An tÚdarás Inniúil um Thorann Aerárthaí

Aircraft Noise Competent Authority

# Regulatory Decision Report Appendix E



# Table of Contents


| | | |
|---|---|---|
| 1 | Forecasts | 3 |
| 2 | Modelled Runway Use and Restriction Scenarios | 7 |
| 3 | Overview of Modelling Scenarios | 10 |
| 4 | Illustration of Night-time Runway Use and Restriction Scenarios Considered | 12 |
| 5 | Illustration of Runway Use and Restriction Scenarios Considered | 14 |

# 1 Forecasts

The Application proposes an increase in the permitted passenger capacity of the Airport from 32 million passengers per annum (32mppa) (as set by condition no. 3 of ABP Ref. No. PL06F.220670 (F06A/1248) and condition no. 2 under ABP Ref No. PL06F.223469 (F06A/1843)) to 40 million passengers per annum (40mppa).

Whilst this is the focus of the Application, there are several forecasts which have been prepared, including those which have been prepared in response to the Direction to Provide Information and Assessments.

The forecasts provided by the Applicant have considered aircraft movements, passenger numbers and fleet mixes for years 2027 to 2046 for a variety of forecast scenarios.

These forecasts are as summarised in Table 1 for scenarios adopted in the Draft Regulatory Decision.

**Table 1: Overview of Forecasts and Night-time Operating Scenarios**

| Forecast Scenario | Night-Time Aircraft Restrictions 23:00 – 07:00 | Night-time North Runway Operating Hours | Night-time South Runway Operating Hours | Annual Passenger Cap (million passengers per annum) |
|---|---|---|---|---|
| **Without Development NRPP Scenario** | 65 movements per night | Restricted | 23:00 – 07:00 | 32m |
| **With Development NRPP Scenario** | 65 movements per night | Restricted | 23:00 – 07:00 | 40m |
| **Without Development NRRA Scenario** | Annual Quota Count Scheme limit of 16,260 QC units. Annual night-time movement limit of 35,672 movements. | 23:00 – 00:00 and 06:00 – 07:00 | 23:00 – 07:00 | 32m |
| **With the Development NRRA Scenario** | Annual Quota Count Scheme limit of 16,260 QC units. Annual night-time movement limit of 35,672 movements. | 23:00 – 00:00 and 06:00 – 07:00 | 23:00 – 07:00 | 40m |
| **Without the Development Supplemental Scenario** | Annual Quota Count Scheme limit of 16,260 QC units. | 23:00 – 00:00 and 06:00 – 07:00 | 23:00 – 07:00 | 32m |
| **With the Development Supplemental Scenario** | Annual Quota Count Scheme limit of 16,260 QC units. | 23:00 – 00:00 and 06:00 – 07:00 | 23:00 – 07:00 | 40m |

These forecast scenarios are as follows:

- **Without the Development NRPP Scenario –** Applying the original 2007 planning condition's limit on night movements of 65 per night slows the traffic recovery post COVID-19 and delays reaching the 32 mppa cap until about 2026.
- **With the Development NRPP Scenario –** Applying the original 2007 planning condition's limit on night movements of 65 per night slows the traffic recovery post COVID-19 and delays reaching the 40 mppa traffic level until about 2034.
- **With the Development NRRA Scenario -** Increasing the annual passenger cap from 32 mppa to 40 mppa allows unconstrained demand to be met until 2030. Night-time operations follow the ACP's North Runway Relevant Action (NRRA) Regulatory Decision (July 2025), including the annual Noise Quota Scheme and a cap of 35,672 night-time aircraft movements per year.
- **Without the Development Supplemental Scenario –** Applying the current T2 planning cap of 32 mppa impacts aircraft traffic growth from 2024 and reflects the night-time operating conditions set out in the NRRA decision, including a routine closure from 00:00–06:00, shoulder-hour operations from 23:00–00:00 and 06:00–07:00, and an Annual Quota Count limit of 16,260 QC units between 23:00–07:00.
- **With the Development Supplemental Scenario -** Increasing the annual passenger cap from 32m to 40m allows unconstrained demand can be met until 2030. Reflects the night-time operating conditions set out in the NRRA decision, including a routine closure from 00:00–06:00, shoulder-hour operations from 23:00–00:00 and 06:00–07:00, and an Annual Quota Count limit of 16,260 QC units between 23:00–07:00.

**Table 2** presents the passenger forecast numbers for the above forecast scenarios.

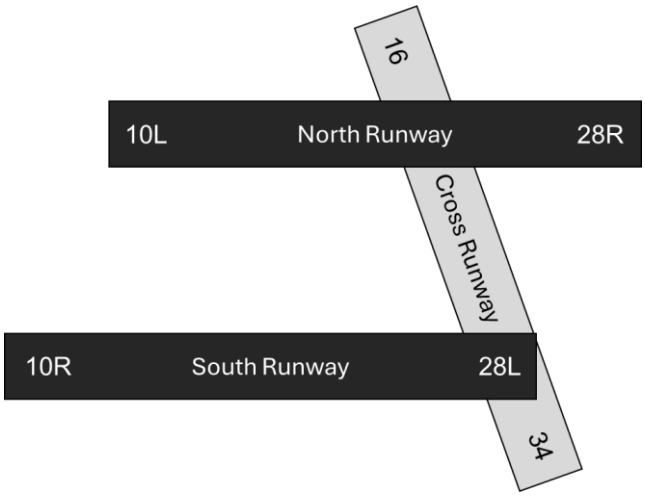
**Table 2: Annual Passengers (mppa) under different Forecast Scenarios**

| Year | Forecasts and Scenarios | | | | |
|---|---|---|---|---|---|
| | Without Development NRPP Scenario | With Development NRPP Scenario | With the Development NRRA Scenario | Without the Development Supplemental Scenario | With the Development Supplemental Scenario |
| **2027** | 32.0 | 33.2 | 35.6 | 32.0 | 35.6 |
| **2028** | 32.0 | 34.5 | 37.0 | 32.0 | 37.0 |
| **2029** | 32.0 | 35.6 | 38.4 | 32.0 | 38.4 |

| Year | Forecasts and Scenarios | | | | |
|---|---|---|---|---|---|
| | Without Development NRPP Scenario | With Development NRPP Scenario | With the Development NRRA Scenario | Without the Development Supplemental Scenario | With the Development Supplemental Scenario |
| **2030** | 32.0 | 36.6 | 39.6 | 32.0 | 39.6 |
| **2031** | 32.0 | 37.4 | 40.0 | 32.0 | 40.0 |
| **2032** | 32.0 | 38.2 | 40.0 | 32.0 | 40.0 |
| **2033** | 32.0 | 38.8 | 40.0 | 32.0 | 40.0 |
| **2034** | 32.0 | 40.0 | 40.0 | 32.0 | 40.0 |
| **2035** | 32.0 | 40.0 | 40.0 | 32.0 | 40.0 |
| **2036** | 32.0 | 40.0 | 40.0 | 32.0 | 40.0 |
| **2037** | 32.0 | 40.0 | 40.0 | 32.0 | 40.0 |
| **2038** | 32.0 | 40.0 | 40.0 | 32.0 | 40.0 |
| **2039** | 32.0 | 40.0 | 40.0 | 32.0 | 40.0 |
| **2040** | 32.0 | 40.0 | 40.0 | 32.0 | 40.0 |
| **2041** | 32.0 | 40.0 | 40.0 | 32.0 | 40.0 |
| **2042** | 32.0 | 40.0 | 40.0 | 32.0 | 40.0 |
| **2043** | 32.0 | 40.0 | 40.0 | 32.0 | 40.0 |
| **2044** | 32.0 | 40.0 | 40.0 | 32.0 | 40.0 |
| **2045** | 32.0 | 40.0 | 40.0 | 32.0 | 40.0 |
| **2046** | 32.0 | 40.0 | 40.0 | 32.0 | 40.0 |

# 2 Modelled Runway Use and Restriction Scenarios

Dublin Airport operates with two parallel runways, Runway 10L-28R and Runway 10R-28L, and a crosswind runway, Runway 16-34. Runway 10L-28R is referred to as the North Runway, while Runway 10R-28L is referred to as the South Runway.




Following the opening of the North Runway, the Crosswind Runway (16-34) is used only for essential operations (e.g. during periods of strong crosswinds), as set out in Condition 4 of the North Runway planning permission.

For the purposes of noise modelling, future usage of the Crosswind Runway is therefore assumed to account for 1% of total aircraft movements, with the remaining 99% of aircraft movements operating on the two parallel runways. The distribution of aircraft movements between runway directions has been derived using the 10-year average (2013–2022).

The resulting modelled runway usage applied over a typical year is summarised in **Table 3**.

**Table 3: Modelled Runway Usage**

| Runway | Arrivals | Departures |
|---|---|---|
| **10L/10R** | 22.6% | 22.6% |
| **28L/28R** | 76.4% | 76.4% |
| **16** | 0.71% | 0.71% |
| **34** | 0.29% | 0.29% |

To support the assessment of the forecasts provided by the Applicant, a number of runways use pattern have been considered.

During the daytime period Dublin Airport operates in accordance with Conditions 3a–3c of the North Runway planning permission, following the Mode of Operation Option 7b, as detailed in Section 16 of the *Environmental Impact Statement Addendum* submitted to the planning authority on 9 August 2005.

This provides that:

a) *"The parallel runways (10R-28L and 10L-28R) shall be used in preference to the Crosswind Runway (16-34),*

b) *When winds are westerly, Runway 28L shall be preferred for arriving aircraft. Either Runway 28L or 28R may be used for departing aircraft as determined by air traffic control.*

c) *When winds are easterly, either Runway 10L or 10R, as determined by air traffic control, shall be preferred for arriving aircraft. Runway 10R shall be preferred for departing aircraft.*

*except in cases of safety, maintenance considerations, exceptional air traffic conditions, adverse weather, technical faults in air traffic control systems or declared emergencies at other airports."*

Night-time runway operations differ from daytime arrangements due to operational restrictions and noise management considerations. To support the assessment of the Applicant's forecasts, a number of night-time runway use and restriction patterns have been considered for both current and future scenarios. These are summarised in

**Table** 4.

**Table 4: Night-time Runway Use and Restriction Patterns Considered**

| Scenario | Forecast Type | Night-Time Runway Use and Restrictions |
|---|---|---|
| **Without the NRPP Scenario** | Without development without NRRA | South Runway only |
| **With the NRPP Scenario** | With development without NRRA | South Runway only |
| **With the Development NRRA Scenario** | With development with NRRA and ACP | South Runway preferred 00:00-06:00. Otherwise as day |
| **Without the Development Supplemental Scenario** | Without development with NRRA | South Runway preferred 00:00-06:00. Otherwise as day |
| **With the Supplemental Scenario** | With development with NRRA | South Runway preferred 00:00-06:00. Otherwise as day |

During the night-time period (23:00 – 07:00) for the without NRRA scenarios the South Runway is the preferred runway. For the with NRRA scenarios the South Runway is the preferred runway in the core night period (00:00-06:00). Between 23:00 and 00:00 and between 06:00-07:00 the runway usage follows the same principles as in the daytime, i.e. Option 7b.

# 3 Overview of Modelling Scenarios

The Applicant has provided several aircraft noise forecasts to support the assessment. ANCA's review is based on the noise exposure forecasts provided by the Applicant.

This dataset includes the following information:

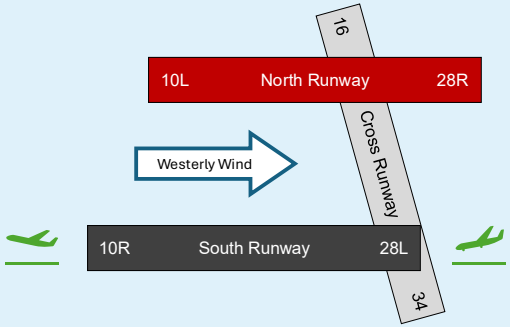
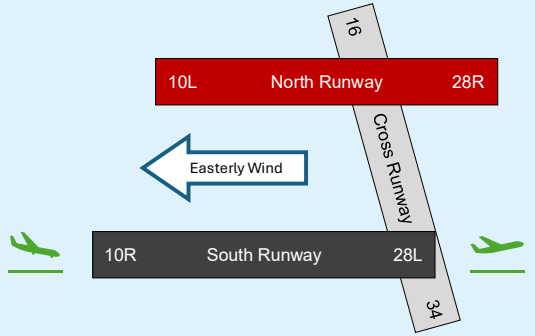
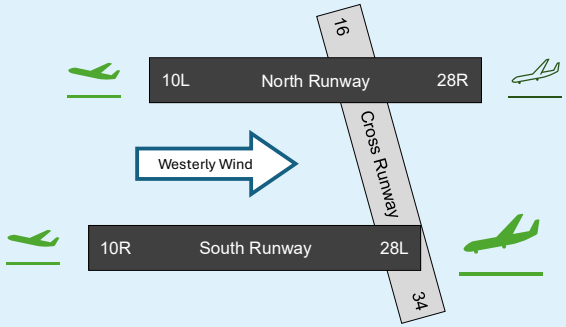
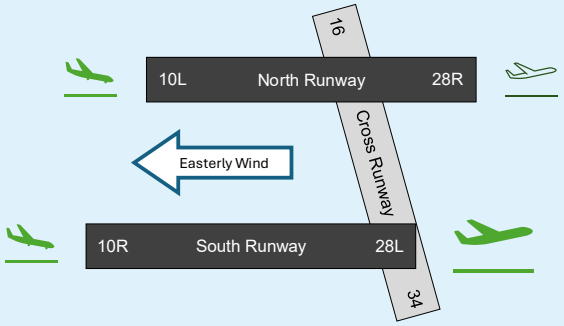
- Forecast aircraft movements;
- Forecast fleet mix;
- Forecast diurnal pattern of movements;
- Noise management measures assumed in each forecast;
- Exposure statistics with respect to area, dwellings, population and health metrics

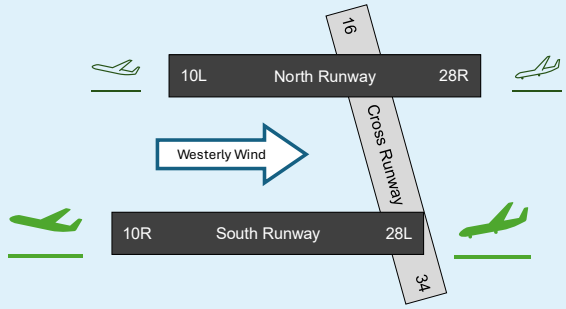
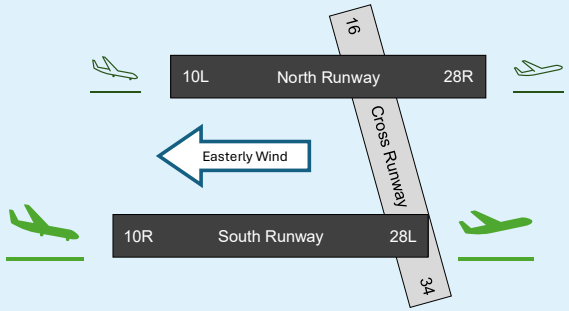
**Table** 5 summarises the modelled scenarios in terms of total passengers and movements over a year as relied on in the Draft Regulatory Decision.

**Table 5: Scenarios and Forecast Years adopted in the Draft Regulatory Decision**

| Scenario | Forecast Year | Passengers (mppa) | Movements |
|---|---|---|---|
| **As Occurred** | 2023 | 33.0 | 233,625 |
| **Without Development NRPP Scenario** | 2027 | 32.0 | 227,987 |
| | 2034 | 32.0 | 227,987 |
| **With Development NRPP Scenario** | 2027 | 33.2 | 232,613 |
| | 2034 | 40.0 | 268,882 |
| **With Development NRRA Scenario** | 2027 | 35.6 | 256,439 |
| | 2031 | 40.0 | 278,991 |
| **Without Development Supplemental Scenario** | 2027 | 32.0 | 239,793 |
| | 2031 | 32.0 | 239,793 |
| **With Development Supplemental Scenario** | 2027 | 35.6 | 256,439 |
| | 2031 | 40.0 | 278,991 |

# 4 Illustration of Night-time Runway Use and Restriction Scenarios Considered

| Scenario | Description | Westerly Winds | Easterly Winds |
|---|---|---|---|
| **Without the Development NRPP Scenario**<br><br>**With the Development NRPP Scenario** | South Runway only 23:00 – 07:00 |  |  |
| **With Development NRRA Scenario**<br><br>**Without Development Supplemental Scenario**<br><br>With the Development | For the hours of 23:00 – 00:00 and 06:00 – 07:00, when winds are Westerly, Runway 28L is preferred for arrivals and either Runway 28L or Runway 28R shall be used for departures. When winds are Easterly, either Runway 10L or Runway 10R shall be used for arrivals and Runway 10R is preferred for departures<br><br>For either wind direction, between the hours of 00:00 and 06:00, the | <br>23:00 – 00:00, 06:00 – 07:00 | <br>23:00 – 00:00, 06:00 – 07:00 |

| | | | |
|---|---|---|---|
| Supplemental Scenario | South Runway is preferred for all aircraft movements. | <br>00:00 – 06:00 | <br>00:00 – 06:00 |

# 5 Illustration of Runway Use and Restriction Scenarios Considered

**Figure 1: Without the Development NRPP Scenario 2027 $L_{den}$**

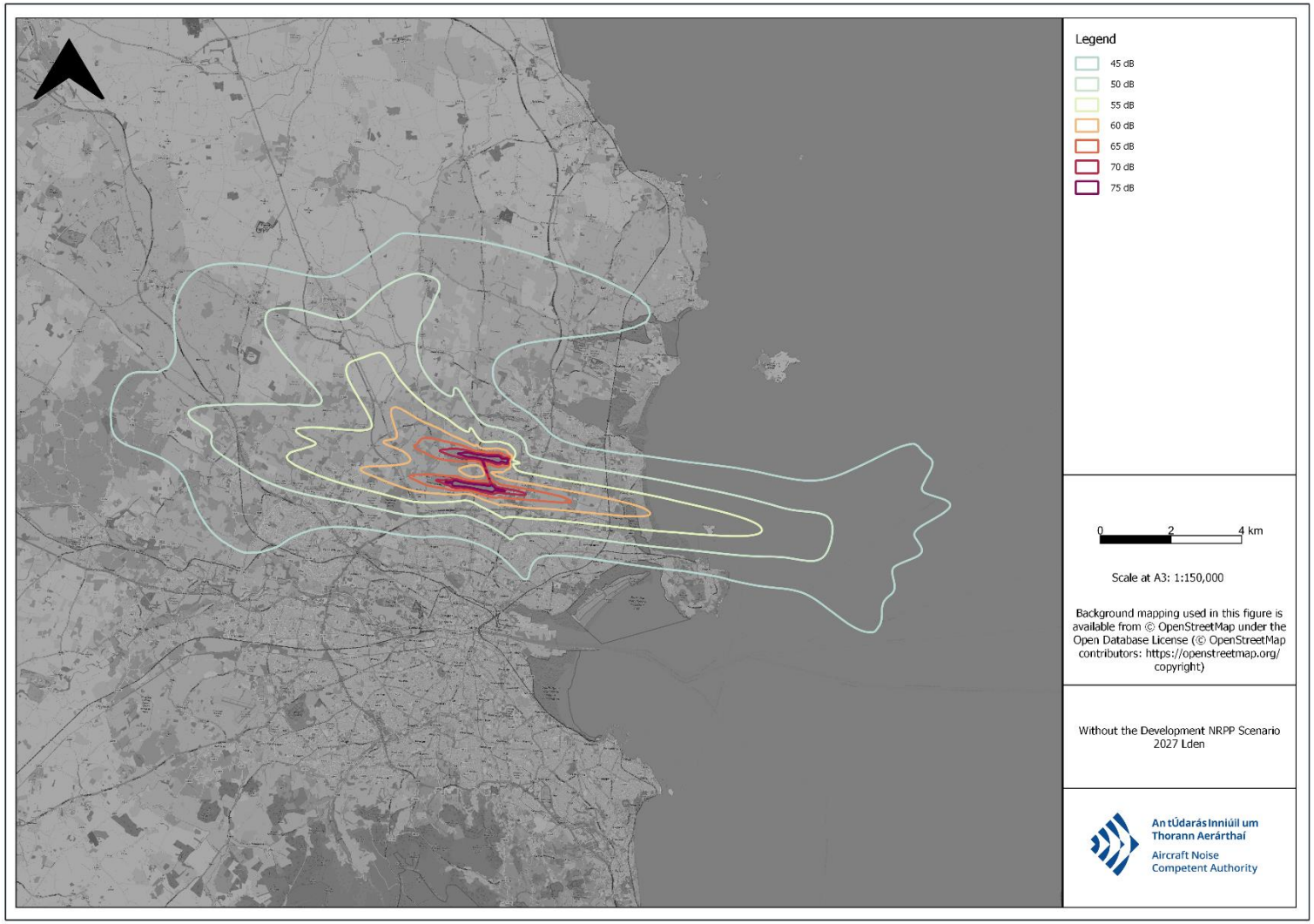


**Figure 2: Without the Development NRPP Scenario 2027 $L_{night}$**

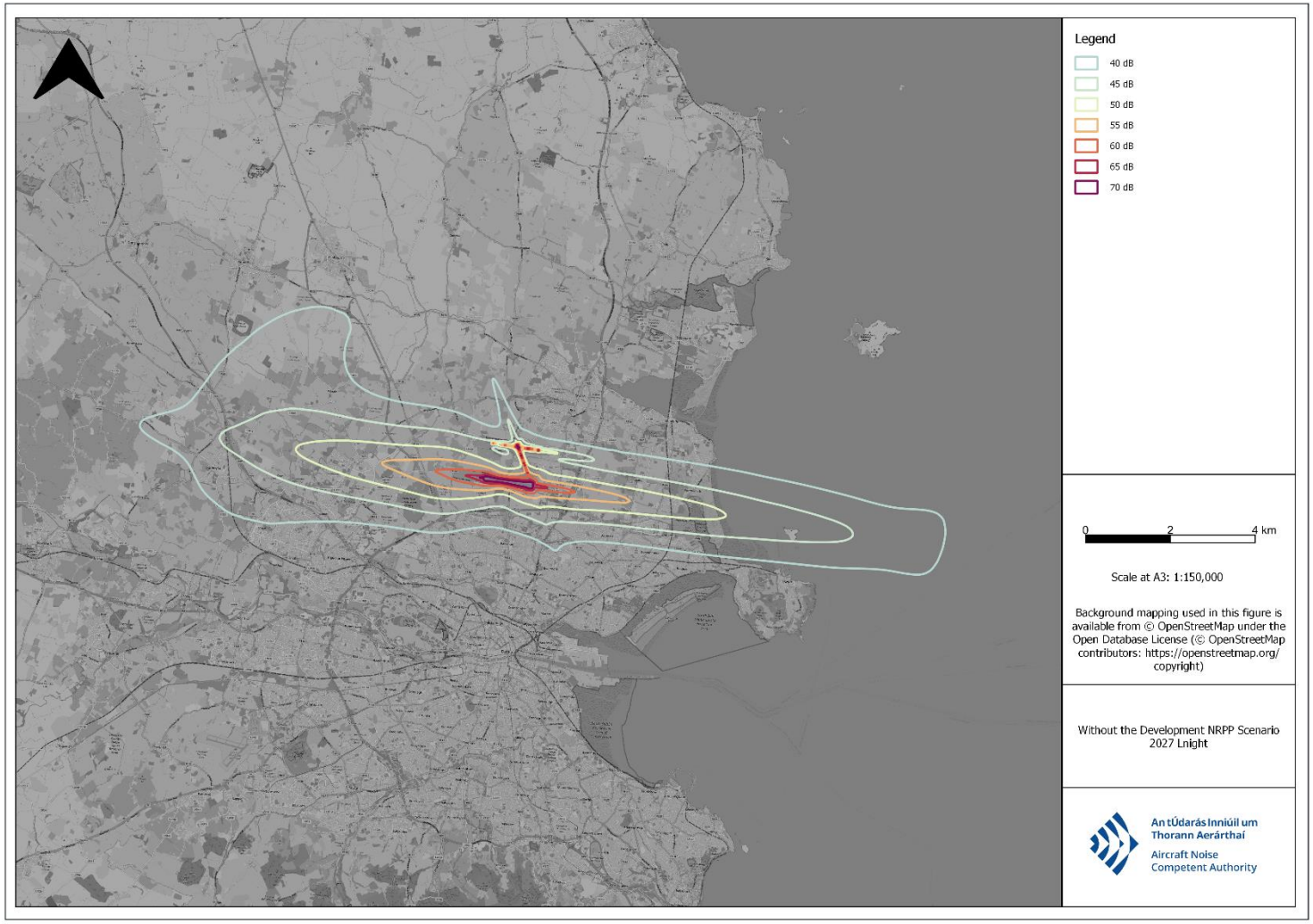


**Figure 3: With the Development NRPP Scenario 2027 $L_{den}$**

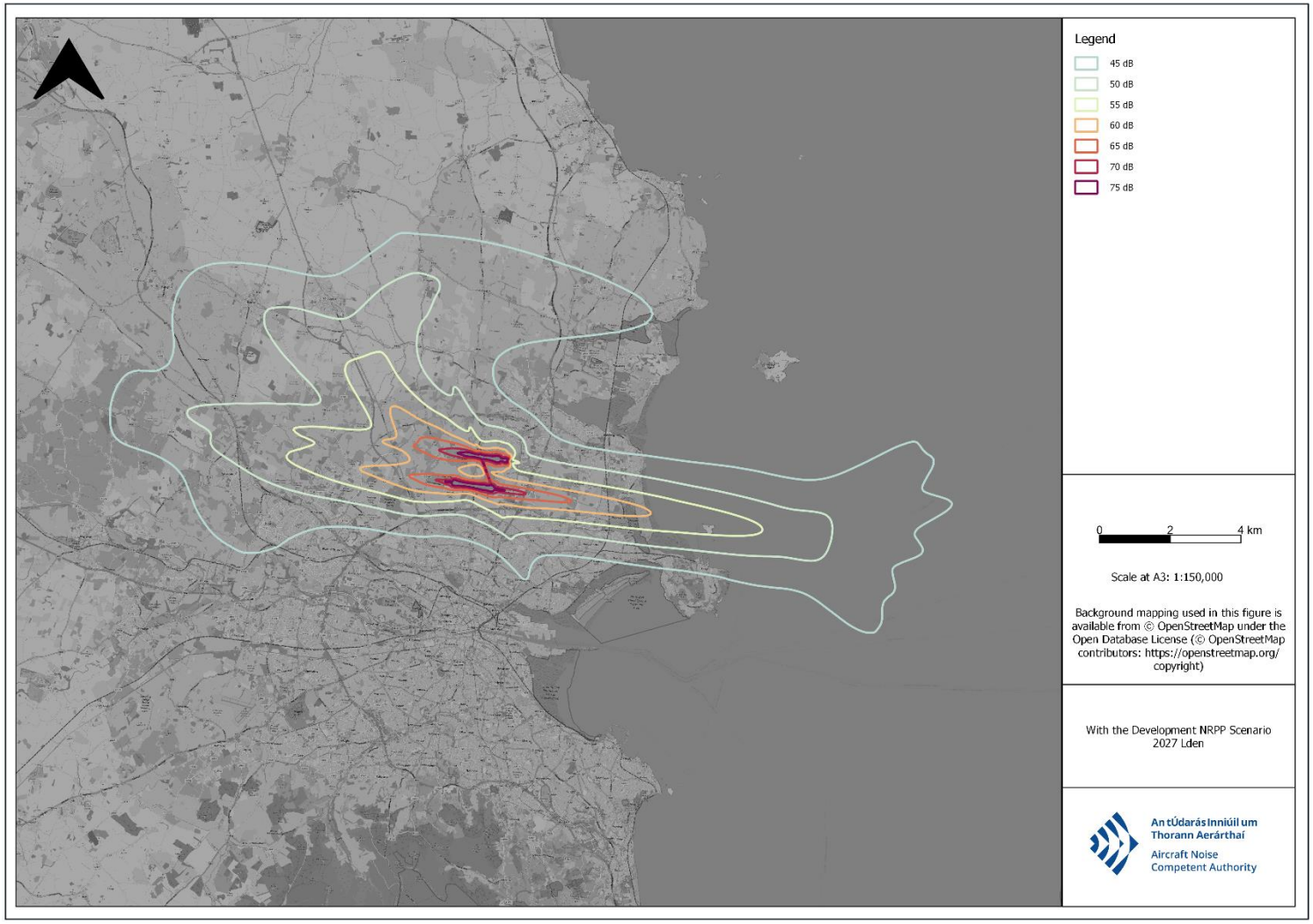


**Figure 4: With the Development NRPP Scenario 2027 $L_{night}$**

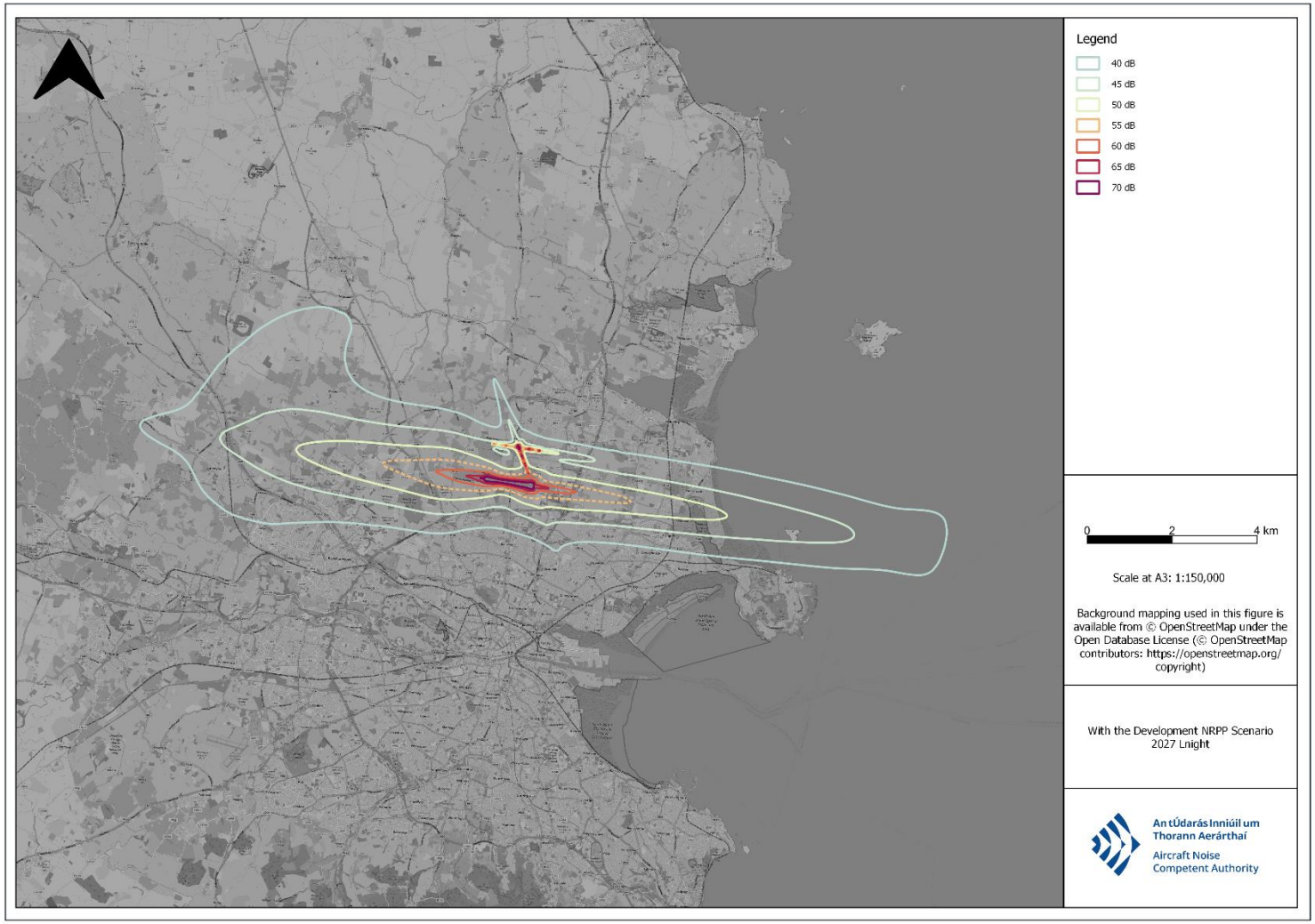


**Figure 5: With the Development NRRA Scenario 2027 $L_{den}$**

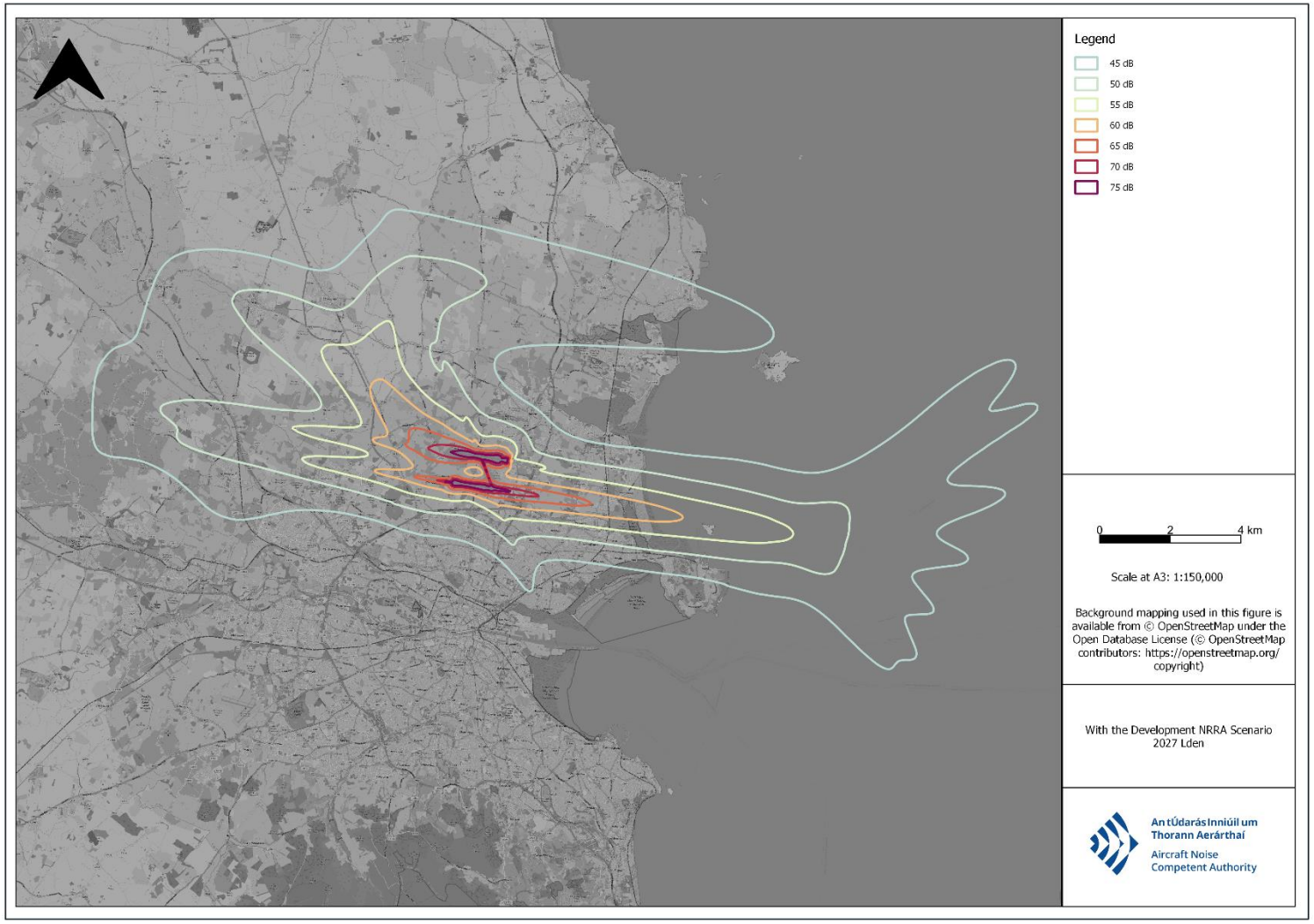


**Figure 6: With the Development NRRA Scenario 2027 $L_{night}$**

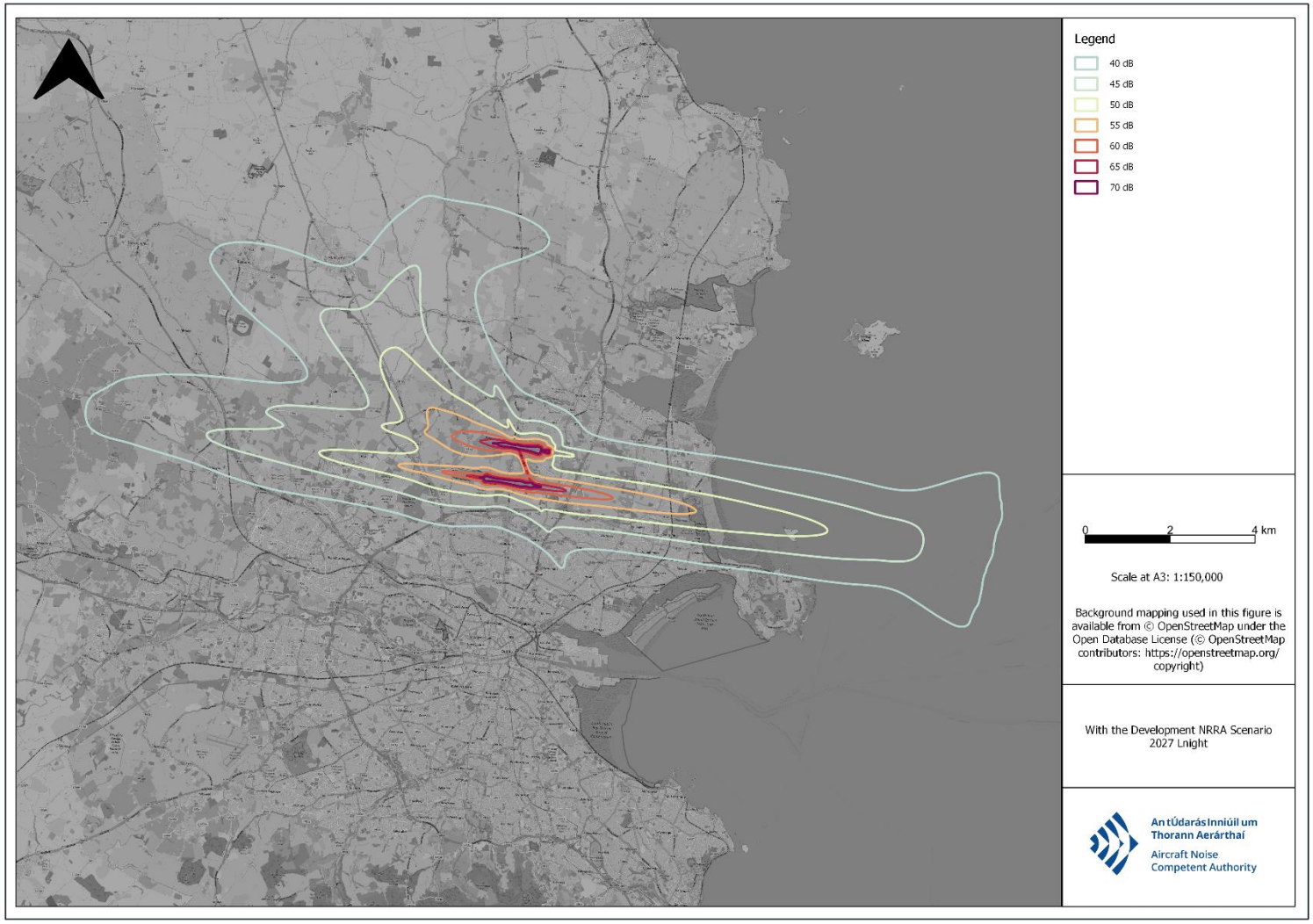


**Figure 7: With the Development NRRA Scenario 2031 $L_{den}$**

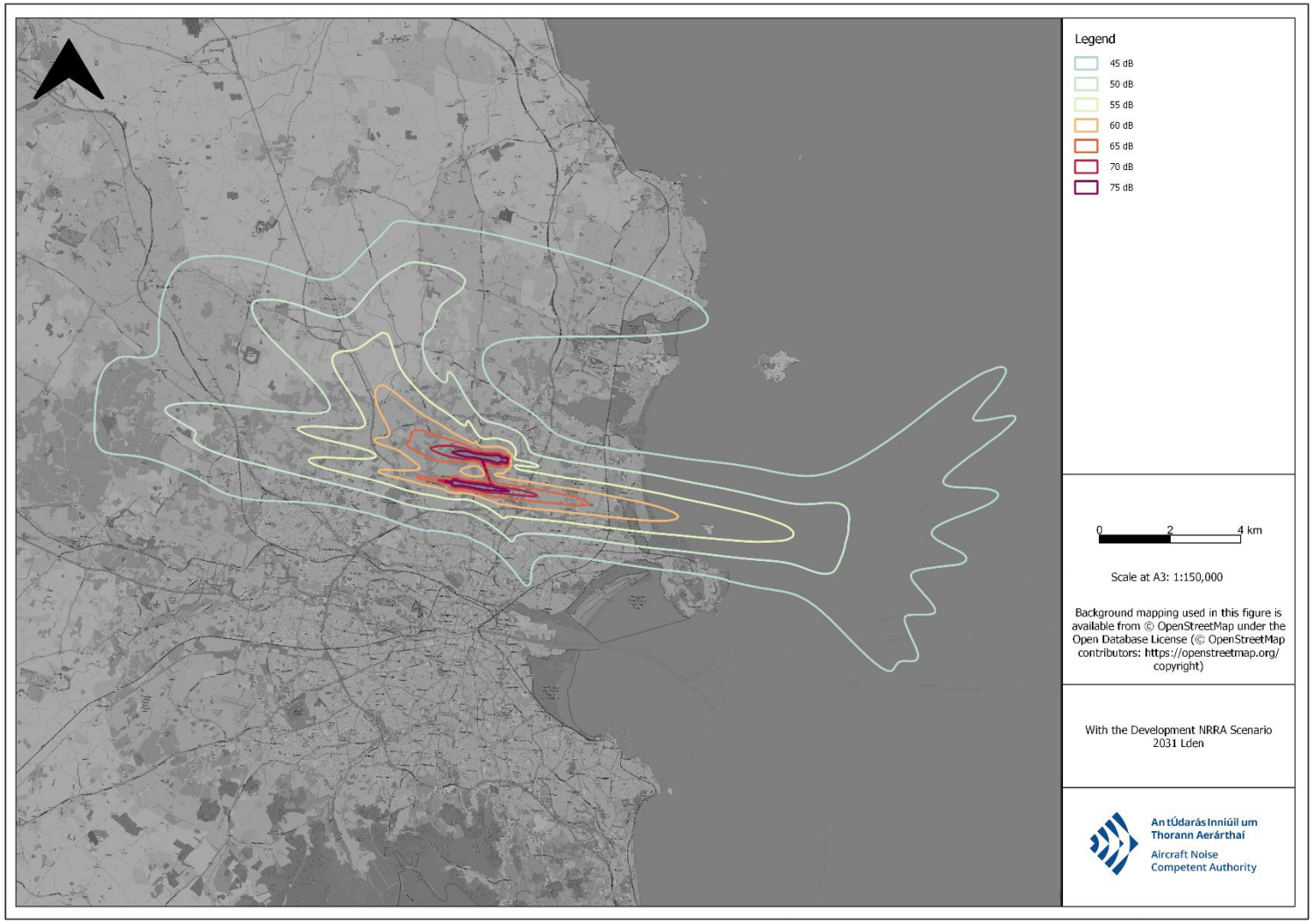


**Figure 8: With the Development NRRA Scenario 2031 $L_{night}$**

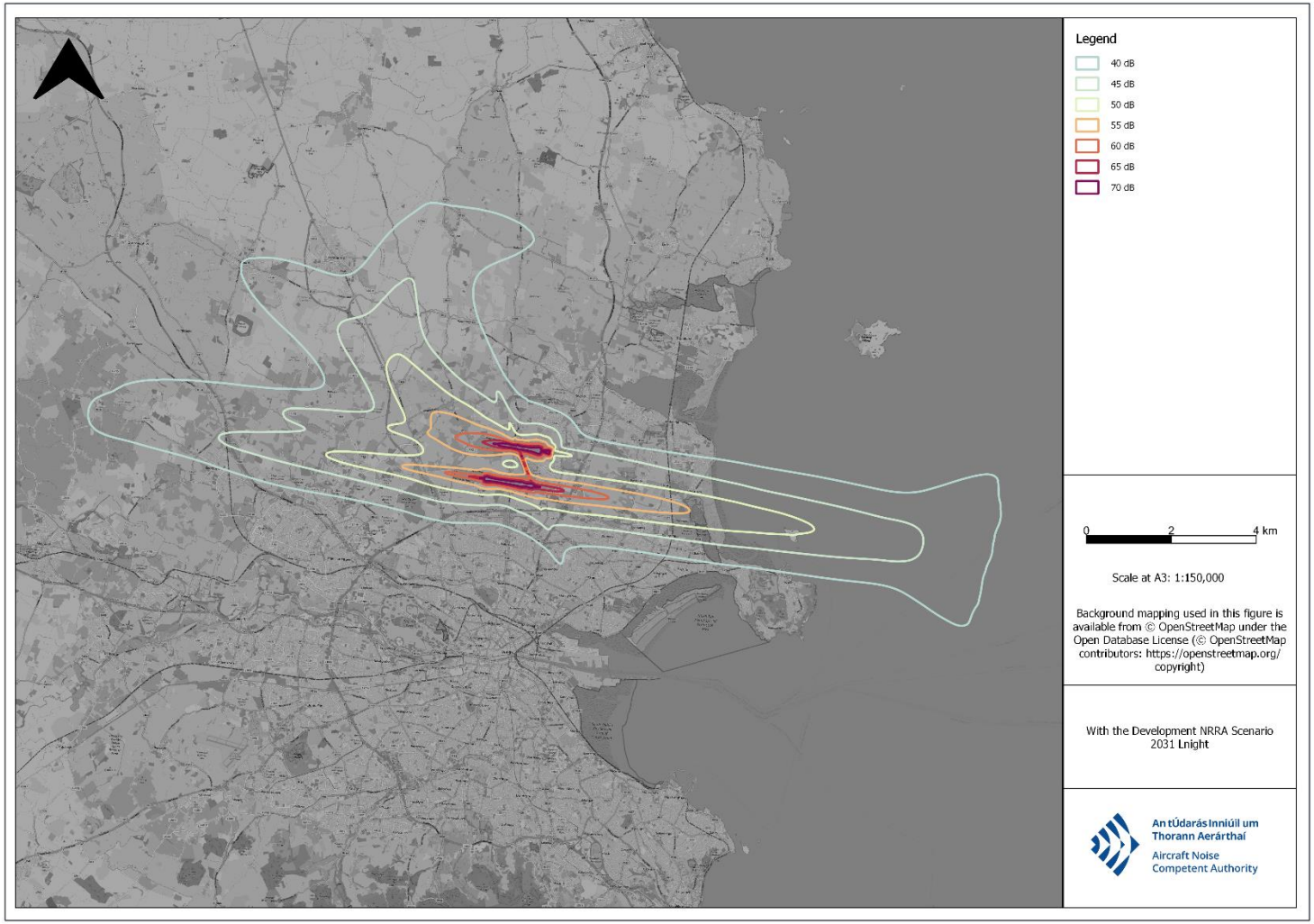


**Figure 9: Without the Development NRPP Scenario 2034 $L_{den}$**

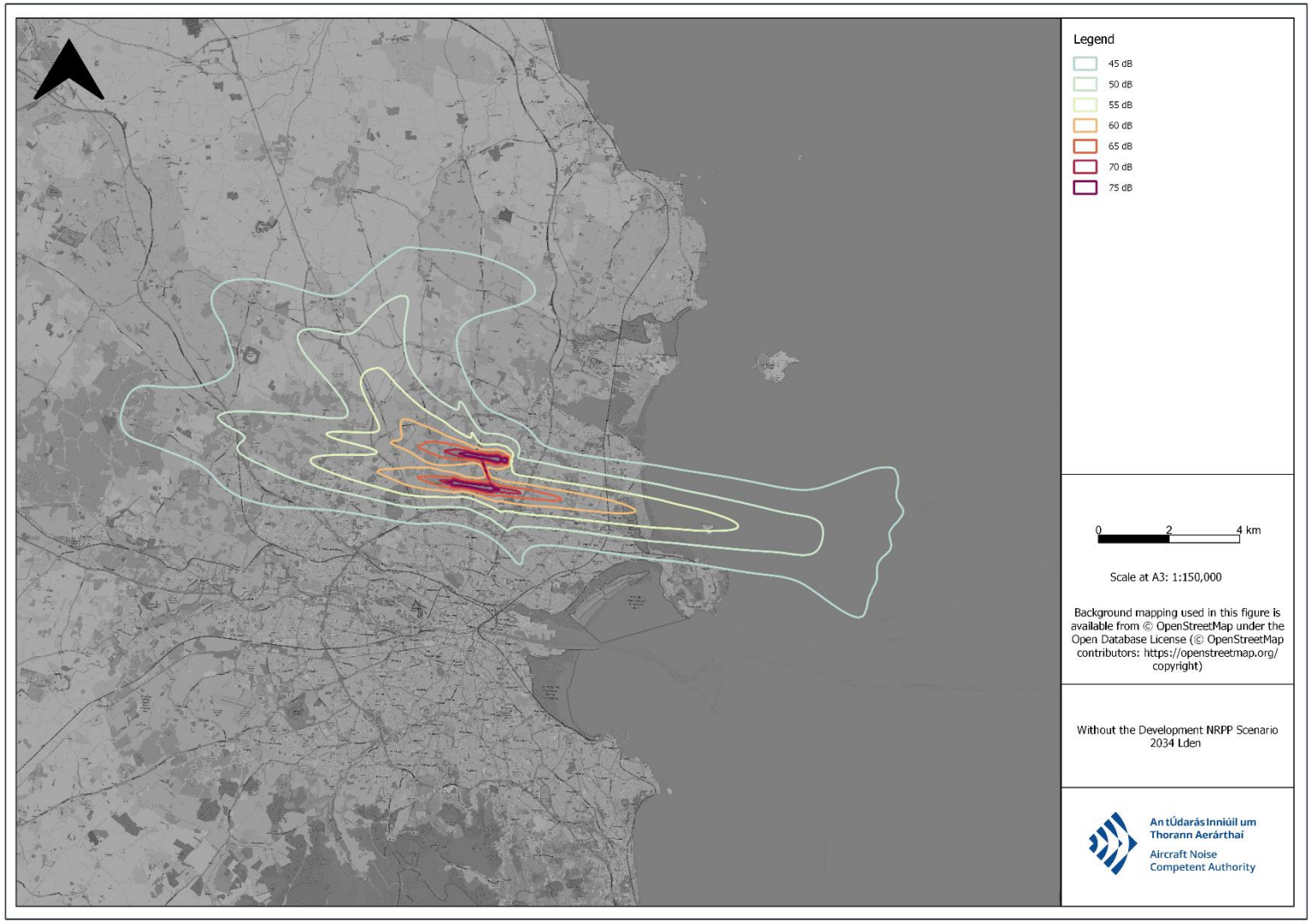


**Figure 10: Without the Development NRPP Scenario 2034 $L_{night}$**

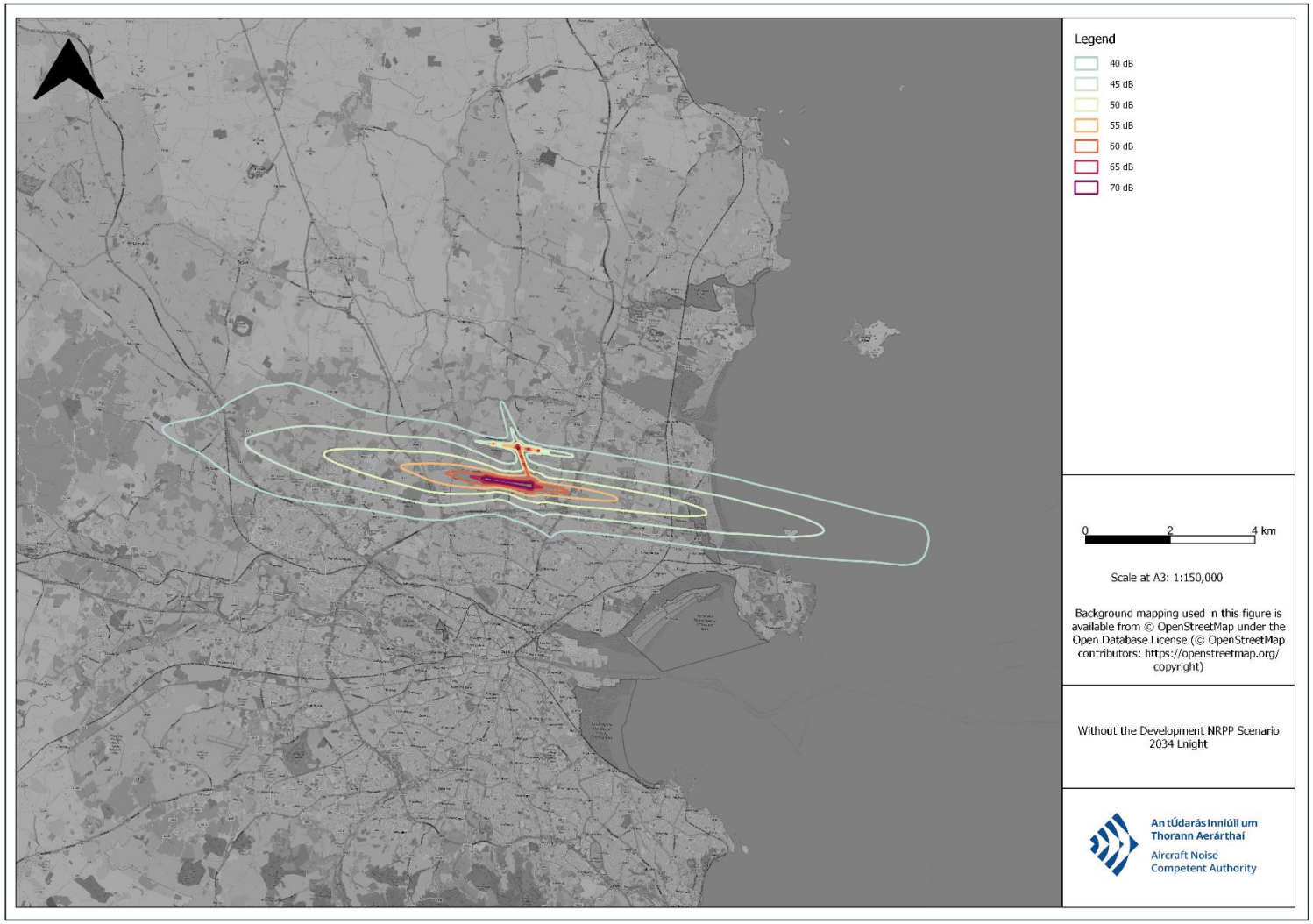


**Figure 11: With the Development NRPP Scenario 2034 $L_{den}$**

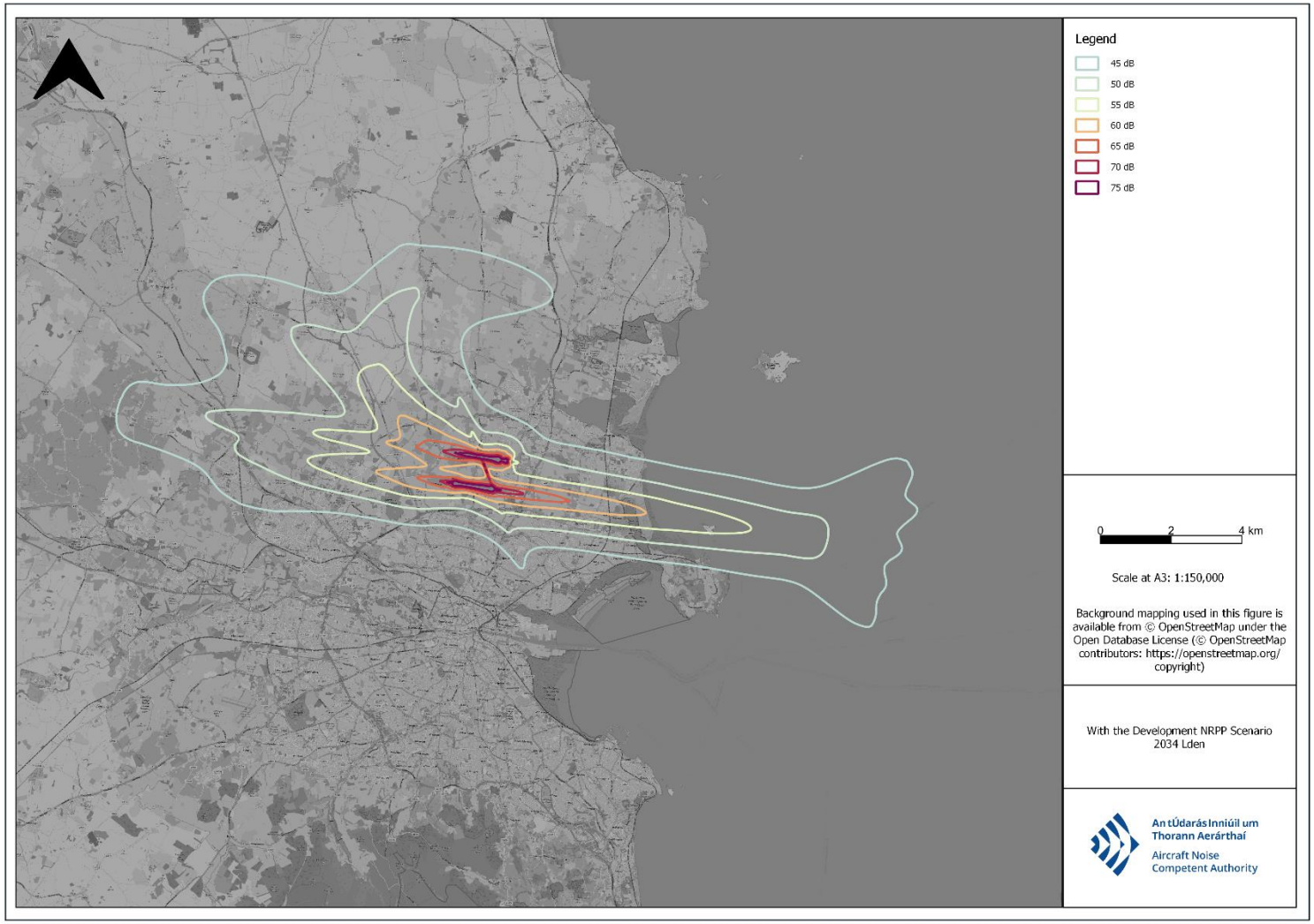


**Figure 12: With the Development NRPP Scenario 2034 $L_{night}$**

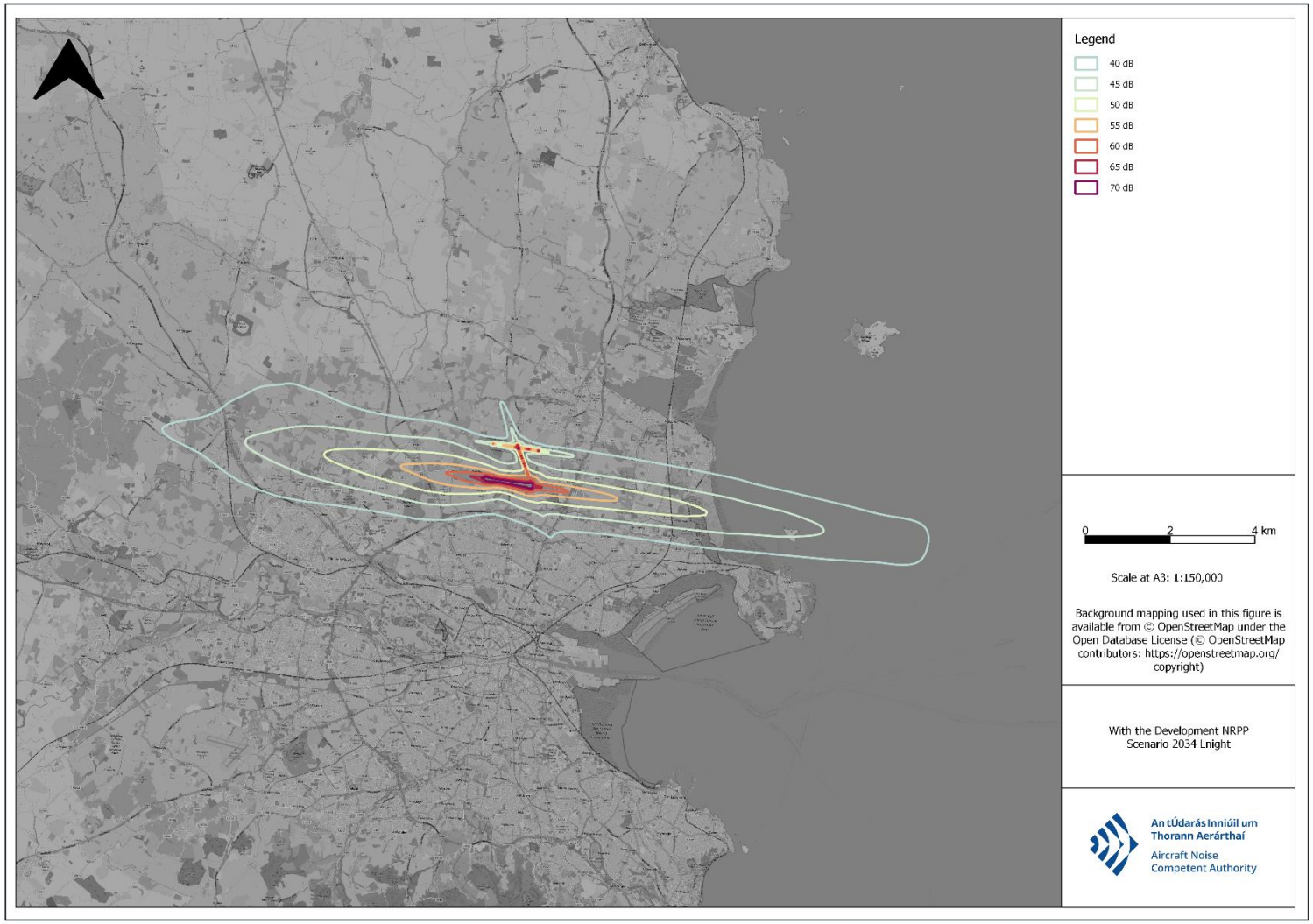


**Figure 13: Without the Development Supplemental Scenario 2027 $L_{den}$**

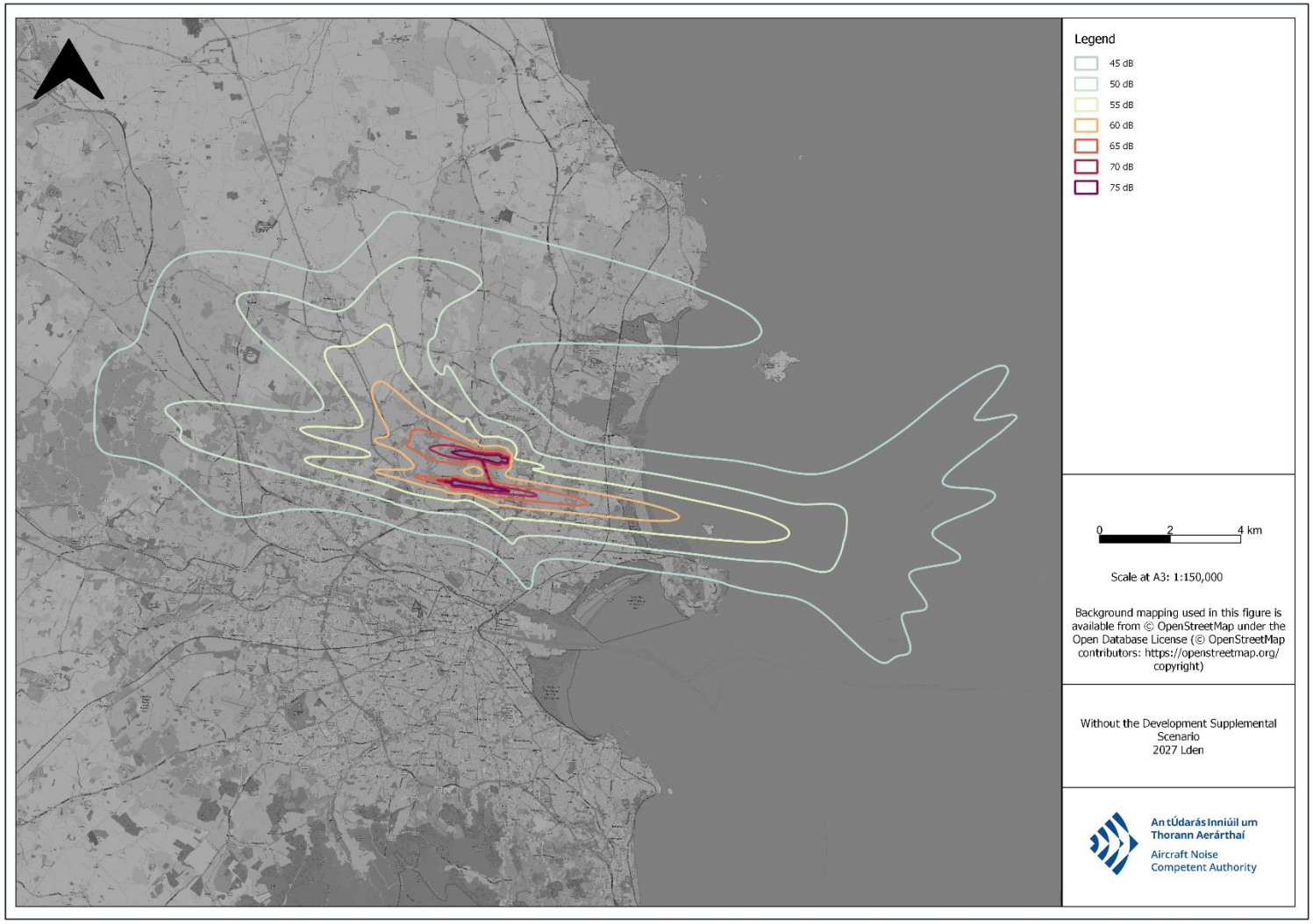


**Figure 14: Without the Development Supplemental Scenario 2027 $L_{night}$**

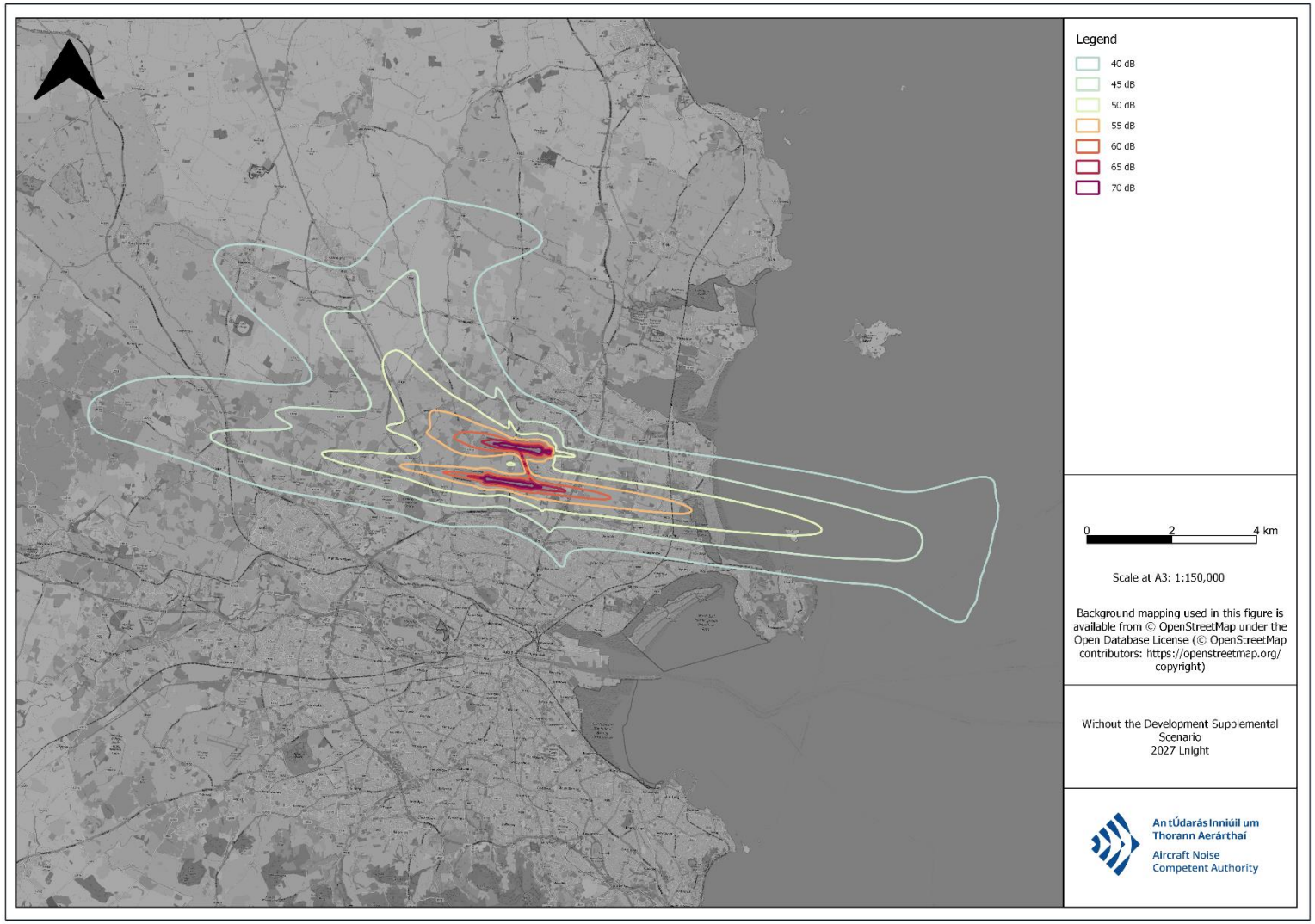


**Figure 15: With the Development Supplemental Scenario 2027 $L_{den}$**

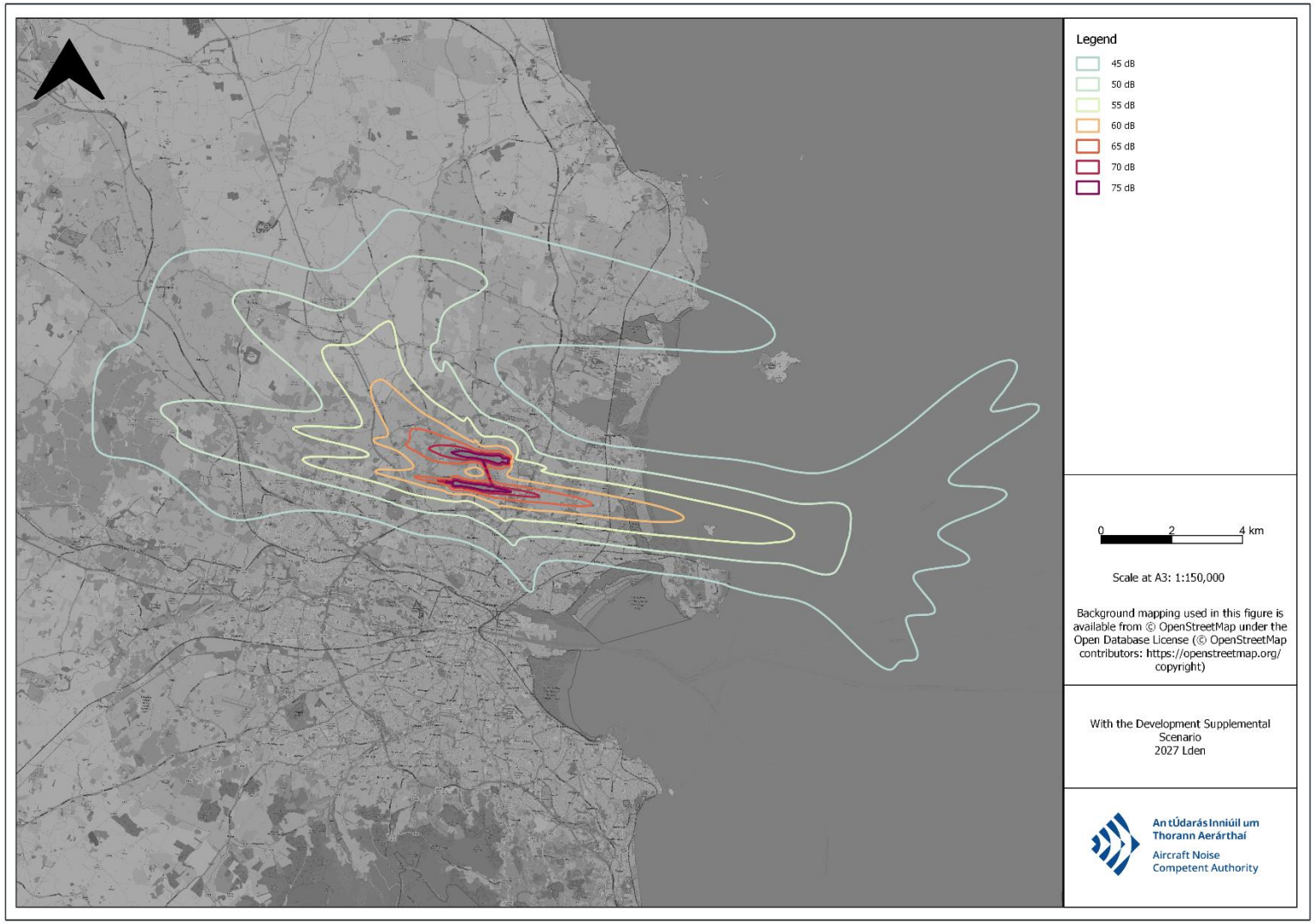


**Figure 16: With the Development Supplemental Scenario 2027 $L_{night}$**

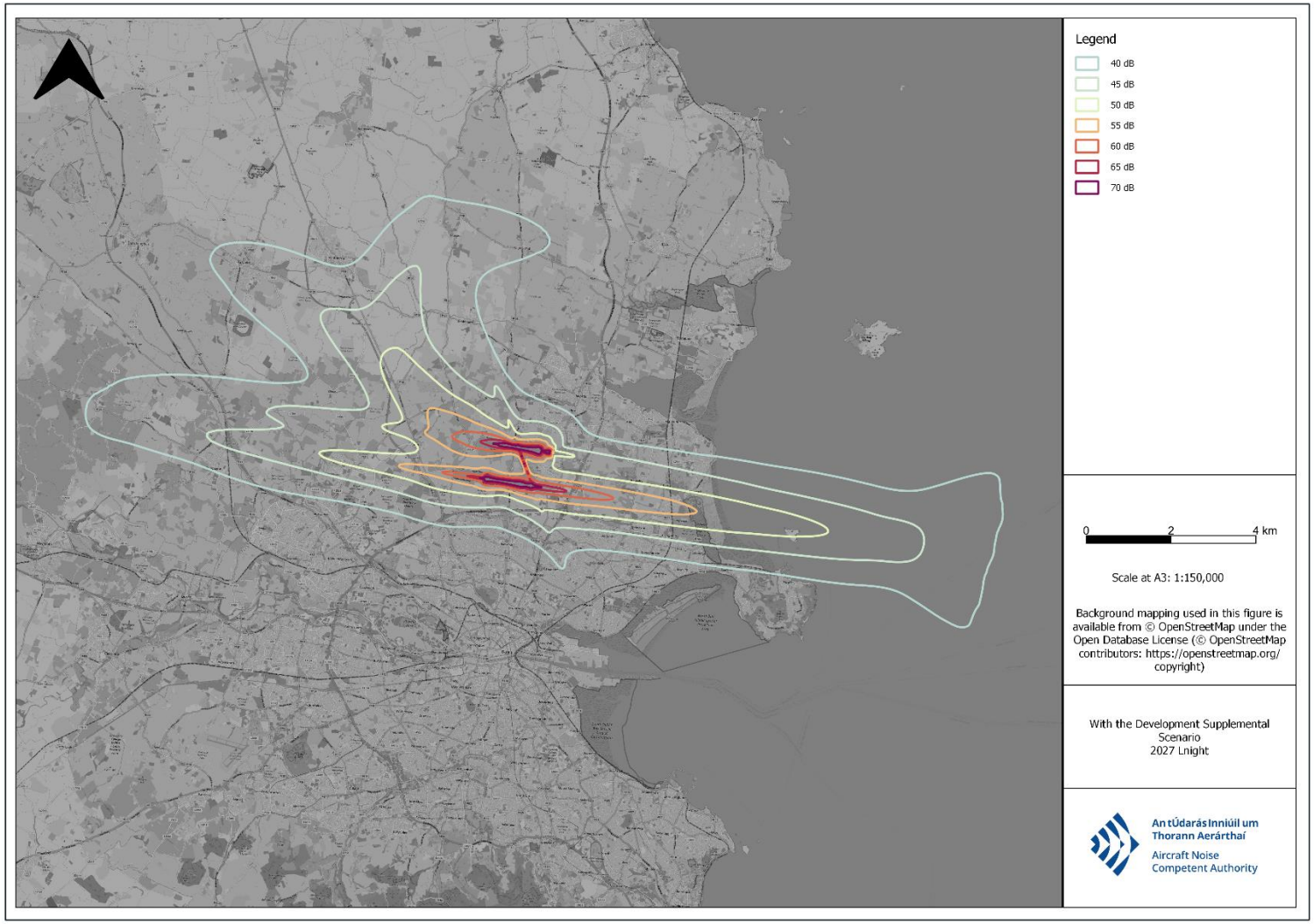


**Figure 17: Without the Development Supplemental Scenario 2031 $L_{den}$**

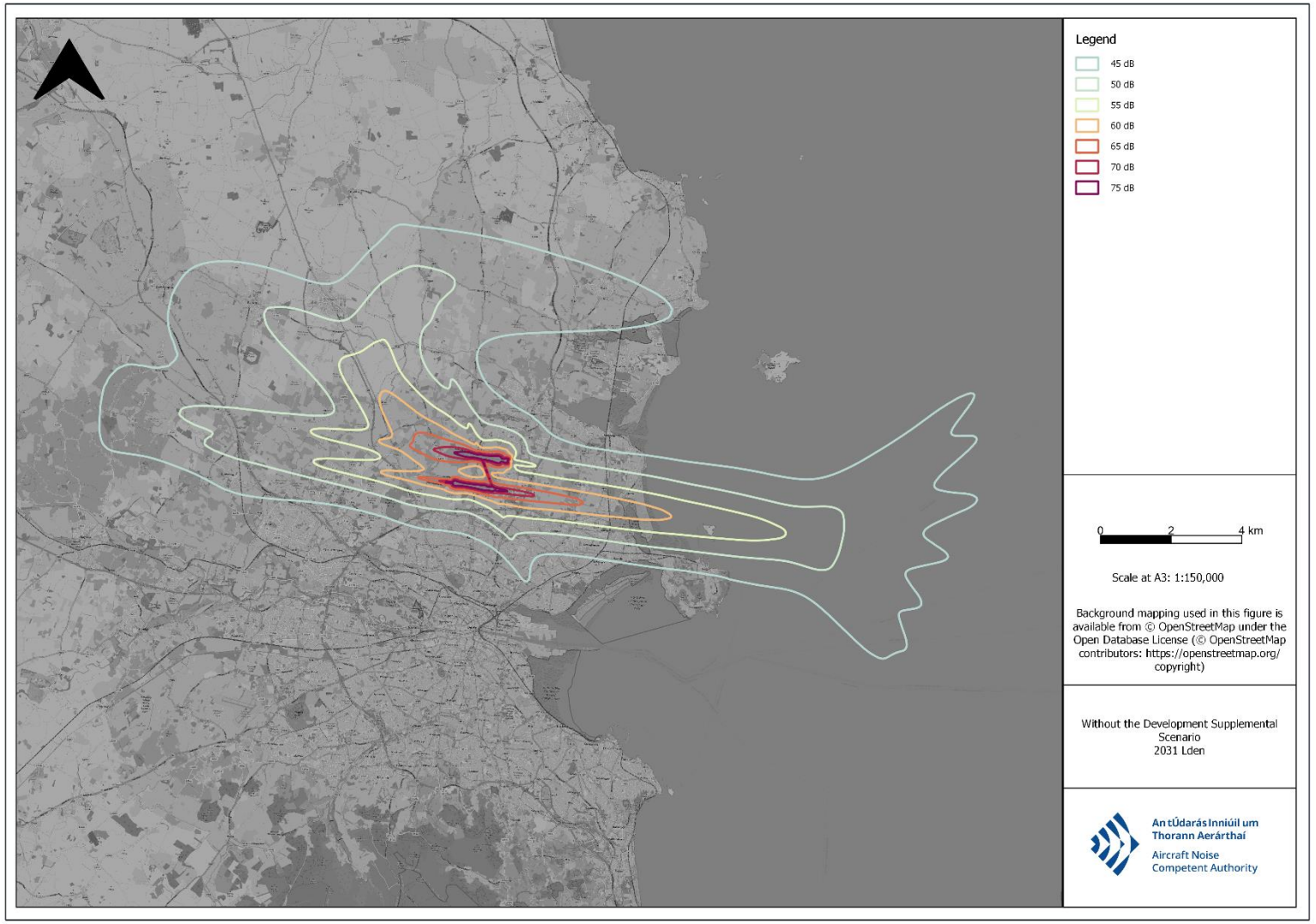


**Figure 18: Without the Development Supplemental Scenario 2031 $L_{night}$**

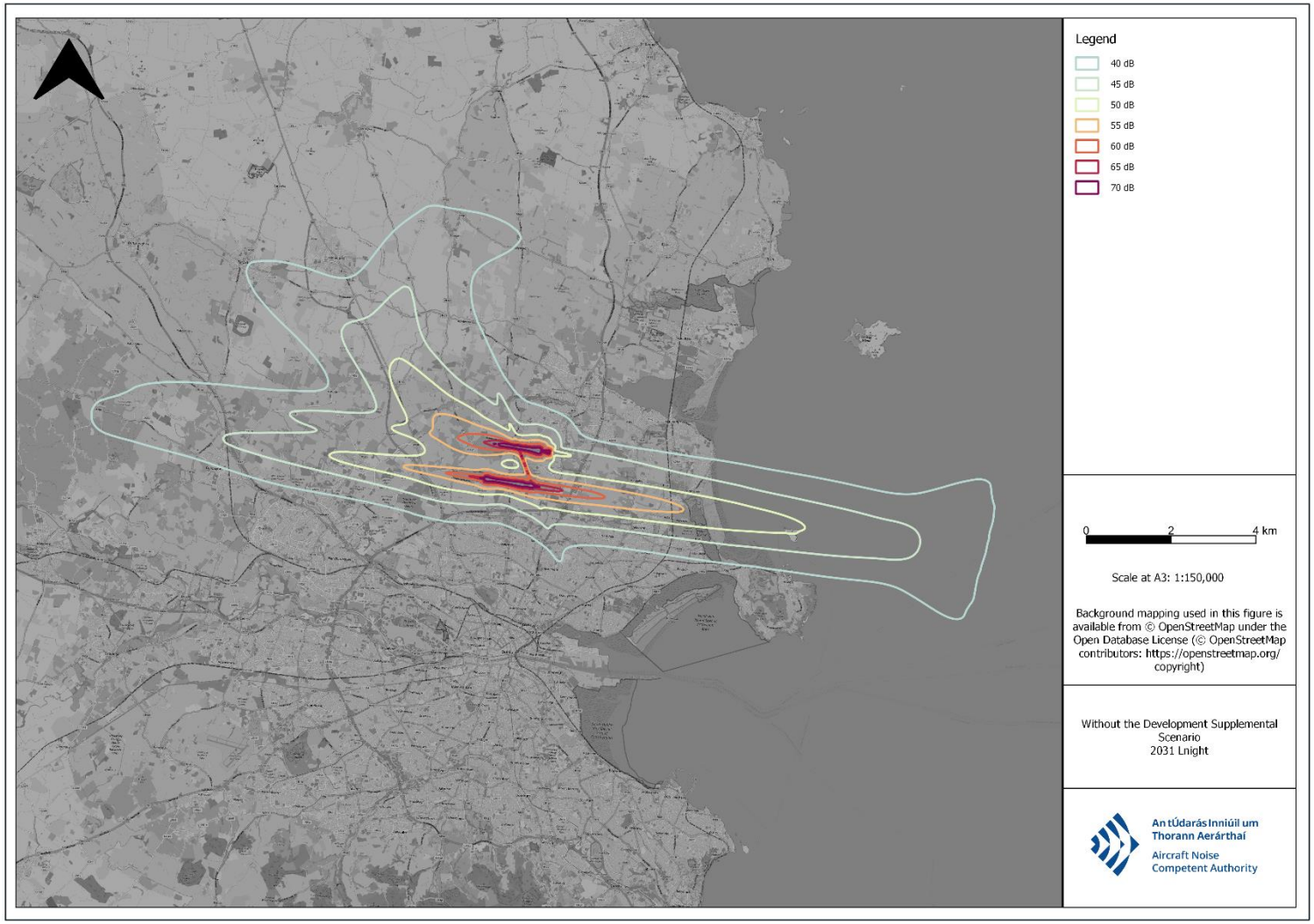


**Figure 19: With the Development Supplemental Scenario 2031 $L_{den}$**

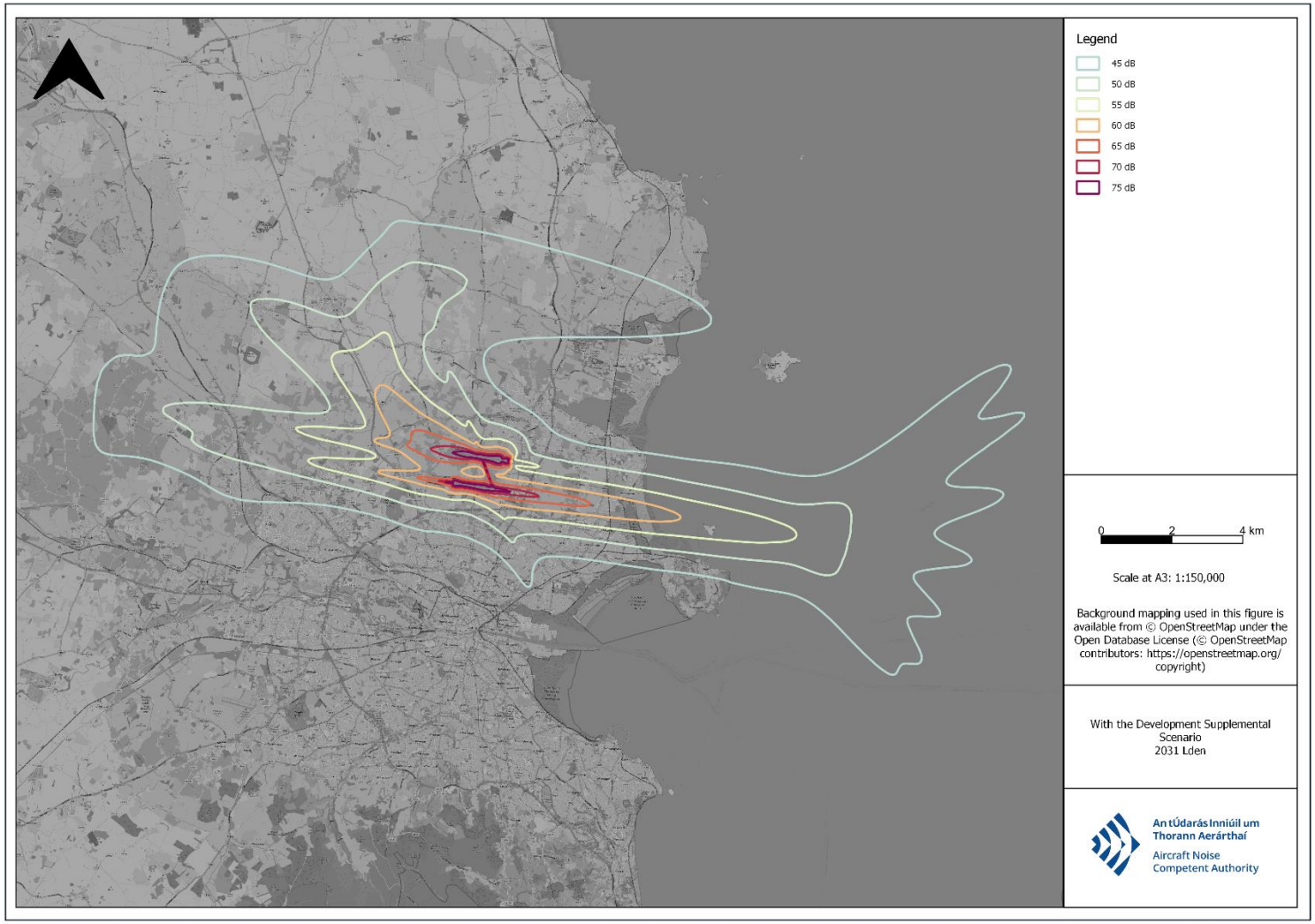


**Figure 20: With the Development Supplemental Scenario 2031 $L_{night}$**

