Tashkent International Airport Initial Noise Assessment Addendum (Rev 2, 10th August 2026)

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Rev	Date	Contents
1	**8 June, 2026**	**First draft**
2	**10 August, 2026**	**Addressing comments and refering to the Noise Management Framework**

1 Introduction

This Noise Assessment Addendum was been prepared in June 2026 to address lender comments on the initial noise assessment in the draft ESIA which was based on a worst-case operating scenario for the opening year (2029) and future year (2044).

The lenders and their advisors met with Uzbekistan Airports on the 29th April 2026 as part of the site visit and meetings with authorities and local communities organised by the Client and supported by SLR /NBT team. The Airport Director advised that the two Category C runways would provide maximum flexibility in terms of flight planning and that certain operational scenarios could be tested to assess whether this would reduce the impact on the nearest village (Yangitash) south of the airport for day and nighttime operations. This updated modelling has therefore taken account of early consideration of operational planning to reduce impacts on nearby villages, together with consideration of future aircraft fleet mix, transitioning to quieter engines.

The additional work undertaken to address the main comments and Incheon International Airport Corporation (IIAC) expert review is summarised as follows:

- To address concerns over the assessment being based on preliminary and incomplete data, the model inputs have been further developed. The aircraft fleet in 2045 has been revised to allow for the future transition to newer aircraft – see Section 2.2.
- The allocation of aircraft to the two runways has been refined to mitigate noise impacts to communities to the south – see Section 2.2.
- A noise barrier along the south boundary has been modelled to assess reduction in noise propagation to the south – See Section 2.2 and Section 4.
- Numbers of households impacted have been estimated – see Sections 2.2 and 3.3.
- A discussion of the positive noise impact from closure of the existing airport is provided – see Section 3.3.
- Mitigation has been further clarified to address residual impacts – see Section 5.

This has resulted in two additional noise mitigation scenarios being tested and reported:

- **Mitigation Scenario 1 – Runway Differentiation**, larger types on northern runway, fleet transition, and noise bund; and
- **Mitigation Scenario 2 – Partial Night Curfew** - as Mitigation Scenario 1 plus southern runway partial night curfew (2330-0500 hours).

These mitigation scenarios were modelled and tested as far as possible noting the preliminary nature of available airport data of flights and flight paths and helped the airport develop a full suite of noise management measures that were developed with further consultation with lenders and their experts into the Noise Management Framework in July and August 2026.

Section 2 gives the refined input data and assumptions.

Section 3 provides the updated assessment of air noise impacts.

Section 4 provides the updated assessment of ground noise impacts.

Section 5 summarises the updated noise mitigation measures.

Section 6 provides a short summary.

2 Assessment Methodology

2.1 Overview

The noise modelling and assessment methods remain as reported in the draft ESIA, with the following refined data inputs.

The two assessment years have been moved forward by one year from 2029 and 2044, to 2030 and 2045, to reflect the later year of opening. This has not affected the air traffic forecasts for each assessment year.

2.2 Revised Inputs

2.2.1 Fleet Mix

The noise assessment in the ESIA assumed the same fleet mix of aircraft 15 years after opening as at the year of opening. This was due to a lack of a detailed forecast of aircraft numbers by type. The ESIA noted that because the fleet will transition to quieter aircraft types, this was a worst-case assumption that would lead to predicting noise levels higher than are likely.

The transition of an airport's fleet depends on the airlines it serves and their future aircraft procurement. Since this airline-specific information is largely unavailable reference has been made to London's Gatwick Airport where this topic has recently been studied in detail, noting that whilst the global nature of aviation and international regulation on noise emissions by ICAO means there will be some similarity in the way aircraft are retired and replaced over time, Tashkent Airport will be served by some different airlines so the fleet may transition more slowly.

One way to measure the transition of an airport's fleet to newer quieter aircraft is to calculate the proportion of newer Next Generation aircraft because they are generally quieter than their Current Generation equivalents. For example, Airbus' A320 NEO is quieter than the A320. At London's Gatwick Airport considerable effort was made in forecasting feet transition as part of the Environmental Impact Assessment for the proposed Northern Runway Project. The rate of fleet transition was studied by looking in detail at airline orders and trends, on three separate occasions; in 2019 pre-COVID, in 2022, and in 2024. This gave three fleet forecasts; a Central Case, a Slower Transition Case (that allowed for delays due to COVID) and an Updated Central

Case that allowed for some recovery after COVID [1]. The resulting fleet forecasts in terms of % Next Generation aircraft are given in Figure 2.1.

Figure 2.1 Gatwick Airport Northern Runway Project Environmental Statement Addendum – Updated Central Case Aircraft Fleet Report, August 2024

Table 2.2: Summary next generation fleet shares assumed (%of annual ATMs)

	Base (Updated Central)				Northern Runway (Updated Central			
	2029	2032	2038	2047	2029	2032	2038	2047
DCO Central Case	59%	80%	100%	100%	59%	82%	100%	100%
DCO Slow Fleet Transition Case	40%	50%	82%	100%	40%	53%	83%	100%
Updated Central Case	45%	68%	94%	100%	45%	70%	93%	100%

The most recent forecast shows the % Next Generation increasing from 45% in 2029, to 68% in 2032, to 94% in 2038 to 100% by 2047. The 2025 fleet at Tashkent Airport that is assumed to operate at the new airport in the year of opening, 2030, is 39% Next Generation (See Appendix 1 which identifies which aircraft are Current Generation and which are Next Generation). For the forecast and assessment year of 2045 it is clear from the Gatwick analysis that the % Next Generation at Tashkent will increase considerably.

The following is a list of Current Generation aircraft in the Tashkent 2025 fleet and a Next Generation equivalent that they may transition to:

- A320 – A320 NEO
- B767 300 – B787 800
- ATR 72 – A320 NEO
- B737 800 – B737 MAX8
- A330 200 – B787 800
- Turbolet – A320 NEO
- A319 – A320 NEO
- Sukhoi SJ 100-95 – A320 NEO
- IL76 – A320 NEO

[1] Gatwick Airport Northern Runway Project Environmental Statement Addendum – Updated Central Case Aircraft Fleet Report, August 2024 Doc TR0200005 (https://nsip-documents.planninginspectorate.gov.uk/published-documents/TR020005-003090-5.1%20ES%20Addendum%20-%20Updated%20Central%20Case%20Aircraft%20Fleet%20Report%20-%20Version%202%20-%20Clean.pdf)

To avoid under-estimating the possible extent of mitigation, the following conservative assumptions are made so that noise levels are more likely to be predicted higher than will occur, not lower. From 2025 to 2030 there will be no transition of the fleet. By 2045 75% of each of these Current Generation aircraft will have transitioned to the quieter Next Generation equivalent listed. This results in 79% of the fleet being Next Generation by 2045. This is roughly double the proportion at Tashkent Airport in 2025 and is a considerable transition to quieter types but still conservatively 20% less than the 100% transition expected at London' Gatwick Airport.

The numbers of aircraft of each types day and night are shown in Tables A1 for 2030 (unchanged from the ESIA) and Table A2 for 2045 as changed as described above.

2.2.2 Runway Use

Mitigation Scenario 1 Runway Differentiation

The noise assessment in the ESIA assumed all aircraft types will operate from the north and south runways, split equally. To address the predicted major noise impact in and around the village of Yangitash close to the southern boundary of the airport, larger (ICAO Code D and above) aircraft that are usually noisier, will only operate from the north runway. Tables A1 and A2 below show which runway each aircraft type is now assumed to operate from. Where an aircraft type is listed to operate from the north and south runway it is assumed 50% will operate on each (arrivals and departure). As a result, the north runway will operate more flights (61%) compared with the south (39%).

Moving the south runway thresholds could potentially reduce noise levels at and round the village of Yangitash but Air Traffic Control have advised this is not likely to be safe, so runway thresholds have not been displaced.

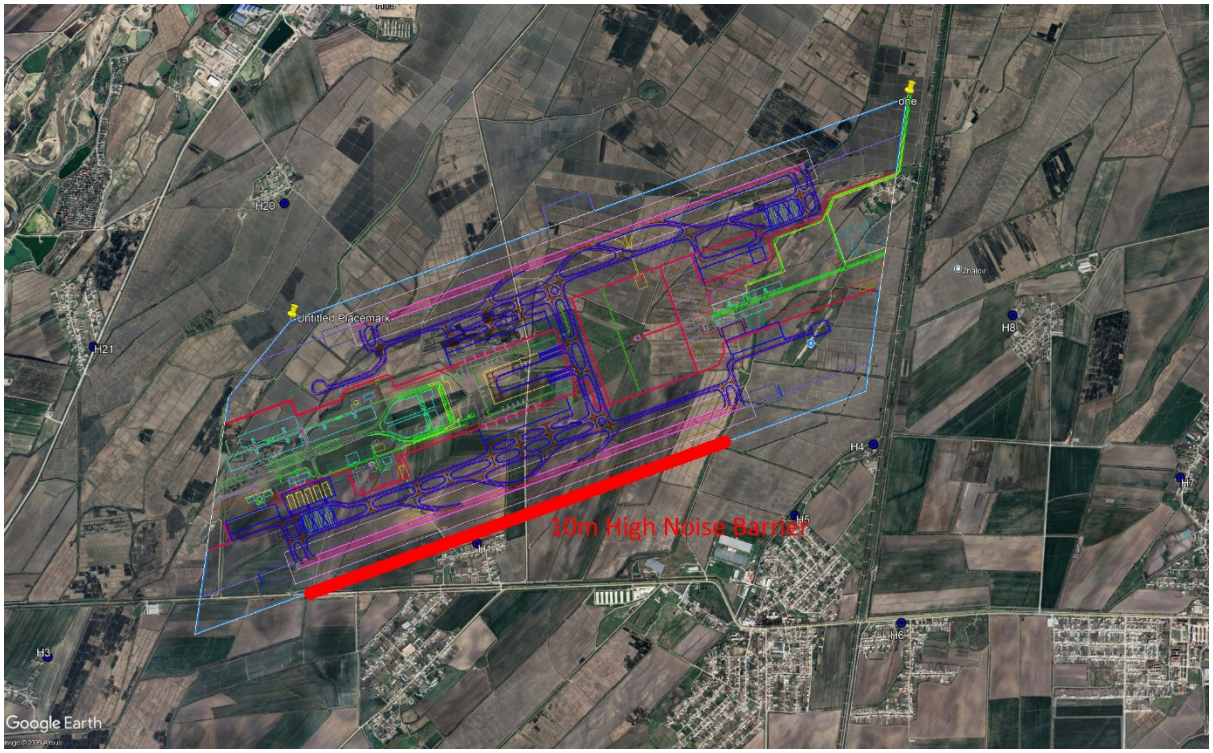
Mitigation Scenario 2 - Partial Night Curfew

To investigate if air noise levels in Yangitash and villages mostly affected by noise from the southern runway at night can be further reduced, this scenario considers a 5.5 hour curfew on the southern runways so that no flights would use the southern runways between 2330 and 0500 hours (unless in emergencies etc). This is in addition to the mitigation measures described above for Mitigation Scenario 1.

To model this partial curfew, it is assumed that the southern runways would only operate for 3.5 hours of the 9 hour night (2200-2330 and 0500-0700 hours). The air traffic forecasts do not differentiate air traffic hourly, they provide 9 hours totals, so assuming flights are spread equally across the night, there would be 39% of the 9 hour total in the 3.5 hours operated, with the remaining 61% operating on the northern runways instead. This partial curfew therefore does not change the total numbers of night flight overall but instead means that overall 86% of night flight operate from the northern runways and 14% from the southern runways (noting the larger aircraft only operate from the northern runway).

2.2.3 Noise Bund

The bund (10m high) shown red in the figure below has been added to test its effectiveness in reducing noise impact in and around the village of Yangitash close to the southern boundary of the airport from ground level noise sources within the airport, e.g. aircraft taxiing and engine running.



The effect of this 10m high bund on air noise was tested and found to be approximately 0.2dB in the Yangitash village area, which is insignificant, so the bund was not included in further air noise contours modelling. Section 4 report the effect of the bund on ground noise levels.

2.2.4 Estimating Households Affected

In this part of rural Uzbekistan, as far as we are aware, there is no geospatial building or population datasets to allow households or populations within noise contours to be calculated. However, using ESRI Open Street Map GIS mapping it has been possible to manually estimate the number of buildings that appear to be residential in each village and areas affected. This is an approximate method because it is not possible to clearly identify residential properties from other buildings, nor to tell if a building has more than one household or a household comprises more than one building.

Applying a standard population per household, assumed to be 5.7 for rural Uzbekistan[2], it has been possible to estimate the populations in the key noise contours. It is noted that this can only be an approximate method.

3 Assessment of Air Noise Impacts

3.1 Noise Impacts in 2030

3.1.1 Noise Modelling Results

The updated day and night noise modelling results for the 2030 air traffic forecasts are shown in Figure 3-1, Figure 3.2 and 3.3 as the following noise contours:

- Figure 3.1 - 2030 Mitigation Scenario 1 $L_{eq\ 15\ hour}$ day 55dB, 60dB, 65dB, 70dB
- Figure 3.2 - 2030 Mitigation Scenario 1 $L_{eq\ 9\ hour}$ night 45dB, 50dB, 55dB, 60dB, 65dB
- Figure 3.3 - 2030 Mitigation Scenario 2 $L_{eq\ 9\ hour}$ night 45dB, 50dB, 55dB, 60dB, 65dB

[2] SLR together with NBT/Oqtavia have undertaken socio economic surveys to assess household size and this has typically been around 5.8 to 6.0 so the assumption of 5.7 is realistic.

Figure 3-1 2030 Mitigation Scenario 1 Daytime $L_{eq\ 15\ hr}$ Noise Contours

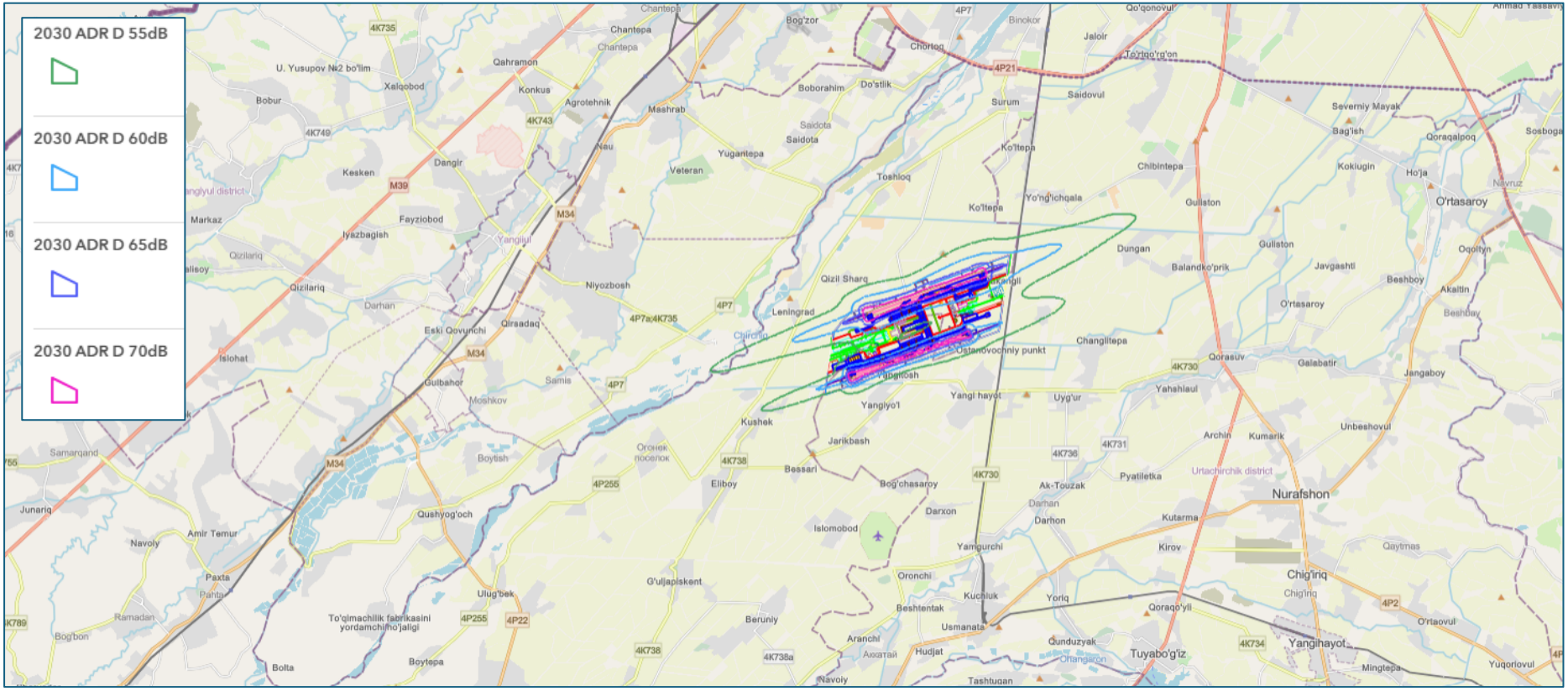


Figure 3-2 2030 Mitigation Scenario 1 Night-time $L_{eq\ 9\ hr}$ Noise Contours

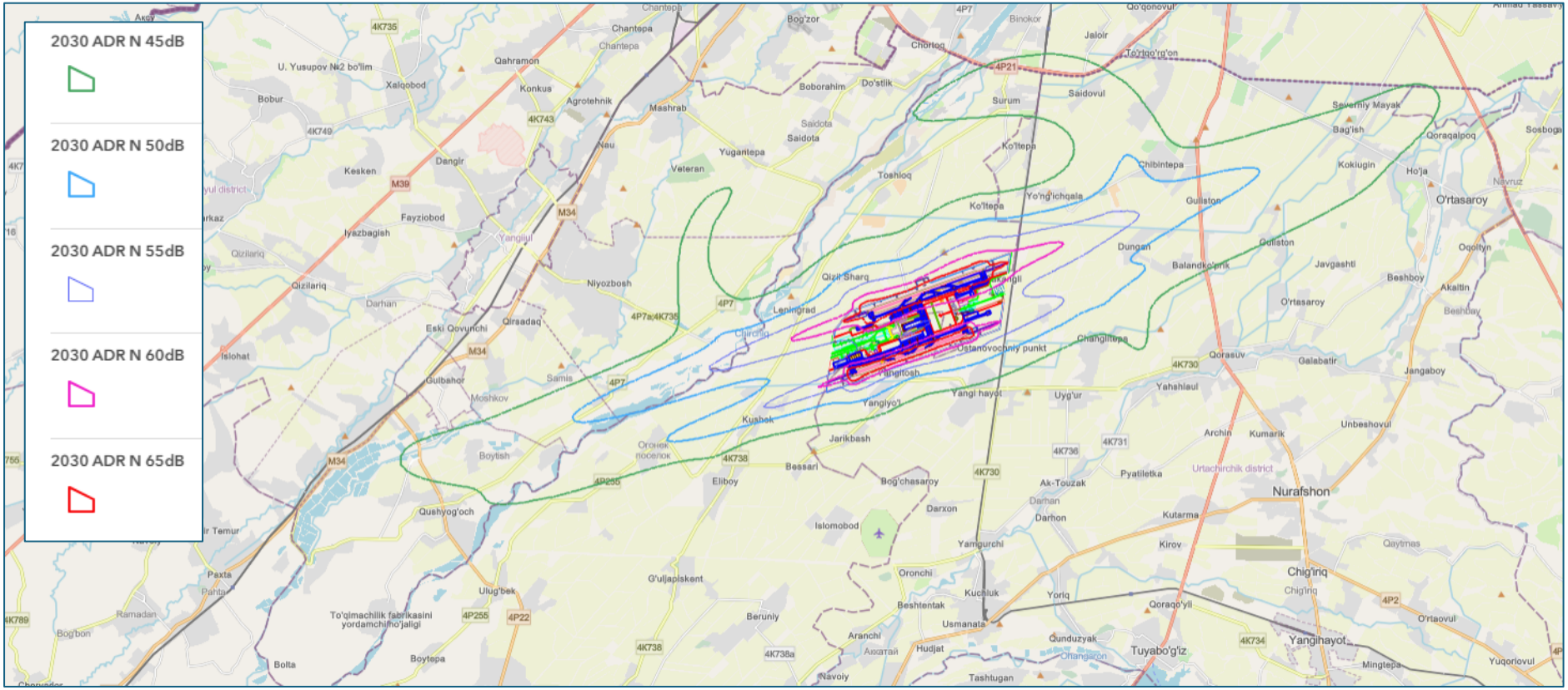
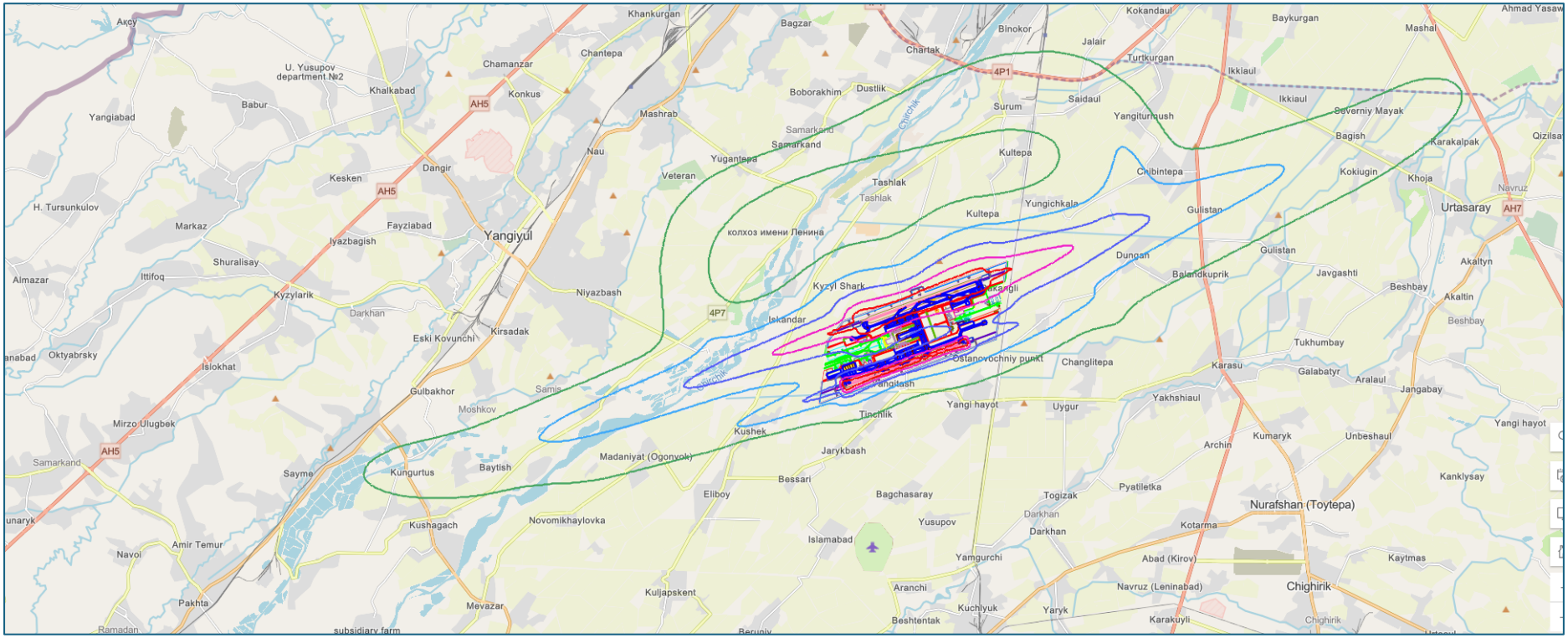


Figure 3-3 2030 Mitigation Scenario 2 Night-time $L_{eq\ 9\ hr}$ Noise Contours



3.1.2 Daytime Impacts in 2030

This assessment is for Mitigation Scenario 1 or 2, as the additional mitigation in Mitigation Scenario 2 affects night noise only.

In Figure 3.1 the outer most noise contour is the daytime $L_{eq\ 15\ hr}$ 55dB in 2030, the preferred noise level for new housing and educational land used. This contour includes:

- To the East – Bakangli, a small group of houses immediately outside the airport boundary.
- To the South – Yangitash and part of Yangiyo'l, a small residential village immediately outside the airport boundary.
- To the Southwest, 1.5km – part of Kushek village that is mainly residential.
- To the East, 1km- Qorasuv, a small mixed residential village with some light industry.

The small group of houses at Bakangli are next to the proposed fuel farm and within 600m of the northern runway, and it will be relocated as part of the Project.

Noise levels at Yangitash immediately to the south are predicted to be up to $L_{eq\ 15\ hr}$ 57dB, 3dB lower that reported in the draft ESIA, and further mitigation should be considered, as discussed below.

Kushek and Qorasuv would be overflown by aircraft using the southern runway 07R/25L, with noise levels in the range $L_{eq\ 15\ hr}$ 55- 58dB and noise mitigation should be considered, as discussed below.

3.1.3 Night-time Impacts in 2030

3.1.3.1 Mitigation Scenario 1

In Figure 3-2 the outer most noise contour is the night-time $L_{eq\ 9\ hr}$ 45dB contour in 2030, the preferred noise level for new housing and educational land used. This contour includes:

- To the East – Bakangli, a small group of houses immediately outside the airport boundary.
- To the South – Yangitash, Yangiyo'l and Jaricjbash, three residential villages, from 70m to 1.5km from the airport boundary.
- To the Southwest – part of Kushek, Ogonek, Boytsh and part of Qushyog'och villages, from 1.5 to 13km from the airport, that are mainly residential.
- To the East - Qorasuv, Balandko'prik, Dungan, Gullstan, part of Chibintepa and Ko'kbo'yin from 1km to 13km from the airport, that are mixed residential villages with some light industry.

The small group of houses at Bakangli are next to the proposed fuel farm and within 600m of the northern runway, and they will be relocated as part of the Project.

Noise levels at the nearest part of Yangitash immediately to the south are predicted to be up to $L_{eq\ 9\ hr}$ night 57dB, which is about 5dB lower than in the ESIA, but still above the WHO Night Noise Guidance level of 55dB and here further mitigation is required, as discussed below.

Kushek and Qorasuv would be overflown by aircraft using the southern runway (07R/25L), with noise levels above in the WHO Night Noise Guidance level of $L_{eq\ 9\ hr}$ night 55dB and here mitigation is likely to be required, as discussed below. Several other villages would be overflown by aircraft using the southern runway, with lower noise levels also requiring consideration of mitigation. A key mitigation measure will be in review and potential modification of the detailed flight tracks to be developed prior to the airport operating.

3.1.3.1.1 Mitigation Scenario 2

In Figure 3-2 the outer most noise contour is the night-time $L_{eq\ 9\ hr}$ 45dB contour in 2030, the preferred noise level for new housing and educational land used. This contour includes:

- To the East – Bakangli, a small group of houses immediately outside the airport boundary.
- To the South – Yangitash and Yangiyo'l two residential villages, from 70m to 1.2km from the airport boundary.
- To the Southwest – part of Kushek, Ogonek, Boytsh and part of Qushyog'och villages, from 1.5 to 13km from the airport, that are mainly residential.
- To the East - Qorasuv, Balandko'prik, Dungan, Gullstan, part of Chibintepa and Ko'kbo'yin from 1km to 13km from the airport, that are mixed residential villages with some light industry.

The small group of houses at Bakangli are next to the proposed fuel farm and within 600m of the northern runway, and they will be relocated as part of the Project.

Noise levels at the nearest part of Yangitash immediately to the south are predicted to be up to $L_{eq\ 9\ hr}$ night 55dB, which is about 7dB lower than in the ESIA, and within the WHO Night Noise Guidance level of 55dB, and further mitigation should be considered, as discussed below.

Kushek and Qorasuv would be overflown by aircraft using the southern runway (07R/25L), with noise levels below the WHO Night Noise Guidance level of $L_{eq\ 9\ hr}$ night 55dB and here further mitigation should be considered, as discussed below. Several other villages would be overflown by aircraft using the southern runway, with lower noise levels also requiring consideration of mitigation. A key mitigation measure will be design of the flight tracks so as to further reduce noise impacts to be developed during detailed design of the flight paths prior to the airport operating.

3.2 Noise Impacts in 2045

3.2.1 Noise Modelling Results

The day and night noise modelling results for the 2045 air traffic forecasts are shown in Figure 3-, Figure 3.5 and Figure 3.6, as the following noise contours:

- Figure 3.4 - 2045 Mitigation Scenario 1 $L_{eq\ 15\ hour}$ day 55dB, 60dB, 65dB, 70dB
- Figure 3.5 - 2045 Mitigation Scenario 1 $L_{eq\ 9\ hour}$ night 45dB, 50dB, 55dB, 60dB, 65dB
- Figure 3.6 - 2045 Mitigation Scenario 2 $L_{eq\ 9\ hour}$ night 45dB, 50dB, 55dB, 60dB, 65dB

Figure 3-4 2045 Mitigation Scenario 1 Daytime $L_{eq\ 15\ hr}$ Noise Contours

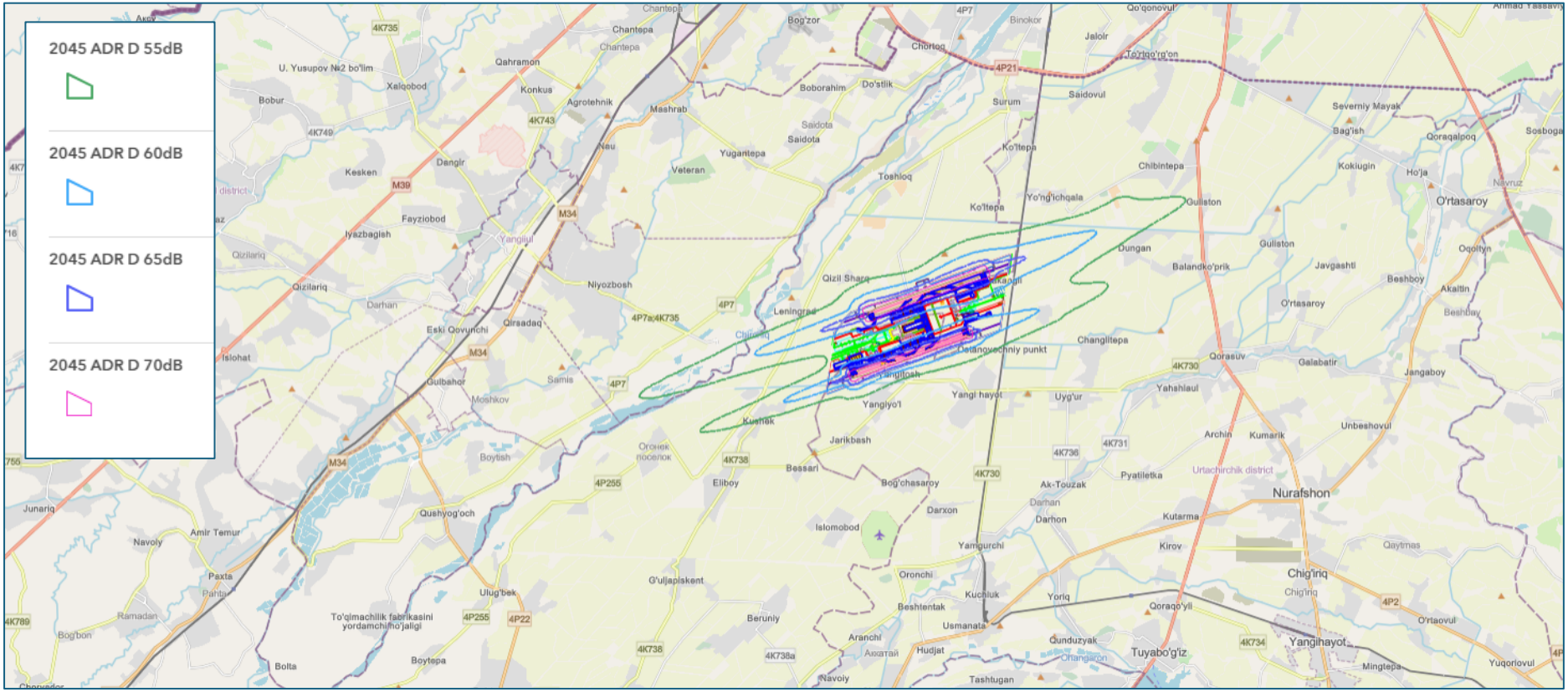


Figure 3-5 2045 Mitigation Scenario 1 Night-time $L_{eq\,9\,hr}$ Noise Contours

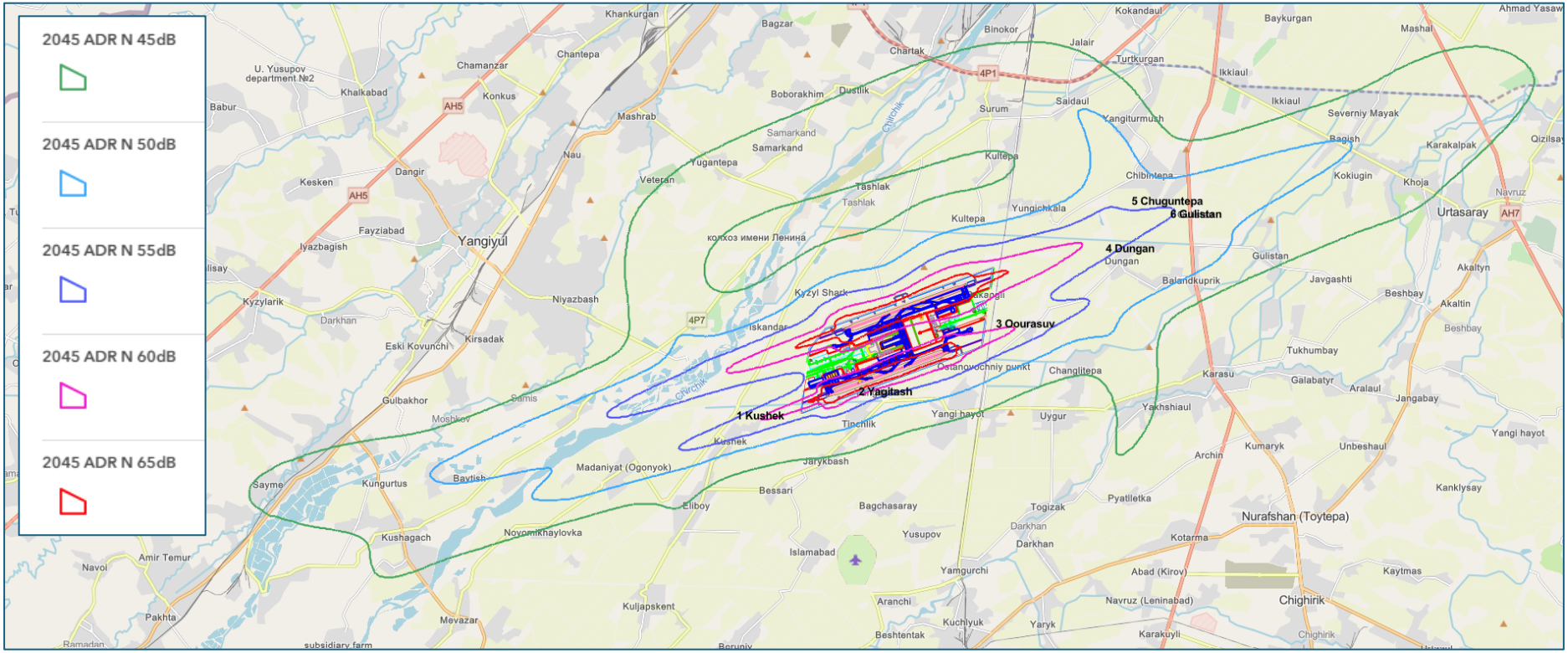
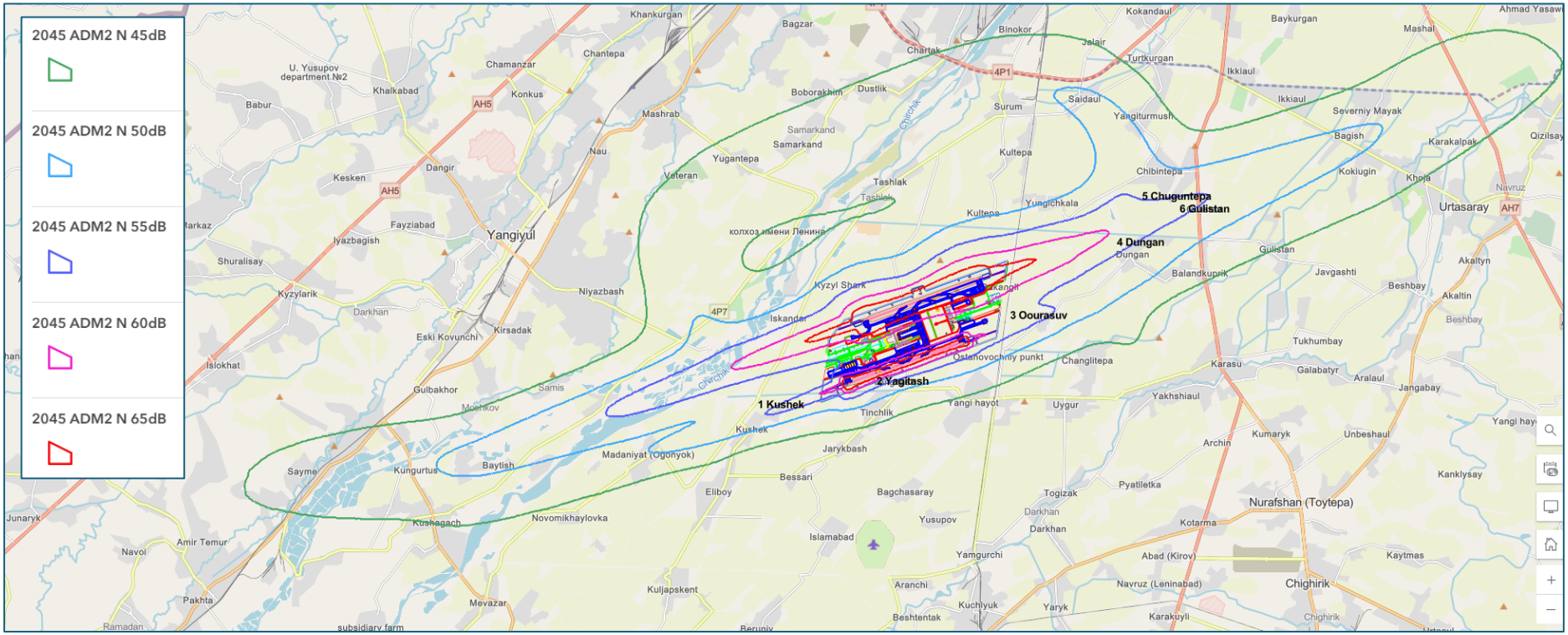


Figure 3-6 2045 Mitigation Scenario 2 Night-time $L_{eq\,9\,hr}$ Noise Contours



3.2.2 Daytime Impacts in 2045

This assessment is for Mitigation Scenario 1 or 2, because the additional mitigation included in Mitigation Scenario 2 affects night noise only.

In Figure 3.4 the outer most noise contour is the daytime $L_{eq\ 15\ hr}$ 55dB in 2045, the preferred noise level for new housing and educational land used. This contour includes:

- To the East – Bakangli, a small group of houses immediately outside the airport boundary.
- To the South – Yangitash and part of Yangiyo'l, a small residential village immediately outside the airport boundary.
- To the Southwest – Part of Kushek village, that is mainly residential, 1.5 to 3km from the airport.
- To the East - Qorasuv, a small village 1km from the airport.

The small group of houses at Bakangli are next to the proposed fuel farm and within 600m of the northern runway, and it will be relocated as part of the Project.

Noise levels at Yangitash immediately to the south are predicted to be up to $L_{eq\ 15\ hr}$ 61dB, 4 dB lower than in the draft ESIA and further mitigation should be considered, as discussed below.

Kushek and Qorasuv would be overflown by aircraft using the southern runway 07R/25L, with noise levels in the range $L_{eq\ 15\ hr}$ 55- 60dB and noise mitigation should be considered, as discussed below.

3.2.3 Night-time Impacts in 2045

3.2.3.1 Mitigation Scenario 1

As discussed in the ESIA noise impacts in the night in 2045 are greater than in the day or in 2030, so additional detail is provided in this section. In Figure 3.5 and Figure 3.6 the nearest villages most affected by aircraft noise have been identified as follows, and noise levels at each are discussed comparing mitigation options:

1. Kushek
2. Yagitash
3. Oourasuv
4. Dungan
5. Chuguntepa
6. Gulistan

In Figure 3.5 the outer most noise contour is the night-time $L_{eq\ 9\ hr}$ 45dB contour in 2045, the preferred noise level for new housing and educational land used. This contour includes:

- To the East – Bakangli, a small group of houses immediately outside the airport boundary.

- To the South – Yangitash, Yangiyo'l and part of Jarikbash residential villages, from 70m to 1.5km from airport boundary, and several other villages and parts of small towns up to 5km from the airport including Yangi Hayot, Changlitepa and Yamgurchi.
- To the Southwest – part of Kushek, Eliboy, Ogonek, Boytsh, Qushyog'och villages from 1.5 to 17km from the airport.
- To the East - Qorasuv, Balandko'prik, Dungan, Gulistan, Chibintepa and Ko'kbo'yin from 1km to 13km from the airport, and the town of O'rtasaroy 15km from the airport.
- To the North – part of Toshiloq, Ko'ltepa, Yo'ng'ichqala, Chibintepa, Yangiturmush, Saidovul, Sorum, Saldota, Yugantepa villages up to 6.5km from the airport.

The small group of houses at Bakangli are next to the proposed fuel farm and within 600m of the northern runway, and they will be relocated as part of the Project.

Noise levels at the nearest part of Yangitash immediately to the south are predicted to be up to $L_{eq\ 9\ hr}$ night 59dB, 7dB lower than in the draft ESIA, which is 4dB above the WHO Night Noise Guidance level of 55dB and here further mitigation is required, as discussed below.

Kushek and Qorasuv would be overflown by aircraft using the southern runway (07R/25L), with noise levels up to $L_{eq\ 9\ hr}$ night 60dB, 3dB lower than in the draft ESIA, 5dB above in the WHO Night Noise Guidance level of $L_{eq\ 9\ hr}$ night 55dB and here further mitigation is required considered, as discussed below.

Further from the airport to the South and North there are approximately 30 villages and small towns that would have noise levels above the preferred level also requiring consideration of mitigation.

3.2.3.2 Mitigation Scenario 2

Mitigation Scenario 2 Partial Curfew on the Southern Runways, moves 5.5 hours of night flights from the southern runways to the northern runways. This reduces air noise to the south and increases air noise to the north. It is therefore important to check that mitigating noise to the south does not create new impacts to the north. Table 3.1 provides night noise levels at the most affected villages around the airport in the three scenarios: Draft ESIA, Mitigation Scenario 1, and Mitigation Scenario 2.

Table 3.1 2045 $L_{eq\ 9\ hour}$ night Noise Levels at Key Villages

	Location	Draft ESIA (no mitigation)	Mitigation 1 Runway Differentiation	Mitigation 2 Runway Differentiation & Partial Night Curfew
1	Kushek	63	60	56
2	Yagitash	66	59	56
3	Oourasuv	63	60	56
4	Dungan	54	54	55
5	Chuguntepa	55	55	56
6	Gulistan	55	54	55

In Figure 3.6 the outer most noise contour is the night-time $L_{eq\ 9\ hr}$ 45dB contour in 2045, the preferred noise level for new housing and educational land used. This contour includes:

- To the East – Bakangli, a small group of houses immediately outside the airport boundary.
- To the South – Yangitash, Yangiyo'l and part of Jarikbash residential villages, from 70m to 1.4km from airport boundary, and several other villages and parts of small towns up to 4.5km from the airport including Yangi Hayot and Changlitepa.
- To the Southwest – part of Kushek, Eliboy, Ogonek, Boytsh, Qushyog'och villages from 1.5 to 17km from the airport.
- To the East - Qorasuv, Balandko'prik, Dungan, Gulistan, Chibintepa and Ko'kbo'yin from 1km to 13km from the airport, and the town of O'rtasaroy 15km from the airport.
- To the North – part of Toshiloq, Ko'ltepa, Yo'ng'ichqala, Chibintepa, Yangiturmush, Saidovul, Sorum, Saldota, Yugantepa villages up to 6.8km from the airport.

The small group of houses at Bakangli are next to the proposed fuel farm and within 600m of the northern runway, and they will be relocated as part of the Project.

Noise levels at the nearest part of Yangitash immediately to the south are predicted to be up to $L_{eq\ 9\ hr}$ night 56dB, 10dB lower than in the draft ESIA, which is 1dB (ie marginally) above the WHO Night Noise Guidance level of 55dB and here further mitigation should be considered, as discussed below.

Kushek and Qorasuv would be overflown by aircraft using the southern runway (07R/25L), with noise levels up to $L_{eq\ 9\ hr}$ night 56dB, 7dB lower than in the draft ESIA, 1dB (ie marginally) above the WHO Night Noise Guidance level of $L_{eq\ 9\ hr}$ night 55dB and here further mitigation should be considered, as discussed below.

Further from the airport to the South and North there are approximately 30 villages and small towns that would have noise levels above the preferred level also requiring consideration of mitigation.

3.3 Summary of Air Noise Impacts

As explained in the ESIA it is proposed that the airport will operate nearly the same frequency of flights at night as during the day, so day and night noise levels will be similar, but because the night noise standards are 10dB lower than those for the day, the impacts at night are forecast to be much greater (about 10dB) with many more properties potentially affected than during the day. The mitigation proposed therefore focuses on the night noise impacts.

From opening in 2030 to 2045 the forecast is that fights will increase by a factor of about 2.5, increasing noise levels even with a degree of fleet transition to newer quieter aircraft now modelled. The worst-case noise impacts are therefore at night, in 2045, and the mitigation is proposed to address this. Table 3.2 gives the areas of the outermost day and night noise contours in 2029/30 and 2044/45 within which there may be some degree of aircraft noise impact and mitigation should be considered where practicable. It should be noted that within the noise contour (ie for properties with higher noise levels) guidance requires noise mitigation to be developed as far as is practicable, noting it will not always be possible to reduce noise to below these levels, as discussed in the draft ESIA.

Table 3.2 Noise Contour Areas

Noise Contour	2029 ESIA (draft)	2030 (ESIA Addendum)		2044 ESIA (draft)	2045 (ESIA Addendum) [2]
$L_{eq\ 15\ hr}$ 55dB Day	27 km^2	28 km^2		52 km^2	42 km^2
$L_{eq\ 9\ hr}$ 45dB Night	166 km^2	160 km^2		420 km^2	255 km^2

[2] Mitigation Scenarios 1 and 2 are the same for daytime, and for night-time Mitigation Scenario 2 changes contours shapes but gives similar results in terms of contour areas.

Table 3.2 shows the contour areas in 2030 are very similar to those in the ESIA. This is because the assumed fleet transition takes place after 2030. The areas of the 2045 contours modelled with the revised inputs are substantially smaller than those modelled for 2044 in the ES reflecting the effect of considering fleet transition after 2030. The 2045-night contours are still by far the largest reflecting the greatest impacts on the surrounding populations. The mitigation proposals therefore focus on mitigation for the worst case, in the night in 2045. Using the approximate methods describe in Section 2, the following approximate estimates have been made of the numbers of residential buildings in the key night noise contours in 2045:

- $L_{eq\ 9\ hr}$ 45 dB Day Mitigation Scenarios 1 & 2 – approximately 5,000 properties (about 30,000 people)
- $L_{eq\ 9\ hr}$ 55dB Night
    - Mitigation Scenario 1 – approximately 130 properties (about 700 people)
    - Mitigation Scenario 2 - approximately 40 properties (about 200 people)

These are relatively small numbers of properties compared to the current Tashkent City Airport (see below) and compared to other major international airport around the world reflecting the remote location of the proposed airport. For example, at London Heathrow in 2024 at night there were 147,500 properties above $L_{eq\ 8\ hr}$ 48 dB (many more above $L_{eq\ 9\ hr}$ 45 dB but no data is available) and 13,000 properties above $L_{eq\ 8hr}$ 57dB (many more above $L_{eq\ 9\ hr}$ 55dB but data not available).[3]

Both mitigation scenarios are effective at reducing the overall numbers of properties in the highest night-time noise bands, including $L_{eq\ 9\ hr}$ 55dB, by shifting noise at night to the north away from the nearest villages affected by the southern runway without creating additional impacts at these levels to the north because there are fewer properties affected by the northern runway at these noise levels. The total number of residential properties above $L_{eq\ 9\ hr}$ 55dB is reduced from approximately 400 in the ESIA to 130 in Mitigation Scenario 1 and 40 in Mitigation Scenario 2. Mitigation Scenario 2 is therefore preferred and adopted.

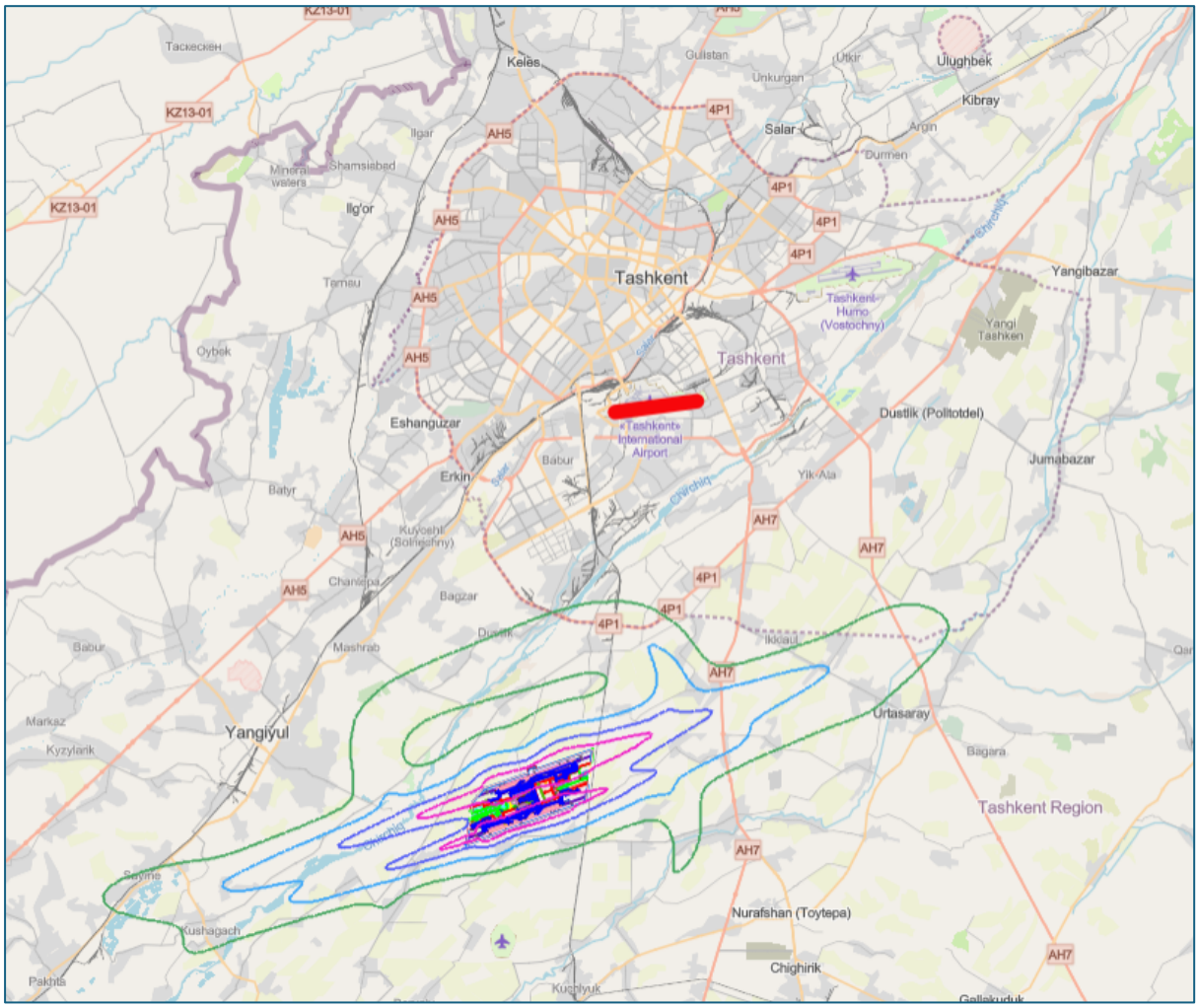
It is understood a 'sanitary zone' may be introduced 'at 60dB'. We assume this would mean $L_{eq\ 15\ hr}$ day 60dB and $L_{eq\ 9\ hr}$ night 60dB, although given the lower sensitivity of noise in the daytime we would have expected a higher noise level (10dB higher) for daytime than night-time. The 2045 $L_{eq\ 15\ hour}$ day 60dB contour just reaches the edges of Kushek and Yangitash. With Mitigation Scenario 2 the $L_{eq\ 9\ h\ night}$ 60dB includes no properties.

3.4 Effect of Closing Existing Tashkent Airport

Figure 3.7 shows the largest noise contours for the new airport, 2045 Night-time $L_{eq\ 9\ hr}$, in the wider context including Tashkent city, with the existing international airport runways highlighted with a red line.

[3] Heathrow Airport 2024 Summer and Noise Action Plan Contours, UK CAA, ERCD REPORT 2501

Figure 3.7 2045 Night-time $L_{eq\,9\,hr}$ Noise Contours in the Wider Context



Tashkent city has a population of about 3.1 million people.

If these noise contours predicted for the new airport in 2045 were to be generated instead by flights from the existing airport, the outermost $L_{eq\,9\,hr}$ 45dB contour would cover at least 1/3 of the city, ie very approximately 1 million people. By contrast the same contour at the new airport would cover about 30,000 people. This indicates in very general terms the noise impact from the new airport would be about 3% of that of the existing airport. This is only one indicator of noise impact.

At the existing airport site there are large residential areas very close (some within 1 km) to the runways and overflown. These areas are likely to be substantially impacted by aircraft noise, including with sleep disturbance at night. There are relatively few populated areas similarly near the new airport site, so moving the airport would also alleviate some of the substantial noise impacts from the existing airport. Overall, clearly there would be a very substantial reduction in total noise impact by moving the airport.

4 Assessment of Ground Noise Impacts

Ground Noise

Taxiing Aircraft

Ground noise has been assessed using the IMMI2025 noise modelling software. The model applies established acoustic prediction methods and provides a consistent basis for the estimation of noise arising from aircraft ground operations.

The assessment has been undertaken in accordance with the sound propagation methodology set out in ISO 9613-2, which is an established international standard for the calculation of outdoor sound propagation. This enables the likely noise levels associated with ground-based activities to be estimated at identified receptor locations.

For the purposes of the assessment, ground-based aircraft noise sources have been grouped into representative categories in order to provide a systematic basis for evaluating the contribution from different aircraft types operating on the ground. The sound power levels adopted for the assessment represent a reasonable worst-case scenario and are set out below.

Noise Activity	Sound Power Level dB(A)
Taxiing Aircraft (GA)	133
Taxiing Aircraft (Commercial/freight)	145
Ground Running Engine Test (A321 neo) (see assessment below)	147

Sound power data for each aircraft category have been derived from the AEDT database. Further detail on the derivation of these values and the aircraft categorisation applied is provided in Section 3 of this report. In the absence of confirmed information on taxi routes, operational time periods and apron activity, the assessment is necessarily indicative and has been based on reasonable assumptions regarding representative routing and operating conditions. For the purposes of the modelling, aircraft movement has been assumed to occur at 10% power with an average taxiing speed of 20 km/h. It is noted that for the village of Yangitosh, the 10m bund is calculated to give a benefit of approximately 6-8 dB(A).

The predicted ground noise levels at the identified receptors are presented below.

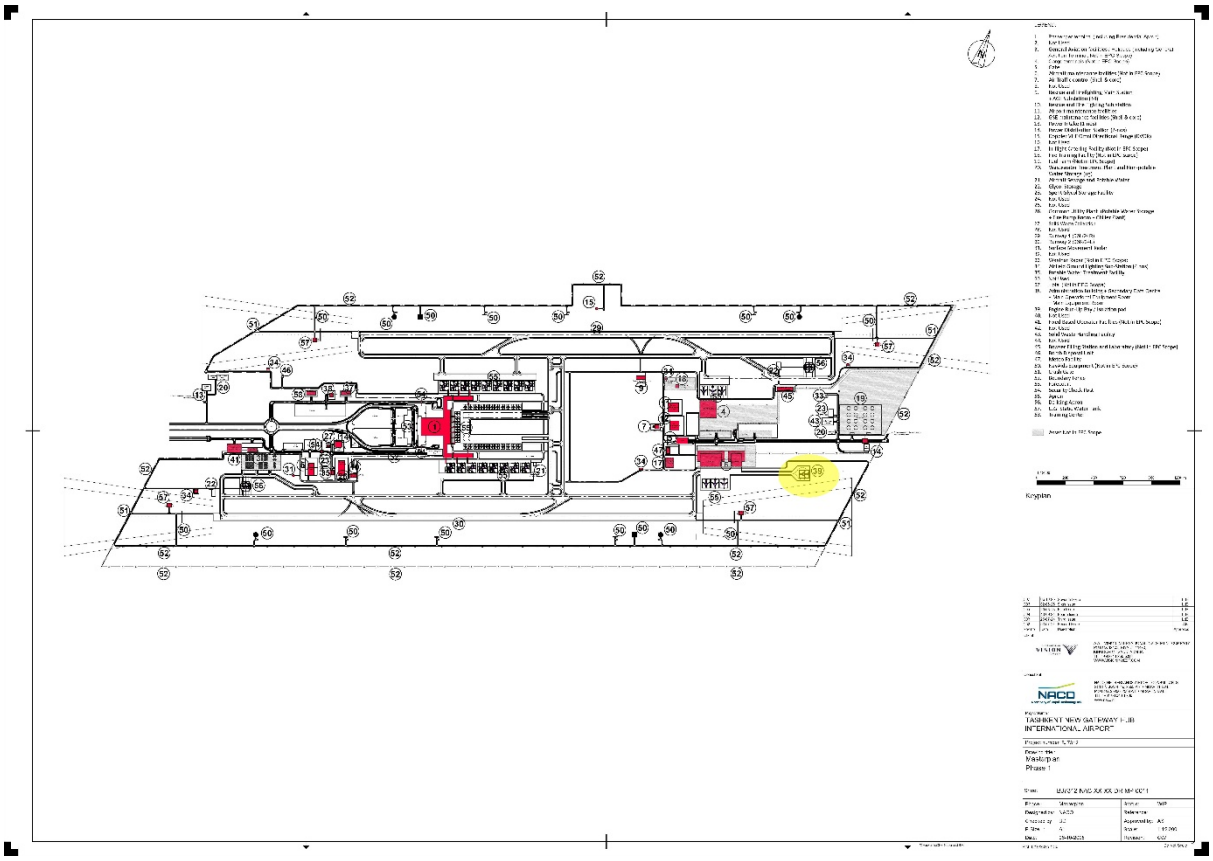
Receptor	2030 $L_{Aeq,T}$ dB		2045 $L_{Aeq,T}$ dB		Noise affect, dB(A)	
	Day (7-22 h)	Night (22-7 h)	Day (7-22 h)	Night (22-7 h)	Day	Night
H1	54	54	55	54	1	0
H2	36	36	37	37	1	1
H3	39	39	39	39	1	1
H4	47	47	48	48	1	1
H5	48	48	49	49	1	1
H6	41	41	42	42	1	1
H7	35	35	36	36	1	1
H8	42	42	43	43	1	1
H9	30	30	31	31	1	1
H10	32	32	33	33	1	1
H11	29	29	30	30	1	1
H12	39	39	40	40	1	1
H13	30	30	31	31	1	1
H14	27	27	27	27	1	1
H15	29	29	30	30	1	1
H16	44	44	45	45	1	1
H17	38	38	40	40	1	1
H18	42	42	44	43	1	1
H19	46	46	48	47	1	1
H20	51	51	52	52	1	1
H21	44	44	45	45	1	1
H22	31	31	32	32	1	1
H23	28	28	28	28	0	0
H24	39	38	39	39	1	1
H25	34	34	35	35	1	1
H26	36	36	37	37	1	1
H27	30	30	31	31	1	1
H28	32	32	33	33	1	1
H29	39	39	41	40	1	1
H30	37	37	38	38	1	1

For taxing noise, all receptors remain below the IFC criteria, with noise level increases between 2030 and 2045 remaining less than 3 dB(A)

Engine Ground Running

Ground running of an A321neo aircraft has also been assessed using the ISO 9613-2 methodology. The assessment assumes the presence of a 10 m high bund and considers a daytime-only operating scenario comprising approximately 25 minutes at 7% power and a short-duration full-power run-up of approximately 10 minutes. No engine ground running has been assumed during the night-time period. The location of the engine run-up bay is shown below.

Location of Engine Run-up Bay



Engine Run-up Bay Receptor Noise Levels (full power)

Receptor	LAeq, 10min dB
H1	60
H2	43
H3	45
H4	72
H5	67
H6	61
H7	58
H8	67
H9	50
H10	52
H11	46
H12	55
H13	49
H14	42
H15	44
H16	58
H17	53
H18	51

Receptor	LAeq, 10min dB
H19	53
H20	53
H21	48
H22	37
H23	33
H24	49
H25	41
H26	46
H27	39
H28	44
H29	48
H30	45

The results indicate that, during the short-duration full-power phase of engine ground running, noise from this activity may be perceptible at some of the nearest receptors for a limited period of approximately 10 minutes. This represents a temporary and localised effect associated with a specific operational activity and should therefore be taken into account within the Noise Action Plan.

5 Mitigation

5.2 Introduction

The updated initial noise modelling for night noise in 2045 shows there is potential for substantial noise impacts from the proposed airport, approximately 5,000 properties have predicted noise levels above the preferred standard for new houses and schools and mitigation is recommended. With Mitigation Scenario 1 there are 3 areas where night noise levels are predicted to be at least 10dB higher than this, and above the WHO Night Noise Guidelines level of $L_{eq\ 9\ hr}$ night 55dB in Kushek, Qorasuv and Yangitash totalling about 130 properties where mitigation is required to avoid significant sleep disturbance. Mitigation Scenario 2 reduces this to about 40 properties about 1dB above the WHO Night Noise Guidelines level of $L_{eq\ 9\ hr}$ night 55dB.

Whilst in theory some mitigation could be developed in the years after opening, in most cases it is best designed into the scheme before it opens, for example flight path designs [4] etc.

The draft ESIA describes both IFC and International Civil Aviation Organisation (ICAO) guidelines on noise mitigation measures to be taken at airports to reduce minimise aircraft noise impacts, and a series of mitigation measures are recommended following the ICAO Balanced Approach to Aircraft Noise Management. These will be written into the Environmental and Social Management Plan and are not repeated below. Instead, this section adds detail to some of those mitigation measures in response to lender comments and resulting from the additional noise modelling and assessment that has been carried out.

[4] Client has advised that detailed flight tracks will be developed by 2028

One effective mitigation that it has not been possible to study at this stage, will be studied during detailed flight track design, planned for 2028, when a noise minimization objectives will be formally incorporated into the SID/STAR design process to reduce overflying populated areas and lessen noise impacts.

5.3 Runway Preference

The greatest noise impacts are from aircraft using the southern runway (07R/25L). The benefit of operating a northern runway preference for the larger noisier aircraft has now been studied, and, along with fleet transition, has reduced noise level in this area by about 6dB for Mitigation Scenario 1 and by 10dB for Mitigation Scenario 2 which includes a 5.5 hour curfew on the use of the southern runways at night .

5.4 Land Use Planning and Noise Insulation

The IFC guidelines refer to land use planning, as follows:

> *...working with local authorities to identify and implement noise prevention and control strategies in noise abatement zones (e.g. sound insulation of buildings that are exposed to aircraft noise above levels stipulated by local authorities...)* and
>
> *Reducing noise of ground operations at the source or using sound barriers and deflectors, as described in the General EHS Guidelines*

As identified in the ESIA, a bund to the south of the airport has now been incorporated to reduce ground noise levels. The noise mitigation predicted is reported in Section 4.

Bakangli will be resettled in 2026.

With Mitigation Scenario 2 there will then be 3 areas where night noise levels are predicted to be 1dB, marginally above the WHO Night Noise Guidelines level of $L_{eq\ 9\ hr}$ night 55dB at Kushek, Qorasuv, and Yangitosh. The 1dB exceedance of the guideline is considered marginal and it may be that with further mitigation studies and more refined modelling significant sleep disturbance can be avoided. Nonetheless some sleep disturbance is likely and a noise insulation scheme should be developed to reduce noise levels inside homes to help residents to sleep at night, if practicable.

Noise insulation schemes are used around some major airports as a last resort when other noise mitigation measures are not adequate. They clearly do not benefit outside space. They are effective at reducing noise disturbance indoors, including sleep disturbance. They rely on windows remaining closed and so, particularly in hot weather locations, can require additional ventilation for cooling. It is recommended that once other noise mitigation measures have been developed the feasibility of a noise insulation scheme is studied for residential properties where noise levels are then predicted to be above $L_{eq\ 9\ hr}$ night 55dB. If not and insulation proves to be impractical then it may be necessary to offer relocation to affected residents.

The construction of the airport may increase the development of new housing and noise-sensitive receptors in the area. Land use planning processes should be put in place to ensure

that such future development is not built in areas that will be exposed to high levels of aircraft noise in future. SanPiN No. 0339-16 *Sanitary rules and norms of planning and development of settlements* of Uzbekistan provides for this process. The refined aircraft noise contours produced following design of the airspace, including further mitigation outlined this this report, should then be used to ensure new noise sensitive development is not allowed without mitigation within the noise contours showing the preferred noise levels of daytime $L_{eq\ day\ (0700\text{-}2200\ hours)}$ 55dB and night-time $L_{eq\ 9\ hr\ (2200\text{-}0700\ hours)}$ 45dB.

6 Summary

This addendum report has updated the initial modelling of aircraft noise from the proposed Tashkent International Airport provided in the draft ESIA. Adopting a realistic but cautious rate of aircraft fleet transition from 2030 to 2045 has reduced noise levels in 2045 and hence reduced the project's expected noise impacts.

The updated initial noise modelling for night noise in 2045 shows there is potential for noise impacts from the proposed airport, approximately 5,000 properties have predicted noise levels above the preferred level for new houses and schools and mitigation is recommended. It should be noted that within the noise contours (ie for properties with higher noise levels) guidance requires noise mitigation to be developed as far as is practicable, noting it will not always be possible to reduce noise to below these levels, as discussed in the draft ESIA. The draft ESIA describes both IFC and International Civil Aviation Organisation (ICAO) guidelines on noise mitigation measures to be taken at airports to reduce minimise aircraft noise impacts, and a series of mitigation measures are recommended following the ICAO Balanced Approach to Aircraft Noise Management.

Two further mitigation scenarios have been modelled and assessed in this addendum.

For Mitigation Scenario 1, the effect of having larger (ICAO Code D and above) noisier aircraft only operate on the northern runway has been modelled and reduces impacts in the worst impacted three villages in the south affecting approximately 130 properties at night.

For Mitigation Scenario, in addition a 5.5 hour curfew to night flights on the southern runways has been modelled and assessed and this reduces impacts in the worst impacted three villages in the south affecting approximately 40 properties at night.

The other noise mitigation measures described in the ESIA are still recommended. They will be included in the Environmental Social Management Plan to further mitigate noise impacts as the airspace and other aspects of the proposed operational procedures are developed before the airport opens. One effective further mitigation measures that will be used to further reduce impacts will be studied during detailed flight track design, planned for 2028, when a noise minimization objectives will be formally incorporated into the SID/STAR design process to reduce overflying populated areas and lessen noise impacts.

The two mitigation scenarios tested in this ES Addendum helped the airport develop a full suite of noise management measures that were developed with further consultation with lenders and their experts into the Noise Management Framework in July and August 2026.

The effect of closing the existing airport in Tashkent city has been further considered. In very general terms the overall noise impact from the new airport would be about 3% of that of the existing airport. Overall, there would be a very substantial reduction in total noise impact by moving the airport.

APPENDIX 1 Aircraft Types and Forecasts

Table A1 Daily Forecast Aircraft Numbers 2030

ICAO Type	Type	Generation	Code	2030 Day	2030 Night	Runway
A320	A320	CG	C	33.7	19.8	North & South
A20N	A320 NEO	NG	C	28.2	14.9	North & South
A21N	A321 NEO	NG	C	30.2	15.5	North & South
B763	B767 300	CG	D	20.1	13.8	North
AT76	ATR 72 600	CG	C	19.8	10.2	North & South
B788	B787 800	NG	E	10	6.8	North
B738	B737 800	CG	C	8.7	6.4	North & South
A332	A330 200	CG	E	12.2	6	North
B38M	B737 MAX8	NG	C	7	2.1	North & South
L410	Turbolet	CG	B	3.2	3.2	North & South
A319	A319	CG	C	3	1.1	North & South
B753	B757 300	CG	D	1.7	1.1	North & South
SU95	Sukhoi SJ 100-95	CG	B	1	1.9	North & South
RJ85	BAe 146	CG	C	1.3	0.5	North & South
B190	Beechcraft 1900	CG	B	0.8	0.8	North & South
C295	Airbus C295	CG	C	0.9	0.6	North
B77L	B777 200	CG	E	0.6	0.6	North
H130	H130	CG	Heli	1.8	1.2	North & South
HDJT	HA-420	CG	A	0.7	0.3	North & South
CRJ2	CRJ-200	CG	B	0.8	0.2	North & South
B752	B757 200	CG	D	0.5	0.3	North & South
IL76	IL76	CG	D	0.5	0.4	North
GLEX	GLEX	CG	B	4.1	1.7	North & South
E190	E190	CG	C	0.5	0.2	North & South
C172	C172	CG	A	0.8	0.5	North & South
B748	B747 800	CG	F	0.3	0.2	North
Total				**192.4**	**110**	

Table A2 Daily Forecast Aircraft Numbers 2045

ICAO Type	Type	Generation	Code	2045 Day	2045 Night	Runway
A320	A320	CG	C	20.9	12.3	North & South
A20N	A320 NEO	NG	C	183.6	104.7	North & South
A21N	A321 NEO	NG	C	74.8	38.3	North & South
B763	B767 300	CG	D	12.4	8.5	North
AT76	ATR 72 600	CG	C	12.2	6.3	North & South
B788	B787 800	NG	E	84.6	53.4	North
B738	B737 800	CG	C	5.4	3.9	North & South
A332	A330 200	CG	E	7.5	3.7	North
B38M	B737 MAX8	NG	C	33.4	17.0	North & South
L410	Turbolet	CG	B	2.0	2.0	North & South
A319	A319	CG	C	1.9	0.7	North & South
B753	B757 300	CG	D	4.2	2.6	North & South
SU95	Sukhoi SJ 100-95	CG	B	0.6	1.2	North & South
RJ85	BAe 146	CG	C	3.2	1.2	North & South
B190	Beechcraft 1900	CG	B	1.9	1.9	North & South
C295	Airbus C295	CG	C	2.1	1.6	North
B77L	B777 200	CG	E	1.6	1.4	North
H130	H130	CG	Heli	4.3	3	North & South
HDJT	HA-420	CG	A	1.8	0.7	North & South
CRJ2	CRJ-200	CG	B	1.9	0.4	North & South
B752	B757 200	CG	D	1.4	0.8	North & South
IL76	IL76	CG	D	0.3	0.3	North
GLEX	GLEX	CG	B	10	4.2	North & South
E190	E190	CG	C	1.3	0.4	North & South
C172	C172	CG	A	1.9	1.1	North & South
B748	B747 800	CG	F	0.7	0.5	North
Total				**475.9**	**271.9**	