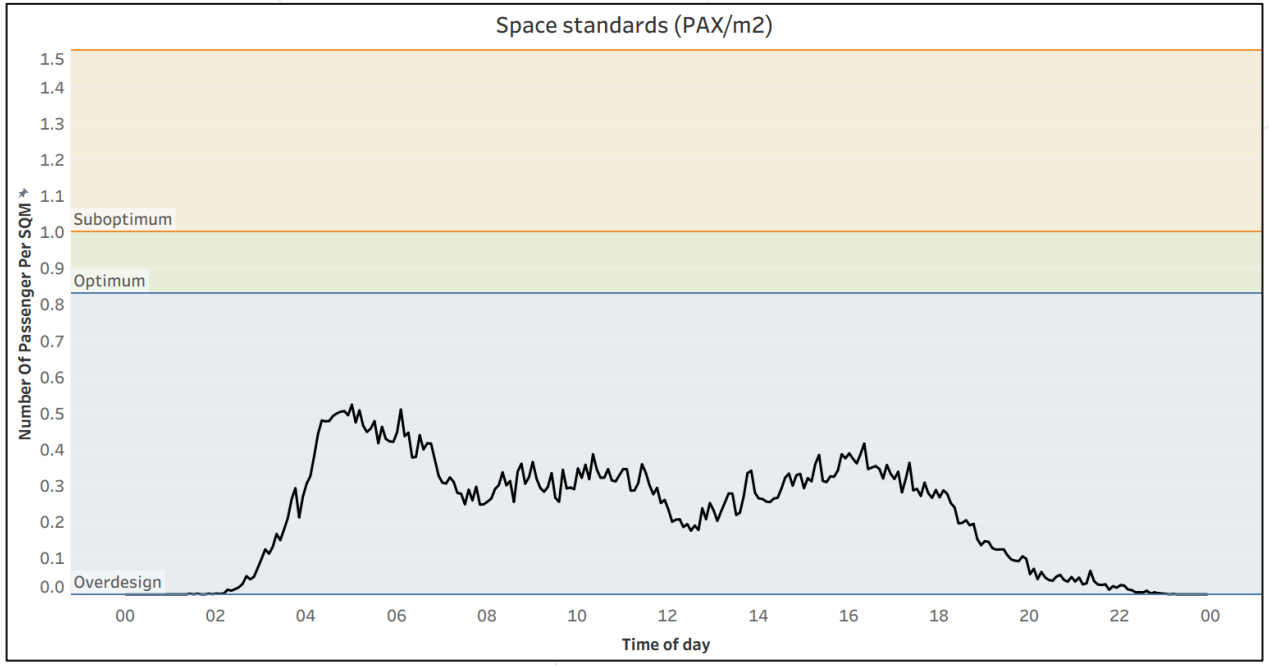


Boarding pass scan T1

- IATA does not provide LoS values for boarding pass scans so, given the nature of the processor, we have used the most restrictive reference limits from the LoS values for queueing time and the same as security for space standards.
- T1 boarding pass scan area has enough space and passenger processors to provide an adequate level of service, as both time and space metrics stay at acceptable levels.

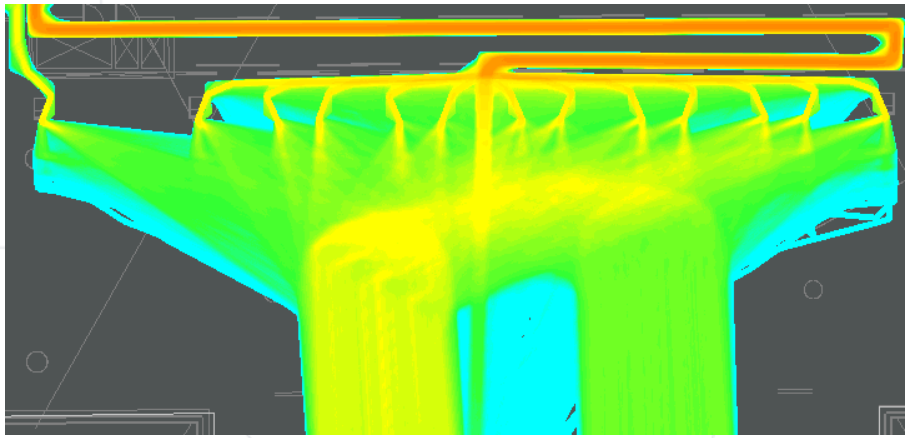


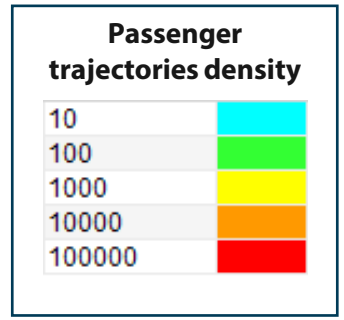


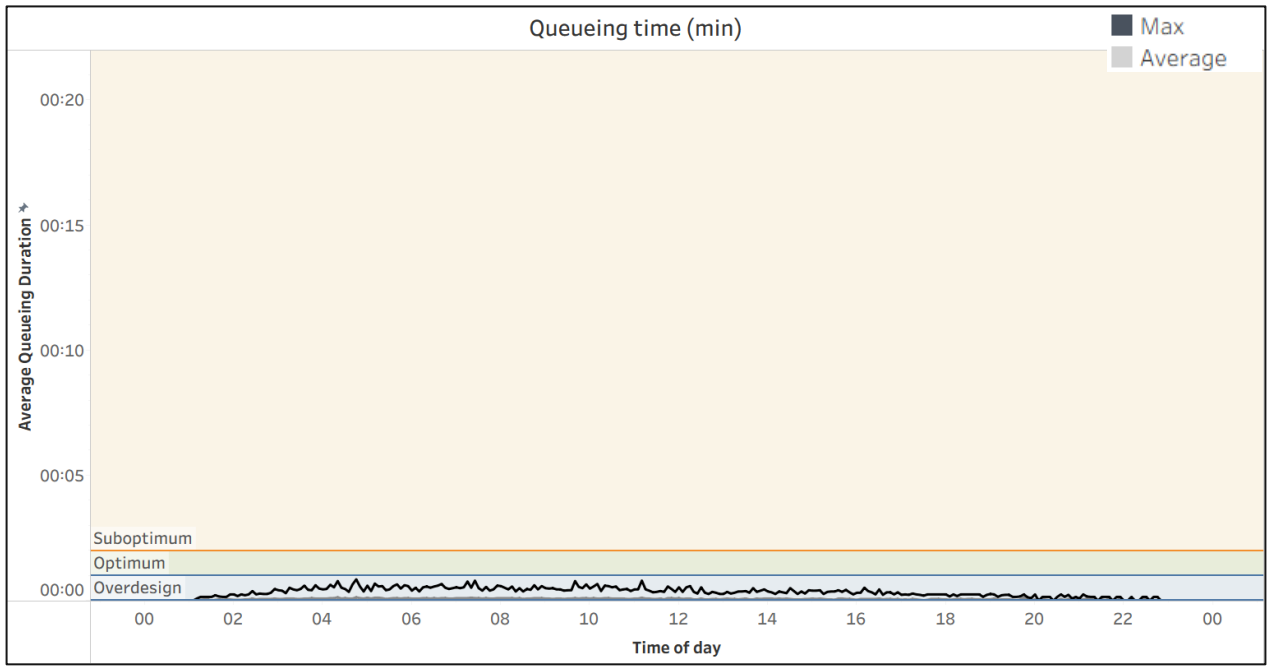


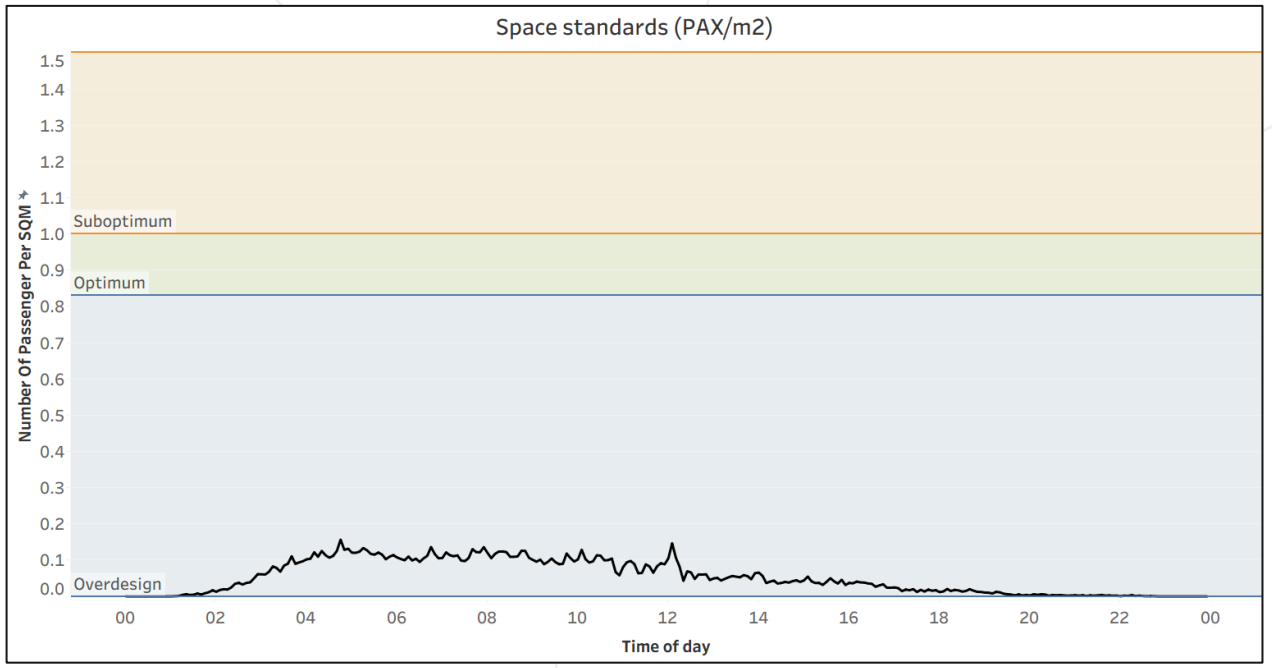
Boarding pass scan T2

- IATA does not provide LoS values for boarding pass scans so, given the nature of the processor, we have selected the most restrictive from the LoS values for queueing time and the same as security for space standards.
- T2 boarding pass scan area has enough space and passenger processors to provide an adequate level of service, as both time and space metrics stay at acceptable levels.



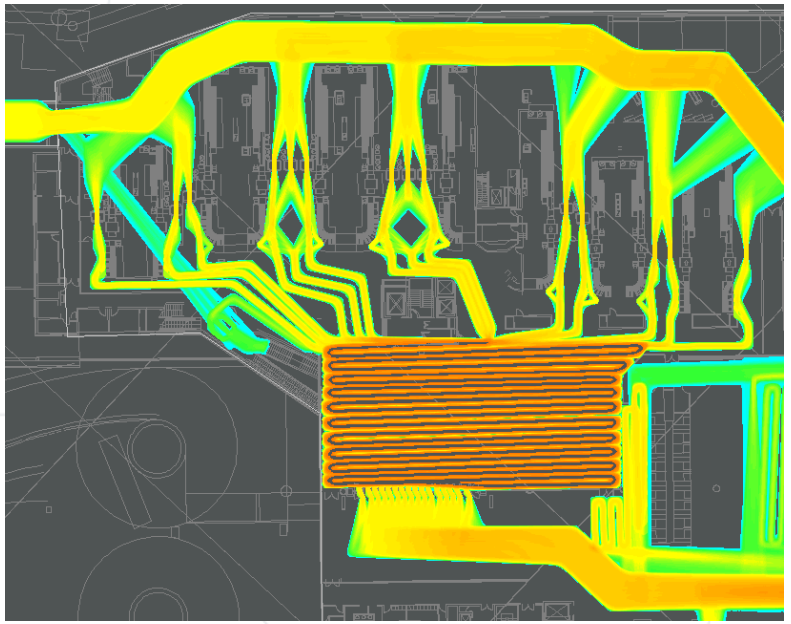


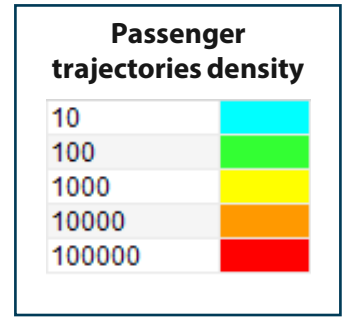


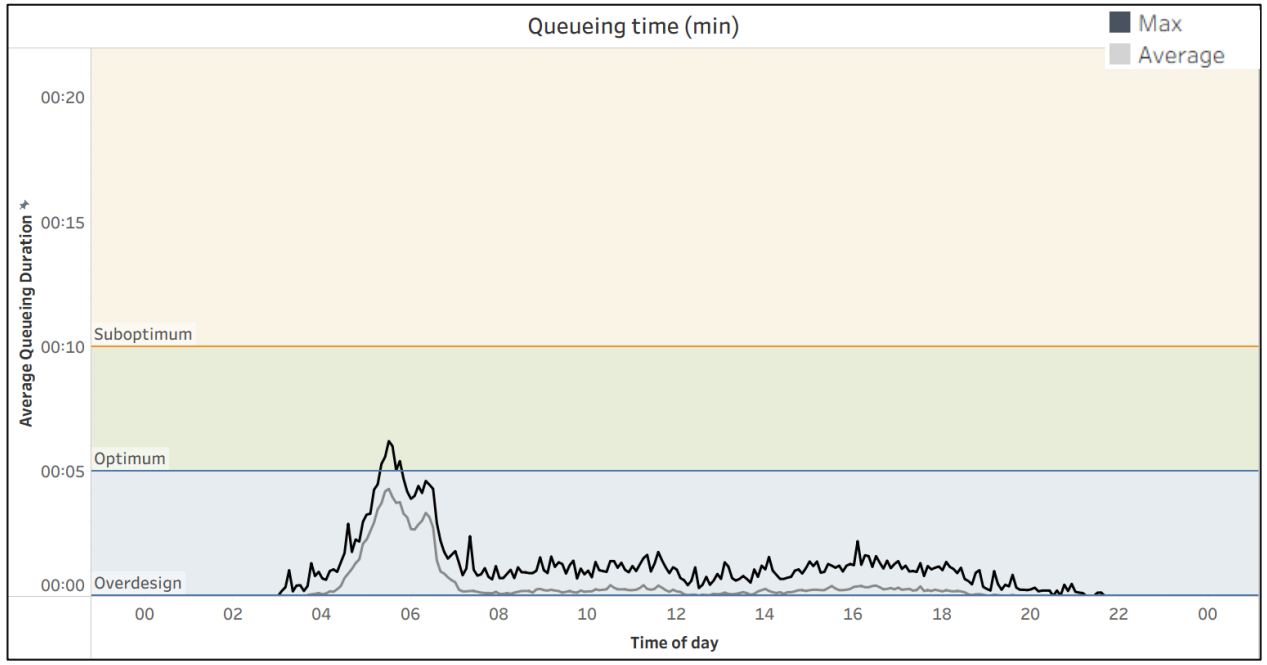


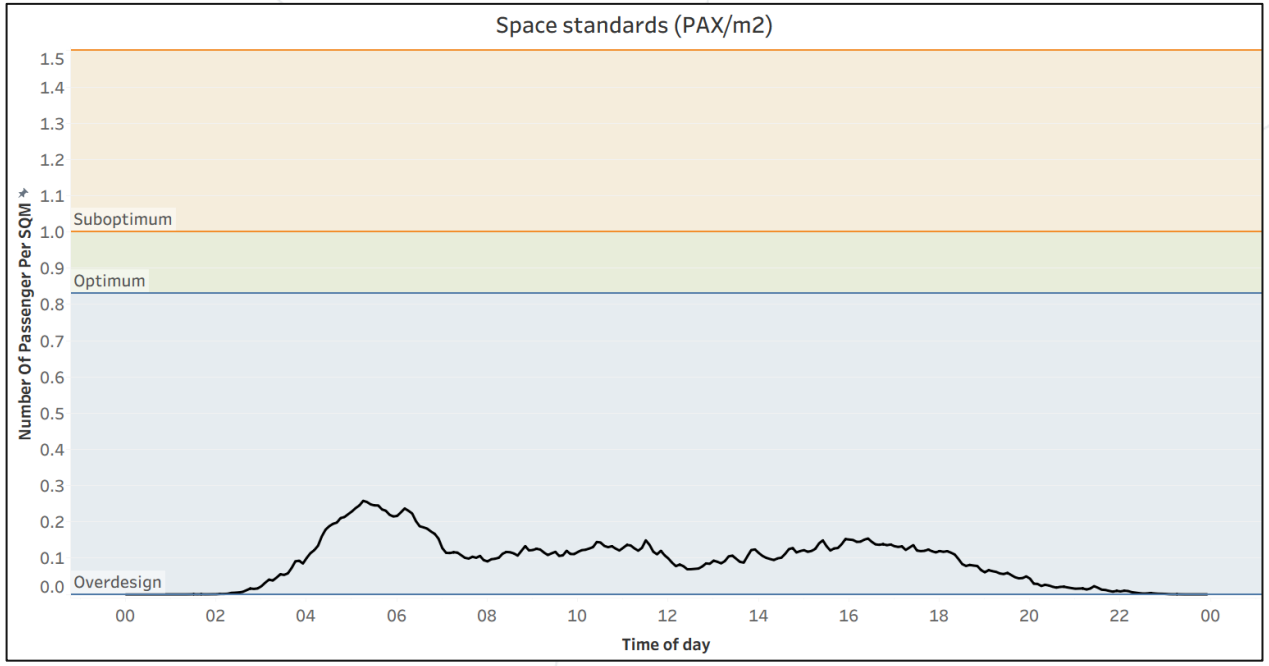
Security control T1

- T1 security control area has enough space and passenger processors to provide an adequate level of service, as both time and space metrics stay at acceptable levels.



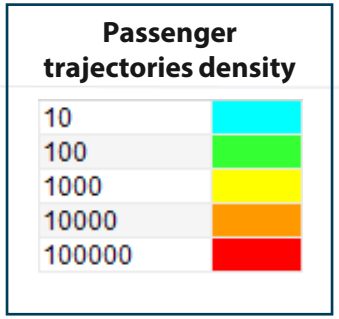


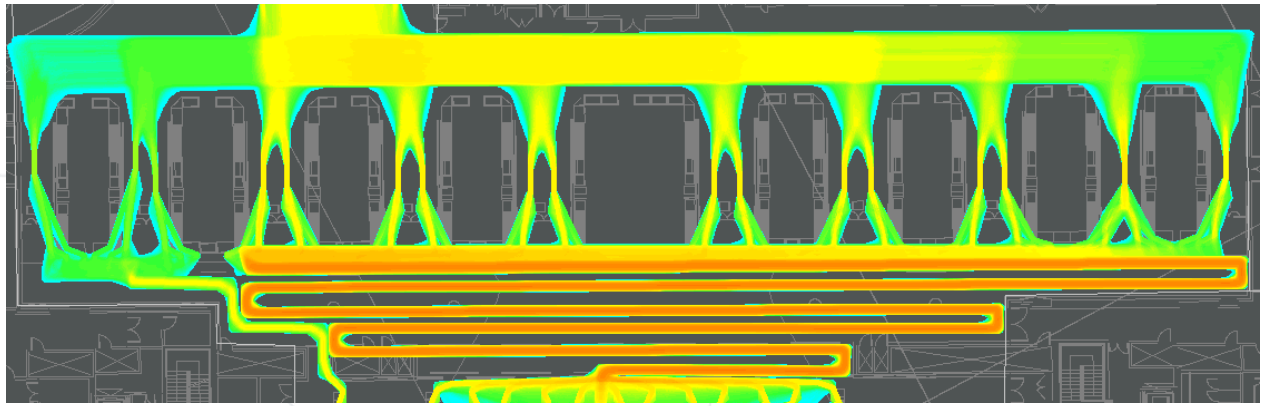


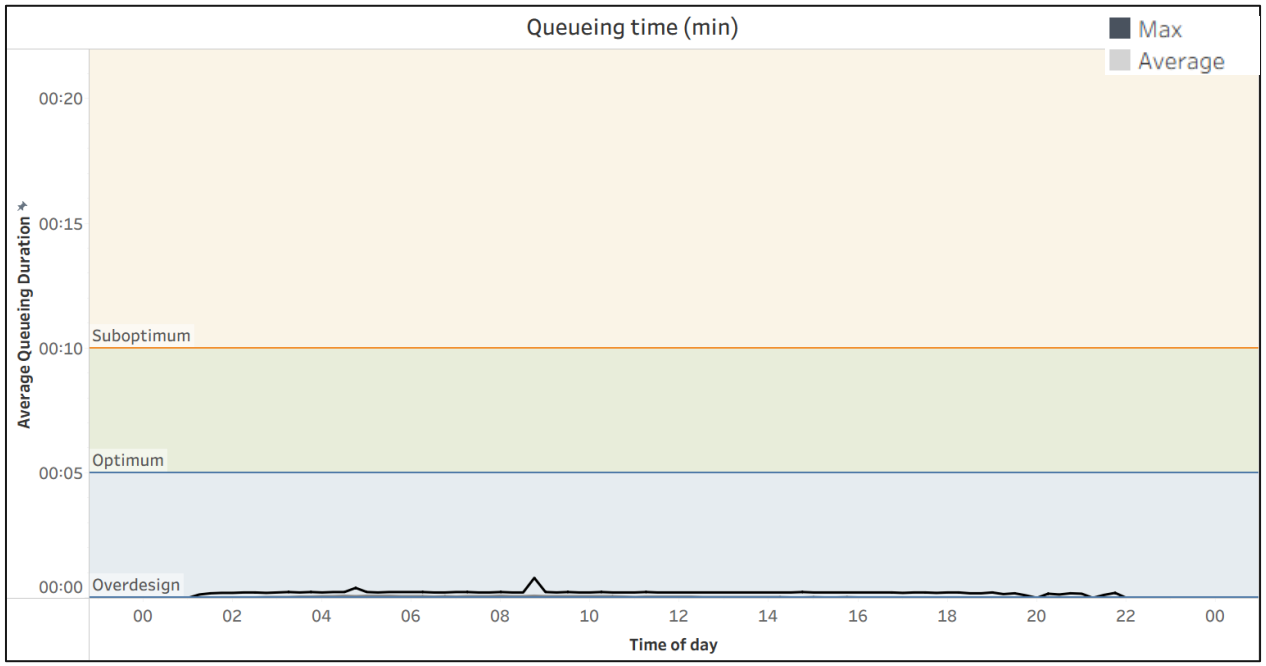


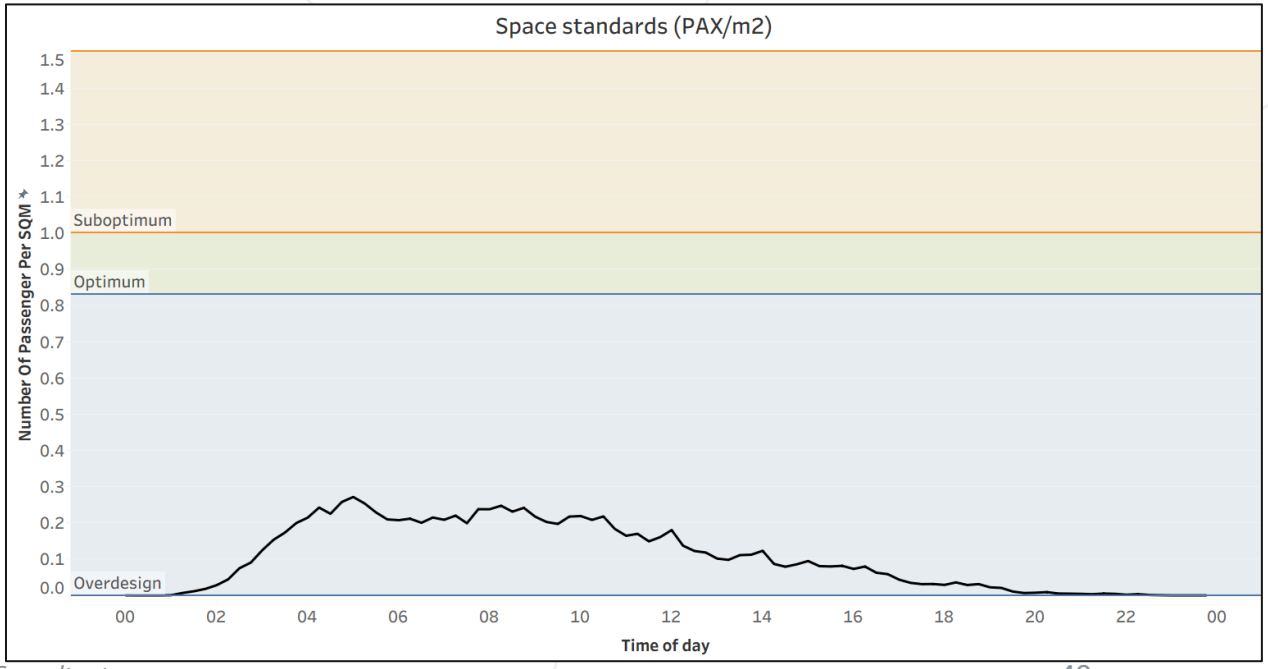
Security control T2

- T2 security control area has enough space and passenger processors to provide an adequate level of service, as both time and space metrics stay at acceptable levels.



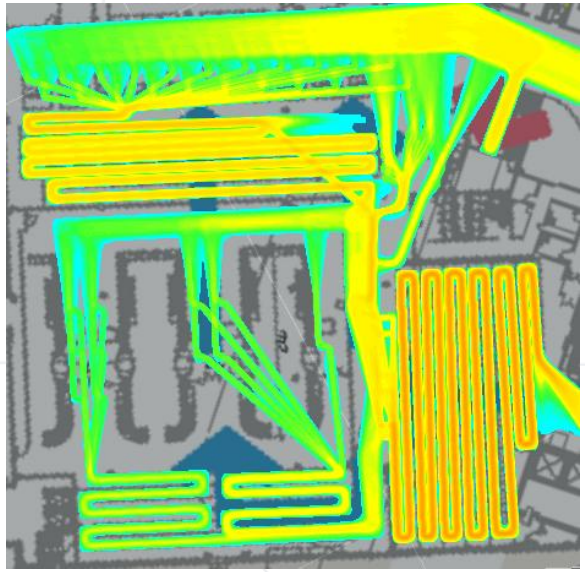


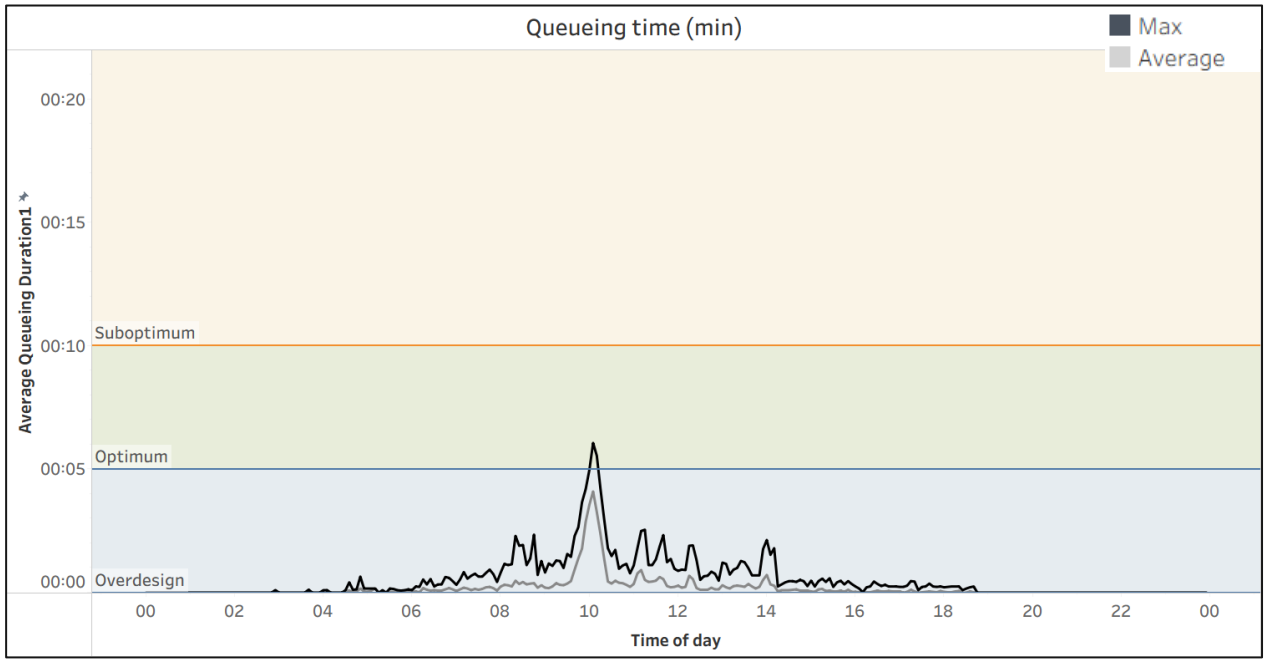


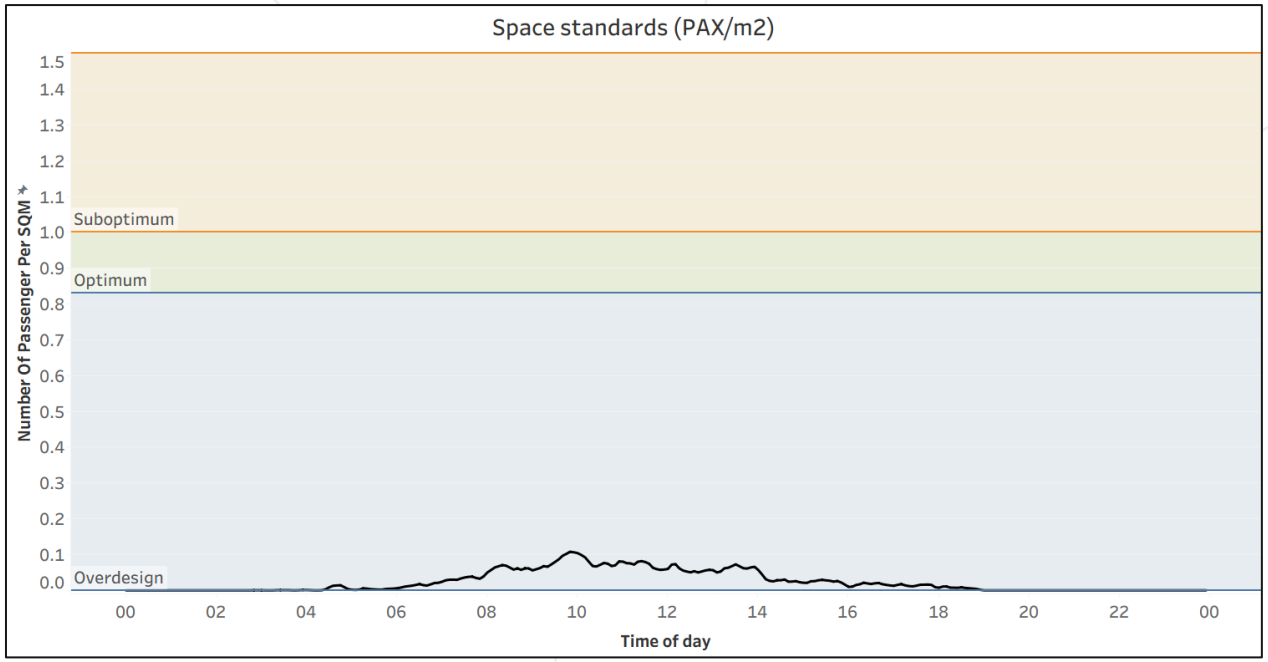


TSA-CBP

- The new TSA-CBP area has enough space and passenger processors to provide an adequate level of service, as both time and space metrics stay at acceptable levels.
- The addition of numerous CBP processors results in a rather efficient operation at this area.

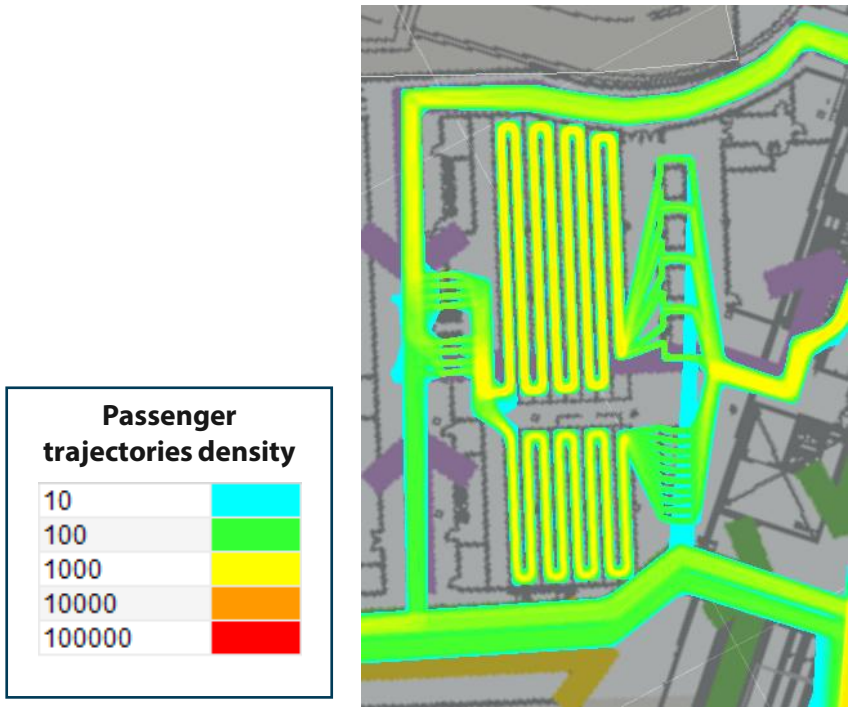


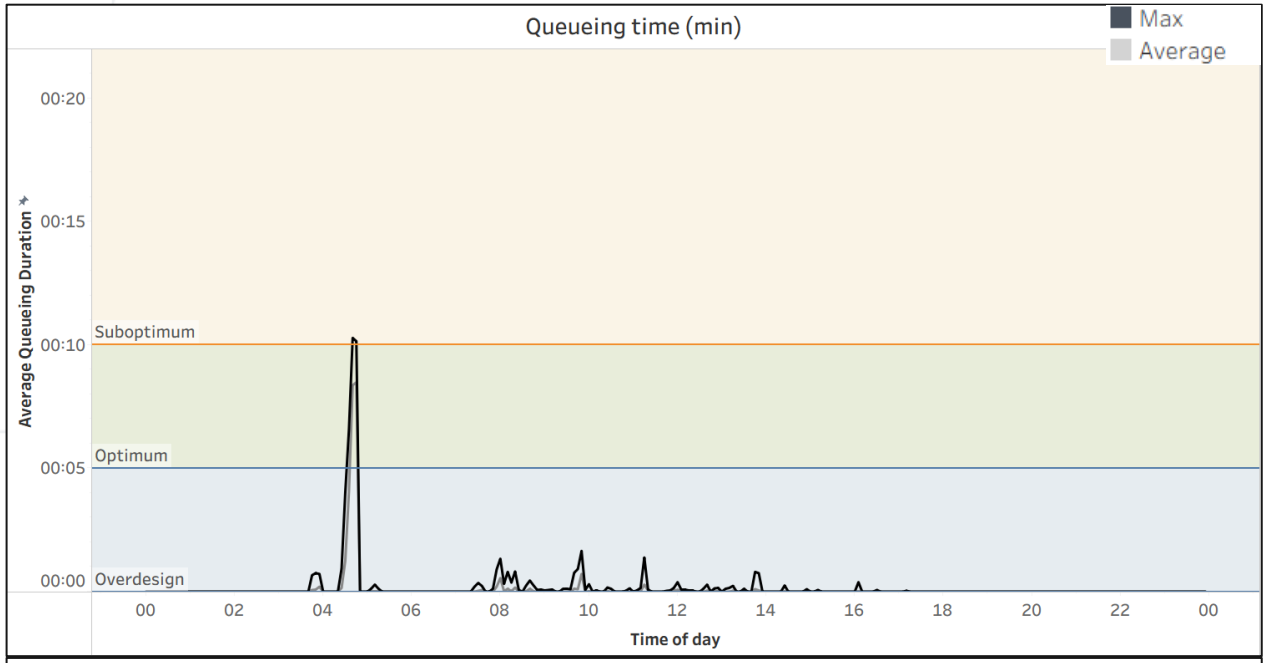


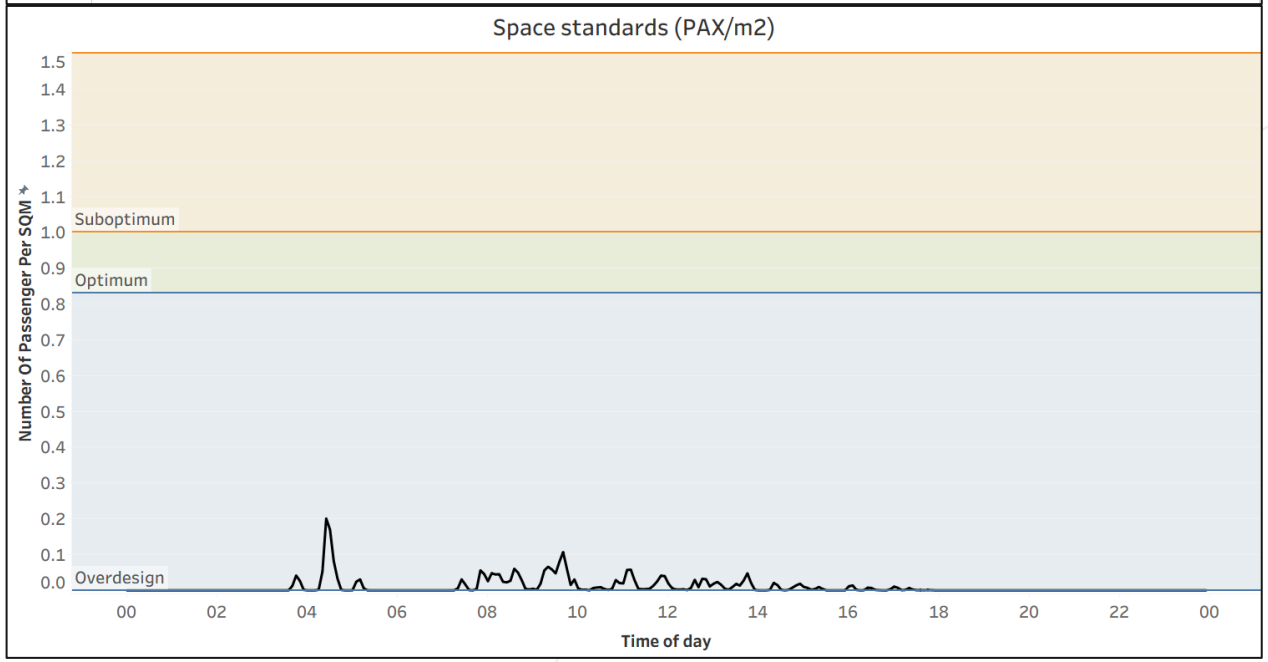


Transfer facilities

- The new T2 transfer area has enough space and passenger processors to provide an adequate level of service, as both time and space metrics stay at acceptable levels.
- The addition of numerous booths and e-gates for transfer passengers results in a rather seamless passenger flow in this area.

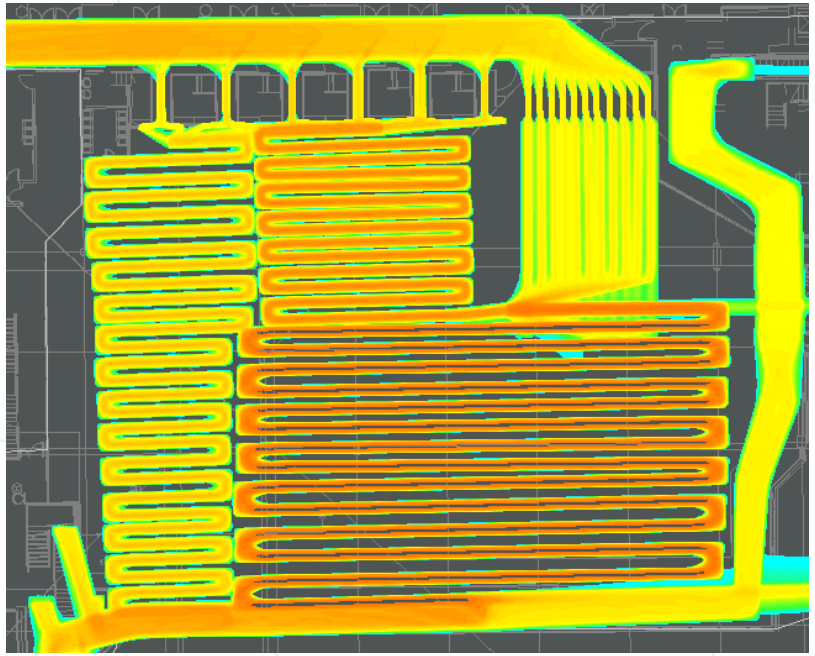


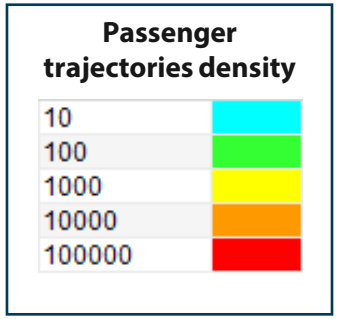


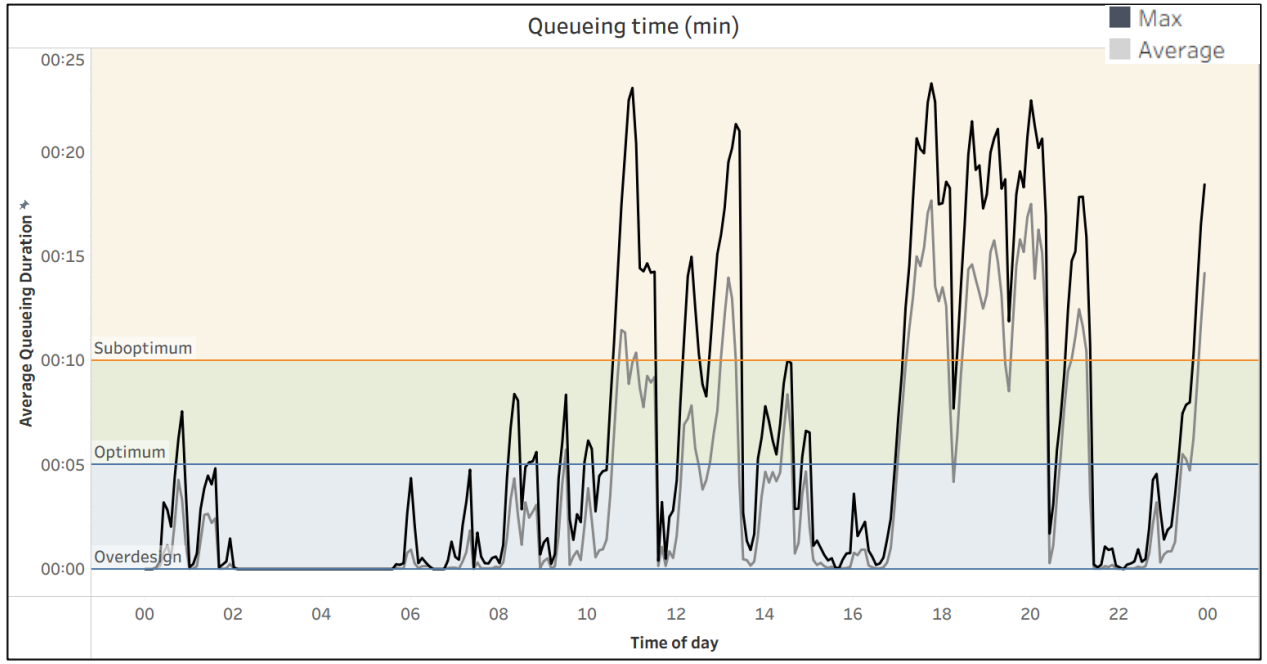


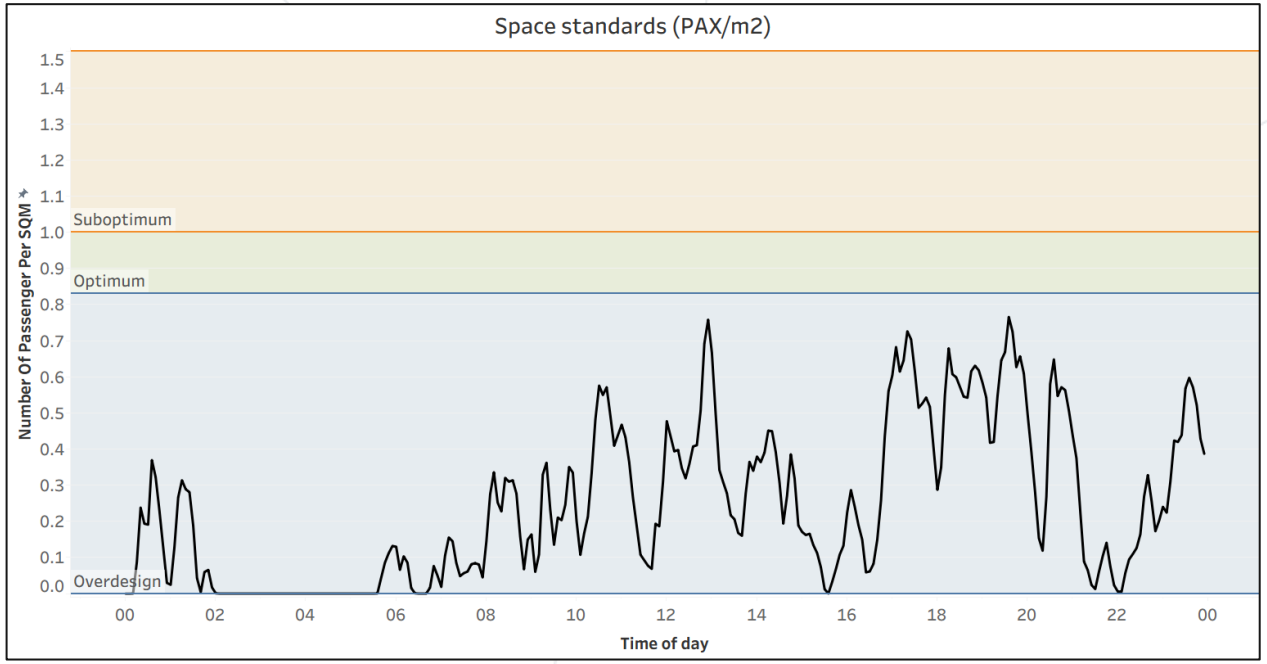
T1 Main Immigration

- Immigration Pier 1 and 2 remains a congested area. While it performs well regarding the space standards, the queueing time exceeds 10 minutes and falls into the suboptimum levels several times a day, most notably in the evening.
- Large queues happen for both the manned booths as well as for the e-gates. And the waiting time LoS threshold for e-gates is even lower (1-5 minutes).



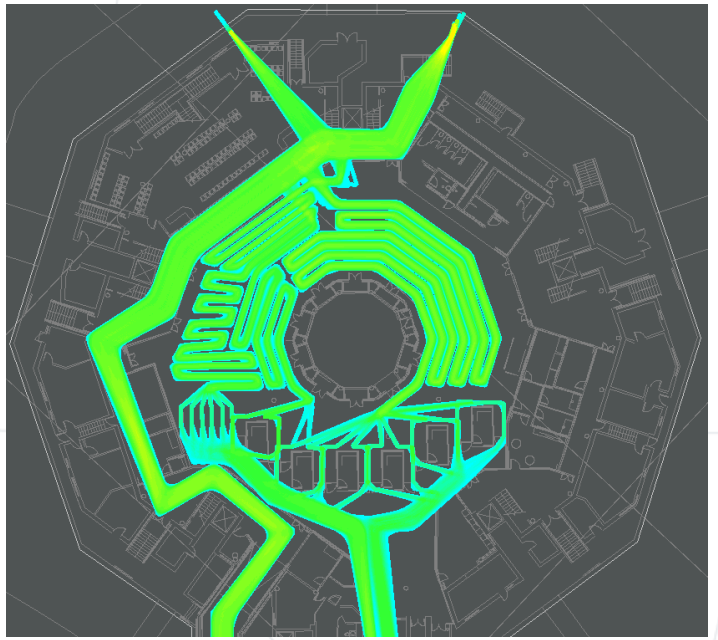


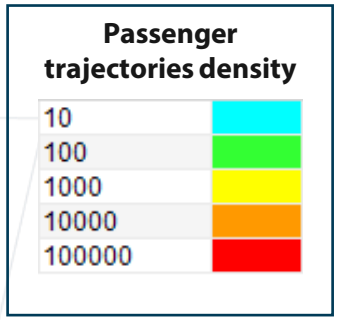


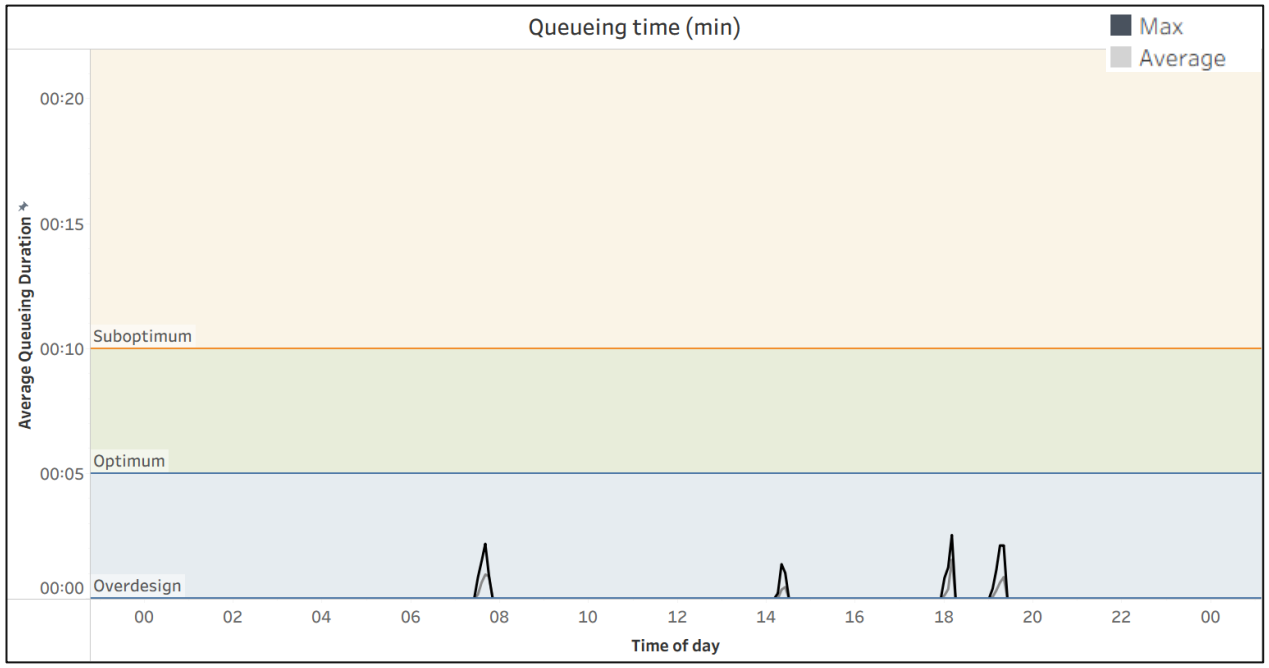


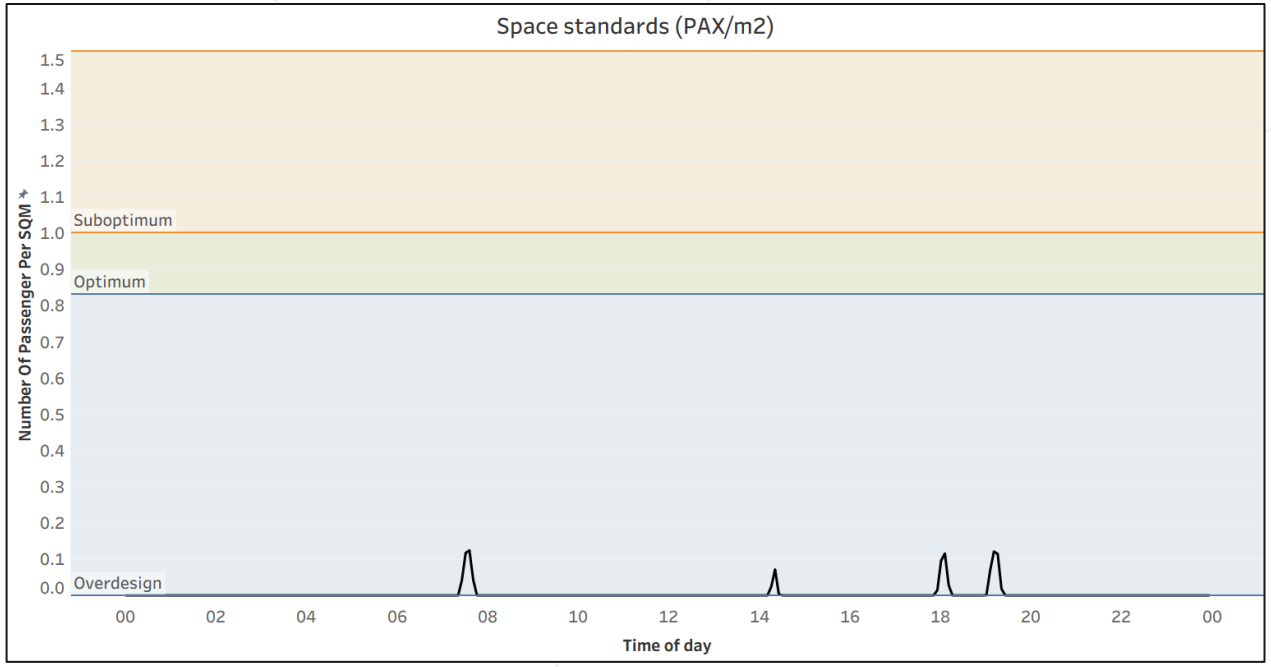
Immigration Pier3

- For the given traffic input data (and because T2 airline passengers are directed to T2 immigration via a walkway bypassing the Pier 3 immigration), there were not many passengers simulated through Pier 3 immigration.
- Thus, Pier 3 immigration area has enough space and passenger processors to provide an adequate level of service, as both time and space metrics stay at acceptable levels.



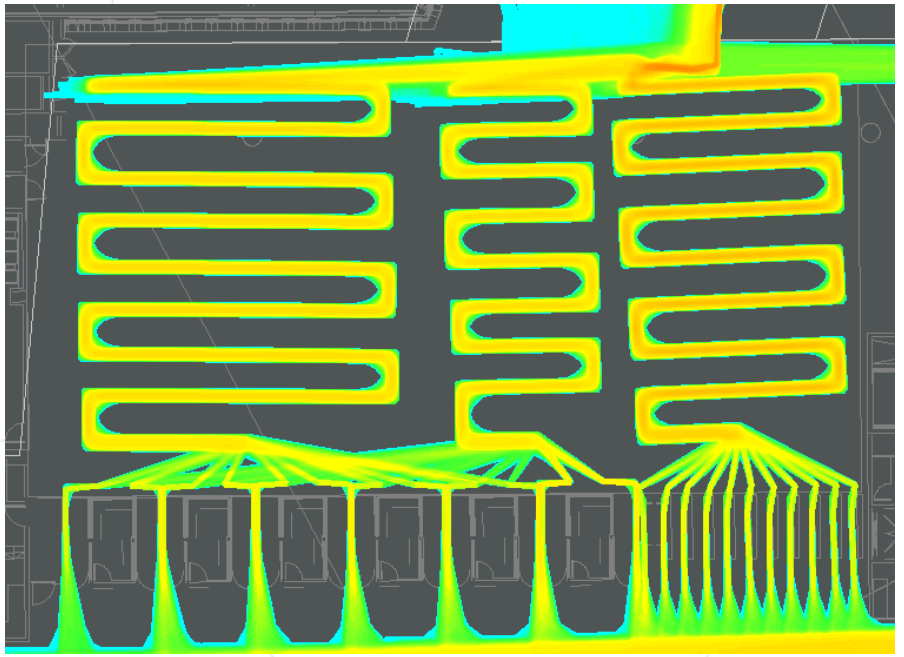






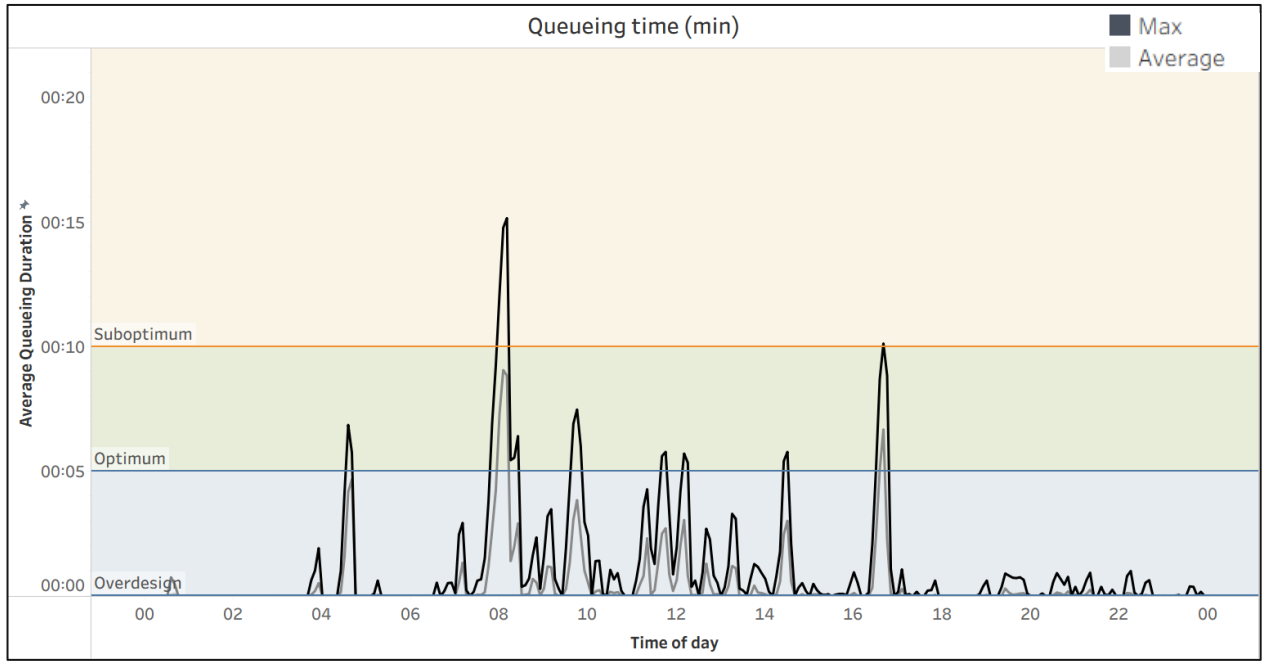
Immigration T2

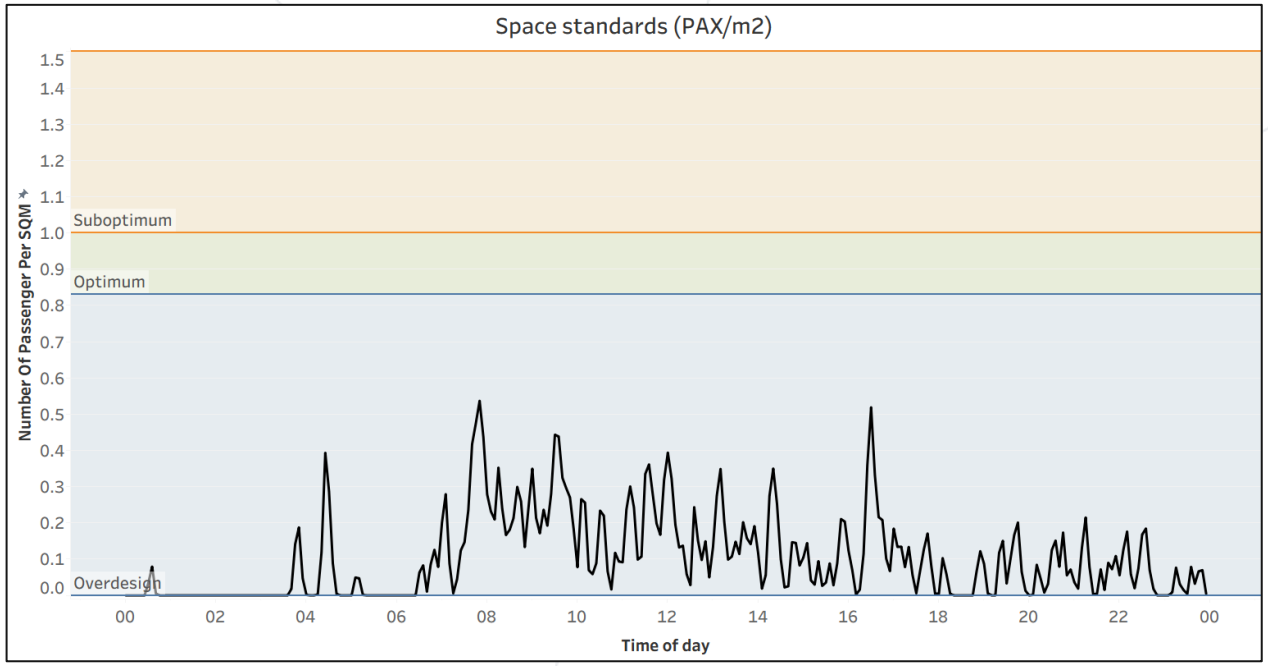
- T2 immigration area has enough space and passenger processors to provide an adequate level of service, as both time and space metrics stay at acceptable levels.
- There is a brief peak of 15 minutes of queueing time at around 8:00 that quickly drops back to lower levels. This is still acceptable as per IATA guidelines.



Passenger trajectories density

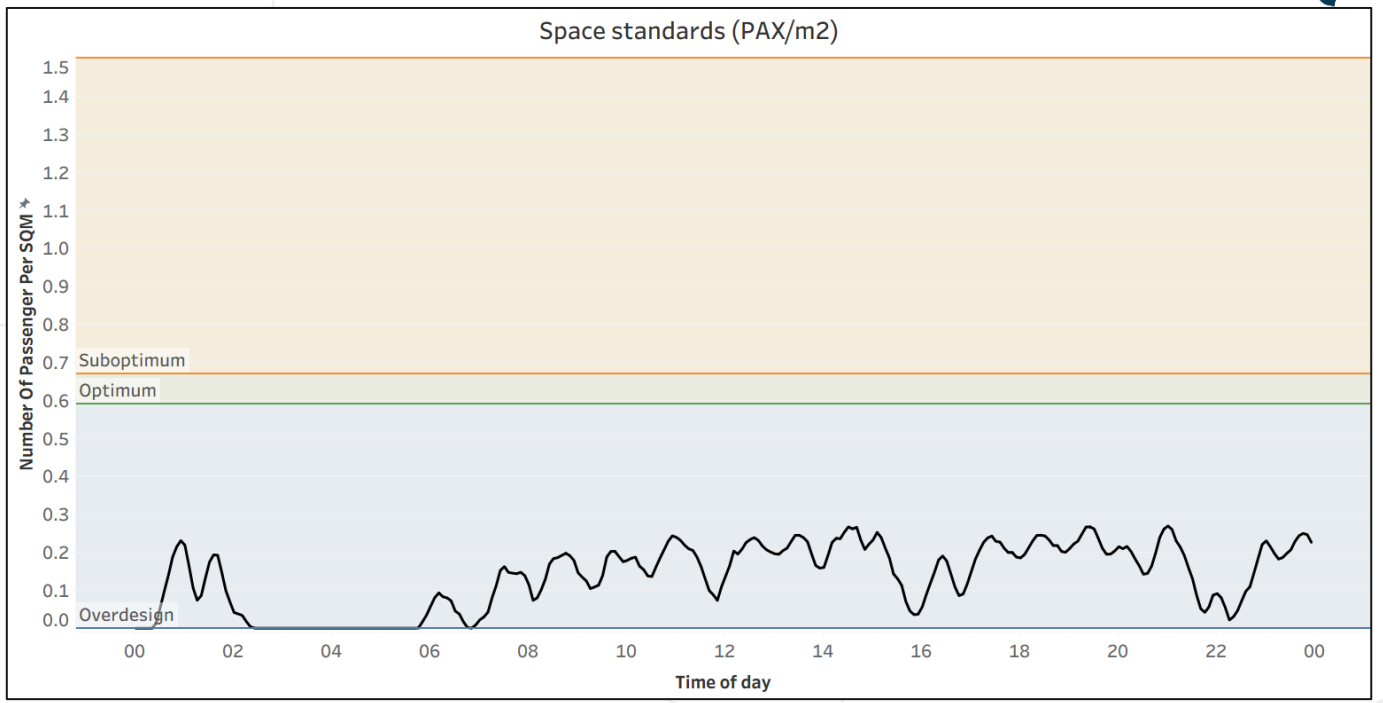
10	
100	
1000	
10000	
100000	

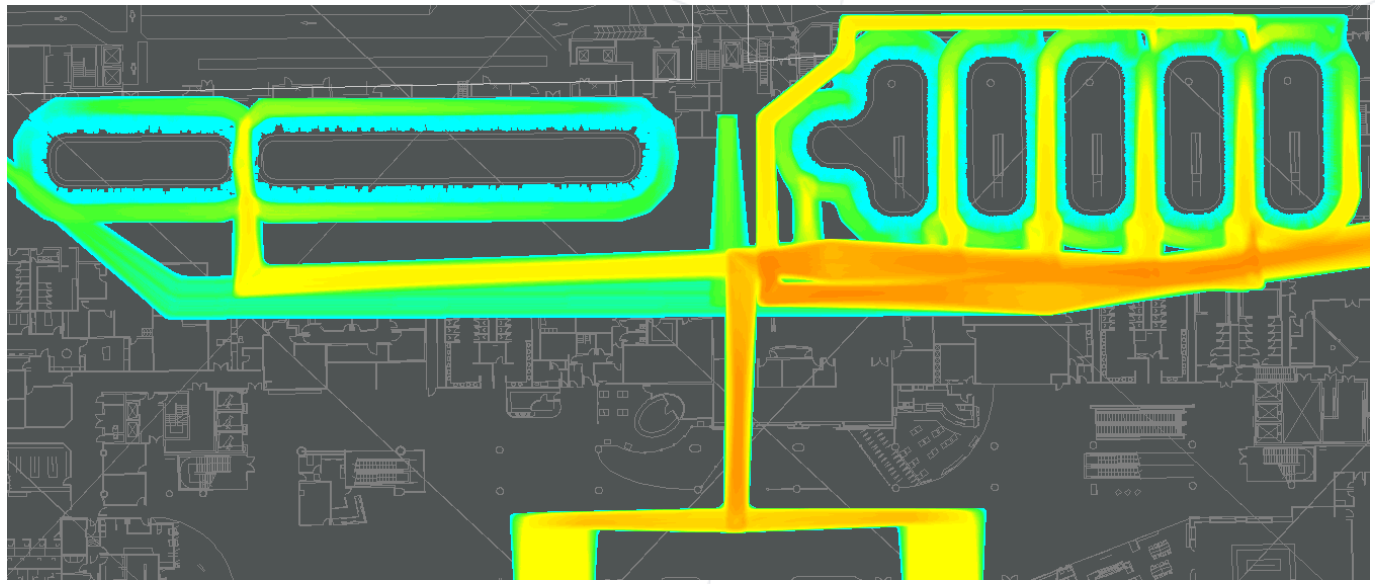


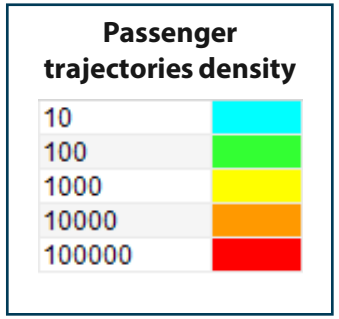


Baggage reclaim T1

- The simulation model does not include a detailed Baggage Handling System modelling module.
- Details of a first and last bag for each flight were used as inputs for simulating the time the passengers spend waiting at the baggage reclaim belt. As these values were provided as inputs, it is not feasible to “measure” the time the passengers will have to wait for their baggage.
- However, it was possible to measure the space standards in the baggage reclaim hall – in T1, the baggage reclaim area provides sufficient space for the number of passengers it serves.

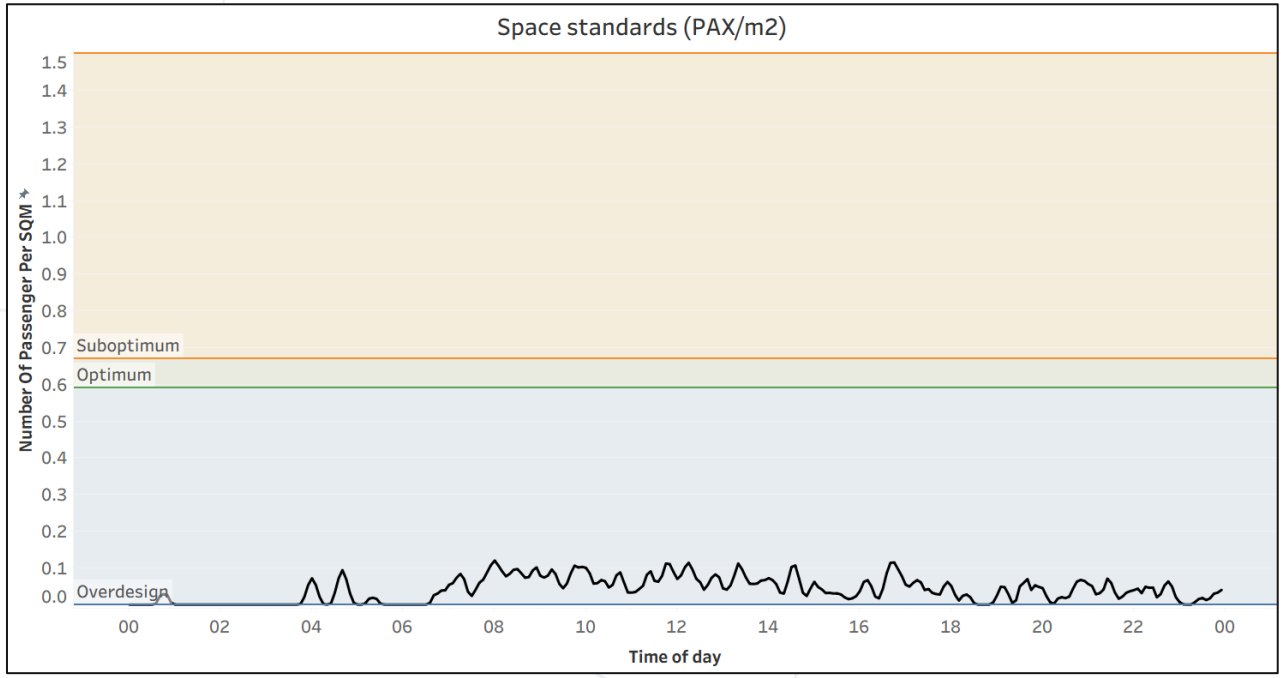


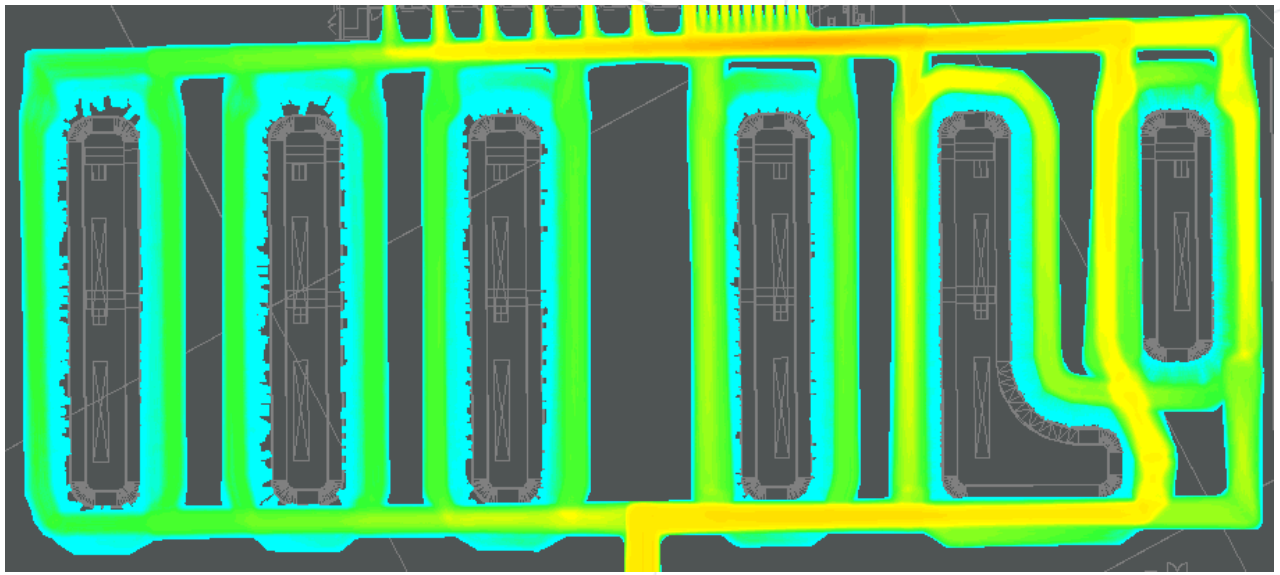


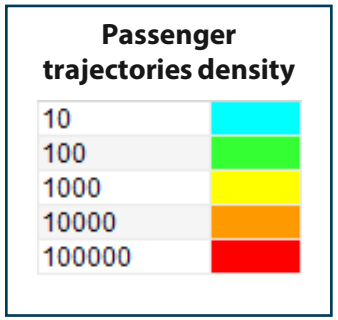


Baggage reclaim T2

- The simulation model does not include a detailed Baggage Handling System modelling module.
- Details of a first and last bag for each flight were used as inputs for simulating the time the passengers spend waiting at the baggage reclaim belt. As these values were provided as inputs, it is not feasible to “measure” the time the passengers will have to wait for their baggage.
- However, it was possible to measure the space standards in the baggage reclaim hall – in T2, the baggage reclaim area provides sufficient space for the number of passengers it serves.

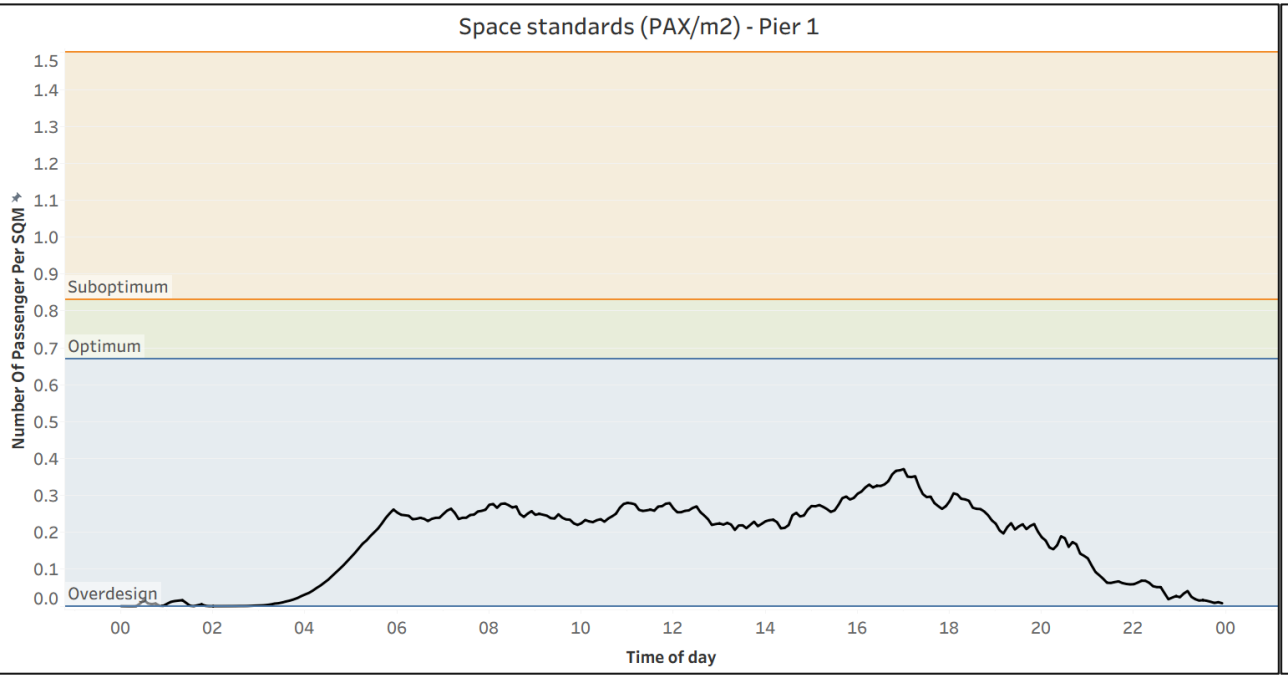


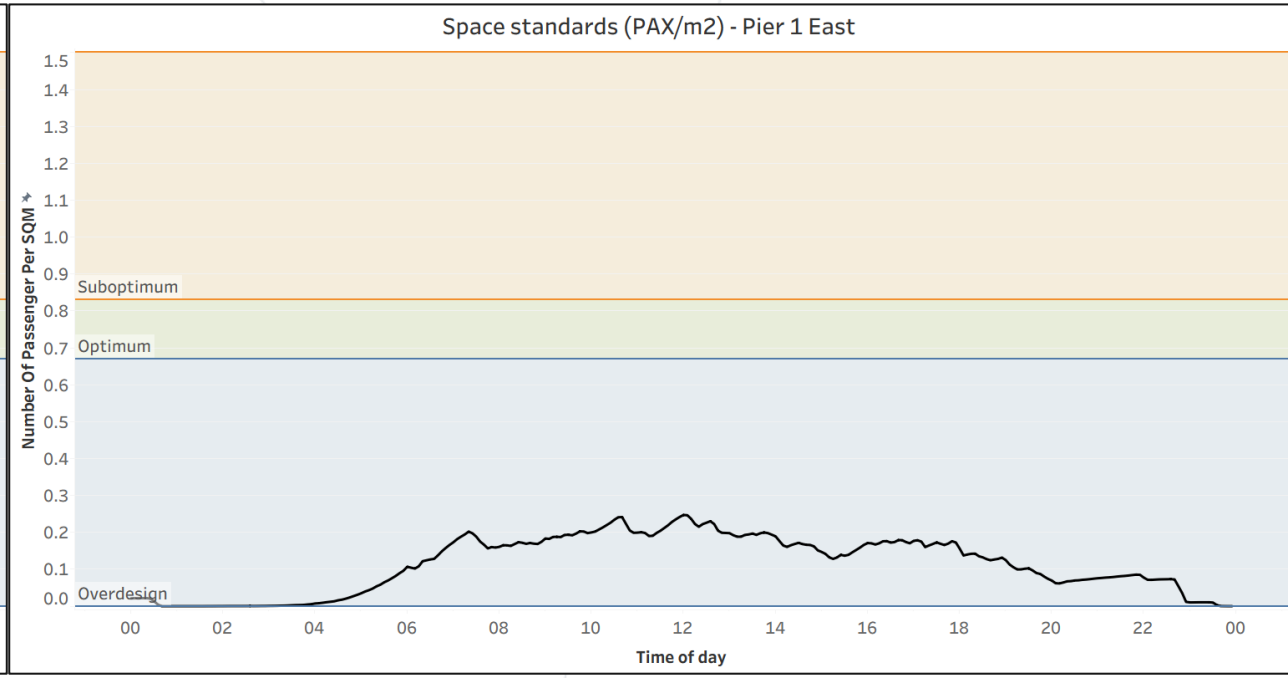




Pier 1 and Pier 1 East

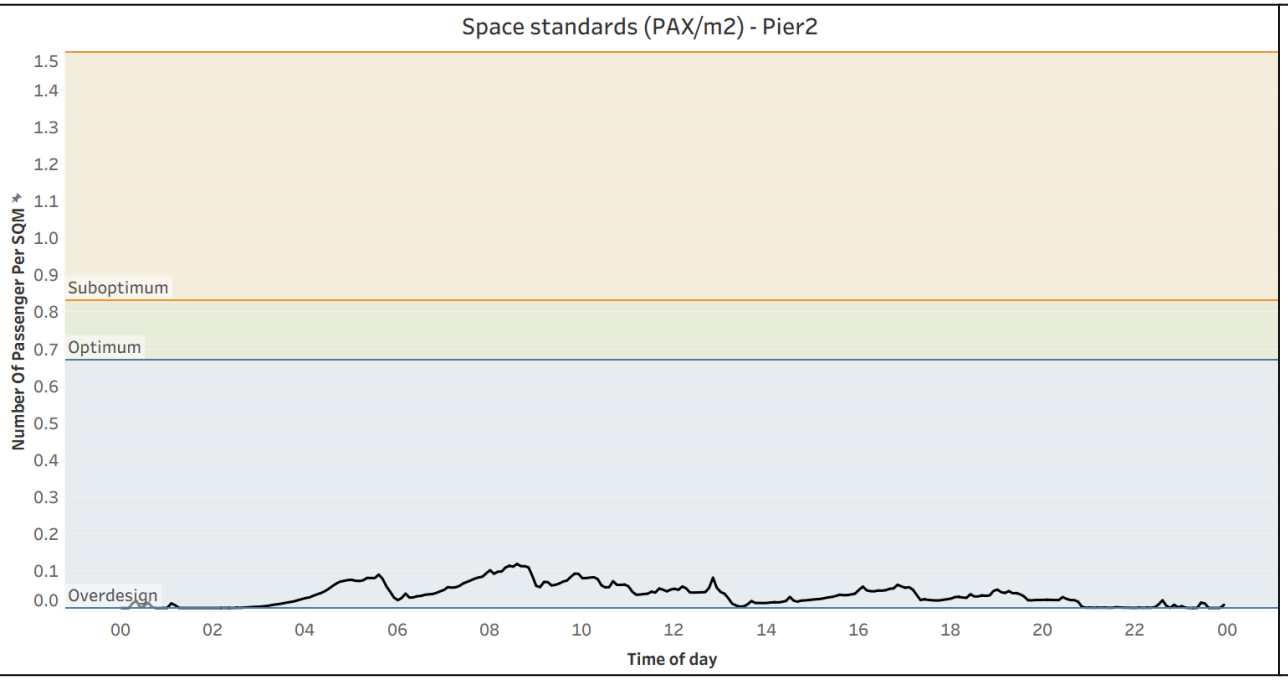
- The piers and other pre-boarding areas have been modelled in a simplified manner without aspects like retail, food and beverage (F&B), restrooms, VIP lounges, airline specific boarding procedures, etc. In the simulation, passengers simply wait at a predefined area near their gate.
- Therefore, only space requirements are relevant for this assessment. From that perspective, both Pier 1 and Pier 1 East provide sufficient space to passengers.

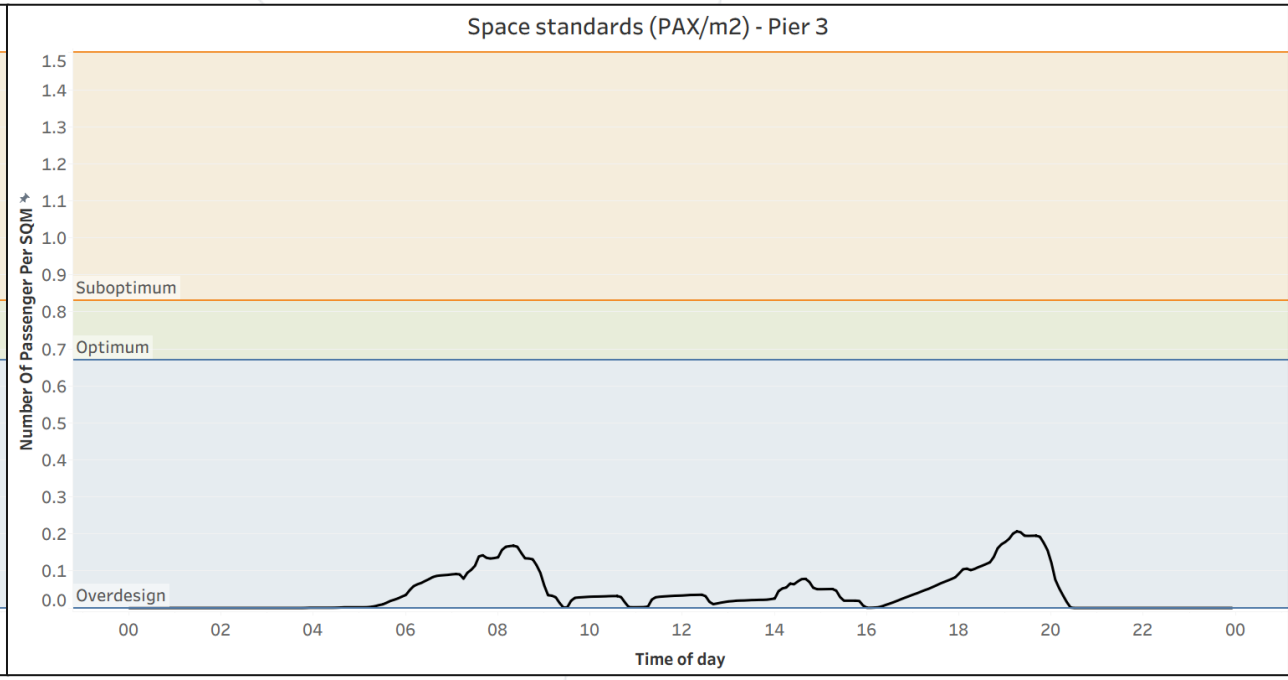




Pier 2 and Pier 3

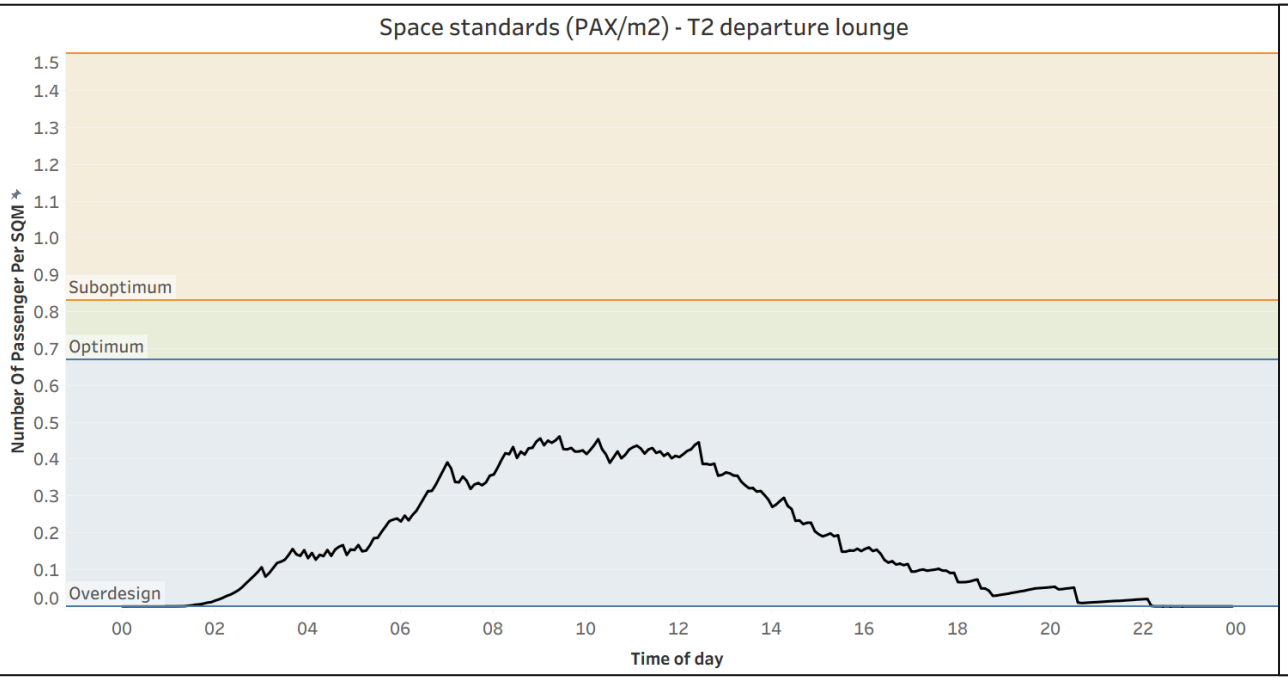
- The piers and other pre-boarding areas have been modelled in a simplified manner without aspects like retail, food and beverage (F&B), restrooms, VIP lounges, airline specific boarding procedures, etc. In the simulation, passengers simply wait at a predefined area near their gate.
- Therefore, only space requirements are relevant for this assessment. From that perspective, both Pier 2 and Pier 3 provide sufficient space to passengers.

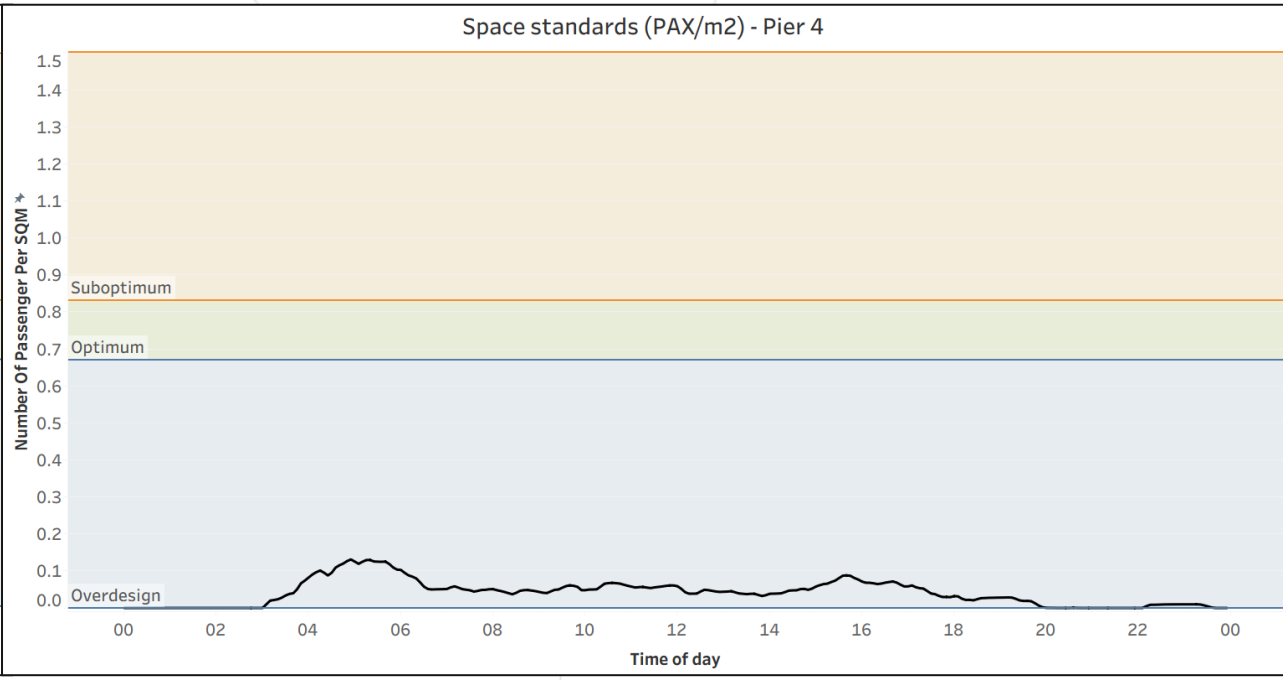




T2 departure lounge and Pier 4

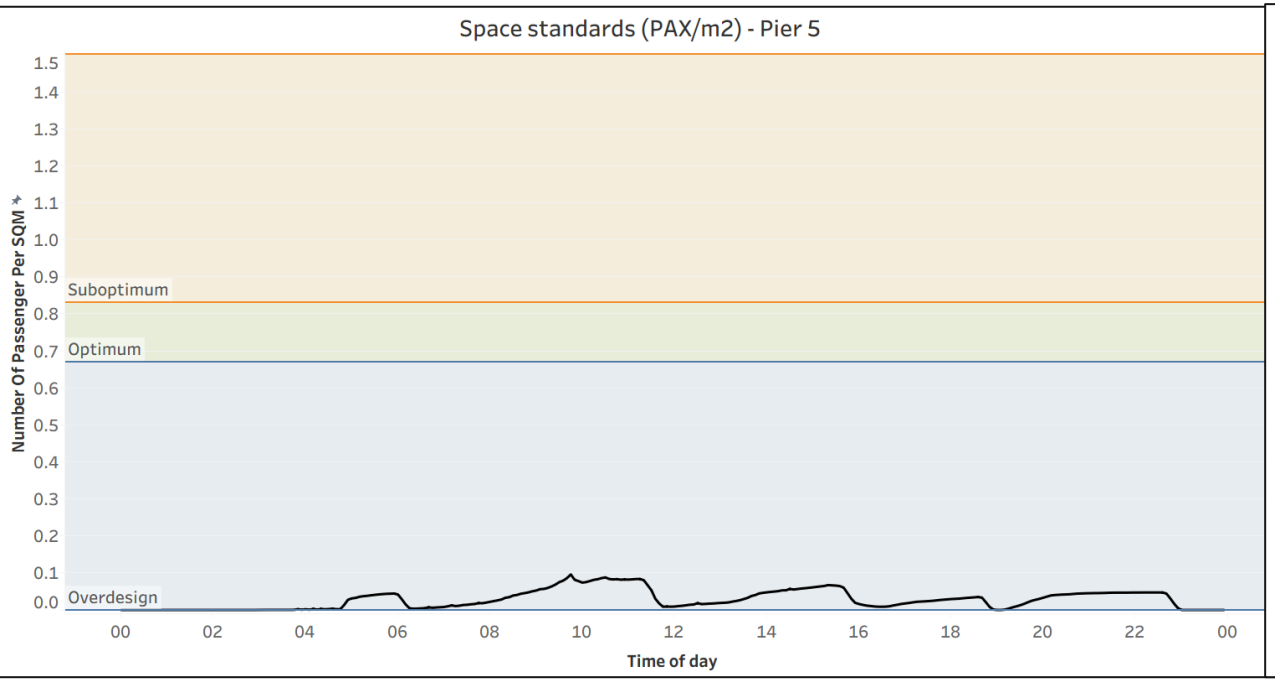
- The piers and other pre-boarding areas have been modelled in a simplified manner without aspects like retail, food and beverage (F&B), restrooms, VIP lounges, airline specific boarding procedures, etc. In the simulation, passengers simply wait at a predefined area near their gate.
- Therefore, only space requirements are relevant for this assessment. From that perspective, both T2 departure lounge and Pier 4 provide sufficient space to passengers.

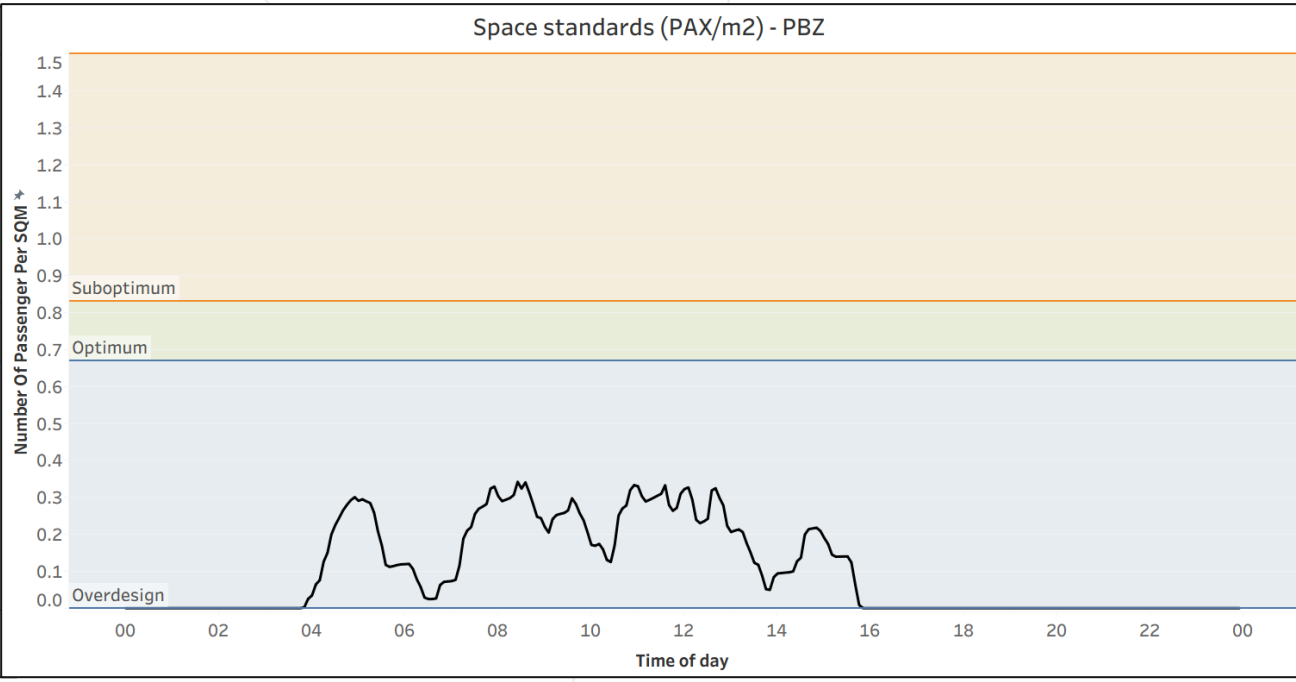




Pier 5 and PBZ

- The piers and other pre-boarding areas have been modelled in a simplified manner without aspects like retail, food and beverage (F&B), restrooms, VIP lounges, airline specific boarding procedures, etc. In the simulation, passengers simply wait at a predefined area near their gate.
- Therefore, only space requirements are relevant for this assessment. From that perspective, both Pier 5 and PBZ provide sufficient space to passengers.





Observations

Main observations

- **Airside:**
  - Airside should be able to handle the anticipated CIP traffic levels well. Caution is recommended with regards to:
    - **Stand availability:** In the early morning period, more than 80% of available parking positions are allocated. The new wide-body stands at Pier 5, if occupied by new wide-body operations, may not provide additional resilience needed to handle the anticipated 10% increase in aircraft movements (compared to Summer 2026 levels).
    - **Arrival runway capacity:** The higher number of arrivals demanding to land on a single runway is pushing the runway performance to its limits. While the south runway still seems to be able to handle the envisaged number of CIP arrivals, the risk of potential increases in arrival airborne delay should be considered.
- **PTB:**
  - For most of the analysed Passenger Terminal areas and processors, the expected available capacity as envisaged in the CIP2027 should be sufficient to accommodate the passenger demand with acceptable LoS as per IATA guidelines. The only two points worth mentioning are:
    - **T1 immigration:** while the space provided can be sufficient, the queueing times go above the acceptable Level of Service thresholds several times a day. This occurs with all available processors open 24/7. However, as the Pier 3 immigration area shows enough available capacity, some of the peaks in the T1 main immigration facility could be potentially resolved by re-allocating more flights onto Pier 3.
    - Use of additional **check-in resources envisaged in T2**: If these new processors are used in a flexible manner (shared by several airlines) they are likely to ensure the check-in queuing times in T2 will stay within acceptable LoS.

Acronyms and abbreviations

IAA	Irish Aviation Authority	PBZ	Pre-Boarding Zone
CAD	Computer Aided Design	PTB	Passenger Terminal Building
CBP	Customs and Border Protection	S26	Summer season 2026
CIP	Capex Investment Programme	SIBT	Scheduled In-block Time
daa	Dublin Airport Authority	SOBT	Scheduled Off-Block Time
F&B	Food and Beverage	T1	Terminal 1
IATA	International Airline Transport Association	T2	Terminal 2
ICAO	International Civil Aviation Organisation	TSA	Transportation Security Administration
LoS	Level of Service	VIP	Very Important Persons
MRO	Maintenance, Repair and Overhaul	WB	Wide-body aircraft
PAX	passengers		

patricia.martin.fernandez@To70.eu
alexandra.dudasova@To70.eu
peter.straka@To70.eu
efe.kulaksizoglu@To70.eu

Bangkok, Bengaluru, Brisbane, Brussels, Edinburgh, Geneva, Medellín, Melbourne, Milan, Munich, São Paulo, Singapore, Shanghai, The Hague, Toronto.

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