



Capital Investment Programme 2020+

Passenger Advisory Group

07 Feb 2019

Agenda



Passenger
Journey

Programme
Overview

Background
and Drivers

Context - Airport Growth

2008 – 2010
Annual passenger
traffic dropped by
over 5 million

2010 – 2013
Recovery
commences, but
slow and fragile

2014 – 2016
Surge in passenger
volumes



Customer choice approaching 50 different airline product offerings

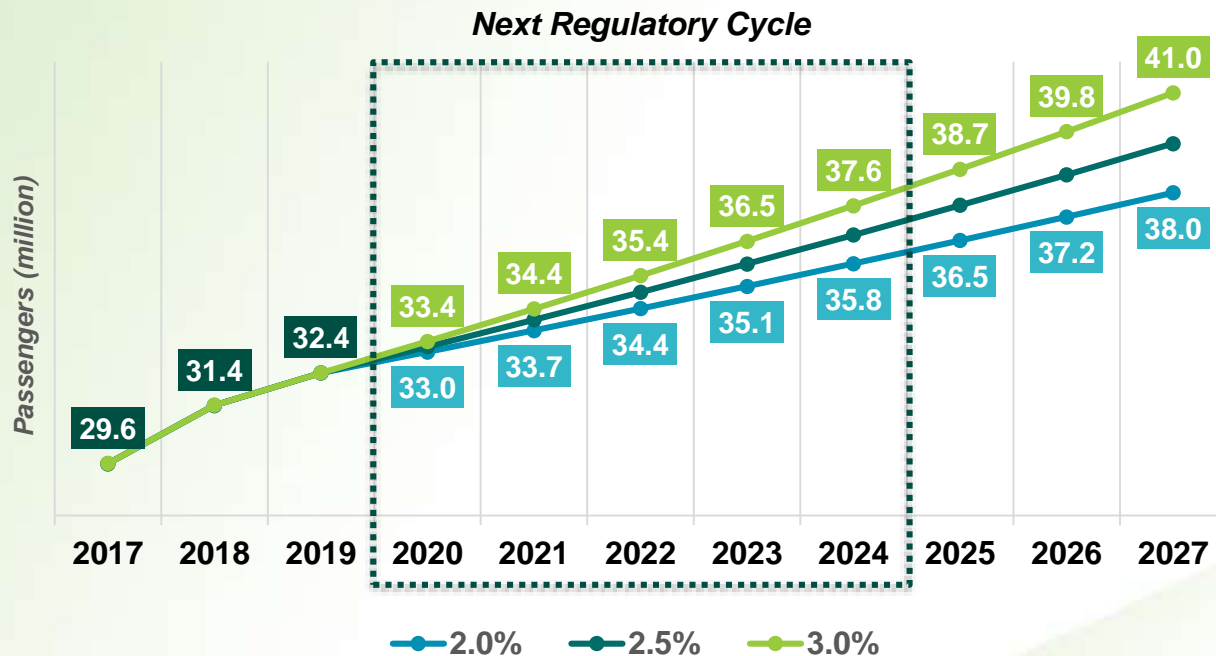


Over-arching Future Traffic Assumptions



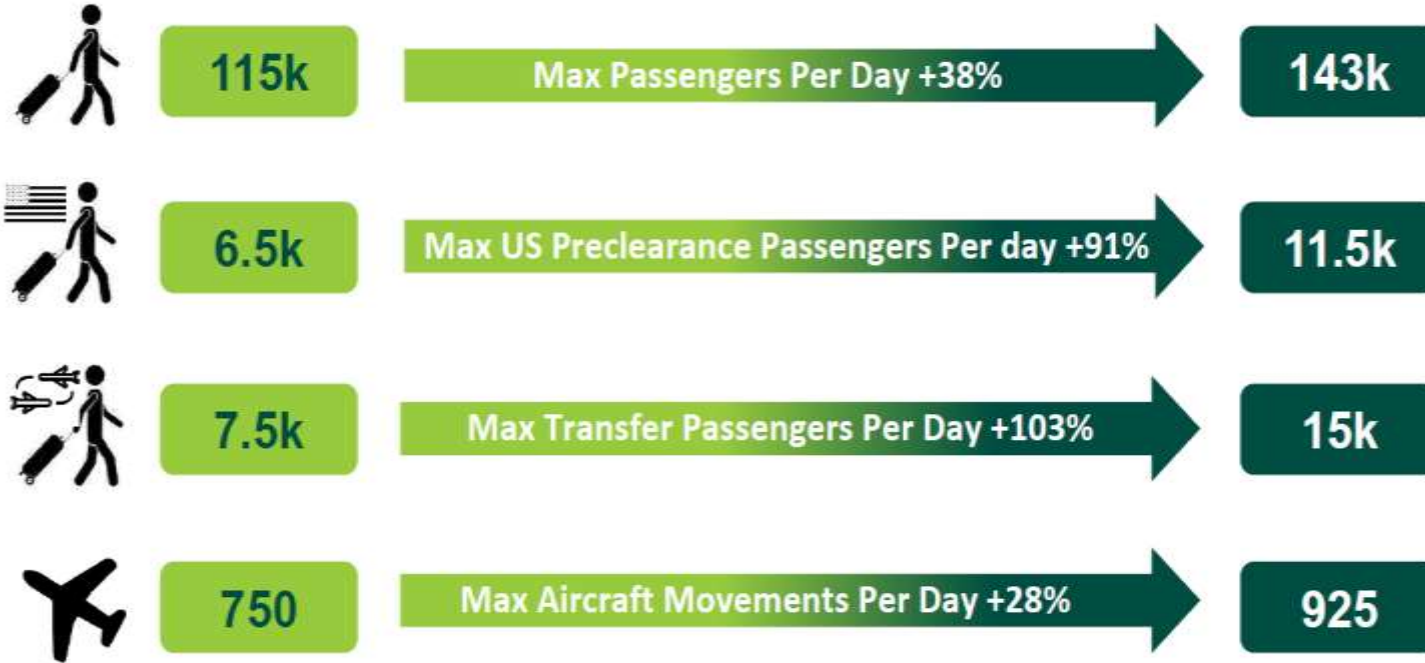
Notes:

A sustained period of moderated but stable demand growth is expected. Current growth rates have subsided to mid-single digit percentages and are expected to reduce further in the medium term, across the larger European airports.



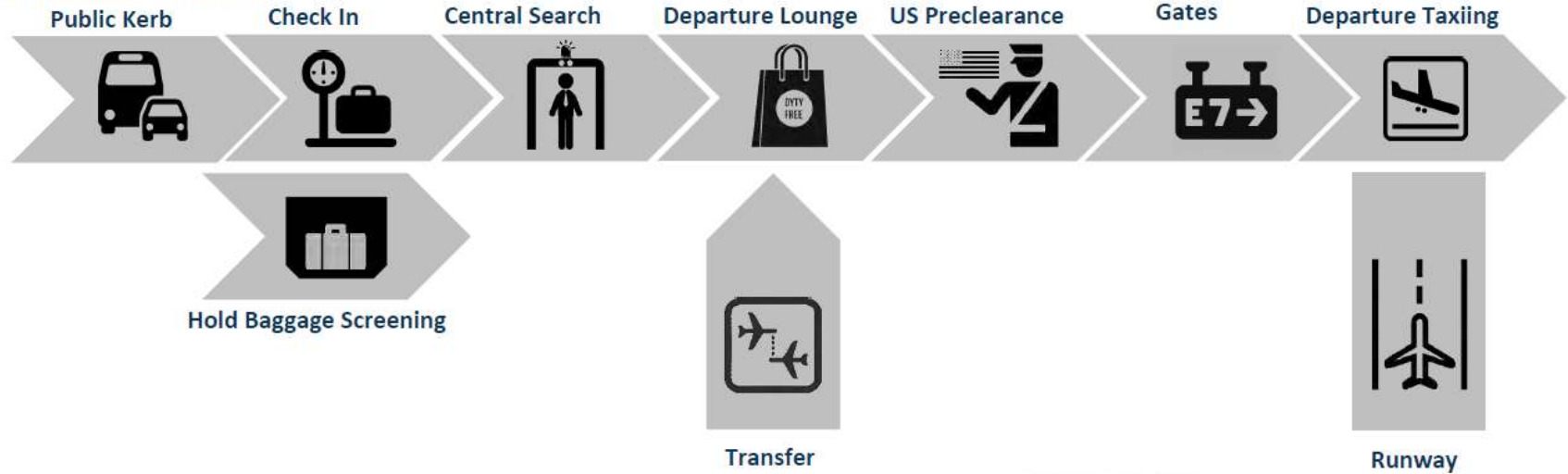
CAGR of 3% will deliver 40 million passengers per annum as soon as 2026

Daily Activity at 40 Million Passengers



Capacity Assessment by Facility

Departure Journey



Arrivals Journey



Capacity Assessment at 2020



Airfield

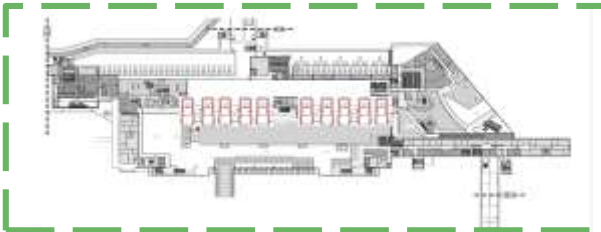
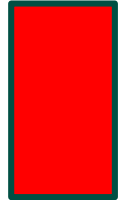
- Incremental runway capacity in construction
- Existing runway upgraded and life extended
- Significant taxiway enhancements progressing under PACE and North Runway programmes

Future Status



Parking Stands

- Significant deficit in overall aircraft parking stands
- An additional 33 NBE stands required to support 40mppa busy day schedule
- Secondary deficit in widebody/CBP enabled, bridge-served contact stands



Terminals

- Capacity headroom currently available
- Isolated capacity deficits
- Specific deficit: US CBP facility requires significant expansion to support 40mppa schedule activity



What our peer European airports are investing...



BIRMINGHAM €BN 0.6
Full development project



HEATHROW €BN 15.6
New Runway



HELSINKI €BN 1.0
Major Terminal expansion



COPENHAGEN €BN 2.6
New Piers & Terminal expansion



STANSTED €BN 0.6
New Arrivals building



MANCHESTER €BN 1.1
Major terminal redevelopment, new stands...



SCHIPHOL €BN 3.5
New Piers & Terminal



PARIS €BN 2.4+
Development of terminals



MADRID BARAJAS €BN 1.6
Major developments in T1, T2 and T4



ROME €BN 0.4 p.a.*
Full redevelopment



*p.a.: Spend per annum

Current Position....

- ❑ **Eight** consecutive years of strong growth
- ❑ **10 million** passengers added to annual total since 2010
- ❑ Demand pipeline continues to be **varied and strong**
- ❑ Capacity development not a primary focus back in 2014
- ❑ Capex has not kept pace with realised growth
- ❑ Airport will operate with **capacity constraints for next 4-5 years**
- ❑ Pax welfare is not well served by a capacity constrained airport (barriers to entry)
- ❑ Need to develop large scale strategic infrastructure for 40m passengers per annum
- ❑ Majority of Tier 1 competitor airports announcing significant capex investment (€1bn+)

Government Policy and Dublin Airport Strategy



Government Policy

- *Develop new routes and services, particularly to new and emerging markets*
- *Ensure a high level of competition and choice in the Irish market*
- *Maximise connectivity to the rest of the world*
- *Maximise scale and usage of US CBP facility*
- *Develop and promote Dublin as an international hub*



Dublin Airport Strategic Ambition

Inspire 2025



01 Develop 40m capacity capability by 2025

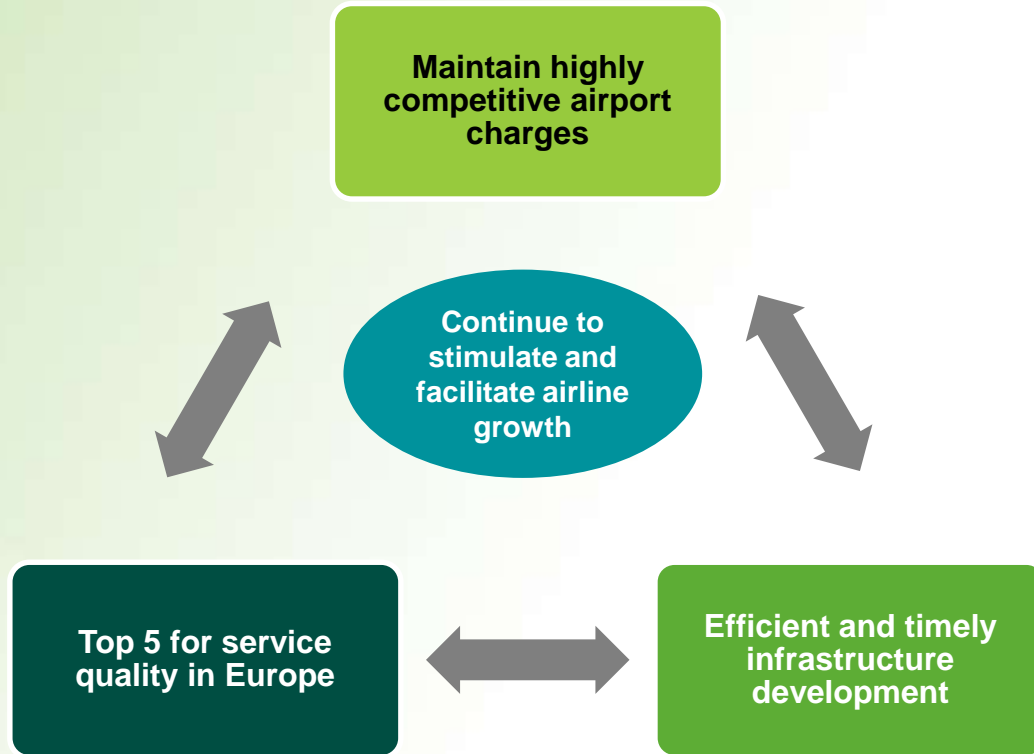
02 Balanced airline growth

03 Grow transfer traffic to c.10% of total traffic by 2025

04 Grow Transatlantic network to 4th in Europe (overtake AMS, LGW and KEF)

05 Maintain and support a multitude of diverse business segments, whilst retaining top 5 position for overall passenger service quality

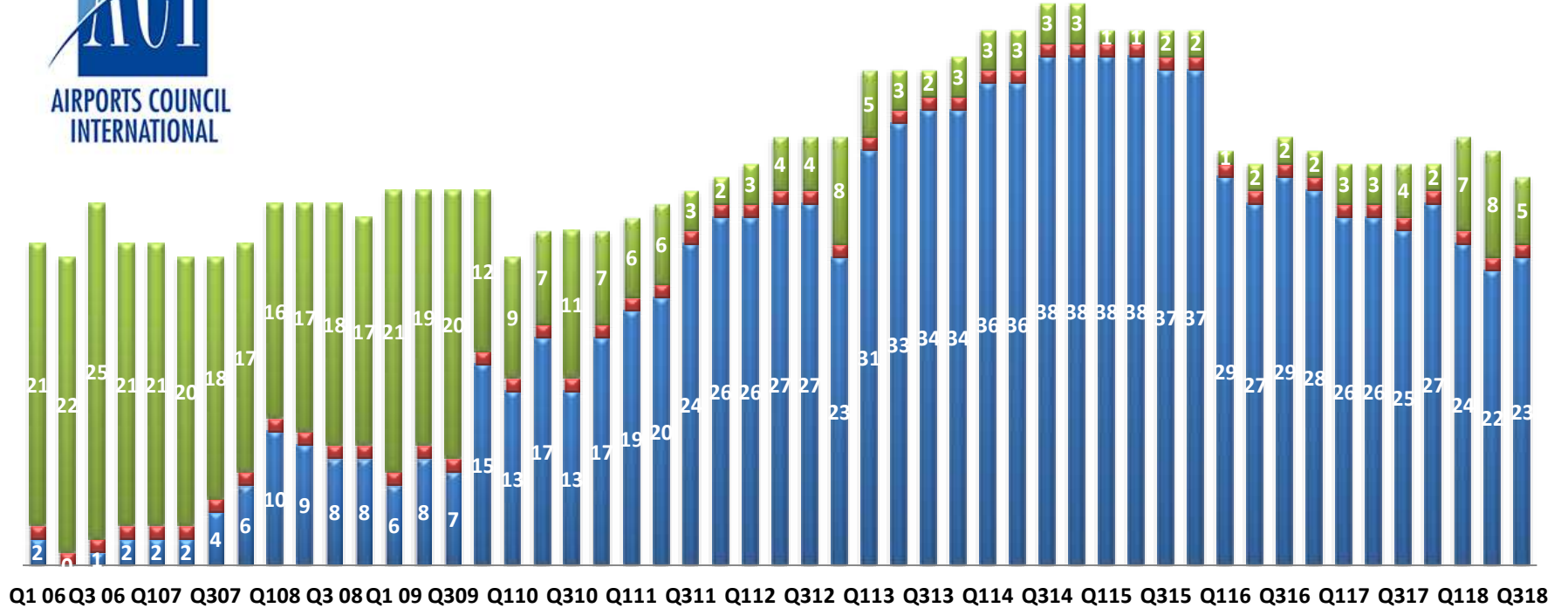
Strategic Objectives





Dublin Airport Overall Satisfaction - European Airports*

■ Airports scoring below Dublin



	PERFORMANCE AGAINST C.A.R SQM	2015 C.A.R TARGET	Q318
	OVERALL SATISFACTION	3.90	4.12
	COURTESY AND HELPFULNESS OF SECURITY STAFF	3.80	4.21
	EASE OF FINDING YOUR WAY THROUGH THE AIRPORT	3.90	4.25
	FLIGHT INFORMATION SCREENS	3.90	4.28
	COURTESY AND HELPFULNESS OF ALL AIRPORT STAFF	3.80	4.33
	INTERNET AND WIFI	3.10	4.03
	CLEANLINESS OF WASHROOMS	3.50	3.90
	COMFORT OF WAITING/GATE AREAS	3.30	3.60
	CLEANLINESS OF TERMINAL	3.90	4.16
	PASSING WARNING FAILING		

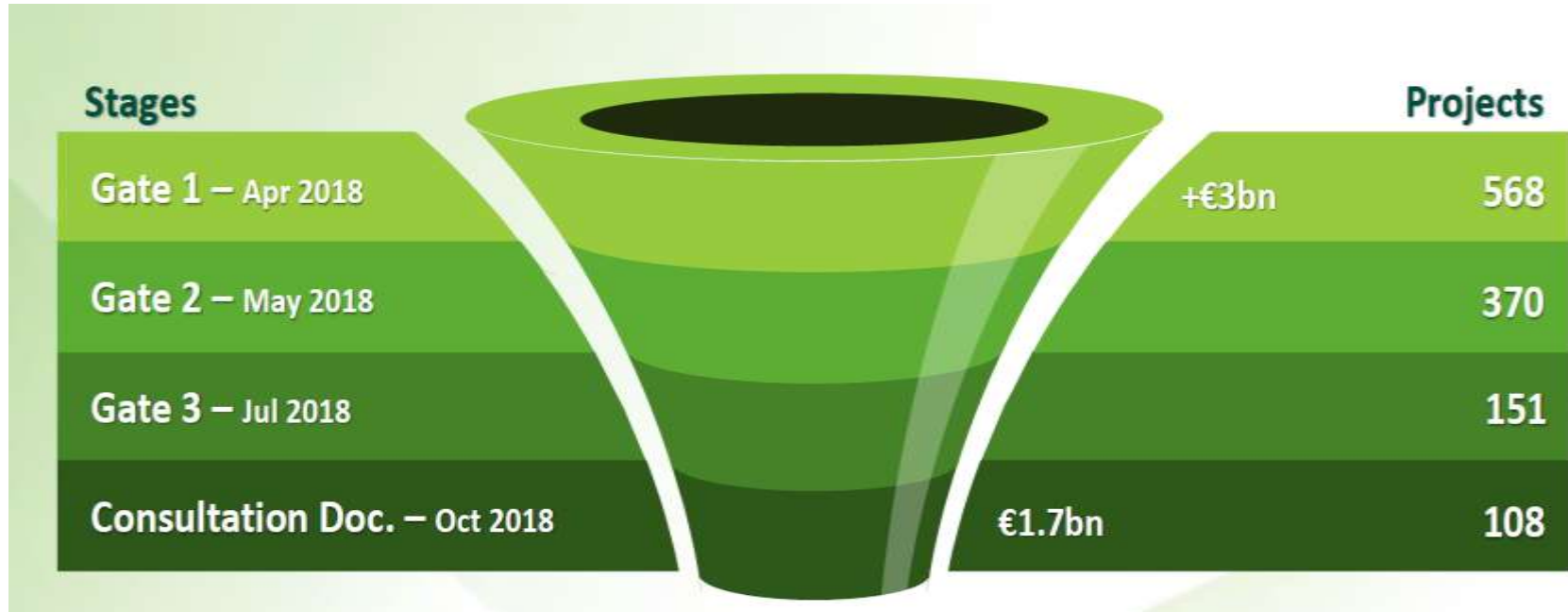
Capacity Development Plan



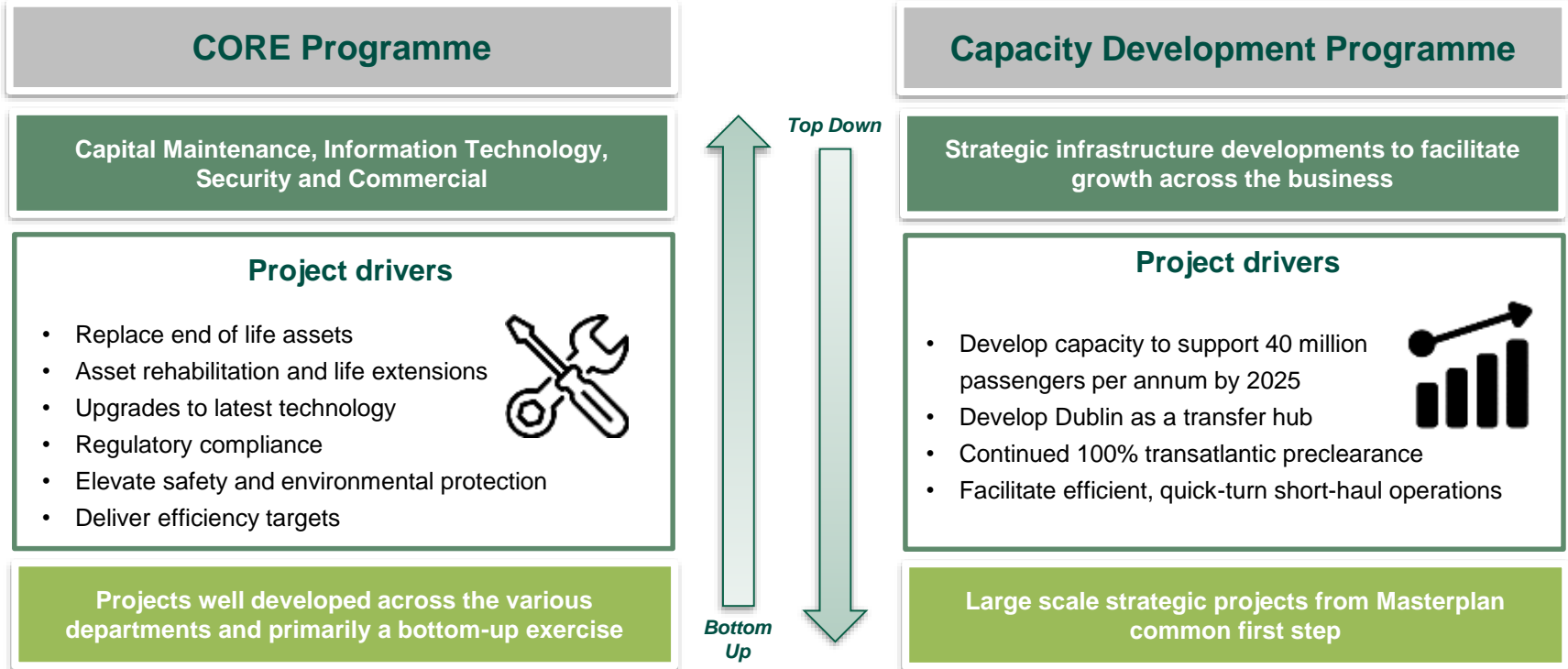
11 Strategic Project Drivers (ranked and weighted)



Project Refinement



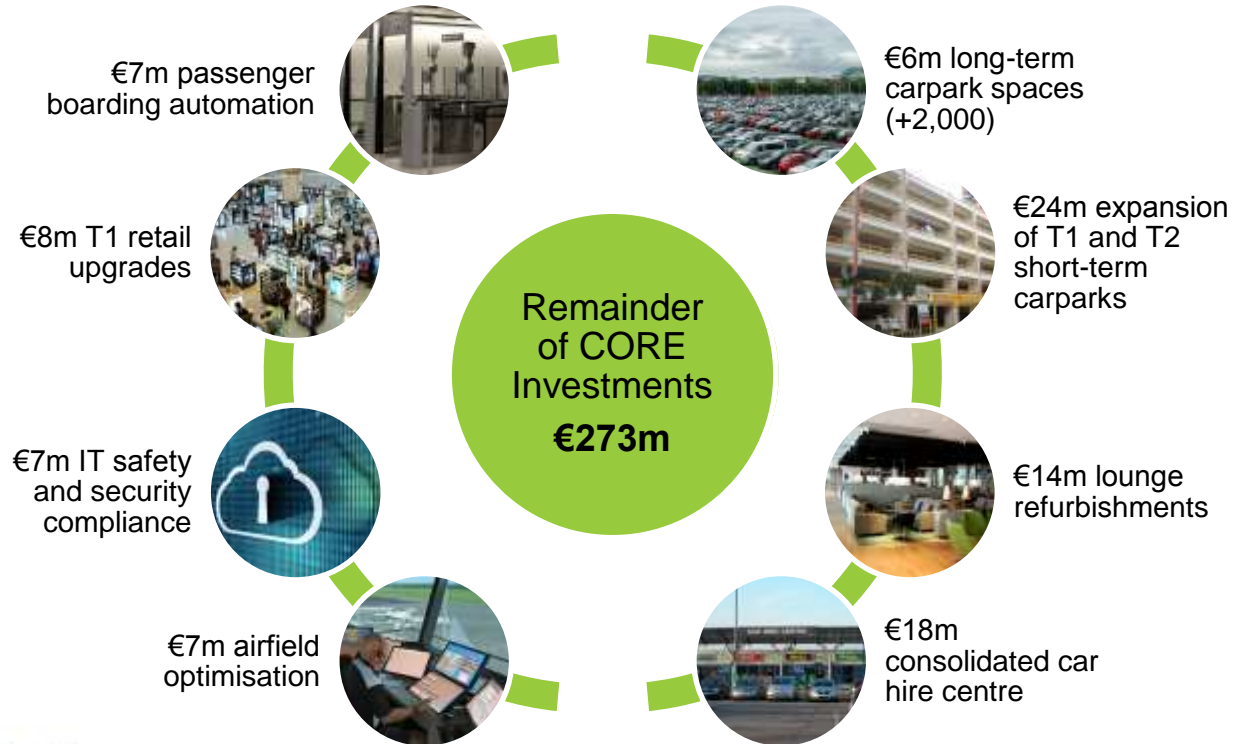
CIP Components



Asset Care Deliverables

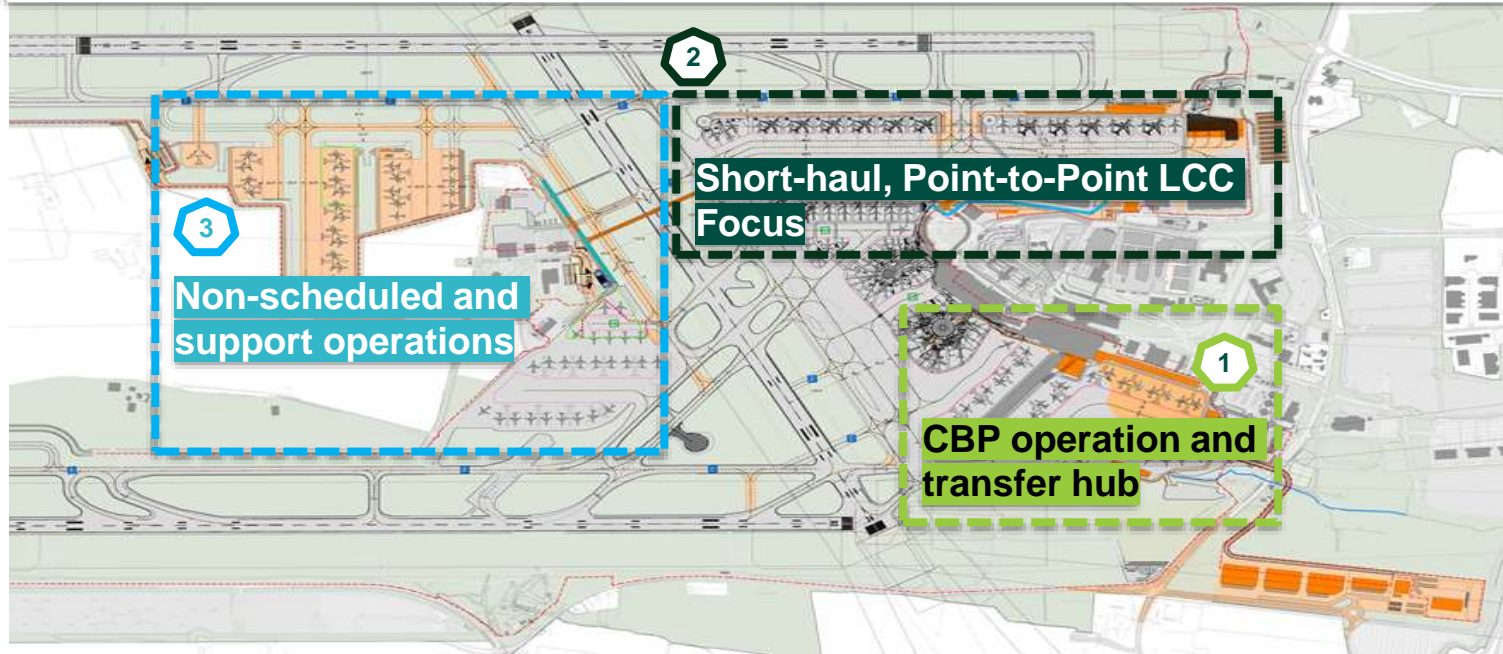


IT, Security, Commercial & Other Deliverables



Core Development Zones

Airport developed under a structured, zonal plan



South Apron Development

Total Estimated Cost

€441m

New Pax Capacity

5mppa



- **Development critical for achieving transatlantic, transfer and CBP growth targets**
- Designed to support:
 - Aer Lingus growth
 - Existing US carrier growth
 - Potential new US carriers
 - Norwegian transatlantic expansion
- 1. Development of new CBP enabled Pier 5, with capacity to handle 8 NB aircraft (or 4 WB)
- 2. Bank of 9 new remote stands, with PBZ (can be used for towing/staging and/or live departures)
- 3. Upgrade of taxiways to dual code E
- 4. Expansion of US CBP facility

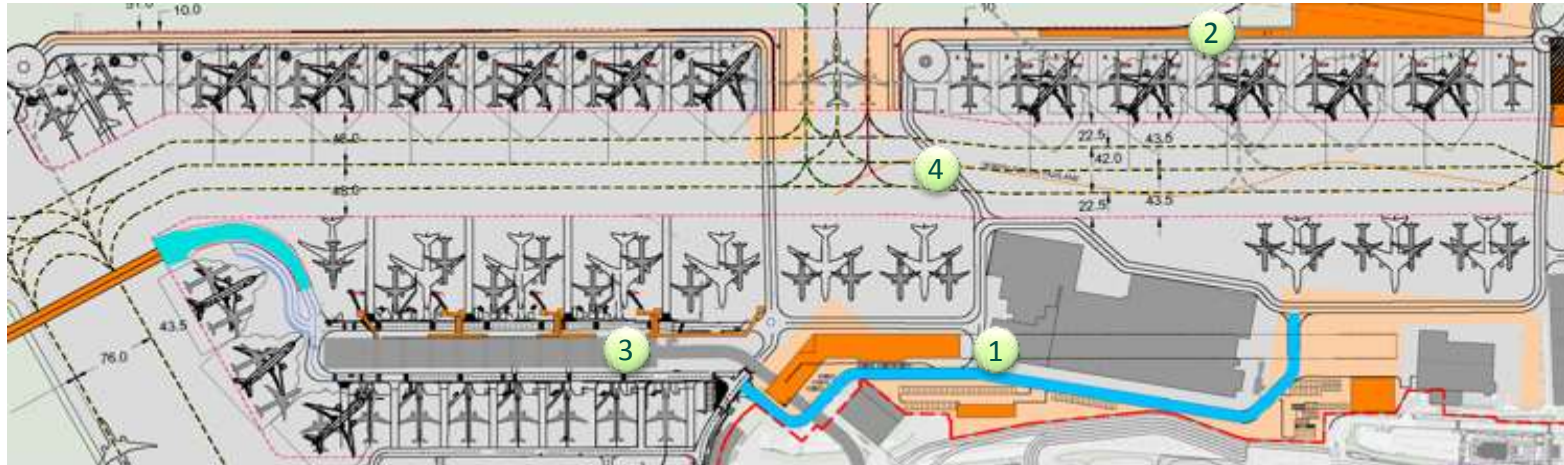
North Apron Development

Total Estimated Cost

€200m

New Pax Capacity

5.6mppa



Development critical for supporting additional Ryanair based aircraft and for overall short-haul growth targets

1. Development of a new pier (3 phases). At completion, 15 new contact stands delivered. Progress phases 1 and 2 immediately
2. Construction of a new Passenger Boarding Zone on Apron 5H to support live operations across the 12 stands
3. Option to install three airbridges on Pier 1 to support wide-body operations
4. Efficient, full length dual code C North Apron taxiways, with direct access to North Runway line-up points (only 400m)

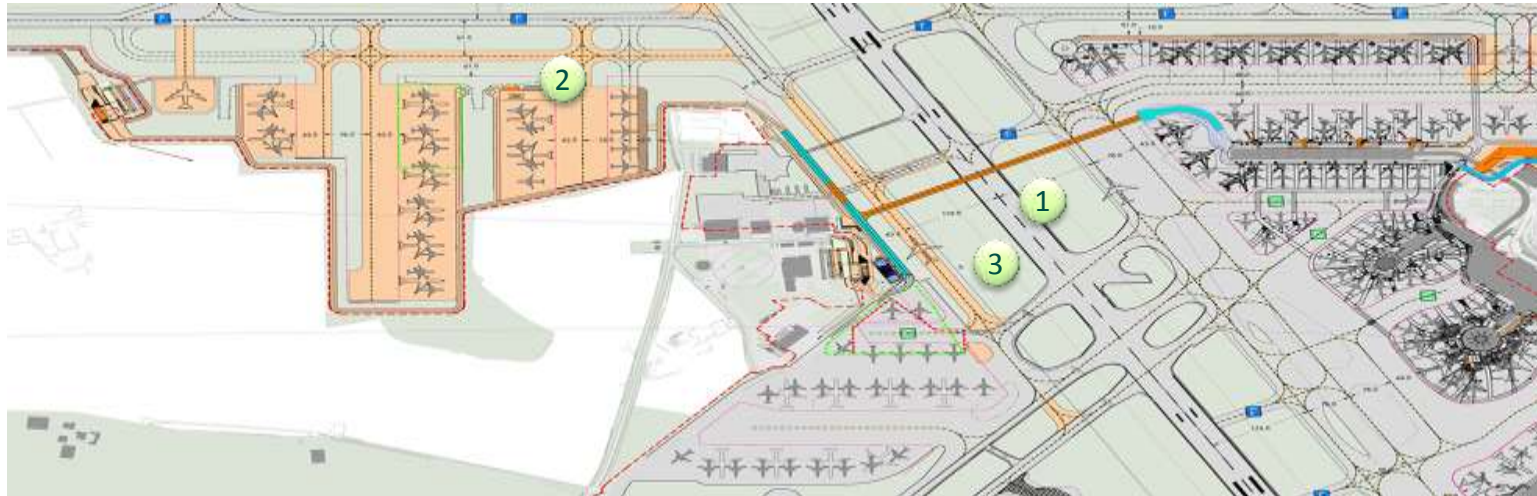
Unlock West Apron

Total Estimated Cost

€218m

New Pax Capacity

2.1mppa



Critical to unlock the 19 existing stands on the West Apron for passenger operations

1. Requirement for service vehicles and buses to underpass runway 16/34, existing taxiways and a future taxiway
2. Development of a new remote aircraft parking apron, initially with 10 stands and ultimately, enabled to support an additional 16 stands. Apron includes dedicated General Aviation parking zone and Code E Engine Test Bay
3. €50m environmental package for airfield drainage to support 40mppa activity

Terminals – Focus Projects

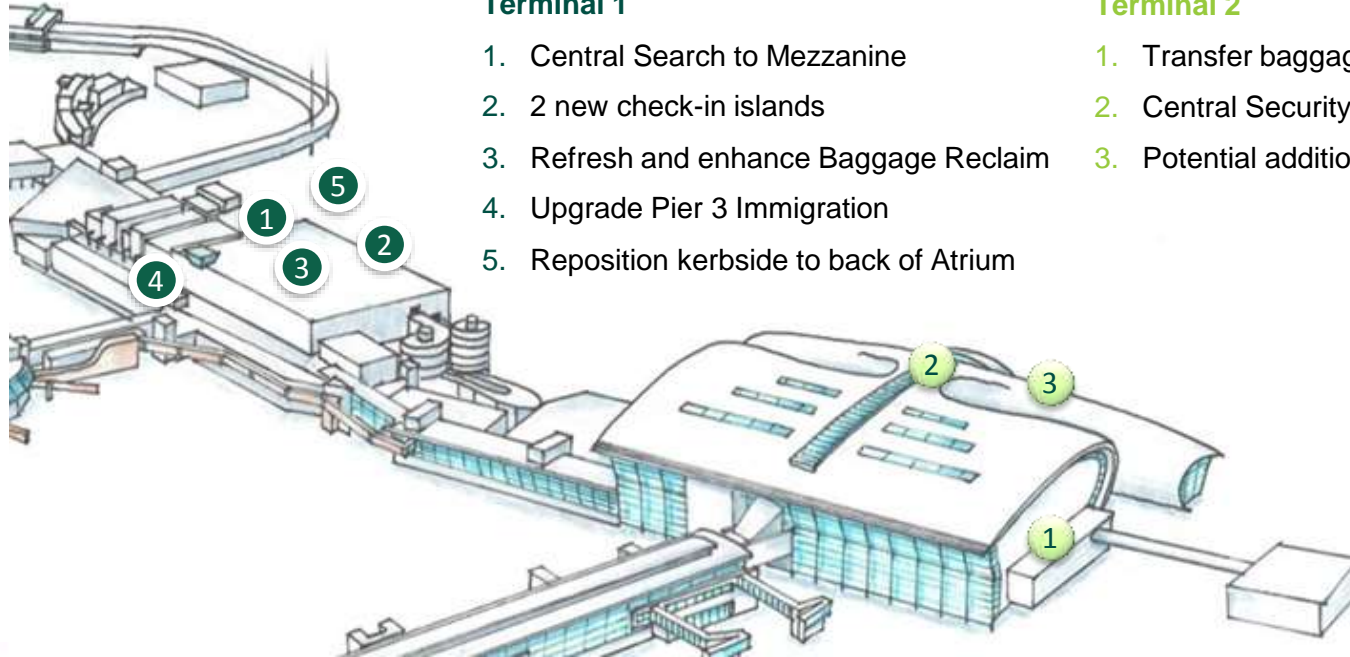
Total Estimated Cost

€206m

Total Pax Capacity

40mppa

- Terminal capacity not as pressing as piers, apron and airfield. Modest improvements proposed to facilitate 40mppa



Terminal 1

1. Central Search to Mezzanine
2. 2 new check-in islands
3. Refresh and enhance Baggage Reclaim
4. Upgrade Pier 3 Immigration
5. Reposition kerbside to back of Atrium

Terminal 2

1. Transfer baggage upgrades
2. Central Security: lane enhancements
3. Potential additional check-in desks

Understanding Passenger Experience



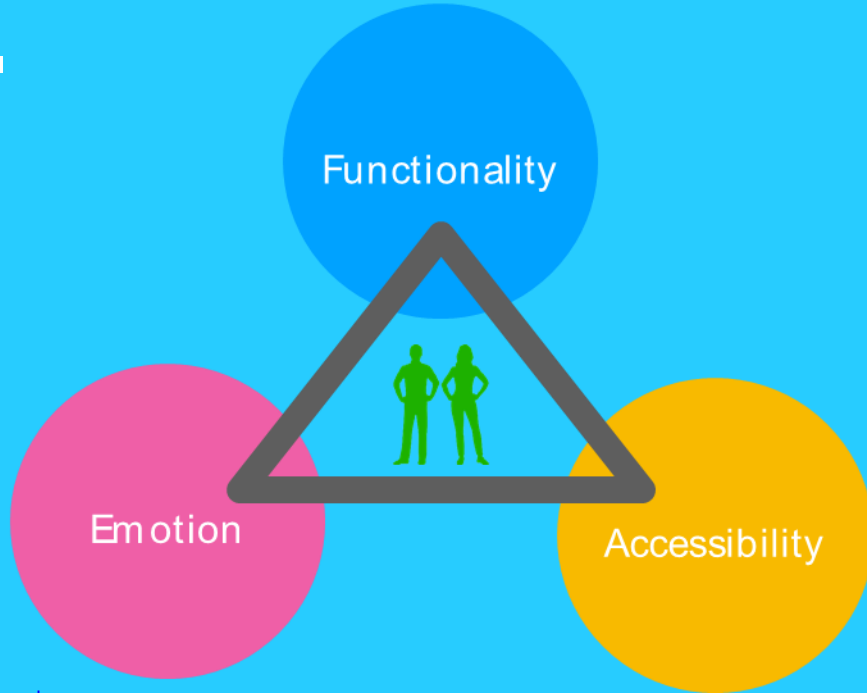
Levels Of Service

		SPACE		
		Over-Design	Optimum	Sub-Optimum
LoS Parameters ←		Excessive or empty space	Sufficient space to accommodate necessary functions in a comfortable environment	Crowded and uncomfortable
MAXIMUM WAITING TIME	Over-Design	OVER-DESIGN	Optimum	SUB-OPTIMUM ▶ Consider Improvements
	Optimum	Optimum	OPTIMUM	SUB-OPTIMUM ▶ Consider Improvements
	Sub-Optimum	SUB-OPTIMUM ▶ Consider Improvements	SUB-OPTIMUM ▶ Consider Improvements	UNDER-PROVIDED ▶ Reconfigure

- Provide sufficient space to accommodate all necessary functions in a comfortable environment;
- Provide stable passenger flows with acceptable waiting times;
- Denote an overall good service (comfort level) to passengers while keeping CAPEX and OPEX at a reasonable level; and
- Balance economic terminal dimensions with passenger expectations.

Blending Passenger Experience with Infrastructure

Thinking about experience



Expectation
+
Perception
=
Experience

Meet our extended team



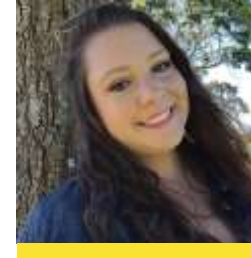
Hank
+
Linda



Fiona



Luca



Hallie
+
Family



Scenarios

Terminal 2 - Departures

1. CBP to Pier 5
2. Non-CBP to Pier 5
3. Non-CBP to Pier 5 to bus to PBZ
4. Non-CBP to Pier 5 - walk on to plane
5. CBP to Pier 3

Terminal 2 Transfer

6. Pier 3 arrival to CBP to CBP departure in Pier 3
7. Pier 4 arrival (LH) to Pier 5 to P5 PBZ (SH) or vv

Terminal 2 Arrivals

8. PBZ bus to injection point
9. Pier 5 arrival

Terminal 1 Departures

10. OCTB shuttle point to PBZ 5H to walk to plane

Terminal 1 Transfer

11. SH flight into P1M2 to departure on PBZ5H via OCTB & transfer centre

Terminal 1 Arrivals

12. Arrive to PBZ 5H to bus to injection point (TBC)
13. P1M2 arrival joining main Pier 1 arrival

•

Scenario Narrative

- 10 minute exercise before each walkthrough
- Build a back story & context
- Identify use of key touchpoints through the journey
- Add individual needs
- Play the Premium card

Person: **HAUIE** Terminal **2** Scenario No: **NON-CBT TO PIER 5 . ALI GAVE .**

Seasonal: SUMMER
Special Occasion: FAM. HOLS
Time: 6 AM
Coffee: ???
Family: [Family Icon] ✓
Dining: [Dining Icon] ✓
Shopping: [Shopping Cart Icon] ✓
Premium: Premium ✓
Check-in Type: PRINTED

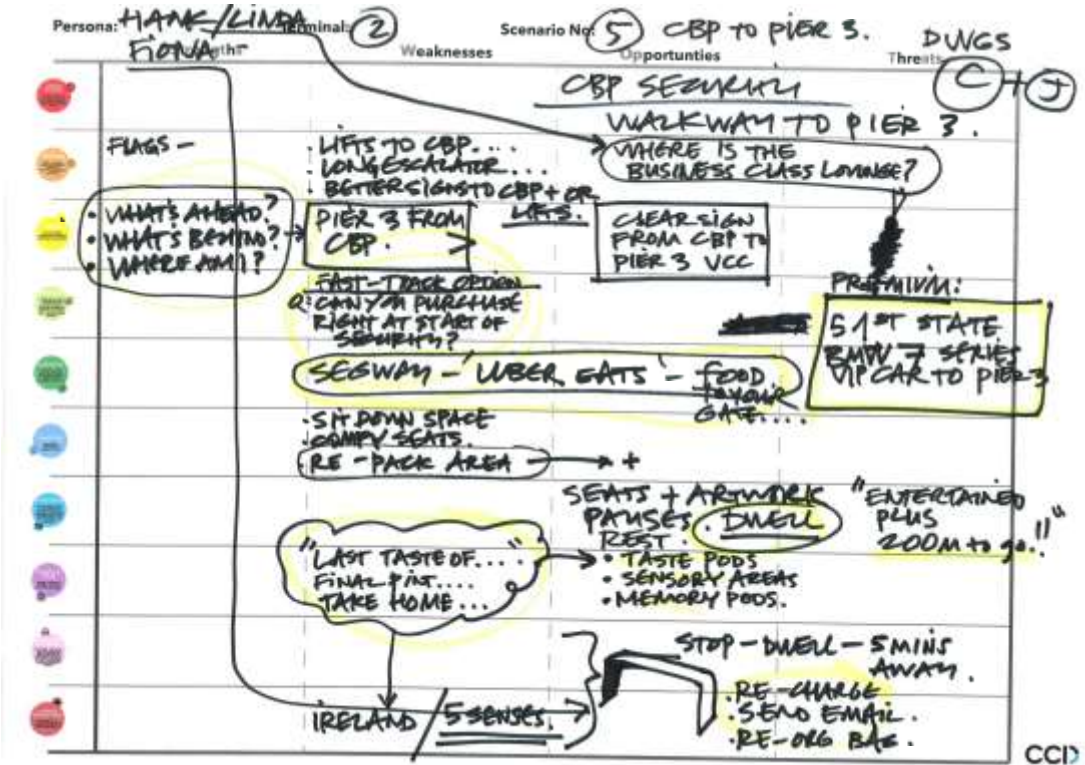
5 AM
2 HRS SLEEP
LOTS OF [Bag Icon]
KIDS NEED LOD
DAD NEEDS COFFEE
QUEUES SECURITY
FOOD
GATES
BOARDING

SLEEP DEPRIVED PARENTS / KIDS UP LATE / HAD AN ARGUMENT WITH MATT...
PACKING TOOK AGES . 1 MK AWAY TO RECHARGE .
ANXIOUS / TIRED / IRRITABLE KIDS / LONG QUEUES .
BUS TO AIRPORT AT 5 AM . * FEELS LIKE I'VE BEEN TRAVELLING FOR AGES ALREADY *

CCD

Note taking structure

- Uses Ten Core Passenger Experience Needs
- Focuses on strengths & **weaknesses** of the design
- Adds **opportunities** & **threats** to improve or break experience





Dwell Spaces & Movement Spaces



Space to rest
Pause with a view
Time to educate & inform
Integrate with art & culture

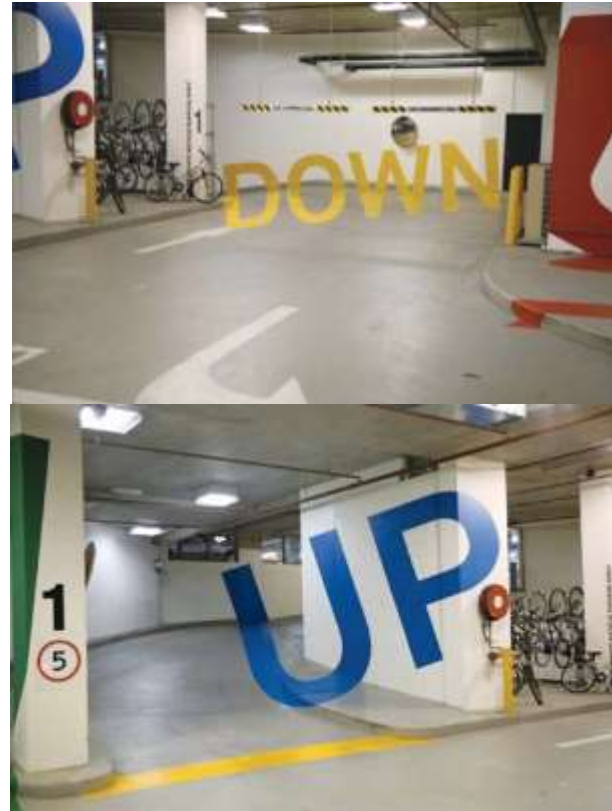


Help passenger with their expectations
Gamify for those who want that

Go beyond signage



Where am I in the process?



Creative solutions to read a space

“Special” but not special



First impression of how passengers are treated



Why not special like this?

Re-think the queue



**Where does my queue start?
Am I in the right one?
How long will it be?**

www.designbyccd.com



**The human touch
Change to entertain or inform?
Use my time?**

Re-think the gate



Queue management - sit not stand
Carry-on worry
Countdown to board
Passenger information - where is my plane?



Seating for meet my needs
Destination information / themes
Focus on “belt off ding” moment



Service

What does Dublin Airport want to be famous for?

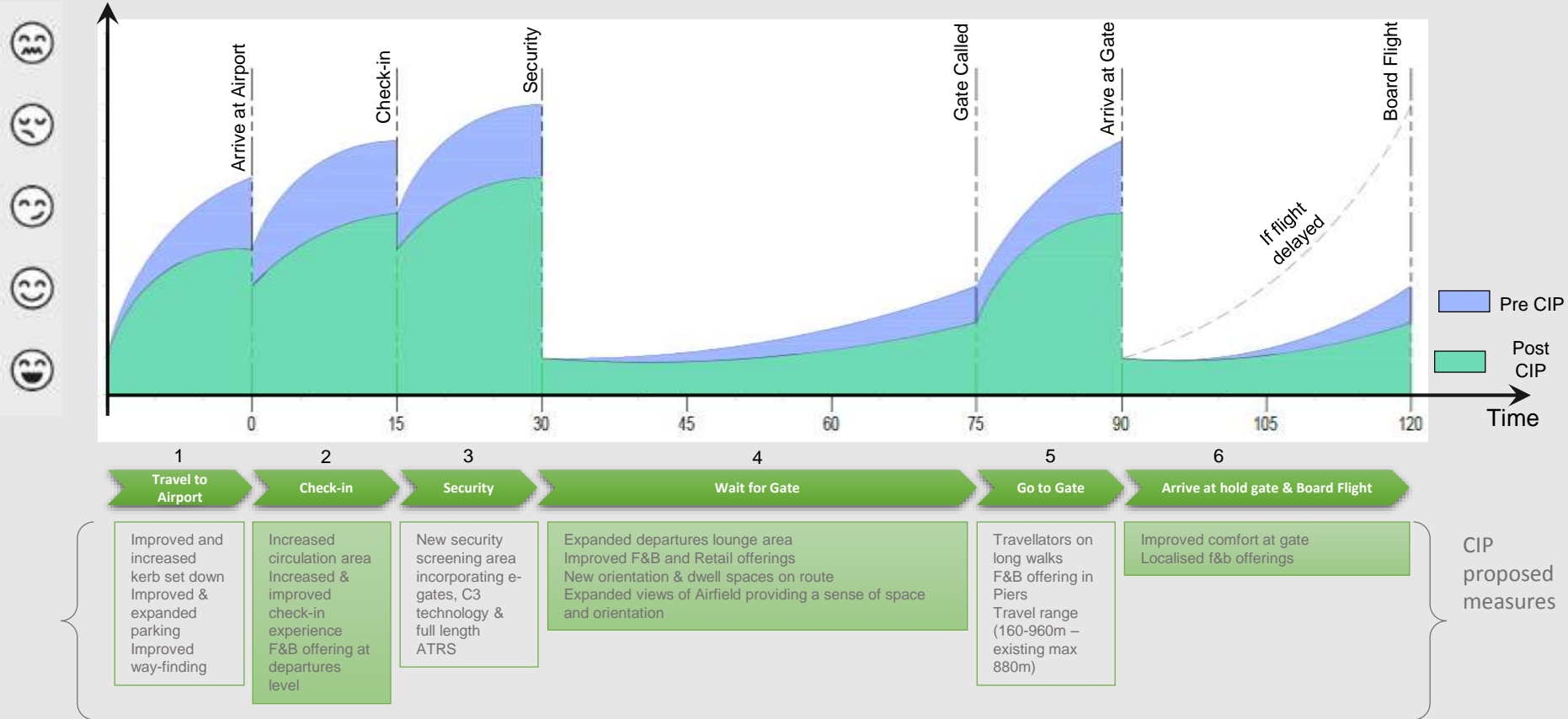
A strategy that integrates infrastructure, place, product & service

A strategy voiced from passenger need (“I want”) rather than airport view (“we want to”)?

Blending Passenger Experience with Infrastructure

Addressing stress points on the customer journey through intelligent design.

We will be running a research study with UCD on this subject in order to tangibly and objectively measure the impact on passengers



T1
**Enhancing Passenger
Experience**
↓ ↓

T1
P
↓



Terminal 1 Atrium Entrance

Today

00:00

Journey time



Passenger experience



Terminal 1 New Atrium Entrance

Tomorrow

00:00

Journey time



Welcoming and inviting signage, visible from entire forecourt

Fáilte roimh
Aerfort Bhaile Átha Cliath
Welcome to
Dublin Airport

Clean, bright, generous and simplified atrium entrance

T1 >

departures

arrivals

Second traveller to departures

< T1

Generous central access from drop-off forecourt



Terminal 1 Entrance

Today

00:04

Journey time



Passenger experience



Terminal 1 Entrance

Tomorrow

00:04

Journey time



Passenger experience

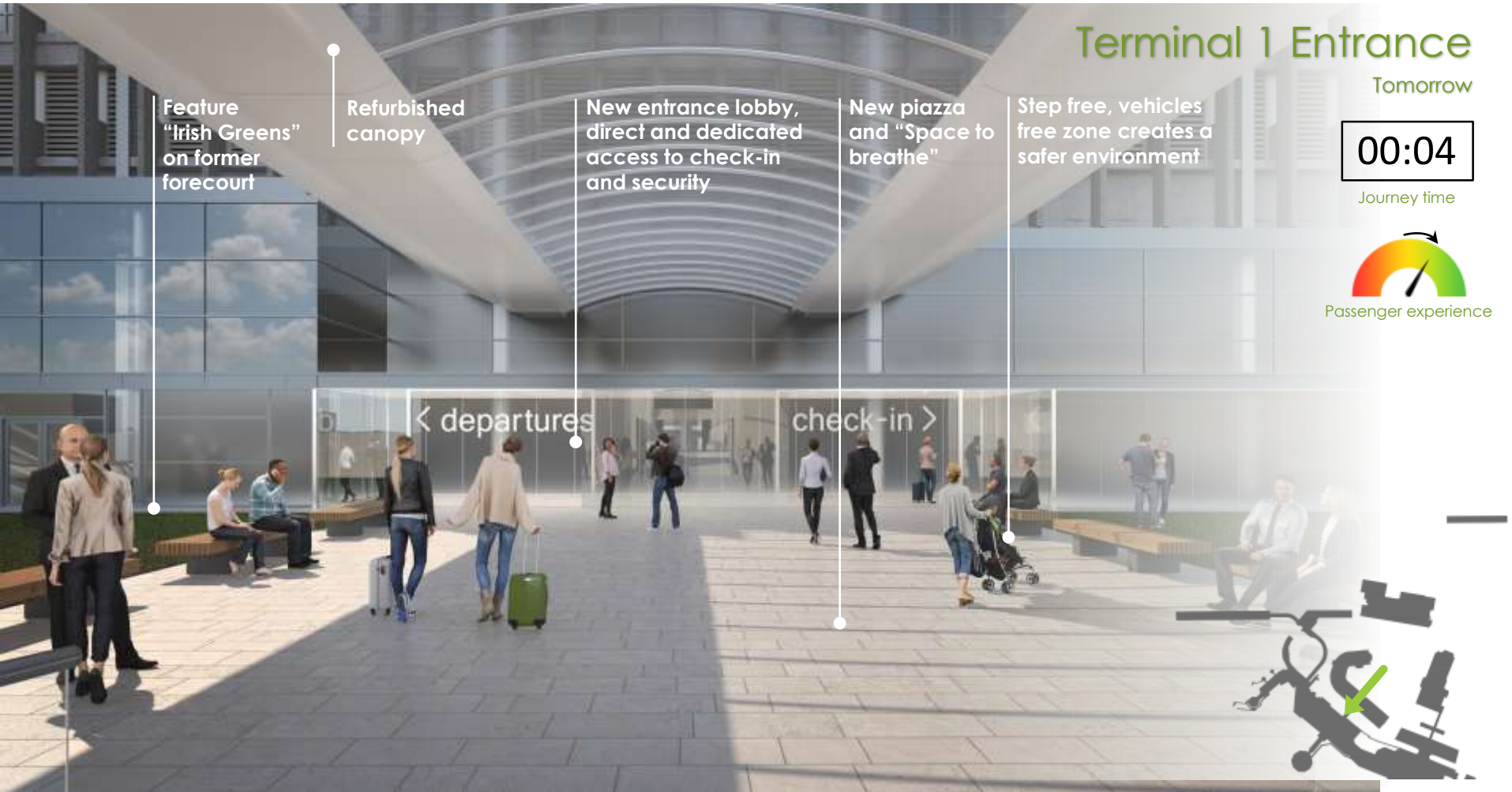
Feature
"Irish Greens"
on former
forecourt

Refurbished
canopy

New entrance lobby,
direct and dedicated
access to check-in
and security

New piazza
and "Space to
breathe"

Step free, vehicles
free zone creates a
safer environment



Terminal 1 Check-in Hall

Today

00:06

Journey time



Passenger experience



Terminal 1 Check-in Hall

Tomorrow

00:06

Journey time



Clear signage to next steps of journey

Assisted passengers welcomed like VIPs

New glazed entrance lobbies (similar to T2), allowing views into the terminal

Direct access to security

The lobbies create increased circulation and orientation spaces in the check-in hall



Terminal 1 Security

Today

00:25

Journey time



Passenger experience



Terminal 1 Security Mezzanine

Tomorrow

00:20

Journey time



Passenger experience

Sign informing passengers of process and queuing times

Are you ready yet?

- Liquids
- Technology
- Coat and shoes
- Smile

Security Search queue time is less than

5

minutes

Airfield views will reassure passengers of where they are

White cladding with sleek stainless steel details will make security machines feel less "techy"

Bright and airy finishes will make the space feel generous

Good visibility into security lanes while queuing

Softer, calmer security environment to lower stress levels



Terminal 1 route to IDL

Today

00:55

Journey time



Passenger experience



Terminal 1 New VCC to IDL

Tomorrow

00:35

Journey time



Passenger experience

Airfield views throughout for ease of orientation

Mega signage to explain next journey steps

Generous, clear orientation space

Ample views towards next step of journey



Shuttle Bus Station

Tomorrow

00:44

Journey time

5
minu Passenger experience

Signage informing passengers of time to next shuttle bus

Unobstructed airfield views to allow for visual connectivity with the shuttle buses

Explanation of the journey from this facility

Boarding card checks at shuttle exits

Dedicated low level seating for short dwell times between shuttle pick ups

Personal service to those who need it

Generous and unobstructed circulation to all shuttle gates



An informational graphic overlay. On the left, it says "You are here" with three icons: a shuttle bus, a regular bus, and a wheelchair. Arrows point from the shuttle icon to the bus icon, and from the bus icon to the wheelchair icon. On the right, it says "Shuttles to gates 500-599 depart every 5 minutes Passenger experience". The number "5" is large, and below it is a semi-circular gauge with a needle pointing to the number 5. The gauge has a color gradient from red to green.



Satellite Boarding Facility

“One step out onto the apron and towards the plane”

Passengers are assisted throughout their journey

Small F&B outlets at gates for passengers convenience

Informative and reassuring wayfinding sign

Tomorrow

00:54

Journey time



Passenger experience



Pier 1 Transfers

Tomorrow

00:47

Journey time



Passenger experience

Sign informing passengers of queuing times

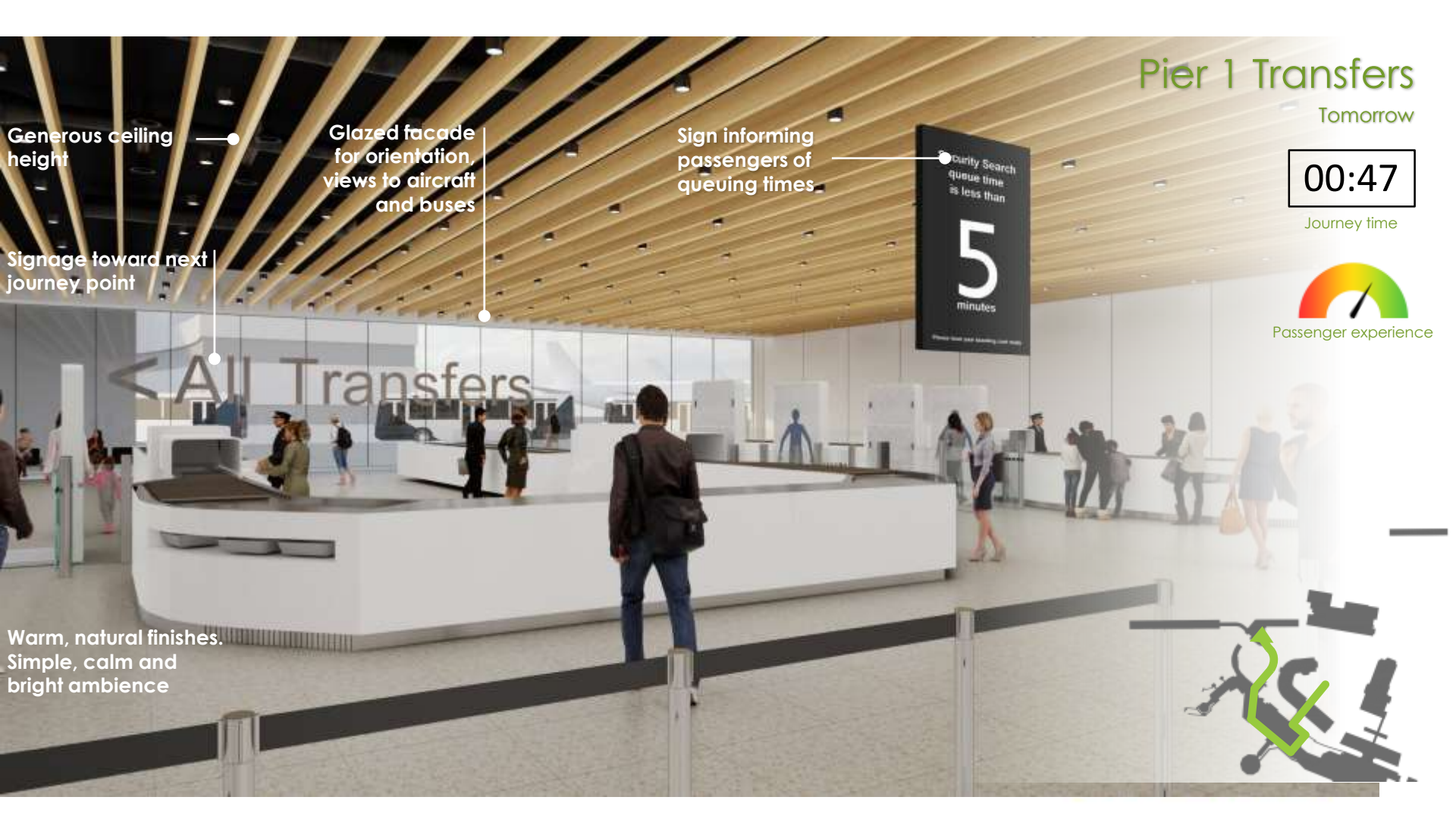


Glazed facade for orientation, views to aircraft and buses

Generous ceiling height

Signage toward next journey point

Warm, natural finishes. Simple, calm and bright ambience





Airfield views and direct access to airfield

Airy and bright double height gate space

Full height media wall at VCC, to display engaging and informative images about destination (seat belts-off moment)

Visual connection to/from arrivals corridor, connecting different journeys

Small F&B outlets between gates

New Pier 1

Tomorrow

00:49

Journey time



Passenger experience



Terminal 2 Check-in Concourse

Today

00:02

Journey time



Passenger experience



Terminal 2 Check-in Concourse

Tomorrow

00:02

Journey time



Passenger experience

Elegant and modern self-service check-in kiosks. Increasing self-service uptake will improve availability of space for circulation and make the hall feel more generous

Improved signage to illustrate next steps

PRM route clearly legible and obvious





Airside views towards aircraft to ease orientation and assure passengers of where they are in their journey

At rear: information about the CBP zone retail offer and about next step of journey

Warm, natural finishes

US CBP Lanes

Tomorrow

00:36

Journey time



Passenger experience

White cladding with sleek stainless steel details will make security machines feel less "techy"

Informative and reassuring sign to minimise passengers stress in queue



New Pier 5

Tomorrow

0 1:01

Journey time



Passenger experience

Full height media wall to display engaging and informative images about destination (seat belts-off moment)

Visual connectivity between Arrivals and Departures

F&B pod within gate

CIP product. Perforated partition gives a hint of the warm, inviting atmosphere inside

Pre-boarding gates are not shown in this image, but will enable passengers at gate to de-stress

A range of seating types that support passengers in using the space differently

Airside views for passengers to orientate



Thank You

