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Keflavik International Airport Masterplan Review

March 2023

ISAVIA

Masterplan

KEF Airport Masterplan 2015–2045

Keflavik Airport published its 2040 Masterplan in 2015. This Masterplan set out a vision for the airport's future development based on a forecast of steep long-term growth in traffic and passenger numbers. The plan presented a phased approach to meet this evolving demand.

Since it's publication in 2015, the Masterplan has been revised and adjusted to meet fluctuating traffic forecasts and also phased to the correct capacity accordingly. It has also been adjusted to better coordinate with Kadeco's plans for the area surrounding Keflavik Airport. The current Isavia Masterplan focuses on the operational areas of the airport and providing a flexible, long-term phased development plan based on forecasted passenger numbers and traffic at the airport.

The Masterplan is a guideline for airport authorities to make sound development decisions based on a carefully planned approach. It has no statutory role under Icelandic law but has links with the airport's general plan and local plans, which are legislative. The Masterplan is a consultation venue for the airport and its stakeholders.

Keflavik Airport Masterplan

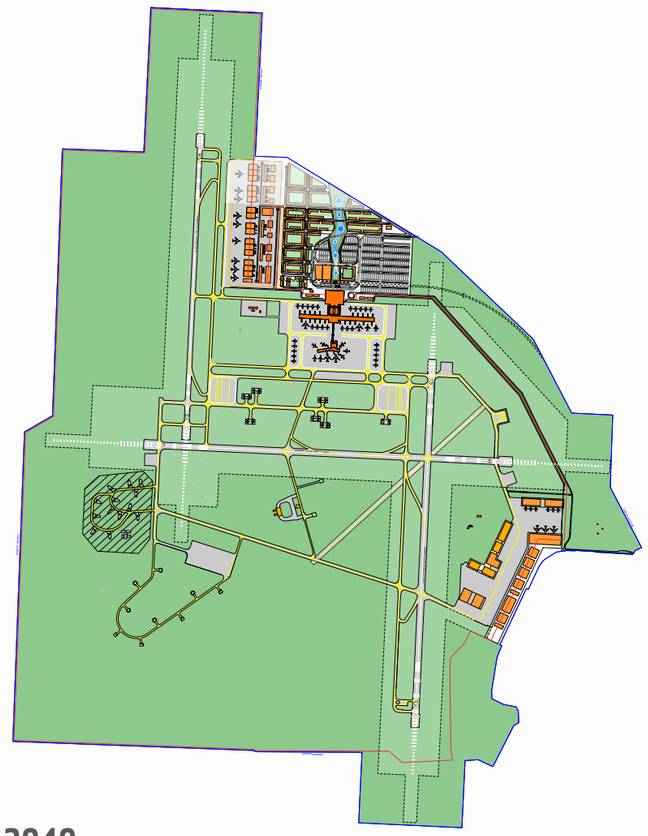
Key features of the Masterplan published in 2015 were to develop east and west piers and a new North Terminal. A third runway was also planned.

The masterplan has since been revised and phased with key updates including: Inclusion of the Diamond Gate Area; a centralised de-icing platform; the Connector building linking the North and the South Terminal and airfield improvement projects.

The scenarios identified are 2035 and 2045 with the earlier proposal illustrating expansion up to the 3rd runway being required. The airfield improvements in the first phase optimises the existing runways' efficiency and delays the requirement for the third runway as far as practicable.

The airfield improvements for the 2045 phase are centred around the potential for the development of busy hour traffic to trigger the need for the third runwayand the development of the west pier at the terminal.

MP 2015 - 2040



2040
13,8 MPPA

MP 2020 - 2035

2035
12,9 MPPA

MP 2020 - 2045

2045
15,1 MPPA

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Land Use Plan

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Land Use Plan

The airport area has been divided into five main areas:

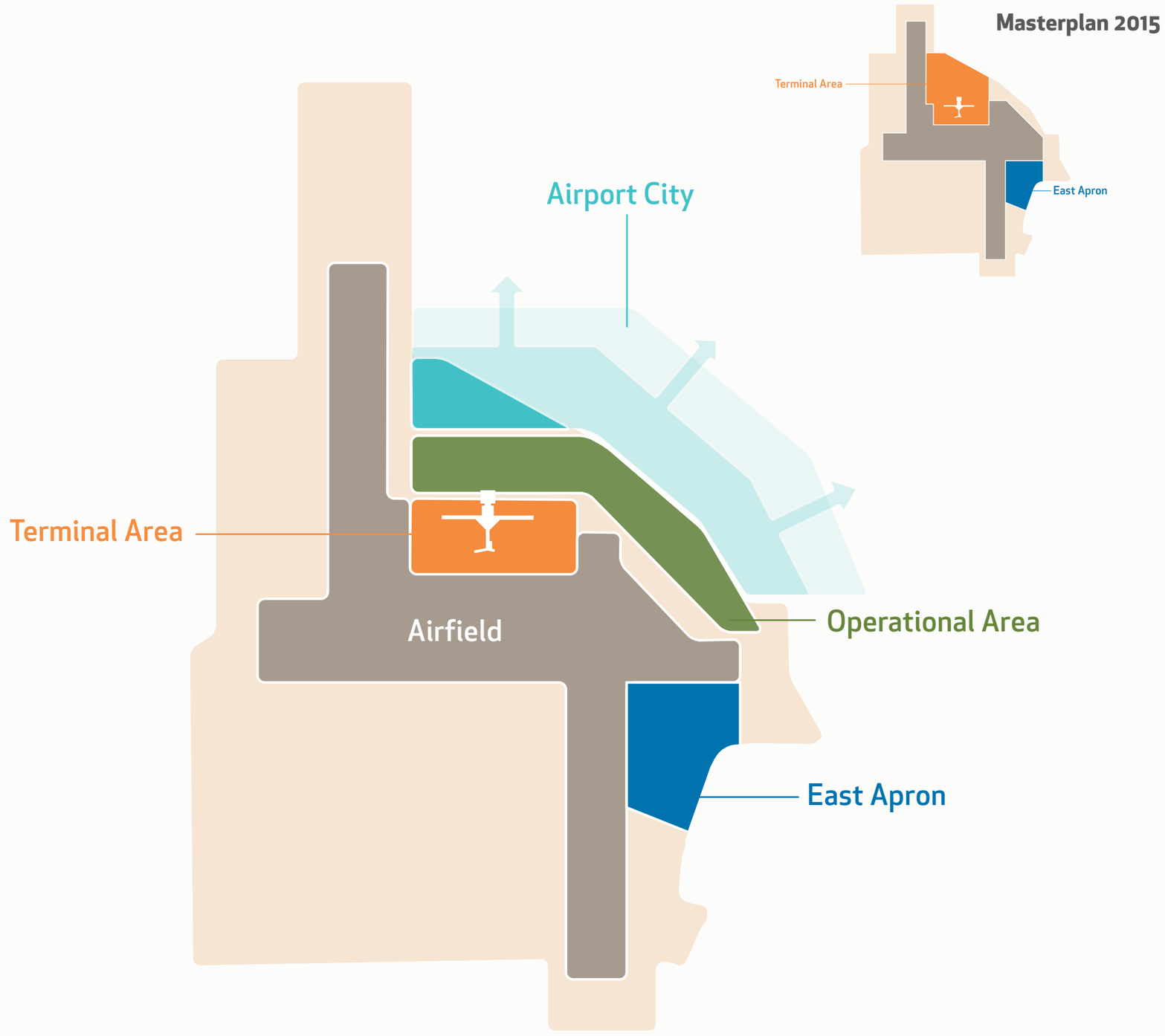
The Airfield area
Includes runways, taxiway systems and a centralized de-icing platform.

Terminal area
The area contains the terminal buildings, storage and support buildings.

Operational area
Located south of Reykjanesbraut, the operational area ensures a large area providing good connection to terminal, apron and runway system for services that are operationally important for the airport. Dedicated cargo buildings with airside access are included as well as aircraft hangars.

Airport City
On the north side of the Reykjanes road, development is planned in cooperation with local municipalities and Kadeco.

East Apron
Construction will be limited to aviation related business oppurtunites that support the development of the neighbouring community.



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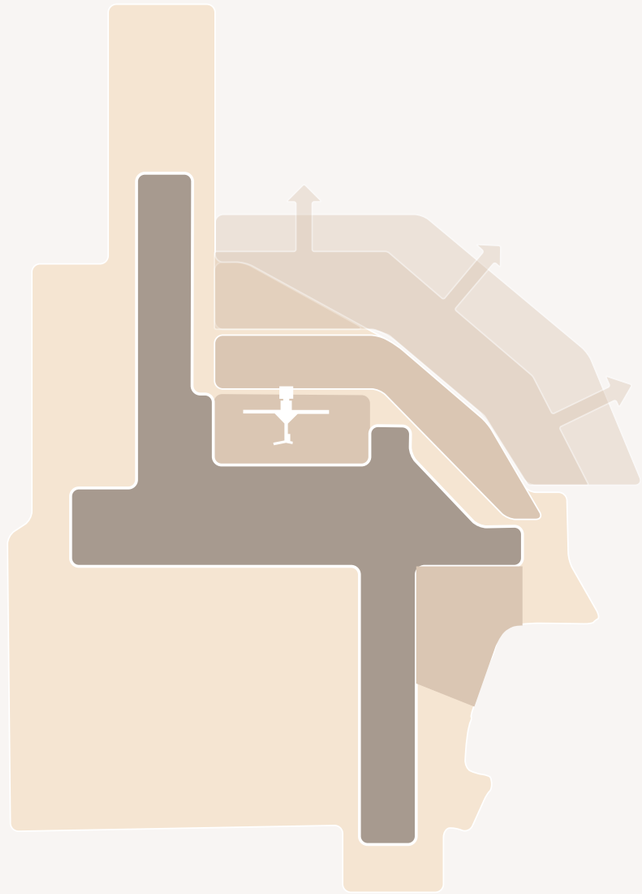
Airfield



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Airfield improvements
2020–2035

The purpose of the airfield improvements until 2035 is first and foremost to increase the efficiency and safety of the current runway system as well as introducing a centralized de-icing platform.

Taxiway Mike and Rapid Exit Taxiway on Runway 10
A new taxiway parallel to Taxiway Echo is currently under construction. This taxiway is designed to eliminate conflicting taxi flow during Runway 01 operations and allow greater utilization of Rapid Exit Taxiway A-1, thus resulting in a lower average runway occupancy time. As part of this construction, an additional rapid exit taxiway on Runway 10 to reduce runway occupancy time during east flow is also underway. Both of these additions will be operational in the summer months of 2023.

Taxiway parallel to Taxiway November
A parallel taxiway to Taxiway N will help facilitate departure flows during south flow as well as being required to facilitate movement of aircraft to and from the proposed centralized de-icing platfom.

Taxiway N-6
An extension of Taxiway B-1 will assist with the flow of aircraft during west flow and avoid conflicts with remote stands.

Allignment of Taxiway S-1
The realignment of Taxiways S-1 and S-2 will assist pilots with exiting Runway 01-19 and enhance safety by reorienting the taxiways to intersect the runway at a right angle.

Airfield improvements scheduled for 2020–2035

Under construction

Airfield improvements
2035–2045

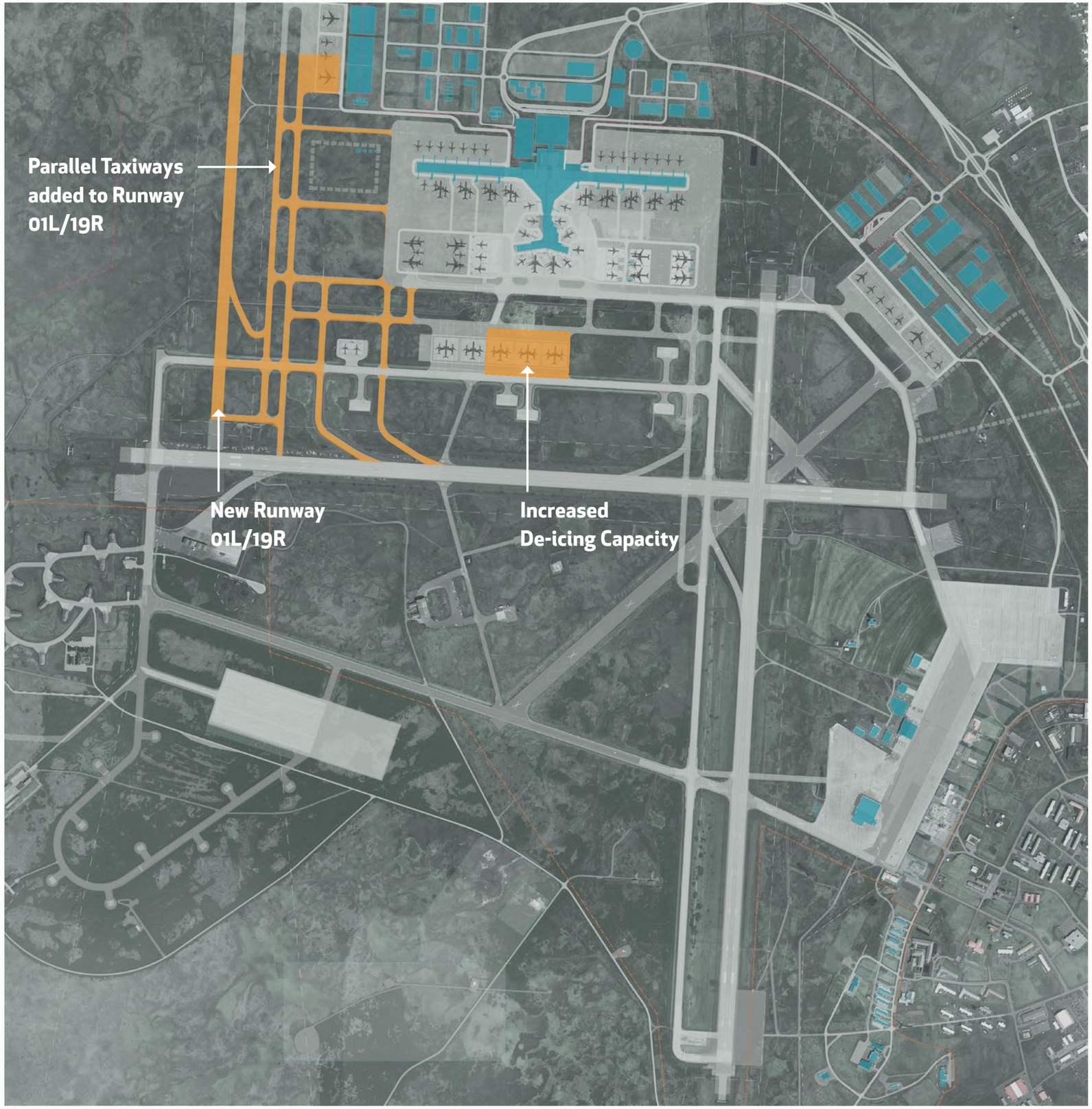
The airfield improvements for the 2045 phase are centred on potential for an increase of peak hour traffic that would trigger the need for the third runway and the development of the West Pier at the terminal to accompany this.

The third runway location and length is retained as per the 2015 Masterplan.

Dual parallel taxiways along the south end of the third runway have been added to improve taxiway flows on the airfield. This is a change from the 2015 Masterplan

Cargo and catering facilities have moved to the Diamond Gate area. This change from the 2015 Masterplan results in a reduced western apron area in the landuse plan.

The 2045 scenario provides a further increase in the de-icing capacity.



Airfield improvements scheduled for 2035–2045

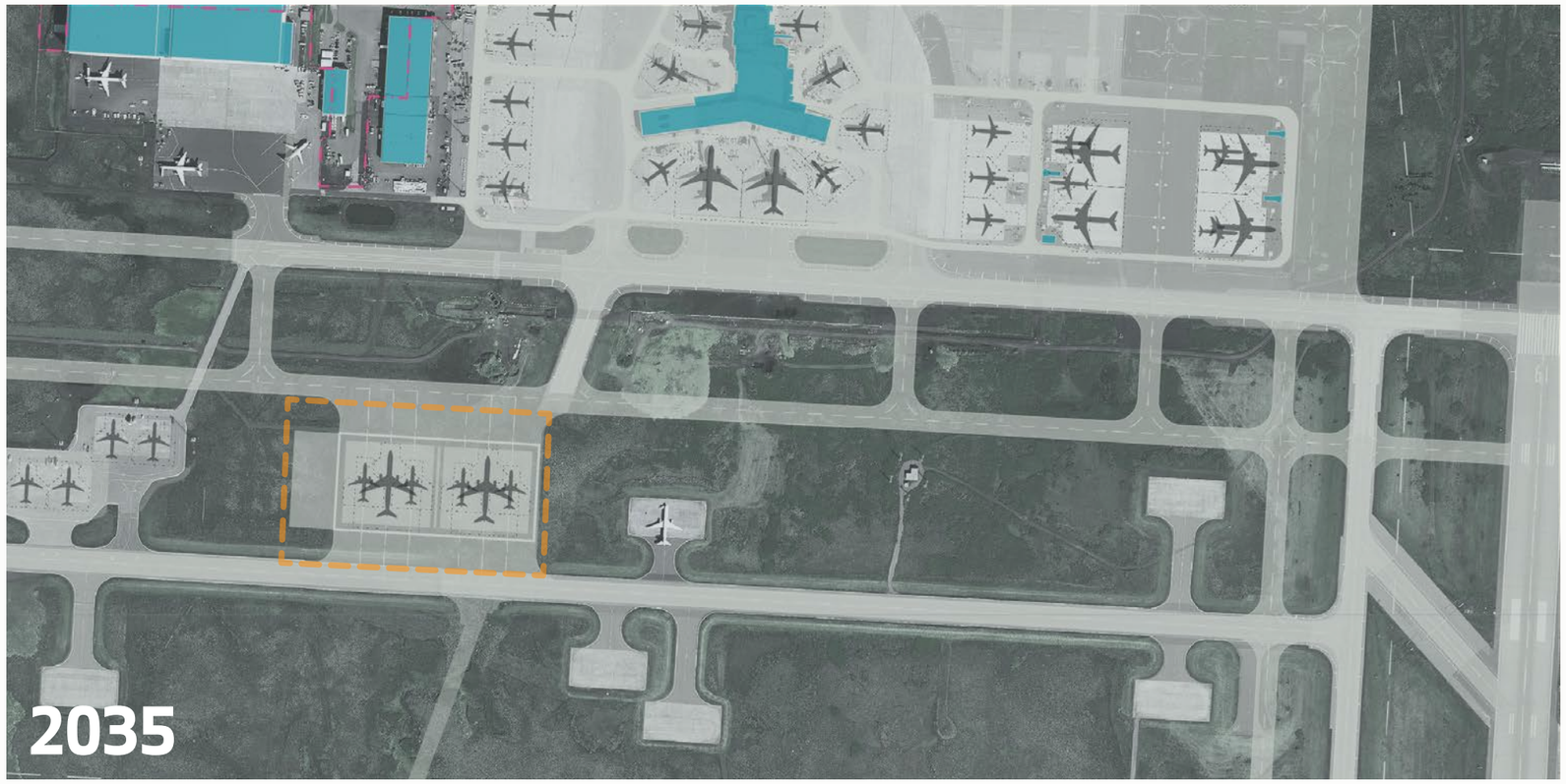
De-icing Areas

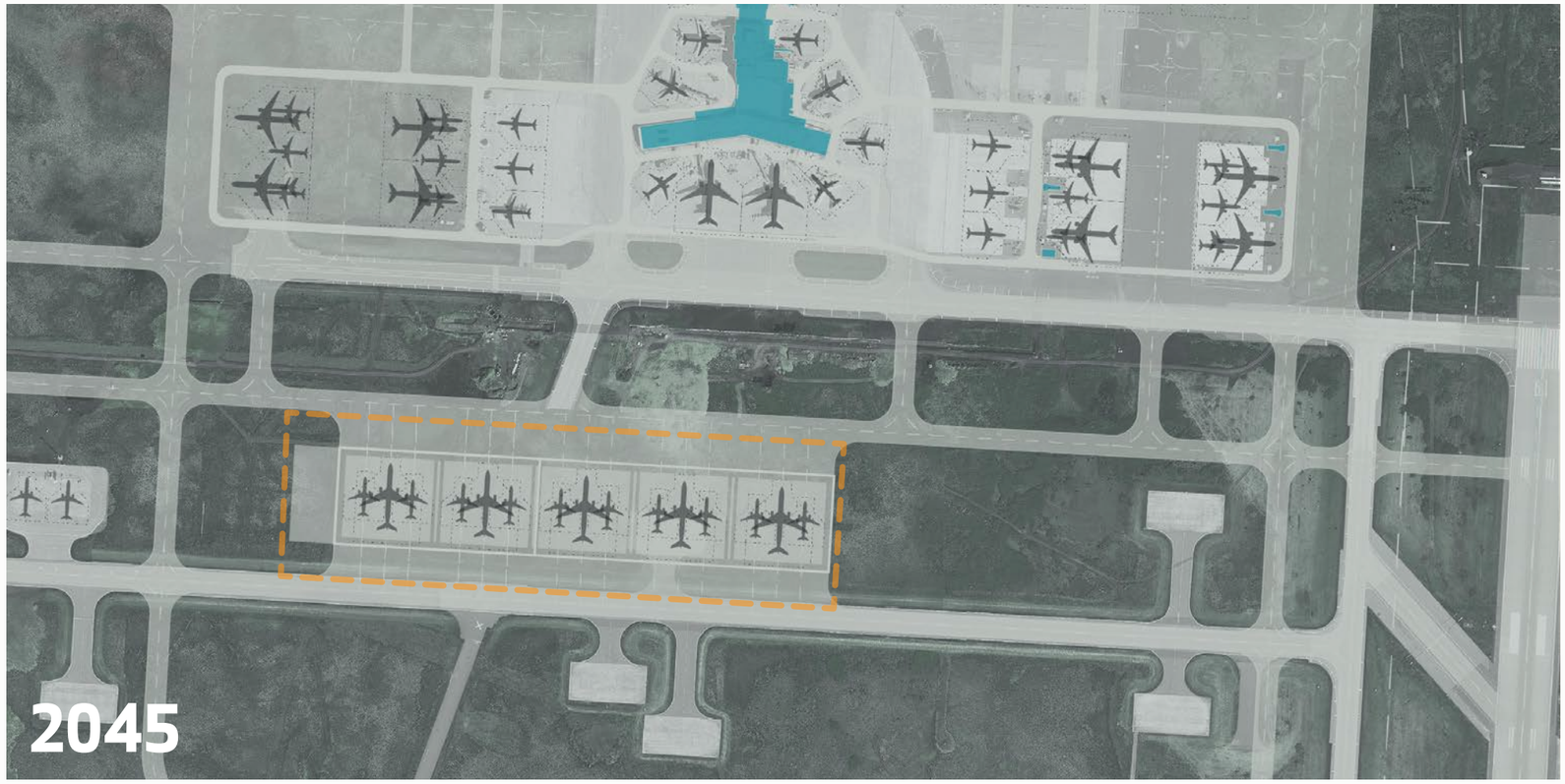
In the Keflavik Masterplan from 2015 there were 2 de-icing platforms envisaged within the allocated area, but set up for split operation. Based on operational analysis, weather conditions during de-icing and stakeholder consultation, Isavia now seeks to concentrate the de-icing operations on one larger platform south of the terminal buildings between Taxiway Kilo and a new taxiway parallell to Taxiway November. This consolidates de-icing operations and recovery of de-icing fluid.

- The location is also beneficial to act as additional remote stand capacity in the summer months.
- The first phase would be 2–3 MARS stands (2C/1E) with the total development after phase 2 of up to 5 MARS stands.
- This is an important environmental and operational opportunity.

The construction of a de-icing platform has three main purposes:

- to improve the capacity of the de-icing operations;
- to relocate the function from the apron and aircraft stands, thus reducing the stand occupancy time and increase stand capacity during winter time;
- and, to concentrate the de-icing within a smaller area, which will make collection and recycling of used de-icing fluids much easier and result in far more environmentally friendly operations.





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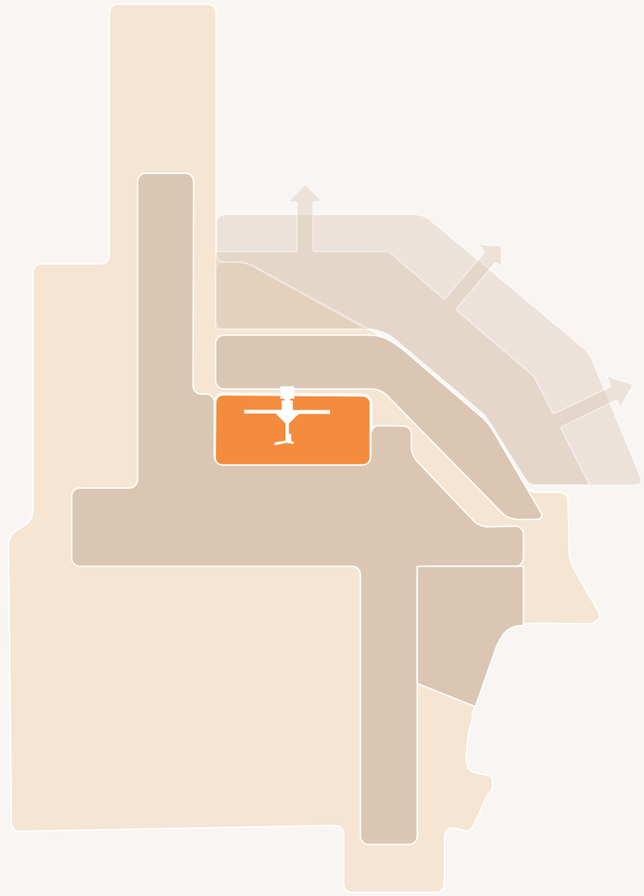
Terminal Area



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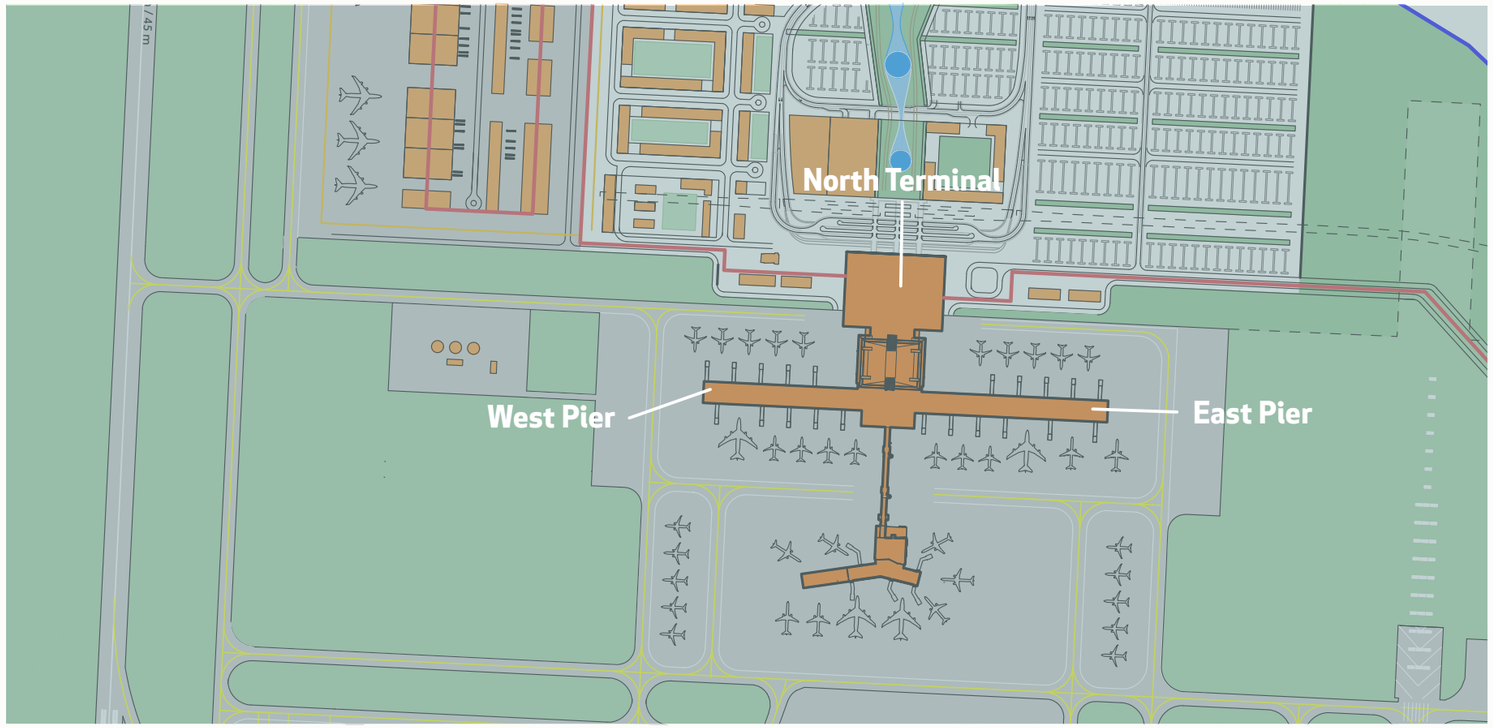
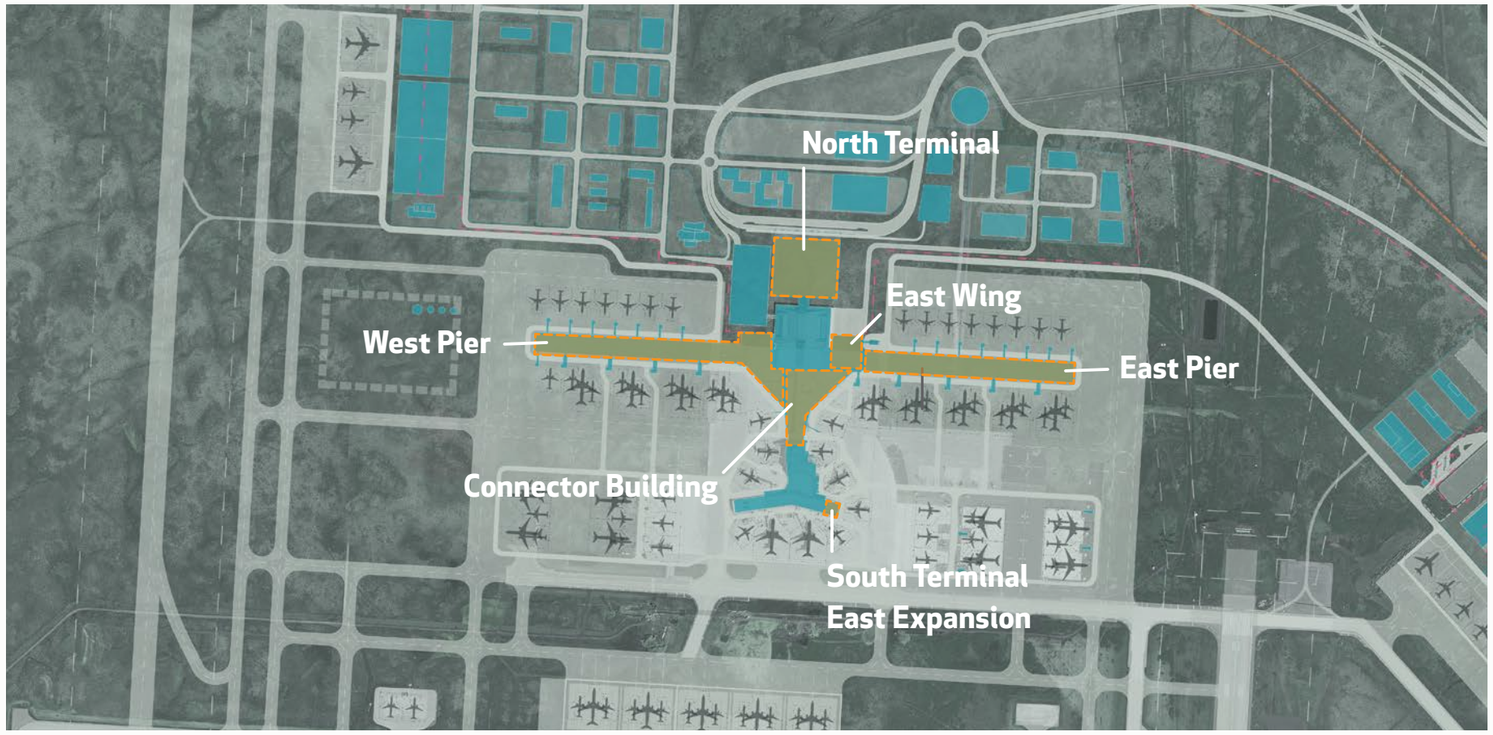
Development of Masterplan since 2015

The Masterplan published in 2015 showed the development of the terminal with east and west piers and a new North Terminal. In later revisions, the central Connector Building, East Wing and South Terminal East Expansion were added.

The East Wing project prepares the ground for both the Connector Building and the East Pier. The Connector Building provides an improved link between the South and the North Terminals. The South Terminal East Expansion adds waiting area to a compressed area with many gates.



Masterplan 2040, pubished in 2015



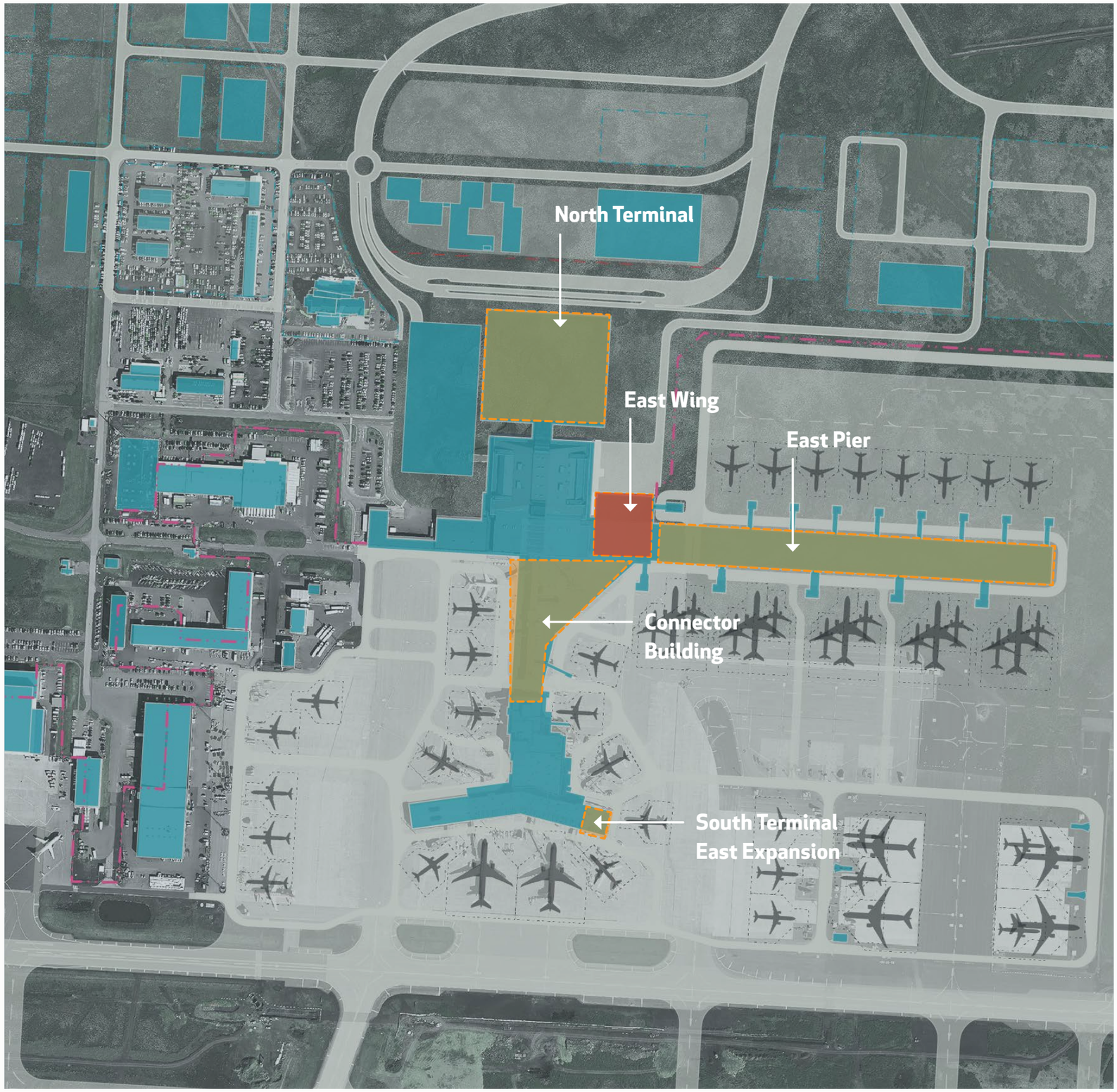
New Masterplan 2045

Masterplan 2035

The 2035 scenario provides Keflavik Airport with an increase in contact stand and baggage sortation capacity, providing much-improved capacity to handle both O&D and transfer traffic. The trigger for North Terminal will be an increase in O&D traffic, requiring increased check-in and arrivals capacity. The 2035 scenario adds substantial capacity to handle the planned increase in transfer traffic between Schengen and non-Schengen.

East Wing
This project extends and improves the existing arrivals hall and adds bagagge reclaim capacity. Both Schengen and non-Schengen contact gates are added as well as commercial area. It furthermore prepares the site for the Connector Building by relocating the arrival bags function here. The third floor will be for the future emigration function serving the East Pier.

South Terminal East Expansion
The two-story building includes both Schengen and non-Schengen flexible departure contact gates, allowing for efficient area usage in the different peak hours at the airport. The expansion will improve passenger experience in the gate lounges.



Airfield improvements scheduled for 2020–2035

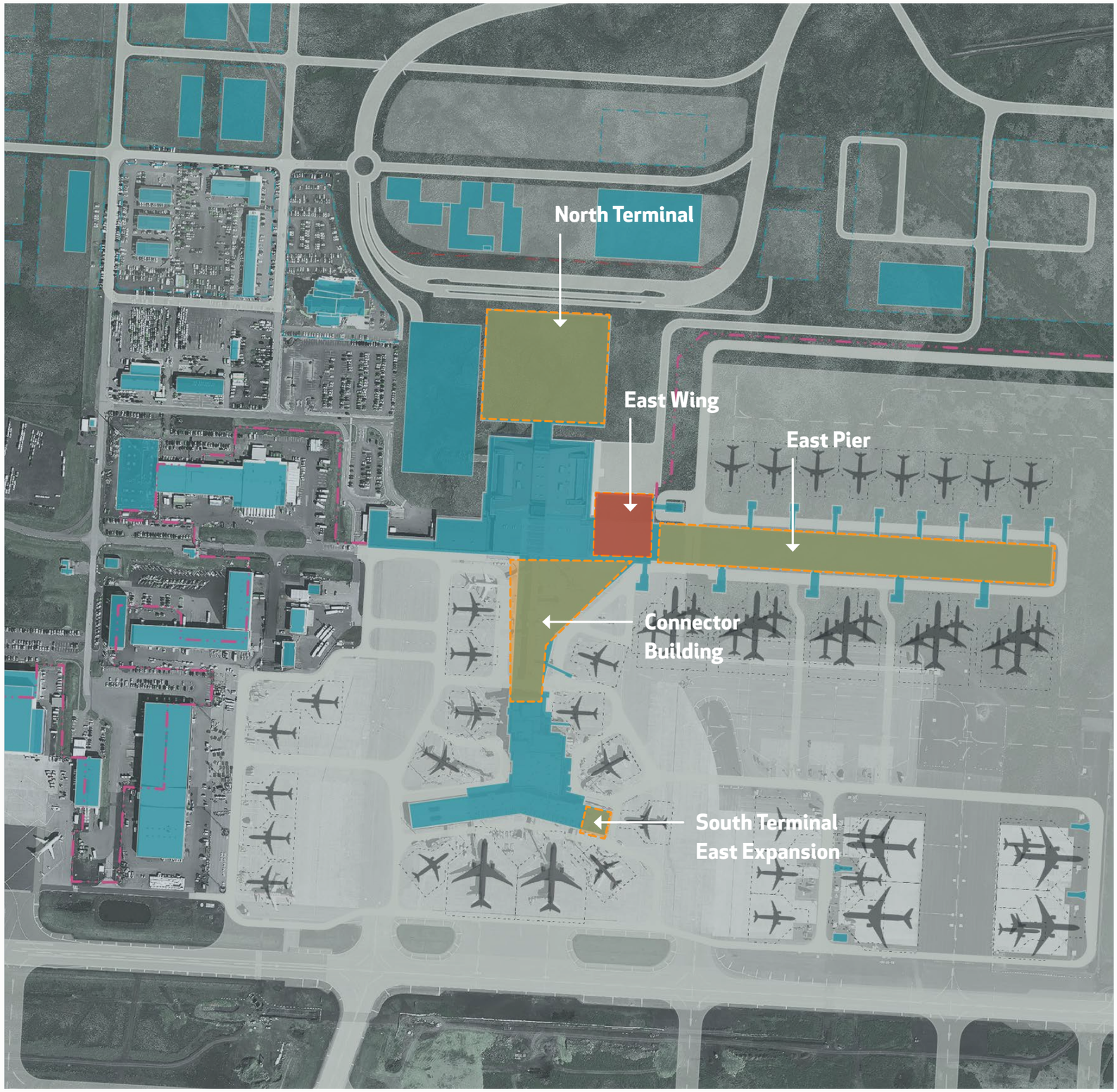
Under construction

Masterplan 2035

Connector Building
This project will replace today's narrow connection between the North and South Terminal and create the 'heart' of the future Keflavik. This will include a commercial hub for departing and transferring passengers, while the centralized immigration function will be for arriving and transferring passengers. The development includes additional contact gates capable of serving both Schengen and non-Schengen passengers.

East Pier
Additional contact gates with and commercial space will be provided. The south side of pier caters for wide body aircrafts. A large baggage sortation area is located in the basement and at ground level, ensuring an increased capacity for both outbound and transfer bags. The baggage sortation system will first be linked to the existing check-in hall, and then later to the new check-in hall in the future North Terminal.

North Terminal
The new processor building replaces the existing check-in, security and reclaim and provides increased capacity for O&D traffic. North of the building a two-storey forecourt is planned to allow for efficient connection from the landside for both departures and arrivals.



Airfield improvements scheduled for 2020–2035

Under construction

Masterplan 2045

Connector Building West Expansion
The development mirrors the East Expansion in the 2035 scenario. This provides added commercial area, immigration capacity and a new emigration facility for the West Pier.

West Pier
A further increase in the number of contact gates for Schengen and non-Schengen, waiting areas and commercial offers will be provided. In-line with the East Pier expansion, the south side of pier caters for wide body aircrafts. The building expands the Baggage Sortation area at basement and ground level.

Airfield improvements scheduled for 2035–2045

Under construction

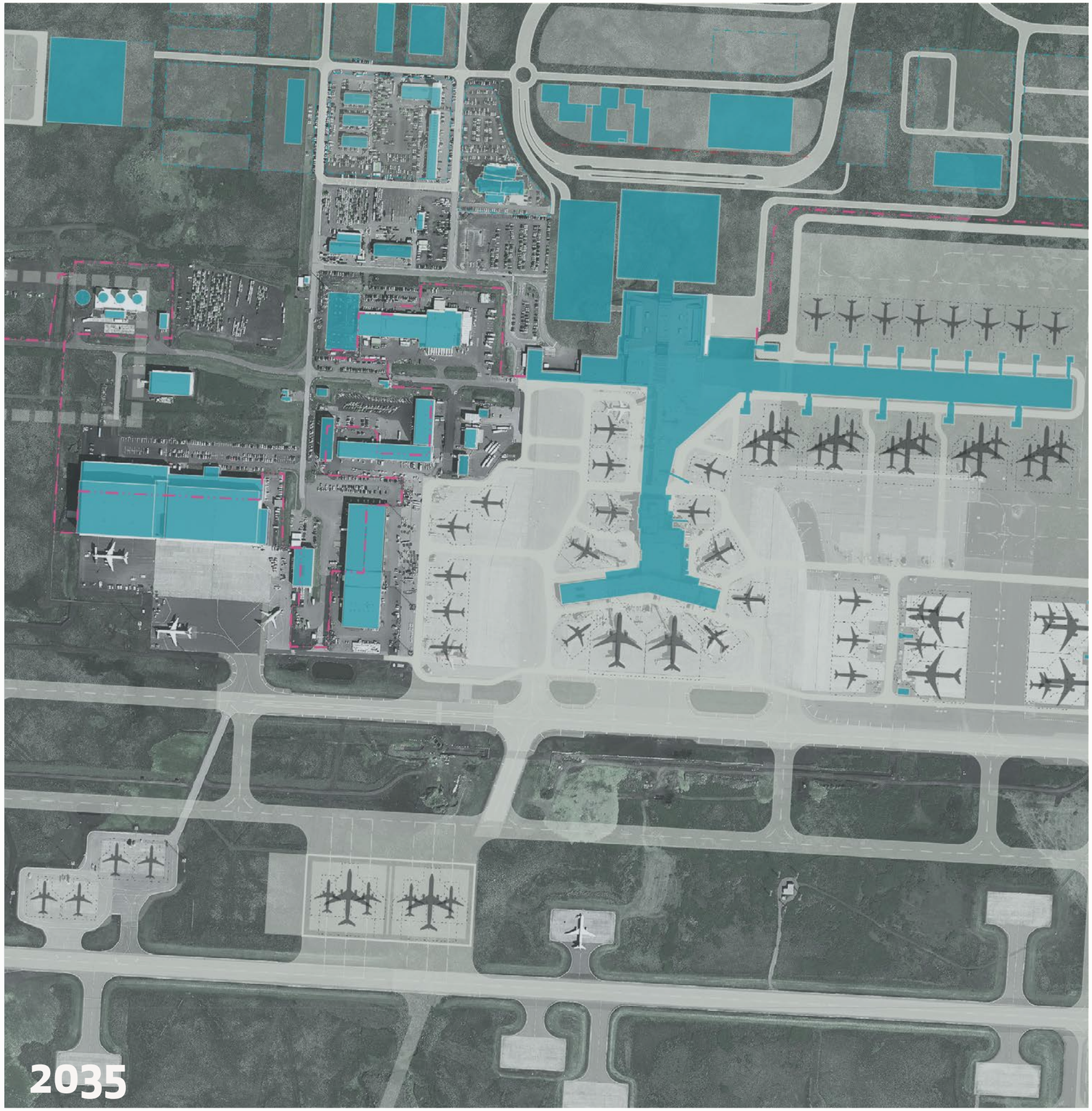
Stands 2035

The terminal expansion projects will increase the number of contact stands at Keflavik.

One of the objectives of the Terminal Masterplan is to increase the ratio of contact stands to remote stands. All projects built by 2035 will include contact gates with passenger boarding bridges for efficient boarding and increased passenger comfort. The ratio of contact stands to remote stands is increased to 63% – 37%.

Contact Stands	
Code C	12
Code D	1
D/R 757-200	4
D/R 757-200	1
Code E	2
MARS C/E	10/5
	30

Remote Stands	
Code C	4
Code D	1
D/R 757-200	3
D/R 757-200	4
Code E	0
MARS C/E	(4-2)/4
	18

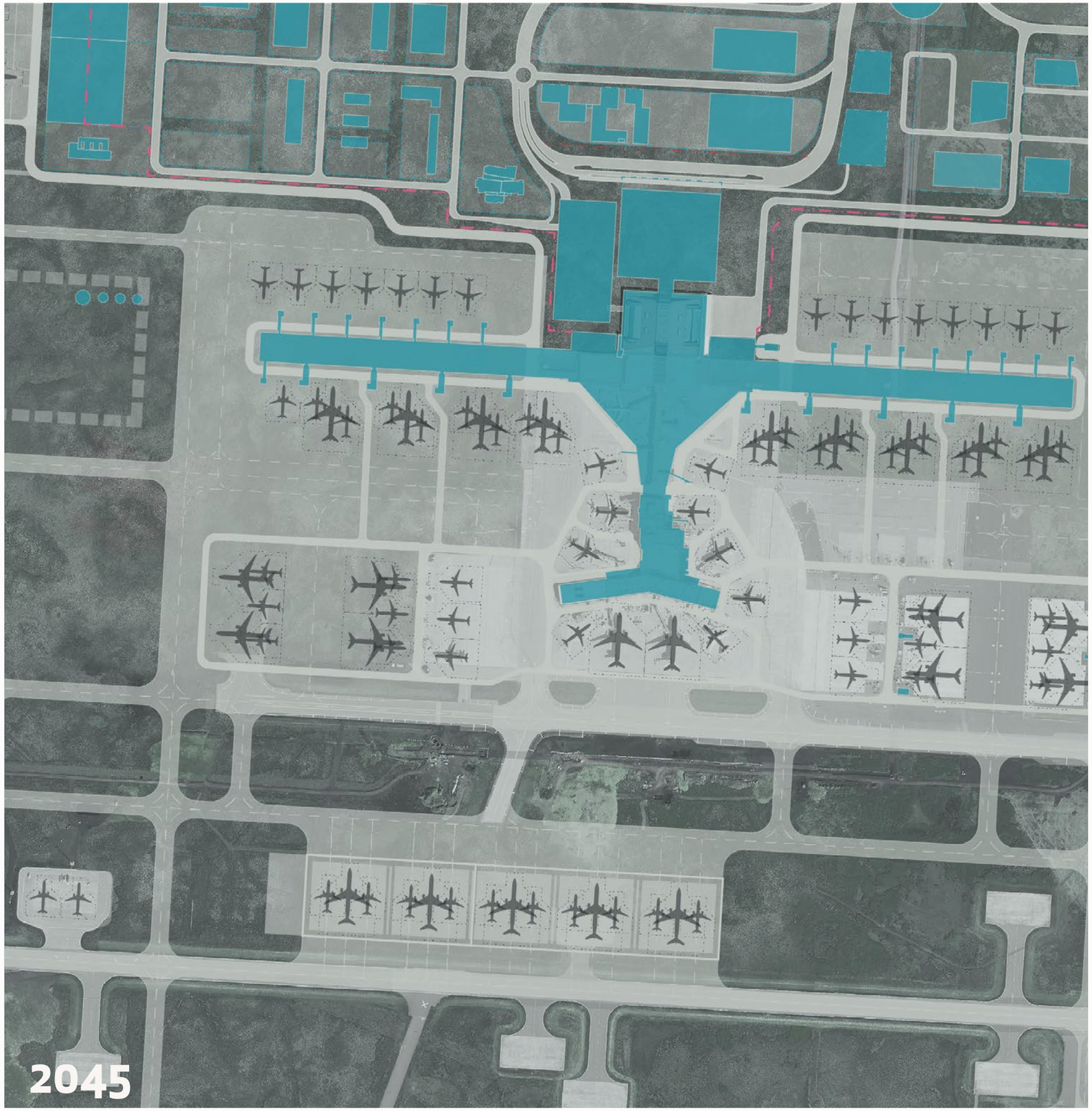


Stands 2045

The requirement for the third runway will be accompanied by the development of the West Apron and West Pier. In the 2045 scenario both contact stand and remote capacity are increased. The ratio of contact stands to remote stand is increased to approximately 69%–31%

Contact Stands	
Code C	19
Code D	1
D/R 757-200	4
D/R 757-200	1
Code E	2
MARS C/E	18/9
	45

Remote Stands	
Code C	3
Code D	0
D/R 757-200	1
D/R 757-200	4
Code E	0
MARS C/E	(8-4)/8
	20



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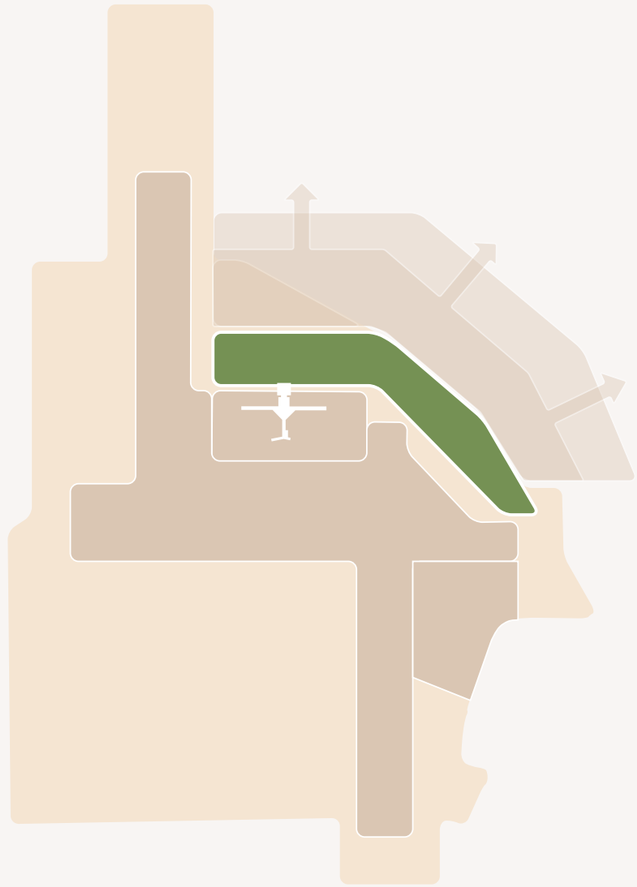
Operational Area



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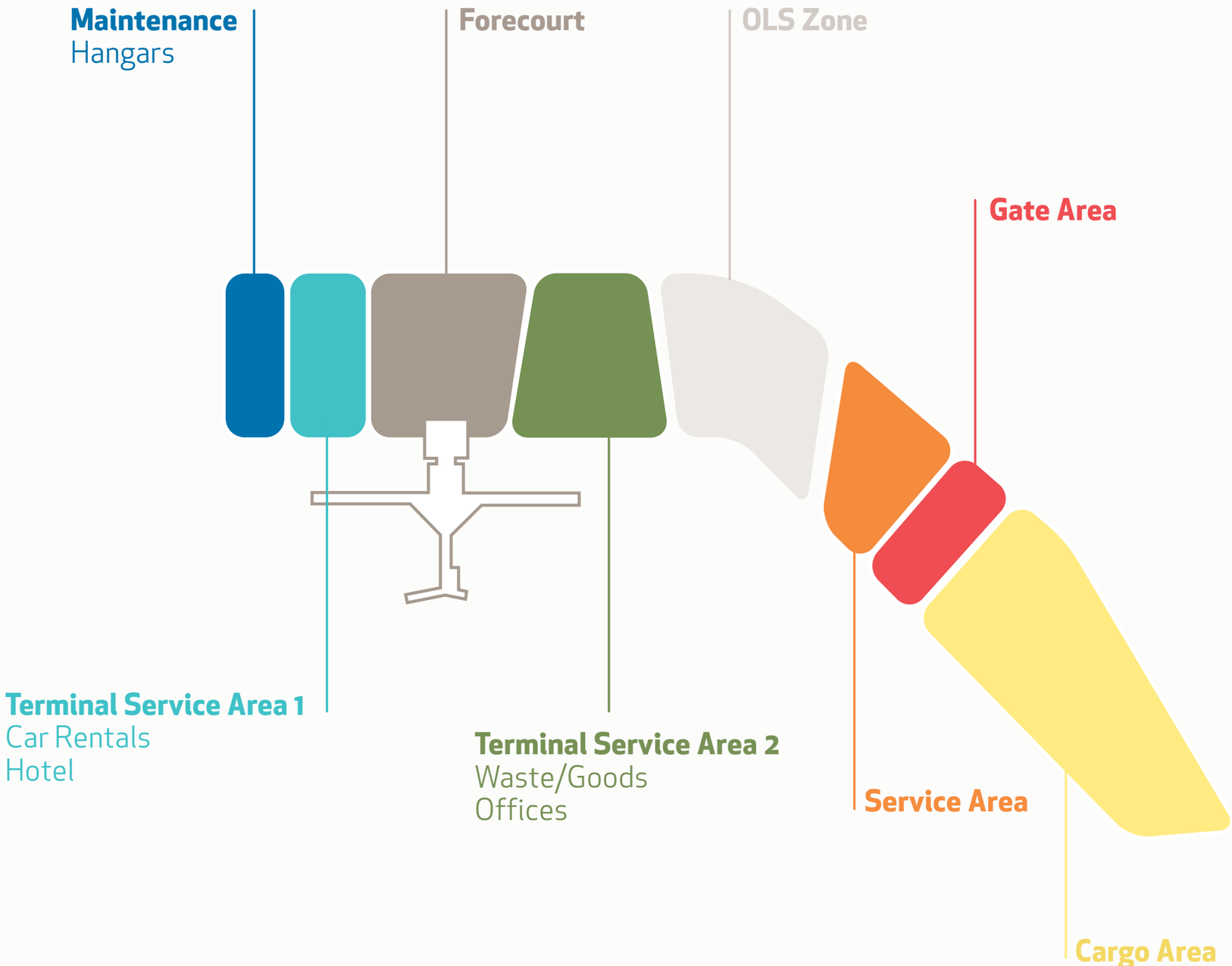
Operational Area



North-West Area

The north-west terminal area has new potential as a result of the Diamond Gate area now accommodating cargo facilities. This area now benefits from the avoidance of heavy traffic associated with this function.

The area is proposed for rental car parking and associated facilities and functions. Maintenance hangars and apron are retained in the area as well as a possibility of express cargo operators that are not reliant on short distances to the terminal apron.

Noise created by the maintainance operations are now moved as far away from residential areas as possible.

This location is close to the existing maintainance hangars. The development of this area is not reliant on the thrid runway and can start sooner.

The area closest to the terminal is focused on car rental and associated facilities e.g. maintenance garages, staging of cars, travel agencies, etc.

Terminal Forecourt and Parking

The Masterplan provides space for parking structures located around the terminals.

On the western side of the existing terminal a parking garage is developed (P-House 1). This will guarantee a high capacity of parking close to the existing terminal during the construction of the new terminal, terminal forecourt, new East Pier and the adjacent apron.

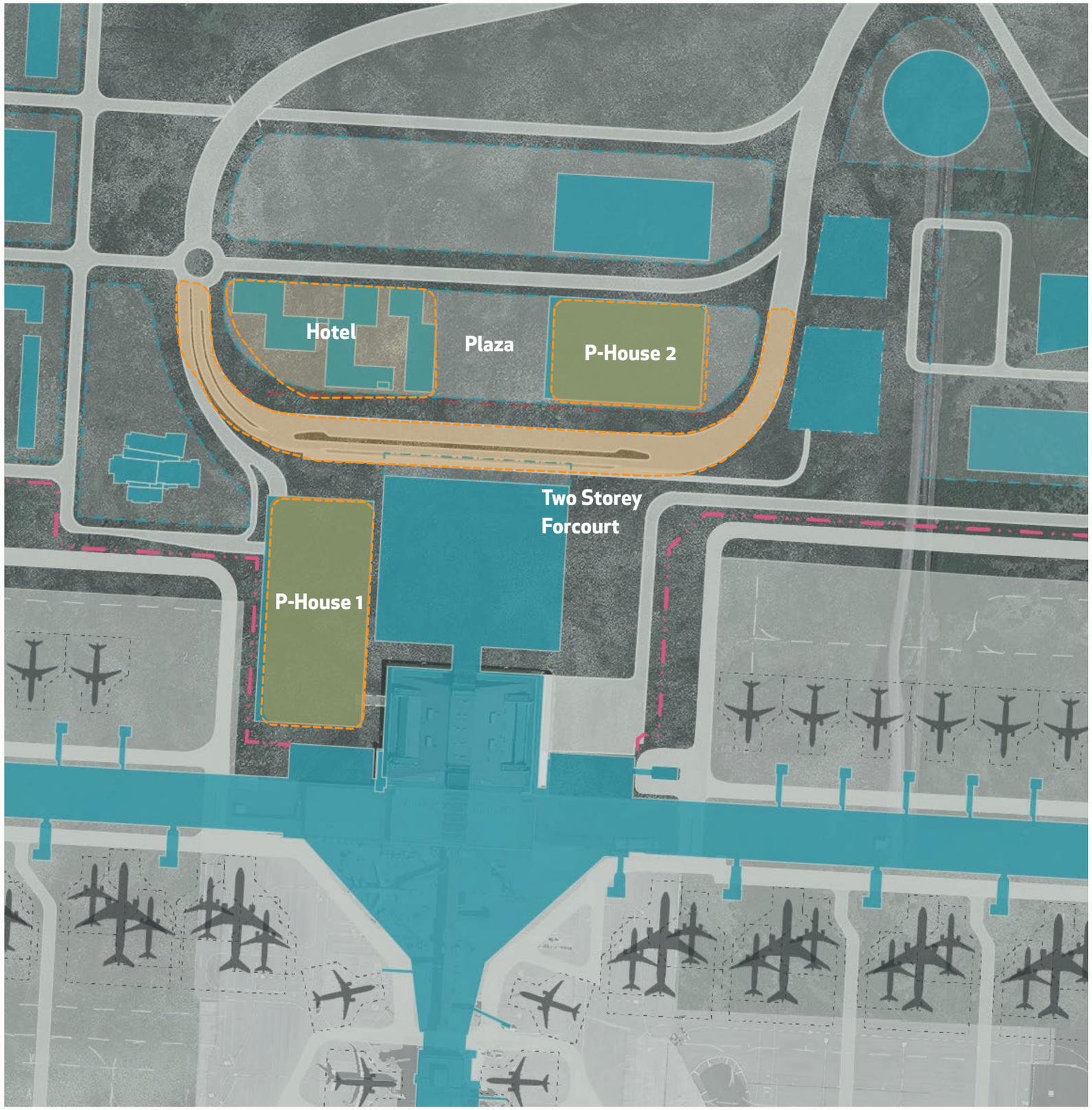
When the new North Terminal is constructed, a second parking structure is foreseen to the north (P-House 2) creating a plaza with the hotel and conference center lot.

A reviewed and updated landside masterplan will:

- Meet the demand for the expected traffic growth
- Increase the aeronautical revenue landside
- Be compatible with the future Airport City development
- Enhance the passenger experience in the landside premises
- Provide high quality public transportation.
- Allow the possibility of a ground floor public transport hub in the P-House 2 structure.

Main changes since 2015

- At grade parking has been greatly reduced.
- The forecourt is still planned in two levels, but the updated plan safeguards area for a wider single-level forecourt
- New opportunities created to the East
- Higher service public transport located in the forecourt as P-Houses are closer to the airport.



Terminal Service Area

The north-east area is a 10 hectare 'close to the terminal' land-side development area that has been made possible by compressing the functions in the terminal forecourt area.

The development area is planned for office buildings related to airport operations e.g. Isavia headquarters, airport police, customs, ground handlers etc.

- The area can also host functions such as:
- Landside waste and goods delivery
- Kitchen and catering services
- Warehouses for on-demand airport shopping and ghost stores.
- Charging depots for e-vehicles.

The area is located between 200 and 700 m from the new terminal building and can be serviced with both airside and landside service roads.

Diamond Gate

The Masterplan has been updated to include a Diamond Gate in the north-east quadrant of the airfield. This area will provide new cargo aircraft apron area, cargo facilities, freight forwarding and administrative facilities. One of the keys to this area is the close proximity to the terminal apron, providing operational efficience for cargo split between dedicated freighters and passenger aircraft, fully utilizing the airports route network.

Additionally, an airside security access gate will be located in the Diamond Gate area. One of the key benefits of the inclusion of the Diamond Gate area is that cargo traffic (as well as other traffic connected to the site) does not need to circulate through the terminal area.

The Diamond Gate area is also planned as the main service area for the airport, including for example:

- Isavia technical services office, bus recharging station, ground service vehicles maintenance garage.
- Storage of sand and de-icing fluids with an interface to landside area
- Airport rescue fire station

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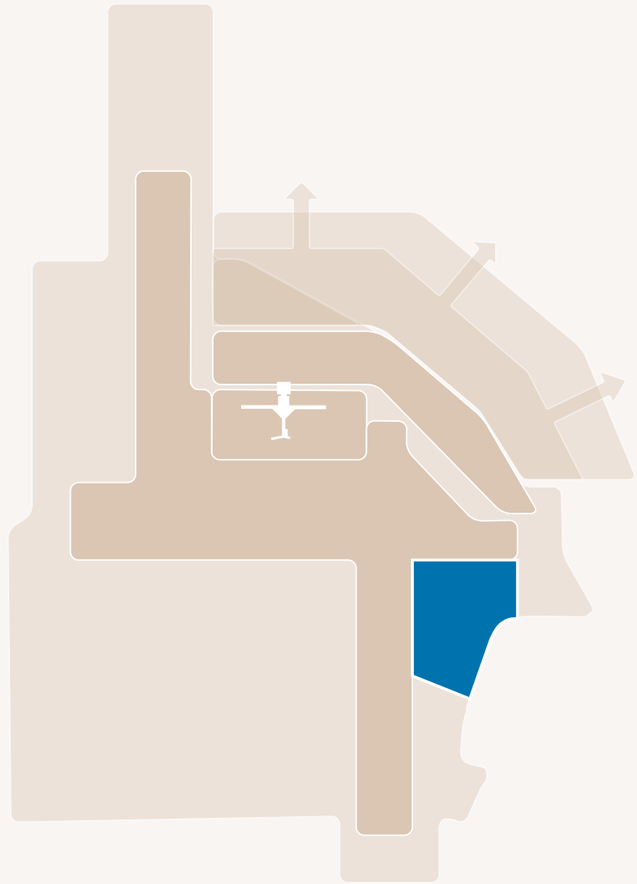
East Apron



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East Apron

The East Apron construction is based on the current zoning plan, approved in May 2018.

The proposal includes a new connection between the East Apron and the runway and apron systems to the west. This connection could be located north of th LHG Hangar, as shown in the diagram. The aim is to operate this area independently for commercial air traffic.

The area is developed in collaboration with Kadeco.

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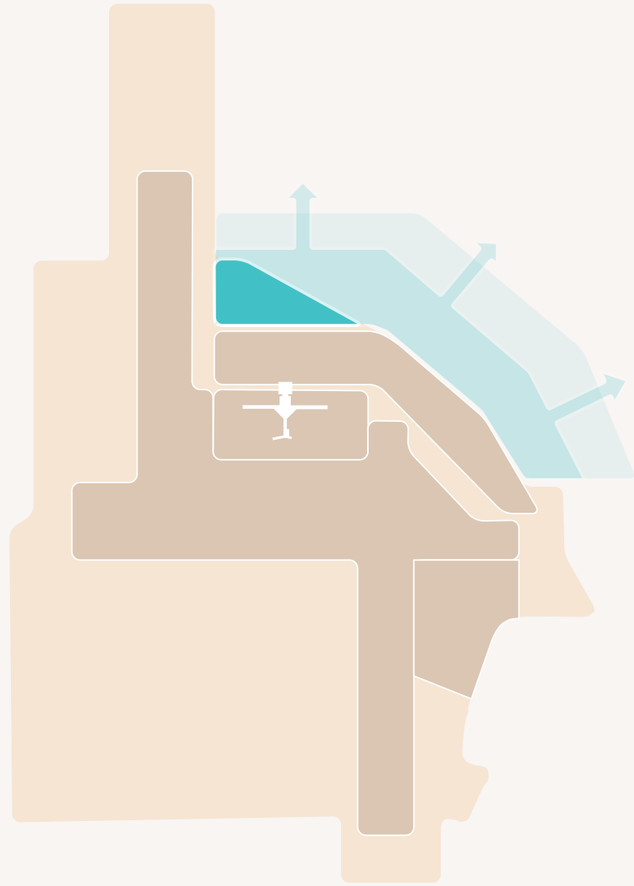
Airport City



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Airport City

Work on the development of the Masterplan has shown that the areas of the airport, Suðurnesjabæjar and Reykjanesbæjar need to be planned together to ensure comprehensive structure and development.

Kadeco are currently developing a plan for this area. The plan aims to attract new investment and create new job opportunities in the airport area.

By drawing attention to Keflavik's competitive advantages, the plan will be a create value for the key industriessuch as aviation, logistics, seafood, and tourism.

Isavia is a partner of Kadeco and is working closely with them on this development.

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Additional

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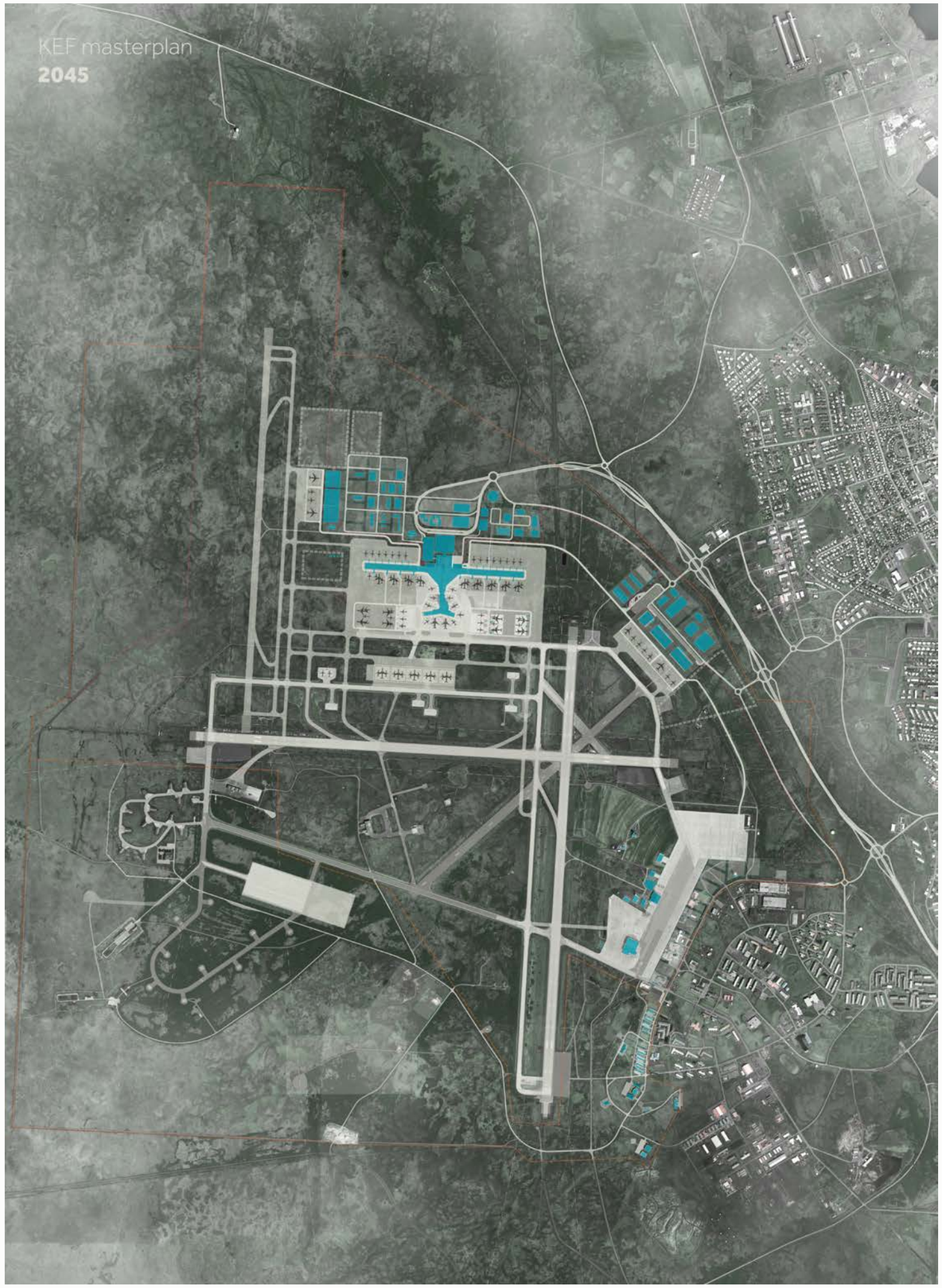
Future Alternative Fuel Area

The existing Fuel Farm west of the future West Pier is retained.

A new area north of the hangar area in the north-west has been identified as a location for possible production and storage of sustainable aviation fuel (SAF) or alternative energy resources.

The size and location is well-suited for SAF or alternative energy resources. The fuel hydrant masterplan was developed with a connection to this area.


KEF masterplan
2035


KEF masterplan
2045

KEF masterplan
2035

KEF masterplan
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