

June 2024

Response KLM Group to additional consultation in Balanced Approach



KLM GROUP'S RESPONSE TO ADDITIONAL CONSULTATION ON SCHIPHOL'S BALANCED APPROACH

JUNE 2024

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1. Summary

- (1) The KLM Group is aware of the impact that aviation has on people living near airports. The KLM Group has therefore committed itself to reducing noise. With the Sector Plan "Cleaner, Quieter, More Efficient" of June 2023, we have submitted a response in the context of the European Balanced Approach-procedure, in which we demonstrate that we take this commitment seriously. Through fleet renewal, smarter processes in our operations and by deploying the quietest aircraft as much as possible at night, we achieve the intended noise objectives.
- (2) It is paramount for the KLM Group that the principles of the Balanced Approach-procedure are complied with. A set of measures must be balanced and effective in order to achieve the set objective.
 - **Balanced:**
the proposal should meet the requirements of the Balanced Approach, should be careful and based on an objective, factual and legal basis so that the positive and negative impacts of aviation are assessed together.
 - **Effective:**
the measures must be proportionate, cost-effective (costs and benefits balanced) and feasible, with the effects of measures properly identified.
- (3) The KLM Group believes it is a good step that the ministry has adopted a number of measures from the Sector Plan "Cleaner, Quieter, More Efficient". At the same time, there are also important differences, as a result of which the ministry's adjusted package does not yet comply with the Balanced Approach prescribed by the Noise Regulation.
- (4) NLR has recalculated the Ministry's package. NLR's analysis shows that the proposed measures go considerably further than necessary to achieve the noise objectives. As a result, an imbalance is created between reducing noise nuisance and maintaining the benefits of aviation (continuing to connect the Netherlands as an international trading country with the rest of the world).
- (5) The NLR analysis confirms that the noise objectives of -15% to -17% by November 2025 at a 24-hour period (Lden) and -15% at night (Lnight) can already be largely achieved without the need to deploy a capacity reduction as a 'last resort'. The Ministry's additional proposal therefore contains disproportionate measures, while a balanced and effective alternative is available. The figure below shows the percentage of nuisance reduction that can be achieved with the KLM proposal by November 2026 without reducing capacity.

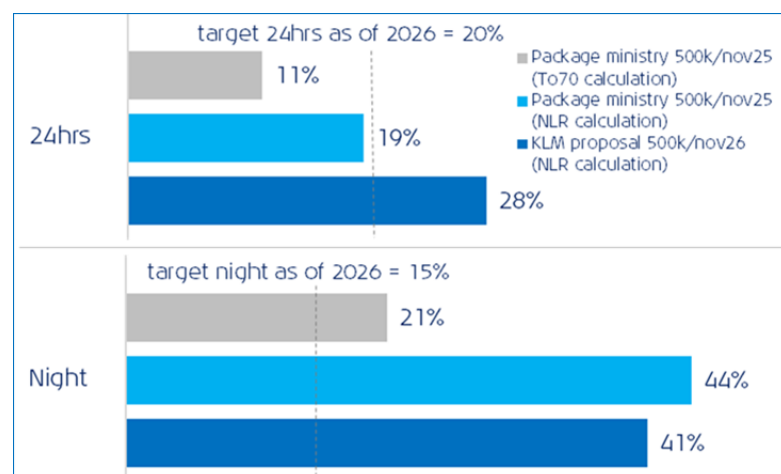


Figure 1. Decrease in highly annoyed people and severely sleep disturbed people

- (6) To achieve further nuisance reductions, fleet renewal is essential. But the effect of fleet renewal is not or hardly taken into account in Package II. This approach is contrary to the requirements of the Balanced Approach. The regulatory framework prescribes that it must be first examined to what extent autonomous developments, such as fleet renewal, can contribute to achieving the noise objective in a reasonable period. By not taking fleet renewal sufficiently into account, no justice is done to the enormous investments that are being made by airlines for the deployment of cleaner, quieter and more fuel-efficient aircraft.
- (7) NLR has also thoroughly examined the effectiveness of the Ministry's proposed package. The Balanced Approach requires the use of cost-effective and feasible measures with a realistic implementation timeframe. This is not yet the case with the Ministry's proposed package.
- (8) A number of measures is not feasible due to the use by the Ministry of an implementation period that is too short. This applies, for example, to the measure 'using quieter aircraft at night'. The slots for the winter season have already been allocated. In addition, no account has been taken of other operational developments that make the measure unworkable, such as the WideBody parameter imposed by Schiphol, which means that fewer gates are available for WideBody aircraft.
- (9) The measure 'reducing the use of secondary runways' assumes that traffic can be shifted to other periods of the day. However, this is not possible, because there are not enough free slots available around the time bracket 13:00-15:00. It also follows from the LVNL implementation test that the measure can only be implemented under certain conditions, namely the adjustment of the capacity declaration and a reduction in the traffic volume. This therefore implies a further operating restriction of potentially 10,000 aircraft movements. The measure is therefore not feasible and will not be cost-effective or proportionate.
- (10) Based on the detailed and careful NLR analysis, the KLM Group has identified the six biggest points of improvement regarding the additional consultation in the Ministry's Balanced Approach:
- Balanced
 - 1. Include the effects of autonomous fleet developments in the calculated nuisance reduction
 - 2. Carry out noise nuisance and noise calculations carefully and on the basis of the correct facts
 - 3. Do not apply restrictions more strictly than necessary to achieve the objectives
 - Effective
 - 4. Inclusion of additional measures from our Sector Plan, the introduction of take-off procedures (NADP2) and the wider use of tariff differentiation to encourage the use of quieter aircraft
 - 5. A phased implementation of banning noisy aircraft at night
 - 6. Not to introduce non-(cost-)effective and non-feasible measures such as 'reducing the use of secondary runways'
- (11) Taking into account the abovementioned points of improvement enables a more balanced and effective nuisance reduction. With these adjustments, more drastic measures such as capacity reduction and reducing secondary runway use are not necessary and retaliation by other countries (such as the United States and the United Arab Emirates) is avoided.
- (12) The KLM Group is happy to further explain the suggestions in this Response in discussions with the Ministry, in order to achieve a balanced and effective package for reducing noise nuisance, while maintaining the good international connections with the rest of the world that are of crucial importance to the Netherlands, companies and people.

2. Introduction

- (13) The KLM Group embraces the further reduction of noise nuisance for people living in the vicinity of Schiphol. The KLM Group is also aware that noise nuisance is related to personal experience and can vary from individual to individual. Without wishing to detract from this personal experience, the correct implementation of the Balanced Approach requires an assessment of noise nuisance on the basis of objective and measurable criteria.
- (14) We want to continue to connect the Netherlands as an international trading country with the rest of the world, in balance with the environment. To achieve this, the Ministry and all stakeholders must jointly look at solutions that do justice to the people living in the vicinity of Schiphol and the importance of aviation for the Netherlands. That is why the KLM Group has submitted the widely supported Sector Plan "Cleaner, Quieter, More Efficient" (the **Sector Plan**) in which we demonstrate that we can achieve the government's noise reduction objective without drastic capacity reduction.
- (15) In order to reduce noise nuisance, the Ministry of Infrastructure and Water Management (the **Ministry**) launched an additional consultation on 24 May 2024 on a package of measures in the context of the implementation of a balanced approach (the **Balanced Approach**) on the basis of Regulation (EU) No. 598/2014 (the **Noise Regulation**) to reduce noise nuisance from Schiphol for local residents. To this end, the Ministry has published the document "*Additional consultation on the Balanced Approach Schiphol*" (**Consultation Document II**), together with accompanying documents¹. In this document, the KLM Group sets out its views on this approach and on which areas we can and cannot find common ground yet.
- (16) At the time of the first consultation on the Balanced Approach from 15 March to 15 June 2023, the KLM Group submitted its Response (**Response I**) on the Ministry's original proposal. Because the Ministry and the KLM Group have a joint ambition to limit noise nuisance, the KLM Group has written a widely supported Sector Plan as an alternative to the Ministry's proposal, which meets the demand for further reduction of noise nuisance and in the long term even yields more for local residents.
- (17) Subsequently, on 1 September 2023, the Ministry submitted a package of measures (**Package I**) to the European Commission. In response to comments from the European Commission, the Ministry has now submitted an amended and supplemented package of measures (**Package II**) for additional consultation.
- (18) In this Response, the KLM Group emphasizes the importance of finding a balance between achieving the objectives of reducing noise nuisance, reducing the negative impact of our operations and at the same time keeping the Netherlands strongly connected to the rest of the world as an international trading country. The Balanced Approach is intended to monitor this balance. This Response contains similarities and differences of opinion on how the Balanced Approach should be followed. In this Response, we also respond to the proposed new and adjusted measures and indicate where we differ in opinion, but also find similarities, about what the best solutions are for local residents and the rest of the Netherlands.
- (19) It follows from Minister Harbers' letter to the House of Representatives of 24 May 2024 (**the Letter to Parliament**) that the European Commission has commented on the Ministry's Package I and has expressed concerns with regard to (i) the proportionality of the various measures, (ii) the intended

¹ The report of Decisio and Beelining "*Measuring the cost-effectiveness of noise-mitigating measures for Schiphol Airport, 2nd addendum to initial report*" (**Annex A**); To70's report "*Balanced approach study Schiphol Airport, Second addendum*" (**Annex B**); A timeline "*Towards less noise nuisance through European rules: the balanced approach procedure*"; and a *infographic "Working towards a better balance > between aviation and the quality of the living environment"* (collectively, the **Consultation Documentation II**).

pace at which the noise objective will be achieved, and (iii) the preference for alternative measures to achieve the noise objective, instead of a reduction in the number of aircraft movements.

- (20) The KLM Group does not see the European Commission's comments, as included in the letter to the House of Representatives, sufficiently reflected in the proposal amended by the Ministry.
- (21) With regard to the pace at which the noise objective is achieved, the Ministry speaks of a 'gradual approach'. However, the proposed measure for the deployment of quietest aircraft at night is no longer feasible due to the short term. As a result, the balance that benefits everyone, and that is required under the Balanced Approach, is lacking. This is explained in more detail below in **Chapter 3** and in **Appendix 1**.
- (22) In **Appendix 2**, KLM responds in detail to the Ministry's Package II with regard to (i) the envisaged gradual approach and (ii) new and adapted measures. NLR has also analysed the Ministry's proposed package of measures and the underlying calculations of To70 (without capacity reductions). This analysis is set out in **Appendix 3**.
- (23) As an alternative, in **Chapter 5**, the KLM Group argues for an integral implementation of the Sector Plan by which the Ministry's noise objectives will be largely achieved, without unnecessary damage to aviation, the business climate and the connectivity of the Netherlands.

3. Balanced: the proposal must meet the requirements of the Balanced Approach

3.1 Capacity reduction should not be an objective

- (24) The KLM Group explained in Response I that the Ministry had already announced a drastic reduction in the number of aircraft movements at Schiphol before the Balanced Approach was launched.² Internal documents from the Ministry that have now been released seem to confirm that the focus was on capacity reduction from the outset, and that this was only later linked to the noise situation at Schiphol.³
- (25) This approach is contrary to the Noise Regulation, which requires a noise problem and objective to be determined before measures are taken. A reduction in the number of aircraft movements is a 'last resort' measure, not a starting point of the process. But even in the Package II, a proposed capacity reduction is still central. This is evident from the very short deadline set for achieving the noise objective other than through a capacity reduction. By requiring at least a 15% reduction in the 24-hour period and at night within one year, important aspects such as fleet renewal are once again excluded in achieving the objective, while precisely those developments, in which KLM invests billions, have a major effect on limiting noise nuisance. The KLM Group will continue to invest heavily in innovation and the latest fleet to fly ever cleaner, quieter, and more fuel-efficient aircraft.

3.2 Noise nuisance should be carefully examined

Calculations must be made on the basis of the facts

- (26) The KLM Group considers the further reduction of noise nuisance to be a major responsibility. We therefore recognise that noise nuisance must be further reduced in accordance with the objectives set for this purpose. Pursuant to the Noise Regulation, the noise problem must be determined according to the Doc29 method. To analyse the historical noise situation, the Ministry used the NRM

² Outline letter from the Ministry of Infrastructure and Water Management dated 24 May 2022.

³ For example, on 17 May 2022, it was indicated about the draft text of the capacity reduction Decision: "The Minister's main request is to include noise in the substantiation of the decision", Internal correspondence Ministry dated 17 May 2022, available at: <https://www.rijksoverheid.nl/documenten/woo-besluiten/2024/06/04/besluit-op-woo-verzoek-over-hoofddijnenbrief-schiphol>.

calculation model, which is not up to date and less accurate than the Doc29 method. The starting point (the noise situation and increase in noise nuisance) has therefore not been calculated correctly since calculations based on the Doc29 method show a decrease in the nuisance and the total noise volume:

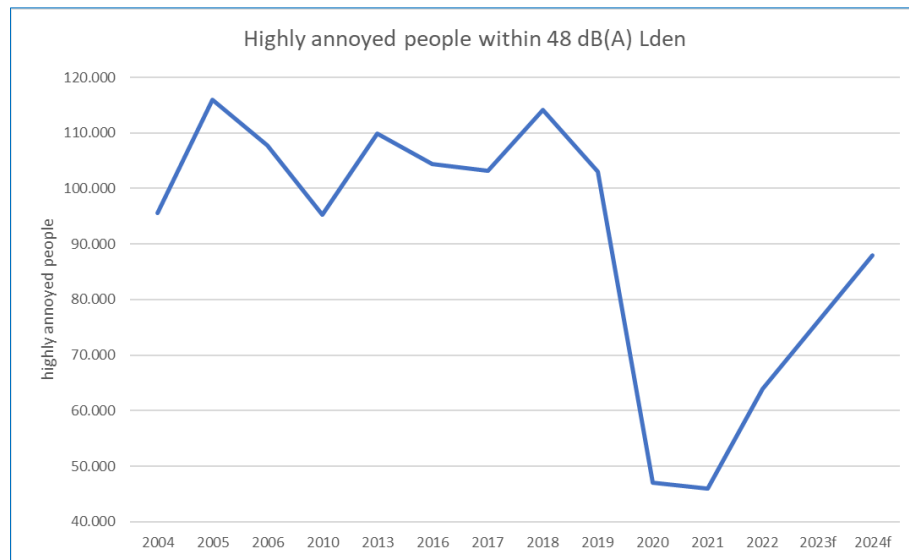


Figure 2. Decrease in highly annoyed people

- (27) Furthermore, the method used by the Ministry has not been applied consistently. For the future situation, the Doc29 method will be used. This leads to a mismatch between the noise problem identified by the Ministry, the development of the noise situation, the calculation of the objective and the calculation of the impact of proposed measures. This mismatch is also evident from the fact that General Aviation and emergency services are included in the calculation of the historical noise situation, but that possible effects of measures affecting this type of traffic have not been examined.
- (28) Also, it was only after the announcement of the capacity reduction decision and the start of the Balanced Approach-procedure that the Schiphol Action Plan 2018-2023 was amended to include a much stricter noise objective. Moreover, when determining a noise problem retrospectively, the Ministry does not base itself on objectively measurable data, but on an outdated study by means of a random check by the GGD into nuisance perception, the results of which have been influenced by the Covid-19 pandemic (as also acknowledged by the GGD), so that the results are not representative. Despite the fact that the experience of local residents is important, without factual substantiation, we cannot make a policy that will actually limit noise nuisance at the end. The Ministry does not use the factual (objectively measurable) method as prescribed by the Balanced Approach.
- To70 studies show large differences with NLR calculation*
- (29) At the request of KLM Group, NLR has made an analysis of the To70 reports, on which Package II is based. It follows that To70's study contains a large number of flaws, as a result of which the Ministry proposes disproportionate measures. A number of these flaws will be explained in the remainder of this Response.
- (30) Regarding the measure of 'excluding noisy aircraft at night', an incorrect fleet mix has been used. Instead of carrying out a "tail number analysis" on the basis of which it can be determined exactly which aircraft do not meet the proposed standard of -13 EPNdB, a 'high over' analysis was done by replacing a number of aircraft types with other (quieter) types. The consequence of this approach is that in the To70 calculations, Martinair's Boeing 747s and KLM's A330s are not replaced, even though these aircraft do not meet the proposed standard of -13 EPNdB. However, the A330 is used as a

quieter replacement aircraft in the calculations. As a result, the effects of the measure are not correctly estimated.

- (31) In the calculation of the effect of this measure carried out by To70, no realistic relocation of flights to other times of day has been included. The starting point of the study was that, without adjusting the schedule, flights could still be carried out with a delay by landing on the primary runways outside the 13:00–15:00 bracket (but not at night). The underlying report⁴ on which the Ministry bases this measure cannot be used for this measure because it only has the closure of the Aalsmeerbaan Runway as a starting point, but not all secondary runways. The NLR analysis indicates that it is unrealistic for all flights to land on the primary runway. This measure is therefore considerably less cost-effective than the To70 study shows.
- (32) The effect of fleet renewal on noise reduction is estimated by To70 to be 1% on the Lden objective and 0.5% on the Lnight objective. This is significantly different to the NLR analysis, in which the result is an effect of 4.8% on the Lden objective and 6.6% on the Lnight objective respectively.
- (33) In addition to the above examples, the differences between the To70 study and the NLR analysis are explained in more detail in Appendix 3.

Incorrect calculations lead to wrong assumptions and conclusions

- (34) The estimation of the total impact of the measures from Phases 1 and 2 shows that Package II is based on incorrect calculations. It follows from the Consultation Documentation II that the individual measure of fewer flights at night leads to an impact of -22.2% on the number of homes within 48 dB Lnight. Although individual measures cannot be added together to arrive at a total impact, it is in any case incorrect that the total impact of all measures from Phases 1 and 2 will be lower than -22.2%. As shown in Table 1, this is the case in the Ministry's calculations. NLR estimates a total impact of the measures from Phases 1 and 2 of no less than 60%. The combined effect on the number of people who are seriously disturbed by sleep is also much higher in the NLR analysis.⁵ This difference in the impact of the measures raises questions for KLM Group about the accuracy of the calculations commissioned by the Ministry. There is a risk that such carelessness will lead to disproportionate measures, and thus unnecessary economic damage and destruction of capital.

NLR analysis shows real impact

- (35) As already explained, NLR carried out a cross-check on the effects of the proposed package of measures (without capacity reduction), using the principles of To70 as much as possible (for example, the effect of tariff differentiation was set to 0). The NLR analysis shows that the effects of the measures on the reduction of noise nuisance are considerably higher than proposed in the additional consultation, especially at night. The biggest differences occur in the calculation of the effects of fleet renewal on the KLM Group and the greater effect of banning noisy aircraft at night. The NLR analysis shows that almost all of the noise objectives set by the Ministry will be achieved without capacity restrictions. Moreover, the effects of a stronger tariff differentiation and of additional measures, such as the regulation of General Aviation and the application of NADP2, have not been taken into account. The Ministry's supplementary proposal therefore contains unnecessary and disproportionate measures. The difference in the calculations of the effects of the measures is as follows:

⁴ Quick scan zuidoosthoek

⁵ 44% reduction calculated by NLR compared to 21% calculated by To70.

Calculations based on 500k movements	Annoyed people 48dB(A) Lden	Houses 58dB(A) Lden	Sleep disturbed 40dB(A) Lnight	Houses 48dB(A) Lnight
Noise abatement objective (phase 2)	-15% to -17%	-15% to -17%	-15%	-15%
Package Ministry (TO70)	-10,5%	-10,5%	-21,0%	-20,5%
Package Ministry (NLR)	-14,4%	-17,4%	-42,1%	-57,9%
Package Ministry, incl. autonomous fleet developments (NLR)	-18,5%	-20,8%	-44,3%	-60,3%

Table 1. Calculations of the effects of the Package II

3.3 No moving target

- (36) The Ministry's approach⁶ is not in line with the basic principles of the Balanced Approach as prescribed by the Noise Regulation and the ICAO-Guidelines. This shows that autonomous developments (such as fleet renewal) and a horizon of five to ten years form the basis for achieving a noise objective.⁷ Only if these developments are not sufficient to achieve the noise objective in the medium term can additional cost-effective measures be taken. By not including the autonomous developments and not allowing a reasonable time period for achieving the noise objective, there is an unbalanced process.
- (37) In fact, the chosen approach is aimed at a significant capacity reduction from the outset. Incidentally, the Ministry does indicate that an evaluation will be carried out after five years, while the noise objectives must be achieved as early as November 2025. An evaluation point after five years presupposes a horizon of at least five years for achieving the noise objectives.
- (38) The graph below shows the Ministry's approach, in which the effect of autonomous (fleet) developments is not taken into account when achieving the noise objectives, but instead allows the objectives to be further pushed forward:

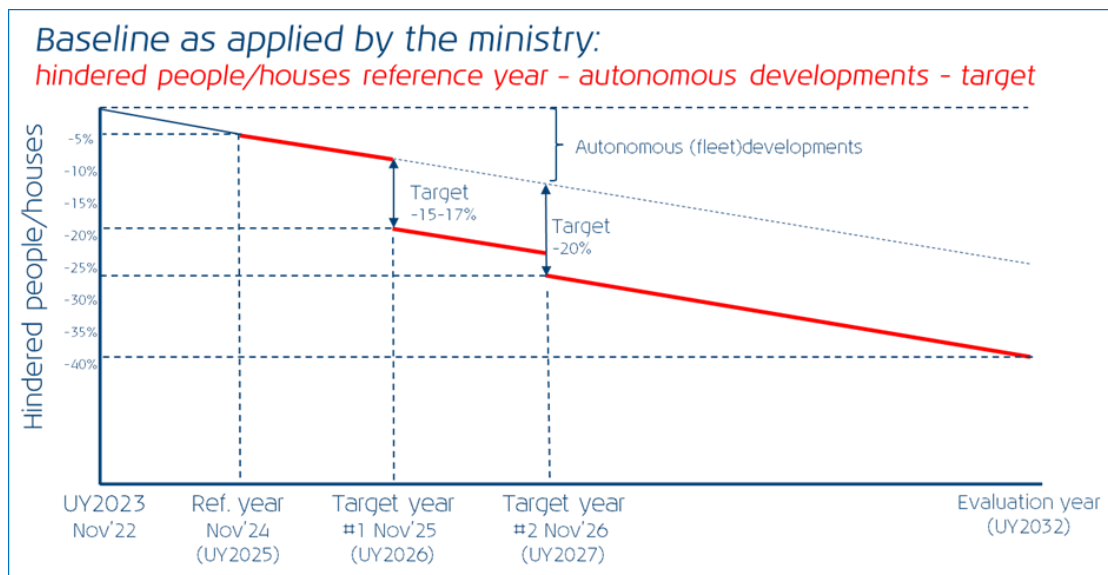


Figure 3. Declining baseline as applied by the Ministry

- (39) It follows from the ICAO-Guidelines on the Balanced Approach and from previous Balanced Approach-procedures abroad that the horizon for achieving the noise objective is usually set at five to ten

⁶ See the recent letter to Parliament from Minister Harbers dated 19 June 2024, 'Commitment to inform fleet renewal in the balanced approach procedure', IENW/BSK-2024/174848.

⁷ See, inter alia, para. 9 Recitals in the preamble to the Noise Regulation and para. 3.4. ICAO Guidance on the Balanced Approach to Aircraft Noise Management, 2004, Doc 9829 AN/451, revised in 2007.

years. The objectives pursued by the Ministry, especially the short time period for achieving them, are very different from this. Firstly, fleet renewal demonstrably contributes to the reduction of the total noise nuisance, as made clear in the NLR analysis⁸. Secondly, an objective noise reduction should be central to the determination of the noise objective, not a reduction that moves along with improvements that are already being achieved independently of the newly imposed measures creating a 'moving target'. If autonomous developments are sufficient to achieve the intended noise reduction, then there is no room for drastic measures, and certainly not for a capacity reduction as a last resort. However, this will never be the case under the Ministry's methodology. According to the Ministry's approach, regardless of the degree of noise reduction that follows from autonomous developments and fleet renewal an additional reduction of 20% or 15% must always be added. For further explanation, see Appendix 1.

⁸

See Appendix 3.

4. *Effective: the measures must be proportionate, cost-effective, feasible and not lead to retaliation*

4.1 *A proportional approach*

(40) The Ministry's current proposal is not proportional in:

- *The objectives*
- *The time period*
- *The measures*

(41) The Balanced Approach is an approach for achieving a noise objective to limit a noise problem as cost-effectively and proportionately as possible. It is important that all possible measures are weighed in a balanced way. The Noise Regulation prescribes that measures may not be more restrictive than is necessary to achieve the noise objective.⁹

(42) Minister Harbers' letter to the House of Representatives of 24 May 2024 shows that the European Commission has once again made it clear that a reduction in the number of aircraft movements can only be used as a 'last resort'. However, the current Package II is not in line with this.

(43) With the current objective, the Ministry reserves part of the intended reduction per 24-hour period (3-5%) for a Phase 3, which is planned for November 2026 and may include a (partial) night closure. It is currently unclear how Phase 3 will be implemented.

(44) The motivation for keeping the reserve is unclear. The NLR analysis shows that both 24-hour period and night objectives are already being amply achieved when accounting for the autonomous (fleet) developments. Also based on the Ministry's chosen approach, the objective will be achieved at night without capacity reduction. There is therefore no need or justification for maintaining a reserve for an extra drastic night measure. Under the Noise Regulation, a capacity reduction is only possible and necessary when other measures of the Balanced Approach are not sufficient to achieve the noise objective. That is not the case here.

Measures at night go much further than necessary to achieve the objectives

(45) According to the Ministry's calculations, the proposed measures would already achieve a 21% reduction in severe sleep disturbances and a 20.5% reduction in the number of homes affected by November 2025. This means that the objective of 15% is overachieved. As already shown in Table 1, it follows from the NLR analysis that the Package II, partly due to the exclusion of autonomous developments, leads to an overshoot of the night objective that is even greater than currently presented by the Ministry. This shows that the Ministry is still pushing for an operating restriction by reducing the number of aircraft movements for both 24-hour period and night, even if there is no need for this. As a result, Package II is not in line with the preconditions of the Balanced Approach. With the application of the Sector Plan, both the night-time and 24-hour period objectives are achieved without resorting to operating restrictions.

⁹ Article 5(6) of the Noise Regulation.

4.2 Cost-effectiveness

Cost-effectiveness is not a key element to the assessment and selection of measures

I. Secondary runway use

- (46) As part of the Balanced Approach, proposed measures should be reviewed and selected on the basis of cost-effectiveness. On the basis of the NLR analysis, the KLM Group has arrived at a different weighting of the cost-effectiveness of measures than the Ministry's proposal. From the point of view of cost-effectiveness, for example, the measure 'reducing the use of secondary runways' should not be part of the package. The noise benefits are limited compared to the operational problems with regard to the airport's capacity and the effects on the aviation network. The NLR analysis comes to different conclusions than the Ministry's study.¹⁰

II. Differentiation of tariffs

- (47) In addition, the measures are not implemented in such a way that the greatest nuisance reduction can be achieved. In Package II, the Ministry has given a different interpretation to the tariff differentiation than Schiphol does in the current pre-consultation for the Tariffs 2025-2027.¹¹ The Ministry's measure is based on an increase in the costs for noise category 1 (S1) only, and a reduction in the costs for S2-S7. Schiphol has a stronger base of differentiation, with changes taking place in all noise categories.
- (48) The effect of the measure, in accordance with the Ministry's approach, is considerably less than Schiphol's proposal. The Ministry's measure only affects 850 flights, while Schiphol's measure affects 200,000 flights operated by non-home-base airlines. A more differentiated distribution of costs across several noise categories therefore has a much greater impact than the effects calculated by To70.
- (49) The tariff differentiation is therefore not fully exploited by the Ministry's approach. The KLM Group sees room for improvement in order to further limit noise nuisance for local residents.

III. Other

- (50) The measures in the Sector Plan score considerably better in terms of cost-effectiveness, but the Ministry has not considered them or has not sufficiently considered them. For example, the Ministry did not include the use of the NADP2(a) departure procedure as a measure, even though this measure significantly contributes to the reduction of nuisance. The Ministry seems to write this measure off because it would lead to nuisance displacement. The condition that there may be no nuisance displacement was only included after the first consultation. However, this condition is applied inconsistently, as there is also significant nuisance displacement in night optimisation and reduction of secondary runway use, as shown in Figure 3.¹² Moreover, it does not make sense to use this as a condition, because it goes against a selection based on cost-effectiveness. If the total nuisance can be reduced relatively easily by moving noise to smaller and less densely populated areas, then this measure should take precedence over more drastic measures.

¹⁰ See Appendix 3.

¹¹ Moreover, the text in the additional consultation describes the proposal for the measure in the initial consultation. The (2nd addendum) report by Decisio and Beelining shows the new interpretation of the measure.

¹² See Appendix 3.

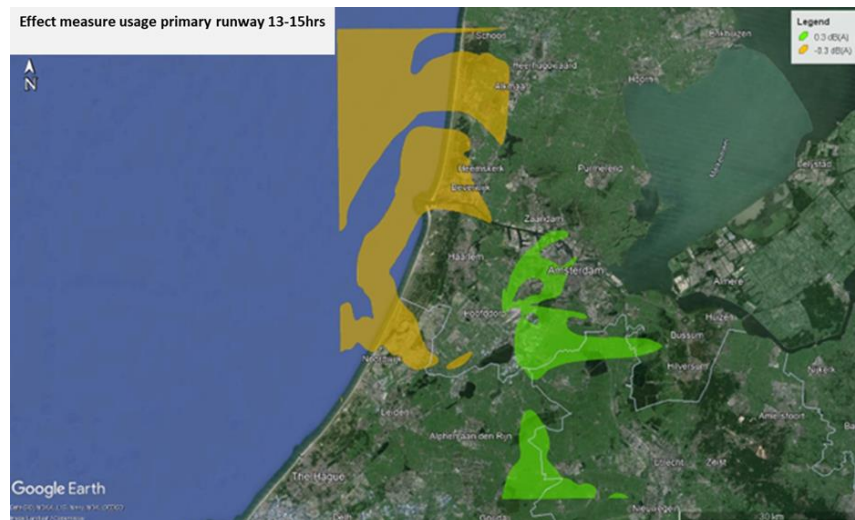


Figure 4. Nuisance displacement due to the reduction of secondary runway use is considerable

- (51) More generally, the proposal will lead to significant economic damage in the longer term, in favour of achieving limited additional noise benefits in the short term. The Ministry does not take into account that the nuisance for local residents is currently significantly less than it was in the years 2004–2019. The Ministry has also not assessed the extent to which autonomous developments, such as fleet renewal, already lead to a significant improvement in the noise situation if sufficient time is granted for this.

4.3 Enforceability

Implementation of first measure by November 2024 is operationally impossible

- (52) In Package II, the Ministry has included the KLM Group's proposal to deploy the quietest aircraft at night as a measure, to be implemented from November 2024. However, due to the short two-month time horizon (between the expected end of the consultation and the implementation date) and operational changes, it is no longer operationally possible to implement this measure as of November 2024. The KLM Group has explained in Response I that this measure can be used if it is reasonably operationally feasible and as part of an acceptable total package of measures. That is not the case with the current timetable. The slots for the winter season have already been allocated, both at Schiphol and at foreign airports. Furthermore, no account has been taken of operational developments that also make the measure unworkable, such as the WideBody parameter imposed by Schiphol (limited capacity of gates for WideBody aircraft). That measure is therefore unenforceable within the period prescribed by the Ministry.
- (53) Moreover, the measure is only aimed at the KLM Group. The Ministry has not taken any action to directly approach other airlines to persuade them to contribute. In its own words, the Ministry 'hopes' that other airlines will come forward. This approach did not take sufficient account of the requirement under the Noise Regulation that measures may not be discriminatory. The KLM Group remains prepared to implement the measure, but only as presented in the Sector Plan and if it is reasonably operationally feasible (taking into account, for example, the WideBody parameter).¹³

¹³ The KLM Group has proposed this measure in the Sector Plan as an integral part of the other measures proposed. By merely adopting this measure from the Sector Plan, the Ministry is engaging in 'cherry-picking'.

Implementation of 'reducing the use of secondary runways' leads to major operational problems

- (54) In addition to the effectiveness of this measure as explained in paragraph 31, this measure leads to major operational problems. A waterbed effect is created in which the nuisance is moved to a later time. LVNL has carried out an implementation test¹⁴, which has shown that the measure can only be applied under strict preconditions and with acceptance of adverse implications. There are not enough free slots available for shifting flights around the 13:00-15:00 bracket. As a result, this measure will have additional far-reaching effects on fleet utilisation and connectivity, especially in the KLM network. This measure is therefore considerably less cost-effective than follows from the To70 study and operationally impracticable.

The proposed timing is not feasible

- (55) The KLM Group supports a number of proposed measures to reduce noise nuisance, such as the use of quieter aircraft at night, tariff differentiation, and the banning of noisy aircraft at night. However, the timing proposed by the Ministry is not feasible.
- (56) By not including autonomous developments (fleet renewal), the Ministry is setting an unachievable deadline for the implementation of the measures and the achievement of the noise objectives. As already mentioned, the proposed deadline for the first measure is so short that it is now unworkable. For the other measures, the implementation period is also only one and a half years, which makes the measures disproportionate. For example, the measure 'excluding noisy aircraft at night' can be very effective. The effect is significant and immediately noticeable. However, the implementation period used by the Ministry makes the measure disproportionate. If this measure is introduced later, for example in 2026, airlines will have the opportunity to anticipate this. After all, renewing the fleet is a multi-year process. The KLM Group has also informed the Ministry about the planned fleet renewal. The Ministry is aware that Martinair's new cargo planes are expected to be delivered by 2026. Airbus is also aware of the importance of on-time delivery and has reaffirmed its highest priority on delivery in 2026. Nevertheless, the Ministry has opted for an earlier implementation of the measure, resulting in major financial damage for (among others) Martinair and its cargo customers.
- (57) In addition to the question of whether a third phase is necessary in view of the achievement of all objectives with the proposed KLM plan, the term of the proposed measure for Phase 3 – the introduction of a (partial) night closure and/or other night measures – is also not feasible. The implementation of Phase 3 is now scheduled for November 2026, while it is also (rightly) indicated that this will require further decision-making and further consultation (a new Balanced Approach-procedure).
- (58) In accordance with the requirements of the Noise Regulation, the KLM Group requests the Ministry to set a reasonable timetable for achieving the noise objectives. In this way, the sector can prepare for announced measures and disproportionate damage can be prevented, while the noise situation for local residents will continue to improve in the meantime as a result of autonomous developments, continuous fleet renewal, and the implementation of the Sector Plan by the KLM Group and other airlines.

¹⁴

Annex V notification document, LVNL implementation test dated 15 June 2023.

4.4 Retaliation

- (59) Other airlines in Europe and the rest of the world are closely following this process because if capacity restrictions will be selected as a measure, the effect is twofold: first in our own country, and second from other countries because of the retaliation. Possible retaliation actions have not been taken into account in the Ministry's process of establishing an adjusted package of measures. Even though retaliation is expected and has already been announced by airlines and States (such as Jetblue/the United States, Emirates/the United Arab Emirates). Countermeasures are likely to be specifically directed against the KLM Group, for example by withdrawing our slots and by restricting rights to fly to certain destinations. This leads to a negative impact on the Dutch economy and a weaker connection with the rest of the world. As a result, the Netherlands is hit twice: in its own home base and in other places in the world. The Ministry does not seem to have (sufficiently) taken the effects of this into account in the cost-effectiveness analysis.

4.5 Judicial protection does not include a reduction in the number of aircraft movements

- (60) To substantiate the urgency and necessity of taking drastic measures, the Ministry refers in the Consultation Document II to the judgment of the District Court of The Hague of 20 March 2024 in the proceedings between the foundation Right to Protection against Aircraft Nuisance Foundation and the State (RBV proceedings). However, the judgment expressly does not contain an order for improving the noise situation around Schiphol (in the short and longer term). The court has ruled that better judicial protection must be offered to local residents and that legal rules must be enforced again, after amendment. The court's order explicitly does not relate to reducing the number of aircraft movements.

5. Alternative of the Sector Plan

- (61) The KLM Group and the Ministry endorse the objective of reducing noise nuisance for local residents. The KLM Group has committed itself to reducing noise for people living in the vicinity of Schiphol (and other airports) and is making an important contribution to this through the implementation of its Sector Plan, which fully achieves and partly exceeds the noise objectives set by the Ministry. By renewing our fleets, introducing smarter processes in our operations and by deploying the quietest aircraft at night as much as possible, the Sector Plan will achieve the night objectives by November 2025 and will even provide local residents with more benefit throughout the 24-hour period and night after only two years.

	Measures, @ 500k movements /32k night	Annoyed people 48dB(A) Lden	Houses 58dB(A) Lden	Sleep disturbed 40dB(A) Lnight	Houses 48dB(A) Lnight
Nov/25: Sectorplan	-Fleet renewal (incl. autonomous effects) -Use of quieter aircraft during nighttime period -Stimulate quieter aircraft via charges, broather implementation (§1.6 §2) -Use of NADP2 starting procedures -Regulate GA	-20,4%	-16,0%	-25,5%	-25,6%
Nov/26: Sectorplan + night ban	-Fleet renewal (incl. autonomous effects) -Use of quieter aircraft during nighttime period -Stimulate quieter aircraft via charges, broather implementation (§1.6 §2) -Use of NADP2 starting procedures -Regulate GA -Ban aircraft < 13 EPNdB at night	-28,2%	-22,0%	-40,9%	-42,1%

Table 2. Alternative package of measures achieves the objectives

- (62) The KLM Group is calling for the integrated implementation of its Sector Plan "Cleaner, Quieter, More Efficient". This package of measures drawn up by the KLM Group, together with other (sector) parties (EasyJet, TuiFly, Corendon, Delta Air Lines, Air France, BARIN, NLR and Airbus), complies with the principles of the Balanced Approach. The sector's alternative package of measures is more balanced and cost-effective for stakeholders than the Ministry's current proposal. Moreover, with the Sector Plan, the government's noise objectives can be achieved within a reasonable time period, without unnecessary damage to aviation, the connectivity of the Netherlands and our business climate. The set of measures in the Sector Plan is therefore balanced and effective. The KLM Group advocates feasible and factually correct calculations to achieve noise nuisance reduction and prevent damage.
- (63) The KLM Group once again calls on the Ministry to carefully examine these alternative measures as part of the Balanced Approach-procedure. The KLM Group also remains open to a constructive dialogue with the Ministry and other stakeholders in order to arrive at the most balanced possible approach to further reducing noise nuisance for local residents. The KLM Group is therefore pleased that the motion to set up a new aviation table (luchtvaarttafel) has been adopted. This gives the sector the opportunity to sit down with local residents again.
- (64) The KLM Group is also pleased to see that some of the measures from the Sector Plan have now been adopted by the Ministry, but it should be noted that the Sector Plan must be considered in its entirety and on the basis of correct calculations. The KLM Group agrees with a number of proposed measures, as long as they are linked to a realistic implementation deadline.
- (65) The KLM Group is happy to further explain the suggestions from this Response in discussions with the Ministry to achieve a balanced and effective package for reducing noise nuisance.

Appendix 1 The Ministry's approach to the Balanced Approach-procedure

1.1 Introduction

- (66) In this appendix, the KLM Group describes why the Balanced Approach-procedure initiated by the Ministry does not meet the legal requirements for the procedure to be followed.

1.2 The (sub)noise abatement objectives have not been set correctly

- (67) With Package II the noise objectives are adjusted. It is unclear whether this is based on an alternative calculation or determination of the noise problem. The Ministry must therefore provide further justification for this adjustment and demonstrate that the noise problem has been determined in accordance with the prescribed method. It is very important to have an accurate determination of the noise problem in order to actually tackle it.
- (68) For the 24-hour period, sub-objectives in the range of 15-17% have been set to be achieved by November 2025. The Ministry indicates that this bandwidth will be further specified after the additional consultation.
- (69) The Ministry also uses a bandwidth for the impact of more far-reaching measures in Phase 3, such as a night closure, while acknowledging that a new Balanced Approach-procedure will be needed for the implementation of such a measure.
- (70) The KLM Group explained in Response I that the noise objectives must be set clearly and quantifiably. Setting a noise objective is step one of the Balanced Approach-procedure. The objective of the Noise Regulation is "the achievement of specific noise abatement objectives". It is also clear from the preamble to the Noise Regulation that there must be specific objectives: "Noise-related operating restrictions should be introduced only when other Balanced Approach measures are not sufficient to attain the specific noise abatement objectives". Logically, the noise objective must be identified before an economic assessment is made. In addition, a solid substantiation must be available. This applies to the noise objective and also to sub-objectives. In the opinion of the KLM Group, these requirements have not been met.
- (71) The bandwidths used for Phases 1, 2 and 3 do not make the objectives of the Consultation Documentation II sufficiently concrete, which is contrary to the prescribed Balanced Approach-procedure. Furthermore, the bandwidth used is arbitrary. If the (sub)objective is adjusted after the consultation, the interested parties will not have the opportunity to make comments, which is not in line with the prescribed consultation process under the Noise Regulation.
- (72) It is unclear to the KLM Group why the Ministry is adjusting the (sub)objectives. Furthermore, the adjusted sub-objectives do not correspond to the objectives presented in the 'Draft Environmental Noise Action Plan Schiphol 2024-2029'¹⁵ (Draft Action Plan). The Draft Action Plan does not set out any sub-objectives. The 15%-17% sub-objective proposed in Consultation Document II is therefore not in line with the Draft Action Plan.

¹⁵ Kennisgeving Ontwerppactieplannen omgevingslawaaai voor rijkswegen, hoofdspoorwegen en Schiphol 2024-2029, Stcrt. 2023, nr. 33228.

Capacity reduction is not used as a last resort

- (73) In Consultation Document II, the Ministry seems to indicate that a capacity reduction is now being used as a last resort measure. However, that is not the case.
- (74) Firstly, it is still true that the period for achieving the (far-reaching) noise objective is so short, partly due to the exception of autonomous developments, that no time is granted for the implementation of less drastic measures and capacity reduction is automatically considered as a necessary measure.
- (75) Secondly, a reduction to a maximum of 460,000–470,000 aircraft movements per year by November 2025 is already foreseen, while it has not yet been clearly determined which noise objective must be achieved at that time. The Consultation Document II indicates: "The final number of aircraft movements depends on the effect of the combination of measures excluding capacity limitation and the specific reservation of the noise abatement objective for Phase 3." This leads the KLM Group to suspect that the concrete implementation and distribution of the achievement of the noise objective will follow the determination of a certain capacity reduction. The Balanced Approach, on the other hand, prescribes that a robust noise objective is first set to remedy a noise problem, before determining whether a possible capacity reduction is necessary as a last resort to achieve that objective.
- (76) Thirdly, a capacity reduction at night to a maximum of 27,000 movements is proposed, while, in combination with other measures, the objective of a 15% reduction at night is far exceeded (overshoot). But this calculated overshoot does not lead the Ministry to limit the capacity reduction to what is strictly necessary to achieve the objective. Moreover, NLR's calculation shows that the overshoot on the objective for the night is much larger than currently presented by the Ministry. The measures presented by the Ministry therefore go considerably further than necessary to reach the noise objective. This is not permitted under Article 5(6) of the Noise Regulation.

1.3 The intended pace at which the noise objective is achieved should be more spread over time

- (77) In the additional consultation, the Ministry indicated that it would meet the concerns of the European Commission about the proportionality of the notified combination of measures by proposing a gradual approach: "This means that the introduction of measures, and thus the fulfilment of the noise abatement objective, will be more spread over time than was foreseen in the previously notified package of measures. The measures will be introduced in three phases."
- (78) However, there is no question of a gradual approach and phasing to achieve the noise objective. The Ministry does not use a fixed reference point, nor a fixed noise objective, nor a reasonable period of time until the objective is achieved in order to do justice to the nuisance reduction through autonomous developments. The Ministry's method results in a noise objective that acts as a 'moving target' on top of the effects of autonomy developments such as fleet renewal. As a result, the actual objective is substantially higher than the proposed 15% and 20%. This is contrary to the basic principles of the Balanced Approach as prescribed by the Noise Regulation. The KLM Group explains this in more detail below.

1.4 The Ministry still uses an incorrect approach to the Balanced Approach

- (79) The Balanced Approach is an approach for achieving a noise objective to limit a noise problem as cost-effectively and proportionately as possible. The approach should be implemented in a specific way, as prescribed in the Noise Regulation and explained in ICAO Guidelines. The approach is determined by correctly determining and using the reference year, the noise objective, the baseline and an action scenario if the autonomous developments (in the baseline) are not sufficient to

achieve the noise objective. The correct interpretation of these terms is explained below and illustrated on the basis of the following graph.

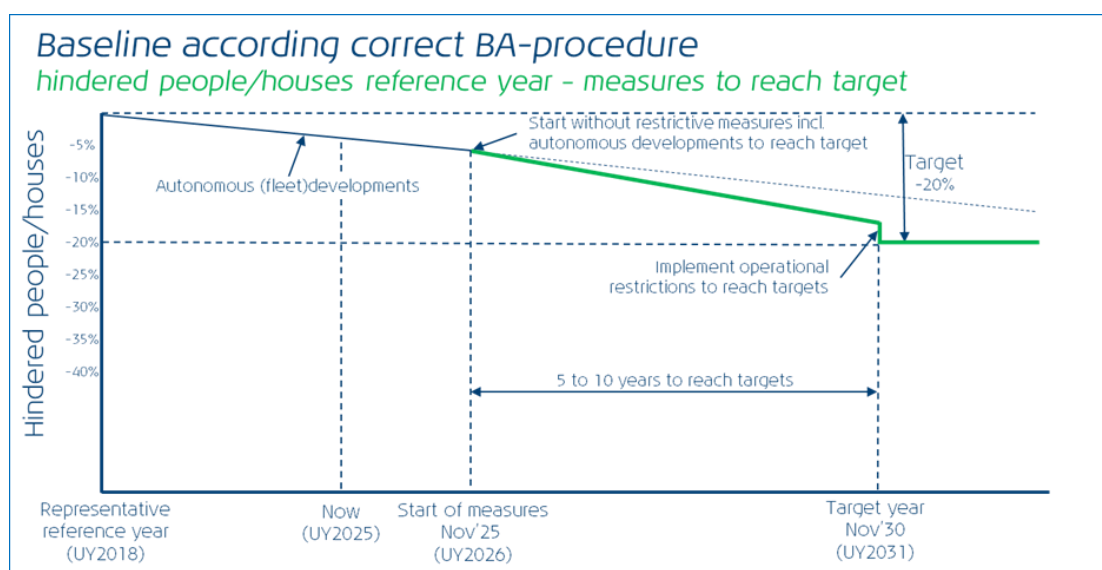


Figure 5. Applicable methodology for determining baseline

- The reference point is the starting point for achieving the noise objective. Any change in the noise situation is compared with this point to determine whether there is a reduction in noise nuisance. The reference point is a realistic noise situation for which all data is available, which will not change in the future and which situation has not been affected by exceptional circumstances (such as the Covid-19 pandemic). The KLM Group believes that the year 2018 is the most representative reference year in this case, due to the impact of the Covid-19 pandemic on the following years.
- The noise objective: This is a noise reduction objective to be achieved in the future, starting from the reference point. Only if the noise objective is not achieved by means of the baseline (autonomous developments), additional cost-effective measures can be taken. To illustrate, the graph shows a noise objective of a 20% reduction in noise nuisance compared to the noise level in the reference year, to be achieved in 2030.
- The baseline scenario is the current situation and also applies as the 'no further action scenario' based on the ICAO Guidance. The ICAO Guidance stipulates that the length of time over which the noise situation is assessed must be sufficiently long to take into account the aforementioned factors, taking into account developments over a period of five to ten years.¹⁶ In the graph, a fictitious baseline is used over a long period of time, calculated from the reference point, so that the change in the noise situation can be clearly mapped out. Additional measures can therefore be used to achieve the remaining objective.

(80) At other airports where the Balanced Approach has been implemented previously, such as London Heathrow, Charles-de-Gaulle and Dublin, the methods for achieving the respective noise objectives are similar to the aforementioned method.

(81) The method used by the Ministry differs significantly from the prescribed method and the methods used for other airports where a Balanced Approach-procedure has previously been followed. The Ministry's methodology is as follows:

¹⁶ Par. 3.4.3 ICAO Guidance on the Balanced Approach to Aircraft Noise Management, 2004, Doc 9829 AN/451, revised in 2007.

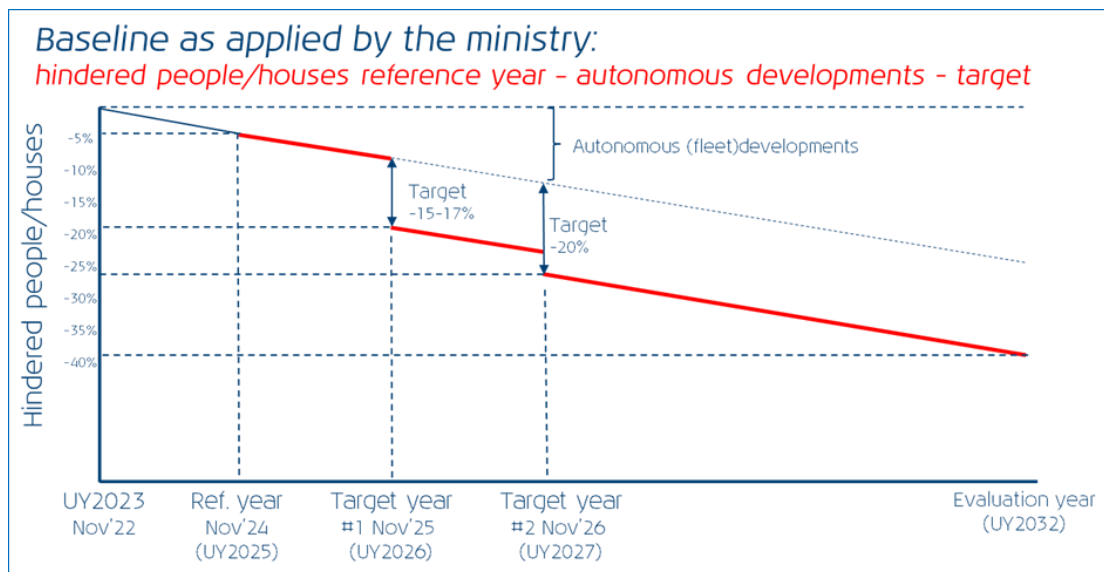


Figure 6. Methodology applied by the Ministry does not take autonomous developments into account

- The reference point/year: The reference situation is (still) based on the noise situation in the future, currently the situation as of November 2025. The KLM Group has already explained in Response I that it is not correct for the Ministry to determine the reference year in the future, because it is currently unclear what the exact noise situation will be at that time. The KLM Group does not consider it right for the Ministry to use a future and therefore uncertain starting point for a process with such impact and great importance as the Balanced Approach. Under the right approach, it is obvious that in the case of a Balanced Approach that will be implemented in 2024, for example, the noise situation in 2023 should be taken as a starting point and determine that a nuisance reduction of a certain percentage compared to the objective will have been achieved after five years. As indicated in Response I, the operational year 2018 is more representative in the present case, because air traffic at Schiphol has been in a build-up phase in recent years since the Covid-19 pandemic. Given the impact of the Covid-19 pandemic on recent years, 2018 should therefore be taken as a starting point.
- The noise objective: As already explained in Response I and above, at least a period of five to ten years should be used between the reference year and the latest date by which the noise objective must be achieved. That is not the case here. The reference point is in the future (November 2025 with a noise situation as expected in November 2024), and the deadline for achieving the noise objectives is November 2025, with a remainder of the objective as of November 2026. Calculated from this moment (June 2024), there is less than a year and a half (actually less after the end of the entire process) to achieve an objective of a 15% reduction in noise nuisance at night and 15-17% over the 24-hour period. Such a short period of time has never been used before and does not correspond to the prescribed method. It is also problematic that the objective is not based on a comparison with an actual noise situation, but that it moves along with what the expected, future noise situation is based on estimated autonomous developments. This is not in line with the principles of the Balanced Approach-procedure.
- The baseline: autonomous developments do not contribute to the result to be achieved in the Ministry's methodology. In fact, because the objective is formulated as a 15% / 20% reduction compared to the situation based on autonomy developments, these developments alone will never be sufficient to achieve the objectives. Instead, the noise objective will be further shifted as further nuisance reduction by investments by airlines is assumed.

(82) With regard to the baseline, the Ministry's reasoning is as follows:

*"During the consultation, various sector parties indicated that there is a stillness of the fleet. The reference situation (the noise situation in November 2024 without additional measures) takes into account autonomous developments. These are developments, including fleet renewal, that take place annually regardless of the introduction of measures by the government, as fleet renewal is an ongoing process. The objective of -20% must be achieved on top of that. After all, what has been done so far to reduce noise levels is not enough to reduce the total noise exposure."*¹⁷ (KLM Group translation)

(83) That reasoning is incorrect. Firstly, fleet renewal demonstrably contributes to the reduction of total noise nuisance, as made clear in the NLR Analysis.¹⁸ Secondly, an objective noise reduction should be central to the determination of the noise objective, not a reduction that moves along with improvements that are already being achieved independently of the newly imposed measures as a 'moving target'. If autonomous developments are sufficient to achieve the intended noise reduction, then there is no room for drastic measures, and certainly not for a capacity reduction as a last resort. However, this can never be the case in the Ministry's methodology. Regardless of the degree of noise reduction that follows from autonomous developments and fleet renewal, as far as the Ministry is concerned, an additional reduction of 20% or 15% must always be added.

(84) Under the Consultation Documentation II, the baseline scenario in November 2025 instead of November 2024 is examined. But that does not improve the required longer period of time to consider. After all, a year has passed since the consultation. In addition, the Ministry has deducted the autonomous developments from the nuisance measures.

(85) In accordance with the requirements of the Noise Regulation, the KLM Group asks the Ministry to set a reasonable timeline for achieving the noise objectives. In that way, the sector can prepare for announced measures and disproportionate damage can be prevented, while the noise situation for local residents will continue to improve in the meantime as a result of autonomous developments, continuous fleet renewal, and the implementation of the Sector Plan by the KLM Group and other airlines.

¹⁷ See the recent letter to Parliament from Minister Harbers dated 19 June 2024, 'Commitment to inform fleet renewal in the balanced approach procedure', IENW/BSK-2024/174848.

¹⁸ See Appendix 3.

Appendix 2 Package of measures of the Ministry

2.1 Introduction

- (1) In this chapter, the KLM Group discusses the measures in Package II and explains its objections. More generally, the KLM Group notes that, following from NLR's analysis of Package II, a number of calculations and results in the To70 study differ significantly from those of NLR. Furthermore, the cost-effectiveness of the measures has not been carefully calculated. The NLR analysis also shows that the measures have a greater impact on reducing noise nuisance than those proposed by the Ministry. In addition, there is a lack of coherence between the measures and the criterion of 'displacement of nuisance' does not seem to have been applied consistently. KLM Group has come to the conclusion that the package of measures can be put together in a more balanced and effective way, without the need for a capacity reduction. KLM Group refers to Appendix 3 for the results of the NLR analysis.

2.2 New and adapted measures

- (2) The Ministry has proposed the following measures in Package II:
 - (i) Using quieter aircraft at night (Phase 1: 2024);
 - (ii) Stronger differentiation of airport charges (Phase 2: 2025);
 - (iii) Additional fleet renewal (Phase 2: 2025);
 - (iv) Reducing the use of secondary runways (Phase 2: 2025);
 - (v) Excluding noisy aircraft at night (Phase 2: 2025);
 - (vi) Reduction of aircraft movements at night (maximum 27,000 per year) (Phase 2: 2025);
 - (vii) Reduction in total aircraft movements (maximum between 460,000 and 470,000 per year) (Phase 2: 2025);
 - (viii) More far-reaching measures at night (Phase 3: 2026).
- (3) The KLM Group recognises a number of (and parts of) measures from its own Sector Plan, but the combination of the measures currently proposed, the exclusion of autonomous developments, the way in which the Ministry wants to implement them and the short implementation period, make the current approach of Package II not balanced and not effective for local residents and the aviation sector.
 - (i) Using quieter aircraft at night
- (4) The KLM Group has explained in Response I that by deploying the quietest aircraft at night, nuisance at night is significantly reduced, as a result of which there is also a significant improvement in nuisance throughout the 24-hour period. The KLM Group also explained that such a measure must be reasonably operationally workable. In Consultation Document II, the Ministry makes it appear that the measure can be implemented by November 2024. However, this is not feasible due to the too short time period of less than six months.
- (5) In addition, the introduction of the WideBody parameter makes this measure operationally impossible, because it is not possible to move the aircraft in question due to limited gate capacity. Furthermore, the Ministry has not sufficiently examined whether other airlines can contribute to this measure.

- (6) Furthermore, this measure is only aimed at the KLM Group. The Ministry has not sufficiently examined whether other airlines can contribute to the measure. Consultation Document II merely states that "enquiries with other airlines based at Schiphol" and indicates that other airlines "cannot contribute" to such night optimisation. The KLM Group believes that there is room for improvement here.
- (7) The KLM Group is of the opinion that the Ministry has not sufficiently tried to persuade other airlines to contribute to this measure. The Ministry merely asked BARIN whether other airlines could offer a similar measure, to which there was no response. The Ministry did not write directly to any airline, nor did the Ministry take any further action. In its own words, the Ministry 'hopes' that more parties than KLM will come forward. Because this is a very (cost) effective measure, the KLM Group is confident that the Ministry will do more to increase the impact of this measure by actively involving other airlines. If other airlines are exempted from this measure, it will increase the disproportionate impact on the KLM Group. In addition, a measure under the Noise Regulation may not be discriminatory, in particular on the basis of nationality and identity, and may not be arbitrary.
- (8) The KLM Group remains willing to implement this measure, but under the conditions presented in the Sector Plan and if this is feasible in practice (taking into account, for example, the WideBody parameter).

(ii) Stronger differentiation of airport charges

- (9) In Package II, the Ministry has given a different interpretation to the tariff differentiation than that given by the Sector Plan and Schiphol's pre-consultation on Tariffs 2025-2027.¹⁹ The measure assumes an increase in costs for S1 only, and a reduction in costs for S2-S7. In this way, the Ministry's proposal (Table 3) differs from the measure proposed by Schiphol in the consultation for the determination of the Tariffs 2025-2027 (Table 4):

Noise category		Charge factor		
		day	night-landing	night-takeoff
S1	$\Delta \text{EPNdB} > -11$			
S2	$-11 \geq \Delta \text{EPNdB} > -15$			
S3	$-15 \geq \Delta \text{EPNdB} > -18$			
S4	$-18 \geq \Delta \text{EPNdB} > -21$			
S5	$-21 \geq \Delta \text{EPNdB} > -24$			
S6	$-24 \geq \Delta \text{EPNdB} > -27$			
S7	$-27 \geq \Delta \text{EPNdB}$			

Table 3. Differentiation by Ministry

Noise category		Charge factor		
		day	night-landing	night-takeoff
S1	$\Delta \text{EPNdB} > -11$			
S2	$-11 \geq \Delta \text{EPNdB} > -15$			
S3	$-15 \geq \Delta \text{EPNdB} > -18$			
S4	$-18 \geq \Delta \text{EPNdB} > -21$			
S5	$-21 \geq \Delta \text{EPNdB} > -24$			
S6	$-24 \geq \Delta \text{EPNdB} > -27$			
S7	$-27 \geq \Delta \text{EPNdB}$			

Table 4. Differentiation proposed by Schiphol

- (10) In accordance with the Ministry's approach, only 850 flights will be affected by this measure, while Schiphol's measure affects 200,000 flights operated by non-home-base airlines. This measure is therefore not fully exploited by the Ministry's approach.
- (11) The documents provided also explain the application of this measure in different ways. These contradictions require further clarification.
- (12) The calculated effect of the current proposed rate differentiation is also much smaller than previously calculated by To70 (-0.2% EGH instead of -3.6%) and from what you would expect from an effective rate differentiation. The KLM Group refers to the following various calculations of the effects of the fare differentiation:

Airport charges differentiation	EGH_48Ln	W_58Ln	ESV_40Ln	W_48Ln
NLR June'24	-2,5%	-2,2%	0,1%	0,1%
TO70 March'23	-3,6%	-3,6%	-0,5%	-1,5%
TO70 May'24	-0,2%	-0,1%	-0,6%	-1,0%

Table 5. Measure more effective with broader rate differentiation

¹⁹ The text in the additional consultation describes the proposal for the measure in the initial consultation. The (2nd addendum) report by Decisio and Beelining shows the new interpretation of the measure.

- (13) In view of the above differences in calculations and the fact that a more differentiated distribution leads to a significantly greater effect, the need to maintain the differentiation proposed by Schiphol following from the pre-consultation Tariffs 2025–2027 is obvious.
- (14) The KLM Group has also included the tariff differentiation in Response I as a very effective measure and still supports this measure, but the measure must be applied with the correct differentiation.

(iii) Additional fleet renewal

- (15) The Consultation Documentation II describes that the effect of autonomous developments is not part of the noise objective to be achieved. Autonomous developments would take place annually, regardless of the introduction of measures by the government. In addition to the autonomous developments, the noise objective of -20% must be achieved, according to the Ministry. According to the Ministry, "what has been done so far in terms of noise abatement" is not enough to reduce the total noise exposure.
- (16) This approach is contrary to the requirements of the Balanced Approach-procedure. Rather, it should be assessed and taken into account to what extent autonomous developments such as fleet renewal already meet the noise objective in a reasonable period of time, before a capacity reduction can be considered. The calculations must also be made over the operating year in order to include all fleet renewal effects that will occur in the results.
- (17) The KLM Group has already explained in detail in Response I that the best thing to focus on (among other things) is fleet renewal in order to achieve the noise objectives. The KLM Group has invested heavily in the renewal of its fleet. KLM is currently replacing old aircraft with the latest generations of Boeing 787's and Embraer 195^{E2}'s from its fleet, KLM and Transavia will also replace a large part of the European fleet with the A320neo family from 2024 and Martinair will replace the Boeing 747 freighters with Airbus A350F's from 2026. Both the A320neo and the A350F are about 50% quieter than their predecessor. When this development is compared to the assumptions of autonomous fleet development, it can be concluded that the KLM Group is doing more in terms of fleet development than the assumption. According to a correct approach under the Balanced Approach, this would be taken into account as an adjustment of the baseline. But in the – incorrect – approach of the Ministry, the extra fleet renewal on top of the assumption is seen as an additional 'measure' in Package II.
- (18) The impact of this measure is also significantly limited by the 20% margin of uncertainty related to a possible delay in the delivery of new aircraft. There is no solid justification for this margin. Partly in view of the short period of time that is taken into account, it is possible to estimate when the new aircraft will be delivered on the basis of the latest planning. The risk of delay is therefore limited, and the chosen 20% margin of uncertainty is too conservative.
- (19) The KLM Group has also included the fleet renewal as a very effective measure and still supports this measure, but the measure must be applied with the autonomous fleet development, with the replacement schedule provided and the effects of the coming year of use, but without a margin of uncertainty.

(iv) Reducing the use of secondary runways

- (20) In Consultation Documentation I, the measure of reducing secondary runway use has already been presented for two time blocks, namely between 07:00 and 08:00 LT and between 13:00 and 15:00 LT. The KLM Group has explained in Response I that this measure is not feasible. LVNL has carried out an implementation test²⁰ which has shown that the measure can only be applied under strict preconditions, with the acceptance of adverse implications:

'Assessment of the proposed measure Measure M10 is practicable, provided that the following preconditions are met and any resulting implications are accepted:

Conditions

- a. For safe practicability: adaptation of the volume of traffic to the available handling capacity per hour;*
- b. Adjustment of the capacity declaration to balance the available handling capacity per hour and the volume of traffic;*

Implications

- c. Disruptions and associated delays have a longer impact;*
- d. Increase in the use of a fourth runway in the event of disruptions;*
- e. Extra CO2 emissions as a result of longer flight paths and more holds."*

- (21) As a result, the morning block has been dropped in Package II. However, the afternoon block leads to exactly the same consequences and the same waterbed effect. The consequences mapped out by LVNL apply to both the morning and afternoon blocks.
- (22) The underlying study by To70²¹ is carried out to examine whether the nuisance for the southeast corner could be reduced by not using the Aalsmeer Runway between 07:00 and 08:00 LT and 13:00 and 15:00 LT. The closure of the secondary runways was not part of this study, nor was any analysis regarding the feasibility of this measure conducted. As a result, this study cannot form the basis for this measure.
- (23) It is not clear from Consultation Documentation II what the exact impact of this measure is with regard to the afternoon block and why such effects are considered acceptable. Addendum II to the To70 report merely mentions that the increased use of primary runways results in delays and other operational inefficiencies. It does not follow from this that the consequences of this measure have actually been examined and whether it is possible to shift to primary runways at all. In addition, the runways will not be physically closed, but only traffic will be reduced. This cannot lead to the conclusion that the secondary runway is no longer used between 13:00 and 15:00 LT. Furthermore, the effects of rescheduling flights, operationally and technically, could be postponed to the evening, when the experience of nuisance is greater. Therefore, the effect calculated by To70 will not correspond to the actual implementation of that measure.
- (24) At this point, the NLR analysis indicates that it is unrealistic that flights will still be delayed in landing on the primary runways outside the 13:00-15:00 bracket without adjusting the schedule (but not at night). Around the 13:00-15:00 bracket there are not enough free slots available. The measure is

²⁰ Annex V notification document, LVNL implementation test dated 15 June 2023.

²¹ Quicksan zuidoosthoek

therefore unenforceable. Implementation of this measure will have far-reaching effects on fleet utilisation and connectivity, especially in the KLM network. This measure is therefore considerably less cost-effective than the To70 study shows. The measure also goes against the Ministry's condition that the measure must not result in an irreversible negative impact on the quality of network connectivity.

- (25) Moreover, this measure leads to nuisance displacement, while the Ministry did not want to implement the departure procedure measure NADP2(a) on that ground. The figure below shows the significant effect of the nuisance relocation:

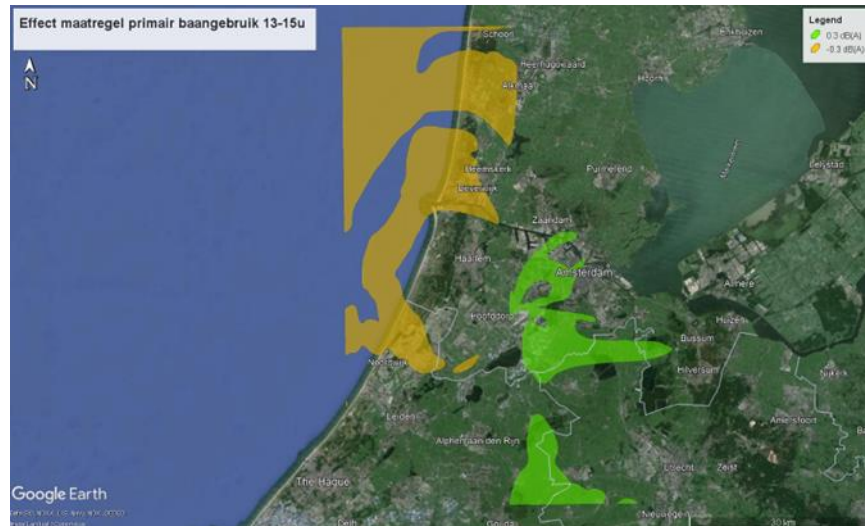


Figure 7. Nuisance displacement due to the reduction of secondary runway use is considerable

- (26) In addition to the operational impact, the financial impact for the KLM Group is so significant that this measure is extremely inappropriate and should be omitted in view of cost-effectiveness and feasibility.

(v) Excluding noisy aircraft at night

- (27) The measure of banning aircraft with a margin equal to or less than -13 EPNdB may be effective, but the implementation period does not make this measure cost-effective. It is not possible for airlines, such as Martinair, to anticipate a measure whereby a (large) part of the fleet can no longer be used within a year and a half. Fleet replacement is not possible within such a timeframe. The KLM Group has shared the details of the timeline of its fleet renewal with the Ministry. The Ministry does not take this into account at all, while the Ministry itself has requested insight into the period of fleet renewal.
- (28) The premature withdrawal of aircraft means that Martinair will not be able to maintain its business model, will lose its historical slots, and will therefore no longer be able to use the newly ordered aircraft. This would lead to enormous financial damage.
- (29) It is noteworthy that with this measure, the Ministry is anticipating a study that has not yet been published. Commissioned by the Ministry, a study is currently being carried out into possible night-time measures. This report is expected at the end of June/beginning of July. Banning noisy aircraft at night is part of this. It is therefore logical to await the outcome of this study.
- (30) The current proposed implementation period is likely to lead to retaliation because a large number of foreign cargo carriers fly noisy aircraft at night. Moreover, it is not clear whether the Ministry has examined whether replacement aircraft are available within the fleet of the airlines affected by this measure. This is important for the assessment of the cost-effectiveness of the measure.

(31) With regard to the cost-effectiveness of this measure, it is assumed that the measure would have no environmental impact. That is not correct. The question is whether the noisy aircraft can still be used effectively elsewhere. If not, they will be removed from the operation prematurely and may not be able to be sold to other companies.

(32) Furthermore, the calculation made by NLR and Schiphol of the impact of banning noisy aircraft at night deviates considerably from the recent calculation made by To70 in the Consultation Documentation II:

Ban noisy aircraft at night	EGH_48Lden	W_58Lden	ESV_40Ln	W_48Ln
RSG-plan	-5,5%	-4,6%	-9,8%	-13,8%
NLR June'24	-1,8%	-1,4%	-7,8%	-7,3%
TO70 May'24	-1,2%	-1,3%	-2,2%	-5,6%

Table 5. Measure more effective than calculations To70

(33) If a gradual approach is chosen with a later introduction of the measure (e.g. in 2026), the measure can be anticipated through fleet renewal and a disproportionate impact on airlines can be avoided. More concretely, for Martinair, it would mean that the measures would coincide with the already planned fleet renewal.

(vi) Reduction of aircraft movements at night (maximum 27,000 per year)

(34) It follows from the Letter to Parliament that, after consultation with the European Commission, the Ministry has opted in the amended proposal for a further reduction in the night to 27,000 movements compared to 28,700 night movements in the earlier consultation and compared to the applicable maximum of 32,000 night movements. According to the Ministry, this is a cost-effective measure and contributes to both the sub-objectives for the night and for the 24-hour period.

(35) First of all, a reduction in the number of movements at night will have a major financial impact on the airlines that have to use night movements for their operations. First of all, this applies to Transavia, which cannot carry out an operation based on three return flights a day from Schiphol to holiday destinations in Southern Europe without the use of the night. A reduction in the night is also very harmful for KLM itself, because it disrupts network operations and efficient hub function and, for example, restricts the early arrival of transfer flights. Considerable damage is also to be expected for Martinair and other cargo carriers that operate relatively much at night.

(36) The KLM Group has explained in Response I that this measure, with respect to its implementation, is subject to operational restrictions. If the number of night slots is reduced, they must be moved to the day and evening. In accordance with the current EU Slot Regulation (No. 95/93), it is not possible to only remove night slots from the slot pool. The KLM Group has indicated that a shift from 5,000 night movements to the day requires additional measures during the day and evening. There is a limited number of slots available during the day (in logical combinations). This makes the measure less cost-effective. In the absence of a relocation study, the cost-effectiveness of the measure cannot be sufficiently assessed.

(37) This measure will also have retaliation effects, aimed at the KLM Group, with a major impact on the KLM Group, but also on the Netherlands. These effects have not been assessed and therefore not included in the cost-effectiveness analysis.

(38) More generally, the interdependence of the proposed measures has not been properly examined and weighed. Different measures are intersecting or even contradictory. As a result, the operational impact may be much greater, and some measures may not be feasible.

(39) As far as this measure concerns an operating restriction, this measure will have to be considered as a last resort and should not be applied more restrictively than necessary to achieve the objectives. An overshoot should be avoided as much as possible.

(vii) Reduction in total aircraft movements (maximum between 460,000 and 470,000 per year)

- (40) Pursuant to Article 5(6) of the Noise Regulation, an operating restriction is only possible if other measures from the Balanced Approach are not sufficient to achieve the specific noise objectives. As mentioned in Response I, a capacity reduction in daily volume and the consequent decrease in slots will lead to significant economic and commercial damage and will therefore have a major impact on the cost-effectiveness of this measure.
- (41) The KLM Group notes that the Ministry has somewhat limited the extent of the capacity reduction, from 452,500 aircraft movements per year to 460,000-470,000 aircraft movements per year. This still represents a very significant and unprecedented reduction in airport capacity.
- (42) The To70 report assumes a cap on at least 470,000 movements in order to achieve an objective of a 15% noise reduction. In Package II it is not made clear on the basis of what calculation and how the capacity ranging between 460,000 and 470,000 will ultimately be determined.
- (43) This measure will also result in retaliation actions addressed to the KLM Group. Again, these effects have not been studied for this measure and therefore not included in the cost-effectiveness analysis. The impact can be avoided by maintaining the current traffic volume.
- (44) Furthermore, it is unclear whether the capacity reduction only affects trade. The following consideration follows from the additional consultation: *"In addition to this capacity restriction for commercial traffic at Schiphol, General Aviation traffic at Schiphol may also be limited (...)"* As the KLM Group has already explained in Response I, General Aviation can be divided into two categories: 1. Emergency services (ES); 2. Private Jets (PJ).
- (45) The first category (ES) mainly consists of helicopter traffic and the coast guard. In view of the function of ES, it is not wise to impose restrictions on this. However, the KLM Group does see that the ES, in particular the ambulance and police helicopters, causes a significant number of complaints and nuisance.²² It is important that the government takes its responsibility to see how the nuisance caused by this traffic can be reduced.
- (46) The second category can be regulated. The PJ would operate within the remaining space of the non-historical volume of commercial traffic, while the possibility to operate at Schiphol will remain present, but the available volume will be smaller than in the current situation. The overflow can be operated from regional fields, with Lelystad Airport being the preferred option. In any case, if the total number of aircraft movements is reduced, it is logical that this category should be included in the measure.

(viii) Further measures at night

- (47) Consultation Document II states that for further implementation of this phase, after completion of the impact analysis and decision-making, a separate notification process will be carried out with the European Commission, including a new stakeholder consultation. Based on the calculations of NLR's analysis and the KLM Group's proposal to effectively achieve all objectives, the KLM Group does not see the need to comment on these measures, nor the need for any follow-up for this phase.

²² Annual report BAS 2023, https://bezoekbas.nl/wp-content/uploads/2023/04/BAS_Jaarrapportage_2023_DEF12042024.pdf



Executive Summary

- **Context:** in 2023, the Ministry of Infrastructure and Water Management decided on a Balanced Approach procedure to reduce the effects of aircraft noise on the Schiphol environment. The Balanced Approach methodology requires the search for a package of measures that is as cost-efficient as possible. In May 2024, a second addendum was published in which the Ministry describes measures to limit noise nuisance around Schiphol. KLM has asked NLR to carry out various analyses in response to the second addendum.
- **Approach:** in this context, the following activities have been carried out by NLR:
 - Calculation of the noise reduction as a result of the package of measures proposed by the Ministry
 - Calculation of the noise reduction as a result of two alternative packages of measures for 2025 and 2026

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Executive Summary

Results:

- The analysis of the package of measures proposed by the Ministry shows that the NLR calculation results in higher reductions than the reductions in the second addendum for all parameters, in particular the parameters for the night
- With the proposed alternative package of measures based on the sector plan cleaner, quieter, more economical, all targets of 15% will be achieved by 2025, with the package for 2026 reductions of more than 20% will be achieved for all objectives

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Contents

- Context
- Approach
- Analysis of the measures proposed by the Ministry of Infrastructure and Water Management
- Analysis of alternative packages of measures for 2025 and 2026



Context



Context

- In 2023, the Ministry of Infrastructure and Water Management decided on a Balanced Approach procedure to reduce the effects of aircraft noise on the Schiphol area
- To this end, I&W commissioned the report 'Balanced approach study Schiphol Airport' in 2023 (Ref. 1)
- A second addendum to this study was released in May 2024 (Ref. 2)
- KLM has asked NLR to carry out various analyses in the context of this second addendum
- Alternative packages of measures (for 2025 and 2026) that meet the objectives of the Balanced Approach (a cost-efficient package of measures with feasible measures to achieve the nuisance reduction targets)
- In a number of cases, different choices have been made in the modelling of measures compared to the second addendum, with the aim of providing the most realistic indication possible of the impact of the various measures
- The effect of the package of measures has been determined with noise calculations
- Noise calculations were carried out using the European calculation model Doc.29, in accordance with the approach previously followed by NLR in analyses in the context of the Balanced Approach in 2023 (see Appendix 3 of Ref. 3)

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Analysis method for noise mitigation measures

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Analysis method for noise abatement measures (1)

In order to establish alternative packages of measures, the following steps were taken:

1. Analysis of the measures proposed by the Ministry in the second addendum
2. The effects of these measures are determined with the same methodology used for the Balanced Approach analyses in 2023
3. Compare results with results in second addendum and explain differences
4. Subsequently, a calculation of an alternative package of measures for 2025, based on the sector plan cleaner quieter, more economical (in Dutch: "Schoner, stiller, zuiniger") as described in the KLM Response from 2023 (Ref. 3)
5. Only measures that are feasible within the period set by the Ministry (1 November 2025) will be used
6. Perform calculations for an alternative package of measures for 2026

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Analysis method for noise abatement measures (2)

The effect of various noise abatement measures has been analysed by NLR:

- Method in general in accordance with the approach as followed by NLR in the analyses carried out in 2023 for the Balanced Approach
- In accordance with the approach in the second addendum, a reference situation was used based on the 2023 usage forecast for Schiphol
- The second addendum assumes that the fleet will become quieter every year, this is the so-called autonomous fleet development
- The reductions per measure have been calculated by NLR for a scenario with 32,000 aircraft movements during the night and 500,000 aircraft movements in total
- In 2023, however, NLR reported reductions compared to a reference of 481,200 aircraft movements, of which 28,500 were night movements
- Counts of homes and persons were carried out on the basis of the number of houses and number of people for the situation in 2021 (in accordance with the approach used in the second addendum)
- The use of 2021 data deviates from the data used to establish the criteria for equal protection, which were determined on the basis of data relating to the year 2005
- Due to the above, the reductions found may differ from the results calculated in 2023

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Analysis method for noise abatement measures (3)

Differences with the approach in "Balanced approach study Schiphol Airport" and the second addendum:

- Calculation with public version of Doc.29 (<https://vliegtuiggeluid.nlr.nl>) instead of Schiphol noise modelling tool (SCM), both models are based on Doc.29 but do not use the same database with noise data
 - Both databases contain information about the noise production of certain traffic clusters (i.e. combinations of flight procedure, route, day period and aircraft type), but it happens that one database contains data for a cluster of traffic for which no data is available in the other database and vice versa
 - For both databases, different flight paths were used to determine the amount of noise per combination of flight procedure, route, day period and aircraft type
- Calculation of the total package of measures is done with detailed information on KLM's fleet deployment in order to model a more realistic fleet composition for KLM
- NLR has used additional information regarding the fleet development of KLM, Transavia and Delta
- Calculations were carried out based on the forecast of operating year 2023 for average weather conditions, no maximum noise exposure has been determined for 40 meteorological years
- As a result, a realistic scenario is calculated as could occur in reality instead of a maximum scenario that cannot occur in practice during one year

To test the effect of differences in modelling, the results of NLR calculations were compared with results from the report "Balanced approach study Schiphol Airport" and with the second addendum, which shows that results have the same order of magnitude

This comparison indicates that using a different database and not using 40 meteorological years may lead to different results, but that the results show the same trends and are of the same order of magnitude

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Analysis method for noise abatement measures (4)

- The following noise measures have been calculated
 - L_{den} (Day-Evening-Night Level):
 - This is the noise exposure over the entire day
 - Traffic in the evening and at night weighs more heavily because it causes more annoyance
 - The L_{den} is calculated for traffic during a whole year
 - L_{night} (Night Level):
 - This is the noise exposure for traffic at night (from 23:00 to 07:00)
 - The L_{night} is calculated for traffic at night during a whole year
- See, for example, www.vliegtuiggeluid.nl/overzicht-geluidindicatoren for more information on noise metrics
- Based on these calculations, the following parameters were determined:
 - The number of highly annoyed people (HAP) exposed to a noise exposure of at least 48 dBA L_{den}
 - The number of houses exposed to at least 58 dBA L_{den}
 - The number of severely sleep-disturbed people (SSD) exposed to at least 40 dBA L_{night}
 - The number of houses exposed to at least 48 dBA L_{night}
- For these parameters, the Ministry of Infrastructure and Water Management has defined reduction targets in the second addendum of -15% to -17%, -15% to -17%, -15% and -15% respectively

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Analysis method for noise abatement measures (5)

- As a first step, the noise abatement measures as proposed by the Ministry in the second addendum were analysed (both separately and jointly):
 - Fleet renewal KLM, Transavia and Delta Air Lines
 - Discourage noisier aircraft by means of airport charges
 - Deployment of quieter aircraft at night
 - Ban aircraft with cumulative margin <13 EPNdB at night
 - No more use of secondary runways between 1300 and 1500h
 - Reduction of the number of aircraft movements at night to 27,000 movements
- Subsequently, an alternative package of measures for 2025 was calculated based on the sector plan cleaner quieter, more economical (Ref. 3) and an alternative package of measures for 2026 was calculated
- The effects of the measures are first discussed individually, then the effect of combinations of measures is discussed
- Reductions or increases of less than 1% are shown in a lighter colour because these are small effects
- The reductions of individual measures have been determined using the flight schedule of the 2023 use forecast, so that the results are well comparable with the results in the second addendum
- Combinations of measures have been calculated with a KLM flight schedule, in which the KLM fleet is modelled as realistically as possible
- In order to map the combined effect of measures, these effects have been determined using a calculation in which the effect of the measures is determined jointly, so that the effects of individual measures are not counted twice

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Analysis of measures proposed by the Ministry of Infrastructure and Water Management

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Fleet renewal KLM, Transavia and Delta (1)

General description

- For KLM, Transavia and Delta Air Lines, fleet renewal is known in detail
- New aircraft produce less noise than the current generation
- Realistic replacement of existing fleet with new aircraft based on the latest information from manufacturers on planned deliveries
- For Delta Air Lines the same fleet renewal will be assumed as in the 2023 calculations
- For aircraft from KLM, Transavia and Delta that are not replaced, autonomous fleet development is not included
- In this way, the fleet silence caused by new aircraft is not counted twice

Results

- Results show the decrease of parameters compared to the baseline situation with autonomous fleet development
- Contrary to the calculation in 2023 (and in line with the second addendum), for KLM and Transavia, fleet renewal until 1 November 2025 has now been included, resulting in larger reductions compared to the reference situation than in the previous analysis

parameter	reduction
HAP 48 dBA L_{den}	-4,9%
Houses 58 dBA L_{den}	-4,8%
SSD 40 dBA L_{night}	-6,6%
Houses 48 dBA L_{night}	-7,6%

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Fleet renewal KLM, Transavia and Delta (2)

Some other choices have been made in the modelling compared to the modelling in the second addendum:

- The second addendum assumes that 20% of the planned new aircraft will not be delivered before 1 November 2025, this is not realistic because the first new aircraft have already been delivered and because the planned delivery date of other aircraft is very well before 1 November 2025, which means that the chance that those aircraft will not be delivered before 1 November 2025 does not exist or is very small
- That is why it has been decided to apply the 20% margin of uncertainty only to aircraft whose planned delivery date is less than 3 months before 1 November 2025
- In the second addendum, it is assumed that 40% of the new aircraft are additional to the autonomous fleet development
- In the NLR analyses, an aircraft is either replaced or no autonomous reduction of the noise production is applied, as aircraft that are not replaced will not become quieter
- With this approach, the effect of fleet renewal is modelled more accurately

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Discouragement of noisier aircraft through airport charges

General description

- The second addendum states that the Ministry has chosen to apply this measure only to traffic from categories S1
- For the categories, see www.schiphol.nl/nl/route-development/pagina/ams-airport-charges-levies-slots-and-conditions/
- As a result, this measure only affects 850 aircraft movements and results in only a very limited noise reduction
- Therefore, the measure has not been calculated in this form and the impact of the measure in this form is considered negligible, which is in line with the results of the calculations in the second addendum

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Deployment of quieter aircraft at night

General description

- Optimise KLM's fleet deployment so that quieter aircraft fly at night
- The modelling of this measure has remained the same as the calculation from 2023
- The analysis was done on the basis of a flight schedule provided by KLM, not on the basis of the 2023 usage forecast for Schiphol
- Optimisation by:
 - Replacement of quieter aircraft with a comparable type if alternative aircraft are available and if this is operationally possible
 - Move some of the long-haul flights from the night to the morning and replace them with shorter-haul flights (with smaller and quieter aircraft) that are moved from the morning to the night
- If other airlines also become more quiet at night, the effect of this measure can be increased

parameter	reduction
HAP 48 dBA L _{den}	-1,3%
Houses 58 dBA L _{den}	-1,6%
SSD 40 dBA L _{night}	-7,2%
Houses 48 dBA L _{night}	-9,4%

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Ban aircraft with cumulative margin < 13 EPNdB at night (1)

General description

- According to this measure, aircraft with a cumulative margin of less than 13 EPNdB are no longer allowed to fly at night
- This is a margin of the certification levels of an aircraft in relation to an applicable limit
- The value of this margin may vary for each individual aircraft (i.e. the value is not the same for all aircraft of the same type, e.g. due to variations in the engine type), both the NLR calculations and the analyses in the second addendum did not include an analysis at individual aircraft level, which would lead to the most accurate result
- The purpose of the NLR analysis is to give an indication of the effect of this measure, but it is not exact because it has not been determined for each individual aircraft whether or not it complies
- The measure is modelled as follows:
 - All A300-600 aircraft will be replaced by an A330-200
 - All Martinair movements will be moved to the day because KLM has indicated that Martinair will no longer be able to operate during the night after the introduction of this measure
 - The Martinair movements will be replaced by European KLM aircraft movements
 - Movements with the B747-400 at night by other companies will be replaced by B747-8 or B777-200 (depending on which type the companies in question have in the fleet)

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Ban aircraft with cumulative margin < 13 EPNdB at night (2)

- Other aircraft (such as A321) have not been replaced, it is assumed that airlines may also have aircraft of the same type that do meet the set standard, so that no other aircraft type is used
- The NLR modelling differs from the approach in the second addendum:
 - In the second addendum, more aircraft are being replaced by quieter types
 - No B747-400 aircraft will be replaced the second addendum
 - In the second addendum, Martinair's operation is not completely taken out of the night

parameter	reduction
HAP 48 dBA L_{den}	-1,8%
Houses 58 dBA L_{den}	-1,4%
SSD 40 dBA L_{night}	-7,8%
Houses 48 dBA L_{night}	-7,3%

Results

- The NLR modelling leads to a higher reduction of the number of highly annoyed people compared to the second addendum
- The NLR modelling leads to higher reductions of the numbers of severely sleep-disturbed people and houses 48 dBA L_{night} compared to the second addendum

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Ban aircraft with cumulative margin < 13 EPNdB at night (3)

This figure shows the difference in L_{den} noise exposure due to this measure

In the green area, the noise exposure decreases as a result of the measure



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No more use of secondary runways 13-15h (1)

General description

- Between 1300 and 1500h, secondary runways may no longer be used
- To compare the effect with reductions in the second addendum, the following analysis was done:
 - Scale down traffic on secondary runways (Aalsmeerbaan, Zwanenburgbaan, Buitenveldertbaan and Oostbaan) so that the total numbers are reduced by the number of movements between 1300 and 1500h
 - Increase traffic on the primary runways (Kaagbaan and Polderbaan) by the same numbers that have been reduced on secondary runways
- This is an indicative calculation, because this analysis will lead, for example, to a different fleet mix and a different distribution of traffic over flight routes

parameter	reduction
HAP 48 dBA L_{den}	-2,0%
Houses 58 dBA L_{den}	-4,9%
SSD 40 dBA L_{night}	+0,1%
Houses 48 dBA L_{night}	0,0%

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No more use of secondary runways 13-15h (2)

Results

- The very small increase in SSD is due to rounding differences
- The reduction of people who are highly annoyed is comparable to the result of the second addendum, the reduction in the number of dwellings exposed to at least 58 dBA L_{den} is larger
- These results overestimate the potential of this measure because:
 - Reducing the number of available slots between 1300 hours and 1500 hours leads to a lower number of slots, thus a lower number of movements to which this measure can be applied
 - Reducing slots between 1300 and 1500h can lead to more slots being issued in the evening period, which leads to a higher noise exposure
 - This measure will lead to delays (especially for the traffic distribution in the 2023 usage forecast of Schiphol), as a result of which part of the traffic will still be handled after 1500 hours, with the result that this traffic will still be partly handled via secondary lanes
 - If the measure leads to delays for aircraft returning to Schiphol later in the day, this may lead to additional delays, where these additional delays may also occur in the evening and night period, leading to a higher noise exposure

parameter	reduction
HAP 48 dBA L_{den}	-2,0%
Houses 58 dBA L_{den}	-4,9%
SSD 40 dBA L_{night}	+0,1%
Houses 48 dBA L_{night}	0,0%

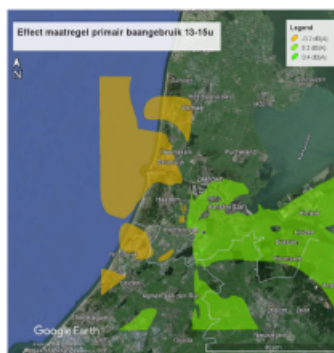
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No more use of secondary courts 13-15h (3)

This figure shows the difference in L_{den} noise exposure due to this measure

In the green area, the noise exposure decreases as a result of the measure, in the orange area there is an increase



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Reduction of aircraft movements at night

General description

- Reduce the number of aircraft movements at night to 27,000 with the same total number of movements
- A lower number of aircraft movements at night leads to a lower L_{den} noise exposure because movements at night are more heavily counted in the calculation of the L_{den} noise exposure
- Reducing aircraft movements at night leads to more movements during the day and in the evening, it is not known if it was investigated whether sufficient capacity is available in the day and evening period to accommodate these additional movements

parameter	reduction
HAP 48 dBA L_{den}	-4,6%
Houses 58 dBA L_{den}	-4,3%
SSD 40 dBA L_{night}	-20,8%
Houses 48 dBA L_{night}	-19,9%

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Effect combination of measures (1)

In line with the second addendum, a calculation has been made for the following measures:

- Fleet renewal KLM, Transavia and Delta
- Deployment of quieter aircraft at night
- Ban aircraft with cumulative margin <13 EPNdB
- No more use of secondary runway 13-15h
- Reduction of the number of night movements to 27,000

The discouragement of noisier aircraft through differentiation of airport charges is not taken into account because this measure has a negligible effect if implemented in accordance with the approach in the second addendum

The calculations were done based on a scenario with a total number of movements of 500,000

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Effect of combination of measures (2)

The combined effect of the combination package described in the previous slide is as follows

On the basis of these results, the following is concluded:

- With 500,000 aircraft movements, the target of 15% to 17% for the number of highly annoyed people will not be achieved
- In addition, this result is seen as an overestimation because the closure of secondary runways between 1300 and 1500h will in practice have a smaller effect on the numbers of HAP and houses 58 dBA L_{den}
- For this reason, alternative packages of measures will be elaborated below
- The high reductions at night are caused by the fact that some densely populated areas are no longer inside the 40 dBA or 48 dBA L_{night} contours

parameter	reduction
HAP 48 dBA L_{den}	-14,4%
Houses 58 dBA L_{den}	-17,4%
SSD 40 dBA L_{night}	-42,1%
Houses 48 dBA L_{night}	-57,9%

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Effect combination of measures (3)

The results show higher reductions than the reductions in the second addendum, which can be explained by the following:

- With the ban on aircraft with a cumulative margin of less than 13 EPNdB, Martinair's operation will disappear completely from the night and these aircraft movements will be replaced by movements with considerably quieter aircraft
- In addition, aircraft of type B747-400 were replaced at night by aircraft with a larger cumulative margin
- Because both of the above were not included in the second addendum, a higher reduction was calculated for this measure in the NLR analysis
- When modelling the fleet renewal of KLM and Transavia, a 20% margin of uncertainty is only applied if an aircraft is expected less than 3 months before 1 November 2025
- This is expected to lead to higher reductions (although this cannot be determined with certainty because the effect of fleet renewal is only estimated and not calculated separately in the second addendum)

The use of an adjusted flight schedule will lead to slightly lower reductions, but that effect is considerably smaller than the effect of the above aspects

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Effect combination of measures (4)

Effect of autonomous fleet development:

- When the baseline was determined (in line with the approach in the second addendum), the same autonomous fleet development was applied to the baseline and the scenarios with measures
- However, the reference scenario has been determined for the situation as of 1 November 2024, while the measures should take effect on 1 November 2025
- This means that at the time when the measures take effect, there will be one year of additional autonomous fleet development compared to the reference scenario
- In order to include the effect of this autonomous fleet development in the calculation, the reductions have been calculated for the final package of measures compared to a baseline without autonomous fleet development, so that the effect of the package of measures in combination with an extra year of fleet development is determined

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Effect of a combination of measures (5)

The tables below show the difference between calculations that include and exclude full autonomous fleet development

Original results

parameter	reduction
HAP 48 dBA L_{den}	-14,4%
Houses 58 dBA L_{den}	-17,4%
SSD 40 dBA L_{night}	-42,1%
Houses 48 dBA L_{night}	-57,9%

Results including complete autonomous fleet development

parameter	reduction
HAP 48 dBA L_{den}	-18,5%
Houses 58 dBA L_{den}	-20,8%
SSD 40 dBA L_{night}	-44,3%
Houses 48 dBA L_{night}	-60,3%

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Analysis of alternative packages of measures

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Alternative packages of measures (1)

In order to investigate how the goals can still be achieved, two alternative packages of measures have been calculated:

- A package for 2025, based on the sector plan cleaner quieter, more economical (Ref. 3)
- A package for 2026, based on the 2025 package, supplemented by a ban of aircraft with cumulative margin <13 EPNdB at night

The package of measures for 2025 includes the following elements

- Fleet renewal KLM, Transavia and Delta
- Deployment of quieter aircraft at night
- Discouragement of aircraft in categories S1 and S2 by means of higher airport charges
- Use NADP2 Launch Procedures
- Regulating Private Jet Flights
- A total number of movements of 500,000 of which 32,000 are night movements

Not using secondary runways between 1300 and 1500h is not included because this measure has a limited effect on the calculated reduction parameters and because this measure has an effect on the reliability of the operation

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Alternative packages of measures (2)

The 2026 package contains the same measures as the 2025 package, with the following adjustments:

- The fleet renewal for KLM, Transavia and Delta has been calculated on the basis of KLM and Transavia aircraft scheduled for delivery until 1 November 2026 (the calculation for 2025 only includes aircraft with a planned delivery before 1 November 2025)
- The ban for aircraft with a cumulative margin <13 EPNdB at night has been added to the package of measures, which does not include the effect of fleet renewal at Martinair because Martinair's new aircraft have not yet been (fully) delivered on 1 November 2026

The following slides contain an explanation of the measures that have not yet been discussed in the previous slides, followed by a discussion of the calculated reductions for 2025 and 2026

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Discourage noisier aircraft through differentiation of airport charges (1)

General description

- Use airport charges to steer towards the use of quieter aircraft, which will reduce noise production of some of the aircraft movements
- The modelling of this measure has remained the same as the calculation from 2023
- The aim is to reduce noise of traffic from categories S1 and S2 (i.e. not just S1, as in the second addendum) of the airport charges by replacing traffic with aircraft from categories S6 and S7 for categories see www.schiphol.nl/nl/route-development/pagina/ams-airport-charges-levies-slots-and-conditions/
- This measure only has an effect on non-home carriers, with the effect calculated for the noise reduction of 33% of this traffic

Results

- The calculated effects provide insight into the additional noise reduction on top of the annual noise reduction as assumed in the reference situation

parameter	reduction
HAP 48 dBA L _{den}	-2,5%
Houses 58 dBA L _{den}	-2,2%
SSD 40 dBA L _{night}	+0,1%
Houses 48 dBA L _{night}	+0,1%

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Discourage noisier aircraft through differentiation of airport charges (2)

- The results show a very small increase in the number of houses and severe sleep disturbance at night, partly due to changes in the ratio between traffic for which noise data are available and those for which noise data are not available, and due to slightly changing flight route usage as a result of the modelling
- The reductions are clearly higher than the reductions calculated for this measure in the second addendum
- This is due to the fact that not only an effect on aircraft from category S1, but also for category S2 has been included
- Potentially, this measure can achieve greater reductions through greater airport charge differentiation (larger differences between the charges for the noisiest and quietest categories)

parameter	reduction
HAP 48 dBA L _{den}	-2,5%
Houses 58 dBA L _{den}	-2,2%
SSD 40 dBA L _{night}	+0,1%
Houses 48 dBA L _{night}	+0,1%

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Use NADP2 departure procedures (1)

General description

- Perform take-offs with NADP2-800ft procedure
- The effect of this measure has been calculated using the DAISY calculation tool
- Where no data for NADP2-800ft is available, a different NADP2 starting procedure has been selected if possible
- It was not possible to calculate a NADP2 start for all starts, for almost 9% of the departures, a NADP1 start procedure was calculated

- As a result, larger reductions can be expected if all departures use a NADP2-800ft procedure

Results

- These are results for a calculation as carried out in 2023, based on housing and people data for the year 2005

parameter	reduction
HAP 48 dBA L _{den}	-4,3%
Houses 58 dBA L _{den}	-0,9%
SSD 40 dBA L _{night}	-5,2%
Houses 48 dBA L _{night}	-3,3%

Source: KLM, based on DAISY calculation

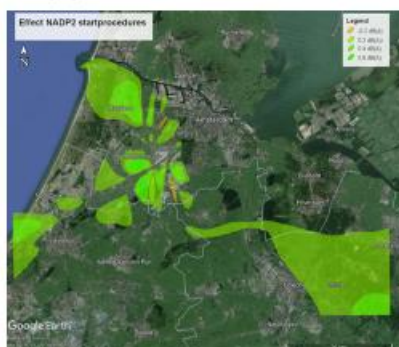
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Use NADP2 departure procedures (2)

This figure shows the difference in L_{den} noise exposure due to this measure

In the green area, the noise exposure decreases as a result of the measure, in the orange area there is an increase



Source: KLM, based on DAISY calculation

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Regulating private jet flights

General description

- Only flights with private planes within the possible surplus of the number of movements with commercial traffic to and from Schiphol
- In line with the report 'Balanced approach study Schiphol Airport', the annoyance caused by this traffic has been included in the reference scenario by scaling up the number of aircraft movements by a factor of 2.5%
- This factor is no longer taken into account to determine the effect of this measure
- Because the factor is applied to all movements, this measure has an effect on both the L_{den} and the L_{night} noise exposure
- The use of the factor of 2.5% is a common method to model noise from this traffic and is also in line with the method used for the reference situation to model the effect of this traffic, but it is noted that the reductions found in terms of SSD and houses 48 dBA L_{night} are not representative of the actual effect of this measure because in practice this traffic does not fly during the night

parameter	reduction
HAP 48 dBA L_{den}	-3,1%
Houses 58 dBA L_{den}	-3,2%
SSD 40 dBA L_{night}	-3,1%
Houses 48 dBA L_{night}	-3,9%

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Effect of alternative packages of measures

General information regarding the calculated effects of alternative packages of measures:

- The effects have been calculated including the effect of NADP2 departure procedures
- The effect of NADP2 was not calculated in combination with the other measures, but added to the results of the combined calculation without NADP2, this approach gives an indication of the combined effect, but is less accurate than a combined calculation
- The results for the year 2025 include one additional year of autonomous fleet development compared to the reference scenario, because the measures will take effect on 1 November 2025, while the baseline applies to 1 November 2024
- The results for the year 2026 include two additional years of autonomous fleet development compared to the reference scenario, because the measures will take effect on 1 November 2026, while the baseline applies to 1 November 2024

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Effect of alternative packages of measures

Joint impact of combination packages for 2025 and 2026

Alternative Measures Package 2025:

parameter	reduction
HAP 48 dBA L_{den}	-20,4%
Houses 58 dBA L_{den}	-16,0%
SSD 40 dBA L_{night}	-25,5%
Houses 48 dBA L_{night}	-25,6%

Alternative Measures Package 2026:

parameter	reduction
HAP 48 dBA L_{den}	-28,2%
Houses 58 dBA L_{den}	-22,0%
SSD 40 dBA L_{night}	-40,9%
Houses 48 dBA L_{night}	-42,1%

Results:

- For 2025, the targets for both day and night (reduction > 15%) will be achieved
- By 2026, reductions of more than 20% will be achieved for all parameters

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References

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Credentials

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