



Almaty International Airport

Environmental and Social Impact Assessment
Report - Chapter 8

September 2025

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Almaty International Airport

Environmental and Social Impact Assessment Report - Chapter 8

September 2025

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Acronyms and abbreviations

Abbreviation / Acronym	Definition
AAK	Aviation Administration of Kazakhstan
ALA	Almaty International Airport
ASZ	Aviation Safety Zone
BAKAD	Big Almaty Ring Road
CESMP	Construction Environmental and Social Management Plan
CLO	Community Liaison Officer
CSR	Corporate Social Responsibility
dB(A)	Decibels adjusted for human hearing sensitivity
E&S	Environmental and Social
EBPD	European Bank for Reconstruction and Development
EHS	Environmental, Health, and Safety
EPC	Engineering, Procurement and Construction (EPC) Contractor
EPRP	Emergency and Preparedness Response Plan
ESMP	Environmental and Social Management Plan
FAQ	Frequently asked questions
GDP	Gross Domestic Product
GPS	Global Position System
IAC	Interstate Aviation Committee
ICAO	International Civil Aviation Organisation
IFC	International Finance Corporation
KIIs	Key Informants Interviews
L&FS	Life and Fire Safety
NIP	Noise Insulation Programme
NMP	Noise Management Plan
PSZ	Public Safety Zone
RANCH	Road Traffic and Aircraft Noise Exposure and Children's Cognitive Health
RoK	Republic of Kazakhstan
SEP	Stakeholder Engagement Plan
SIA	Social Impact Assessment
SME	Small and Medium-sized Enterprise
SPZ	Sanitary Protection Zone
UNDP	United Nations Development Programme
WBG	World Bank Group

8 Community

8.1 Introduction

- 8.1.1 This chapter of the Environmental and Social Impact Assessment (ESIA) presents the baseline description of the community context and reports the findings of an assessment of the potential impacts on, and risks to, community as a result of the Project. The assessment has considered who will be impacted and how for the construction and operational phases. Management measures (mitigation, enhancement and monitoring) have been identified for the impacts and risks. This chapter focuses on how local communities may be affected as a result of the Project in terms of the way they live, travel and interact with one another on a day-to-day basis.

8.2 Methodology

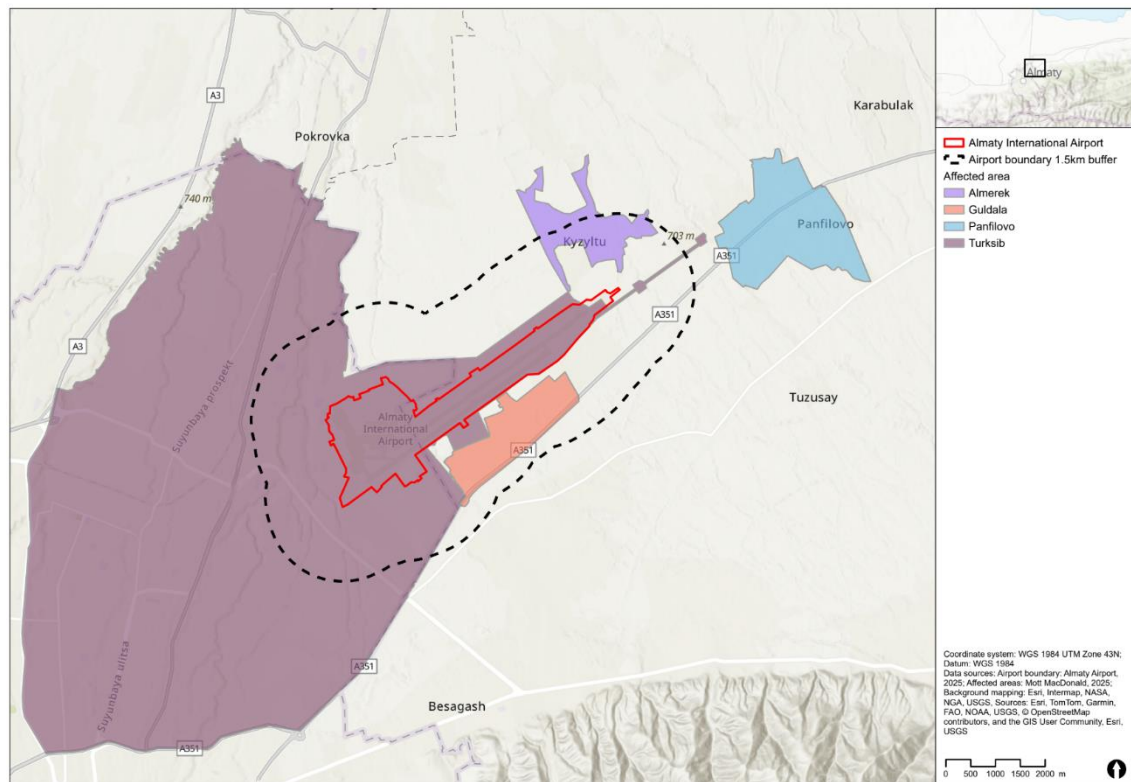
Applicable guidelines and standards

- 8.2.1 The applicable standards that influence the Social Impact Assessment (SIA) include the legal framework of Kazakhstan and the International Finance Corporation (IFC) and the European Bank for Reconstruction and Development (EBRD) international performance standards and requirements related to:
- Assessment and management of environmental and social risks and impacts
 - Community health, safety, and security
 - Land acquisition, restrictions on land use and involuntary
 - Stakeholder engagement
 - Vulnerability risk assessment
- 8.2.2 Good international industry practice (GIIP) and requirements by IFC and EBRD related to labour management and working conditions are covered in the **ESIA Chapter 15: Workers**. Groups who meet the prospective Lenders' criteria for Indigenous Peoples have not been identified in the Project area. **ESIA Chapter 3: Policy, legal and institutional framework** provides more details on these standards and requirements.

Area of Influence for the SIA

- 8.2.3 For this assessment, two areas of influence were defined as part of our methodology based on the likelihood of Project impacts materialising:
1. **Direct area of influence:** Figure 8.1 shows this area using a 1.5km buffer from the airport boundary and the affected communities identified in the noise modelling map. Within this area, certain negative impacts, such as noise disturbance, are already being experienced and are expected to intensify as a result of the Project's development.
 2. **Indirect area of influence:** This encompasses Almaty City and Almaty Region, which are also anticipated to experience Project-related impacts, particularly of an economic nature.

Figure 8.1: Almaty Airport 1.5km area around the Almaty Airport by neighbourhood



Source: Mott MacDonald, July 2025

8.2.4 In relation to the direct area of influence, two zones, Zone A and Zone B, were identified within this area based on the noise modelling data provided by Frekans in June 2025. Although the noise will disperse to different intensities within these specific locations, this helps depict the areas most likely to be affected by noise, for the purposes of defining the study areas. The decibels (dB) audible to humans (A) framework that Frekans applied was the following:

- Daytime
 - 55 dB(A) Leq outdoors – based on the National Standard, IFC/ World Bank Group (WBG) guidelines and World Health Organisation (WHO) standards; represents the average noise level during daytime
 - 70 dB(A) LA (max) outdoors – from the National Standard; applies to single noise events caused by aircraft
- Night-time
 - 45 dB(A) Leq outdoors – based on the National Standard, IFC/WBG guidelines and WHO standards; represents the average noise level during night-time
 - 60 dB(A) LA (max) outdoors – from the National Standard; applies to single noise events caused by aircraft

8.2.5 In light of the above, 60 dB LA (max) night-time was the reference taken to set the different zones to collect the primary data. Zone A includes those areas already affected by noise levels over 60 dB LA (max) night-time. Zone B areas are those already affected by noise levels that are less than 60 dB LA (max) night-time. These zones were selected for the collection of primary data (refer to Section 'Primary data collection' for further details) and correspond to the neighbourhoods of Turksib, Guldala, Almerek and Panfilovo.

- 8.2.6 In Figure 8.1, Panfilovo is visibly outside the 1.5km area, but it is still relevant due to its location with regards to the runway, since airplanes fly over the neighbourhood when landing and taking off, thus being exposed to noise over 60 dB LA(max) night-time. The neighbourhood of Nurshashkan, west of Guldala within the direct affected area, is adjacent to the main road to the airport and is discussed further in the **ESIA Chapter 12: Traffic and transport**.
- 8.2.7 Given the small size of the units selected within the direct area of influence, Talgar District and Almaty City will be used as reference areas when specific data is unavailable. Talgar District encompasses the settlements of Guldala, Almerrek, and Panfilovo, while Turksib is situated within Almaty City.

Methodological approach

- 8.2.8 **ESIA Chapter 4: ESIA scope and methodology** presents the assessment methodology. For the SIA, the significance of social effects is determined through consideration of the level of vulnerability (sensitivity) of Project affected individuals, households, communities, and other social groups, and the magnitude of the impact experienced by them. For the purpose of this study, people who are vulnerable are considered to be those who receive government support and those with illnesses, poor house conditions, households with large number of dependence such as elderly people and children, and those living in poverty. The sensitivity criteria used in this SIA is presented in Table 8.1.

Table 8.1: SIA sensitivity criteria

Categorisation	Definition
High	People who are already vulnerable with very little capacity and means to absorb proposed changes or with very little access to alternative similar resources, sites, or services.
Medium	People who are already vulnerable with limited capacity and means to absorb proposed changes or with some access to alternative similar resources, sites, or services.
Low	People who are not vulnerable with some capacity and means to absorb proposed changes and with some access to alternative similar resources, sites, or services.
Negligible	People who are not vulnerable with plentiful capacity and means to absorb proposed changes and with good access to alternative similar resources, sites, or services.

Source: Mott MacDonald

- 8.2.9 The magnitude of the social impacts is determined by consideration of the extent to which people gain or lose access to, or control over, socio-economic resources, resulting in a beneficial or adverse effect on their individual and collective wellbeing. Wellbeing is considered as the financial, physical, and emotional conditions and quality of life of people and communities. Refer to Table 8.2 for the impact magnitude criteria used for the SIA.

Table 8.2: SIA magnitude criteria

Categorisation	Definition
Major	An impact that would have permanent implications for the long term affecting the wellbeing of many people across a broad cross-section of the population and affecting various elements of the local communities' and/or workers' resilience.
Moderate	An impact that continues for the medium/non-permanent term throughout the Project life and affects the wellbeing of specific groups of people and affecting specific elements of the local communities' and/or workers' resilience.
Minor	An impact that occurs periodically or over the short term throughout the life of the Project affecting the wellbeing of a small number of people and with little effect on the local communities' and/or workers' resilience.
Negligible	A potential impact that is very short in duration so that the socio-economic baseline remains largely consistent and there is no detectable effect on the wellbeing of people or the local communities' and/or workers' resilience.

Source: Mott MacDonald

- 8.2.10 As discussed in **ESIA Chapter 4: ESIA scope and methodology**, people's sensitivity is integrated with impact magnitude to determine the attribution of significance to effects.
- 8.2.11 For the purpose of this ESIA, an impact is an economic, social, environmental, and other consequence that can be reasonably foreseen and measured in advance if a proposed action, such as project construction, is implemented. In contrast, a risk is an uncertain event of unknown probability. For instance, in this ESIA, health and safety events are risks not impacts. If an injury or a spill was predicted as an impact, then many projects would not receive approval or proceed, however risks need to be mitigated from occurrence. Following the identification of potential impacts, associated risks are evaluated taking into account the baseline characterisations. Significance is not attributed to the risks, but management measures are identified. The risks are associated with both the construction and operational phases of the Project.

Data collection

- 8.2.12 The SIA uses both primary and secondary data sources to provide a comprehensive description of the social context and baseline characterisation. The next sections describe the data sources.

Primary data collection

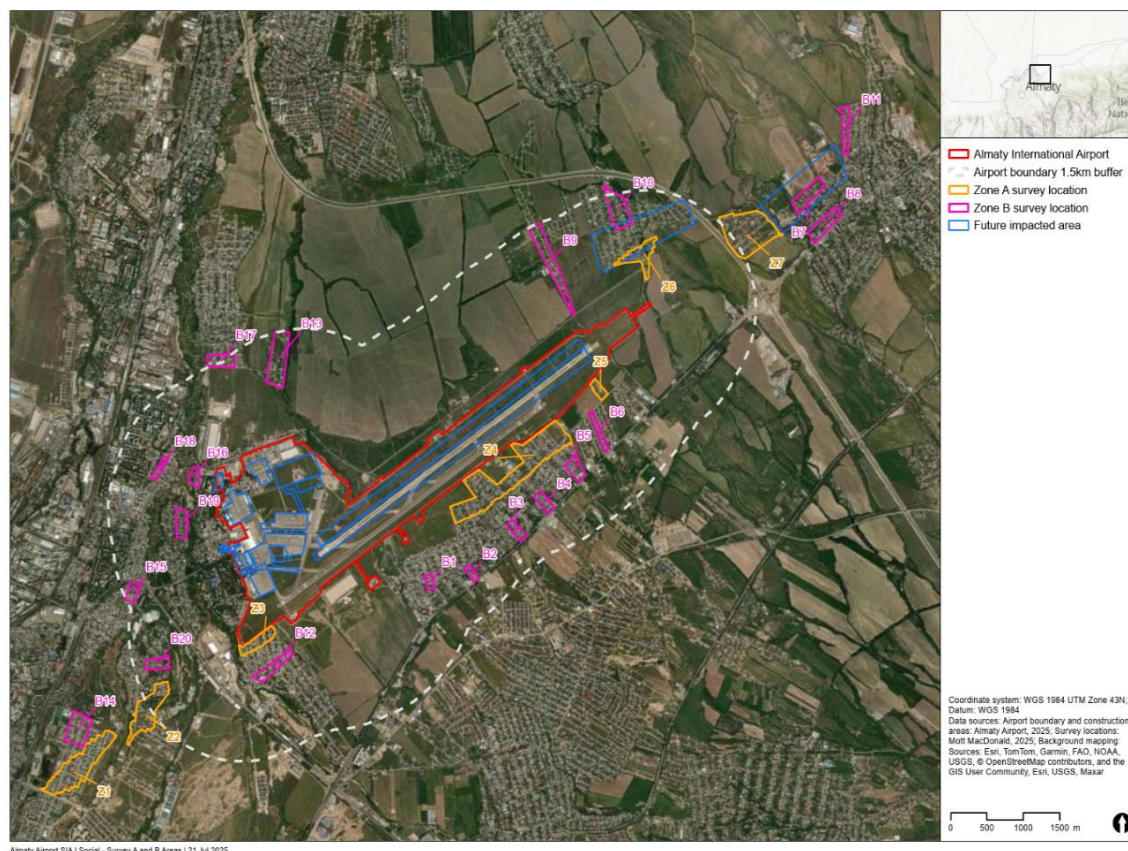
- 8.2.13 Three methods were employed to collect data: household surveys, key informant interviews, and community mapping. The areas selected to collect the data were the neighbourhoods of Turksib, Guldala, Almerek and Panfilovo due to the current and projected noise impact, once the Project starts its operational phase.

Household surveys

- 8.2.14 Two household surveys were designed to cover areas impacted by noise. Initially, the plan was to conduct one comprehensive survey accompanied by a series of focus group discussions. However, following requests from the district akimats¹, the focus groups were replaced with a shorter, second survey. Ultimately, two distinct surveys were selected as the primary data collection method.
- 8.2.15 The Zone A Survey (Survey A) was designed to cover seven subzones where noise levels are known to currently exceeded 60 dB LA (max) night-time. The Zone B Survey (Survey B) targeted 20 locations in areas affected by noise levels below 60 dB LA (max) night-time. Figure 8.2 shows where the two surveys were administered. Each property where an interview was attempted or undertaken was identified by using a specific code, determined by the subzone in which the interview was conducted. The target sample sizes were 320 responses for Survey A and 160 responses for Survey B. Survey A commenced on 28 June 2025 and concluded on 16 July 2025 with 430 responses being recorded, including 213 women. Survey B began on 15 July and ended on 18 July 2025.

¹ In Kazakhstan, the akimat serves as the primary executive body in each region, with the akim functioning as the equivalent of a mayor.

Figure 8.2: Zone A and Zone B survey subzone areas



Source: Mott MacDonald, July 2025

- 8.2.16 Survey teams were deployed in pairs. As a token of appreciation, tea packets were distributed to participants of Survey A. As Survey B required fewer resources, it was initially decided that no gifts would be distributed to participants. However, due to a surplus of tea packs, gifts were ultimately provided to Survey B respondents.
- 8.2.17 The surveyors received training which covered data collection procedures for Surveys A and B, use of the Survey123 app, data protection protocols, health and safety measures during fieldwork, and other relevant topics. Two of the sociologists were consistently involved throughout the process, while the other two participated as their availability allowed. The field supervisor was responsible for transporting various materials, including hand brochures (Appendix 8.A: Hand brochure), health and safety equipment, and the storage of the tea packs bought as gifts intended for participating households. When necessary, the field supervisor also conducted surveys directly. health and safety equipment, and the storage of the tea packs bought as gifts intended for participating households. When necessary, the field supervisor also conducted surveys directly.
- 8.2.18 Several supporting documents were prepared and translated into Kazakh and Russian for the fieldwork, including:
- A surveyors' guidance document, providing instructions and clarifications to assist surveyors in conducting the survey appropriately, particularly in cases of uncertainty.
 - An authorisation letter signed by Almaty International Airport (ALA), legitimising the role of the surveyors.

- A consent script for surveyors to read aloud, informing respondents of the survey's purpose and the intended use of their data.
- An informational handout to be left at properties (refer to Appendix 8.A: Hand brochure) outlining the development programme, its rationale, and providing contact details for the Community Liaison Officer (CLO) and the grievance mechanism.
- Notification text to inform how to contact the survey team to be left at properties in cases where residents are absent at the time of the visit.
- Frequently asked questions (FAQs) to help surveyors respond in a standard manner to questions. FAQs could be added to the list as the surveys progressed and new questions were identified.
- The Noise Insulation Programme (NIP) brochure (refer to Appendix 8.B: NIP Leaflet), which explained the programme and how affected households could access it. This was meant to be given only in Guldala, where ALA has selected to implement the NIP.

Zone A Survey – Properties currently affected by 60 dB LA (max) night-time (according to 2025 noise modelling)

8.2.19 The Zone A Survey covered seven survey sub-zones (refer to Figure 8.2) across four neighbourhoods - Turksib, Guldala, Almerrek, and Panfilovo - which were identified as currently experiencing noise levels exceeding 60 dB(A) LA (max) night-time. This survey was designed to be more comprehensive and detailed than the Zone B survey. It is structured into sections of varying length, covering Respondent details, demographic profile of property residents, vulnerability, perception of ongoing noise from the airport, perception of Project impacts, and structure materials. A total of 430 households agreed to participate in the survey. Table 8.3 presents the survey coverage.

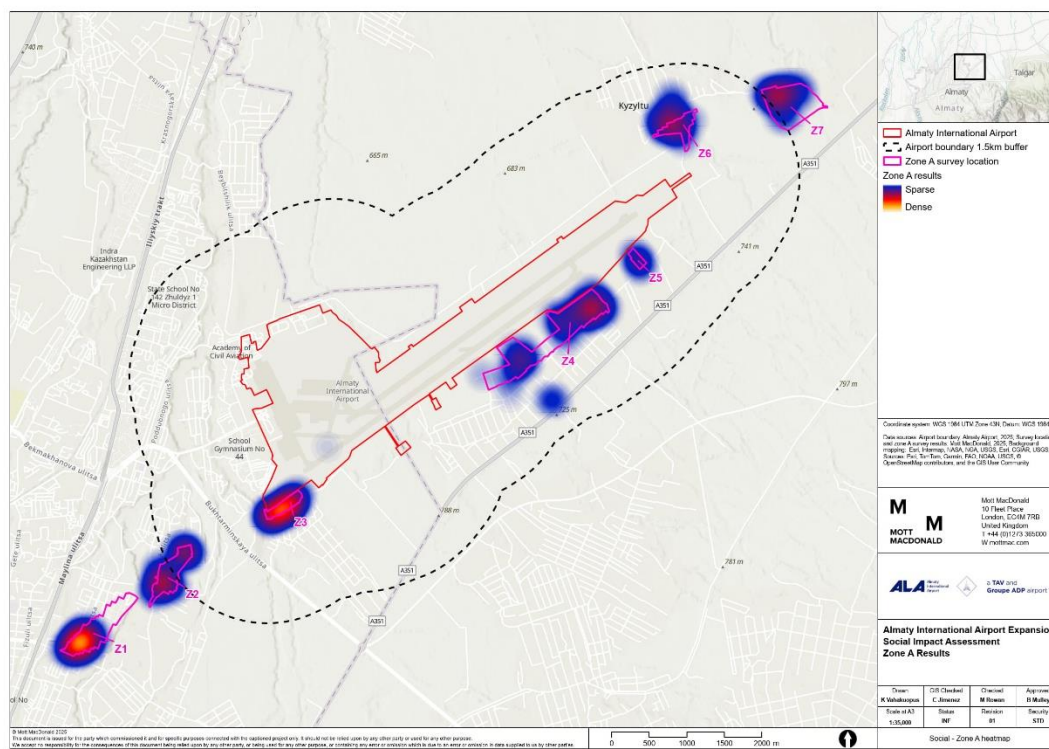
Table 8.3: Zone A survey responses

Location	Surveys completed	Refusals to participate
Turksib	224	12
Guldala	106	3
Almerrek	50	0
Panfilovo	50	0
Total	430	15

Source: Mott MacDonald, 2025

8.2.20 For this survey, several households included babies or children under the age of 10. However, many responses about young household members were not recorded, as families were uncomfortable providing information about minors. A total of 58 respondents were over the age of 65, and 53 reported having at least one household member aged 65 or older. Of those interviewed, only five respondents reported working night shifts.

Figure 8.3: Zone A Surveys heat map²



Source: Mott MacDonald, 2025

- 8.2.21 As illustrated in Figure 8.3, the majority of surveys were conducted in Zone A sub-zone 1 of the Turksib district, followed by sub-zone 3. Among the neighbourhoods, Guldala was the most represented, followed by Almerek and Panfilovo.

Zone B Survey - Properties predicted to be affected by noise under 60 dB LA (max) night-time (according to 2025 noise modelling)

- 8.2.22 This survey was implemented after Zone A survey in areas less affected by noise. The survey was also shorter than the Zone A survey covering respondent details, perceived role of the airport, and vulnerability and noise impacts. Twenty locations were selected, with eight surveys to be taken at each, for a target of 160 completed surveys. This task was carried out by two surveyors.

Table 8.4: Zone B survey responses

Location	Surveys completed	Refusals to participate
Turksib	72	0
Guldala	40	3
Almerek	16	0
Panfilovo	25	0

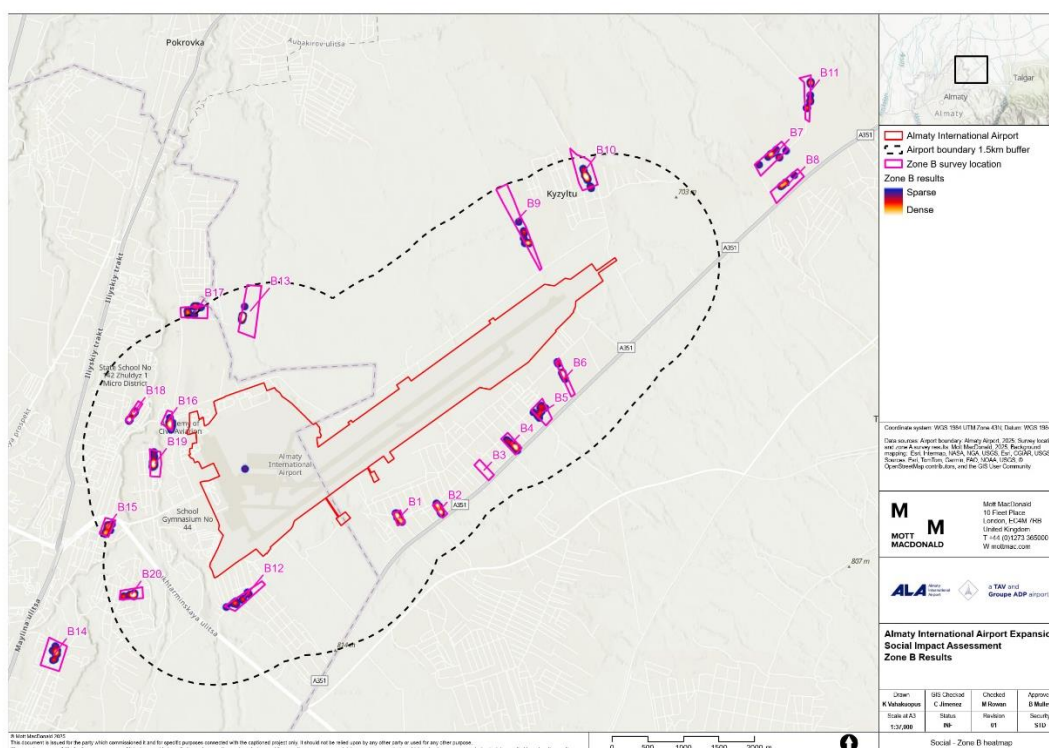
² A heat map is a visual representation of data where individual values are represented by colours. In the context of survey data collected by zones, the heat map is used to show the number of surveys collected in each zone, with different colours indicating different levels of survey activity. Darker or warmer colours (like red or orange) indicate zones with higher numbers of surveys. Lighter or cooler colours (like blue) indicate zones with fewer surveys.

Location	Surveys completed	Refusals to participate
Total	153	3

Source: Mott MacDonald, 2025

8.2.23 Due to a misunderstanding among the surveyors, seven surveys in one sub-zone were completed using the Survey A questionnaire instead of the intended format. As a result, sub-zone B3 (refer to Figure 8.4) appears blank. The data recorded in this sub-zone has been analysed under Survey A. Figure 8.4 shows where the Zone B surveys were undertaken. The areas outside the 1.5km area are along take-off and landing routes for the new runway which is part of the Project.

Figure 8.4: Zone B heat map



Source: Mott MacDonald, 2025

Key informants' interviews (KIIs)

8.2.24 As an additional source of primary data collection, twelve key informants' interviews (KIIs) were planned. Informants were selected from within the area of influence and included governmental representatives such as the akimats, heads of police departments, school principals, chief medical officers, and other relevant stakeholders.

8.2.25 The interviews commenced during the week of 14 July 2025.

Community mapping

8.2.26 The final method used to gather primary data was community mapping. This activity aimed to identify community-use infrastructure that is both significant to local residents and situated in areas currently affected by, or expected to be impacted by, noise. The list of features to be identified included: colleges, hospitals, graveyards, kindergartens, mosques, parking areas, pharmacies, places of worship, police stations, schools, universities, restaurants or cafés, and

any other relevant facilities specified during the mapping process. Four walking areas were designated in the neighbourhoods of Turksib, Guldala, Almerék, and Panfilovo to collect this information. The community mapping was undertaken using the ESRI FieldMaps³ application. Community mapping commenced on 10 July and concluded on 18 July 2025.

Secondary data collection

- 8.2.27 Secondary data was collected through internet-based research, including a review of academic literature and statistical information from the Bureau of Statistics of Kazakhstan and online house registry data⁴. Additionally, we received relevant documentation from ALA concerning community characteristics, engagement activities conducted and grievances raised by residents.

Limitations and assumptions

- 8.2.28 The survey respondents were selected by their location based on initial noise modelling. The residential areas around the airport have grown since the 2022 ESIA. As such it was not possible to undertake surveys in all of them. The agreed methodological approach was to focus on the four neighbourhoods described above, with more household surveys undertaken in the area that is currently known to be exposed to noise levels above 60 dB LA (max) night-time.
- 8.2.29 As well, households and some businesses were surveyed to an agreed number in parts of the areas known to be exposed to airport related noise at levels lower than 60 dB LA (max) night-time. The SIA survey areas had to be identified at the same time as noise modelling was being undertaken so there may be some discrepancies in the areas selected and the final noise modelling results, however generally the areas selected should be indicative of airport noise disturbed areas.
- 8.2.30 Three social passports have been received, but no land use registry information

8.3 Baseline

Current baseline

- 8.3.1 This chapter presents the current baseline conditions of the affected area focusing mainly on the directly affected area, but also referencing the indirect area of influence. In cases where data is unavailable for the directly affected area, information from the various districts and the indirect area of influence is used.
- 8.3.2 The topics covered below are:
1. Administrative area and demography
 2. Historical context of ALA
 3. Land use
 4. Economic context
 5. Community infrastructure
 6. Gender considerations
 7. Vulnerability
 8. Protection and safety zones for communities

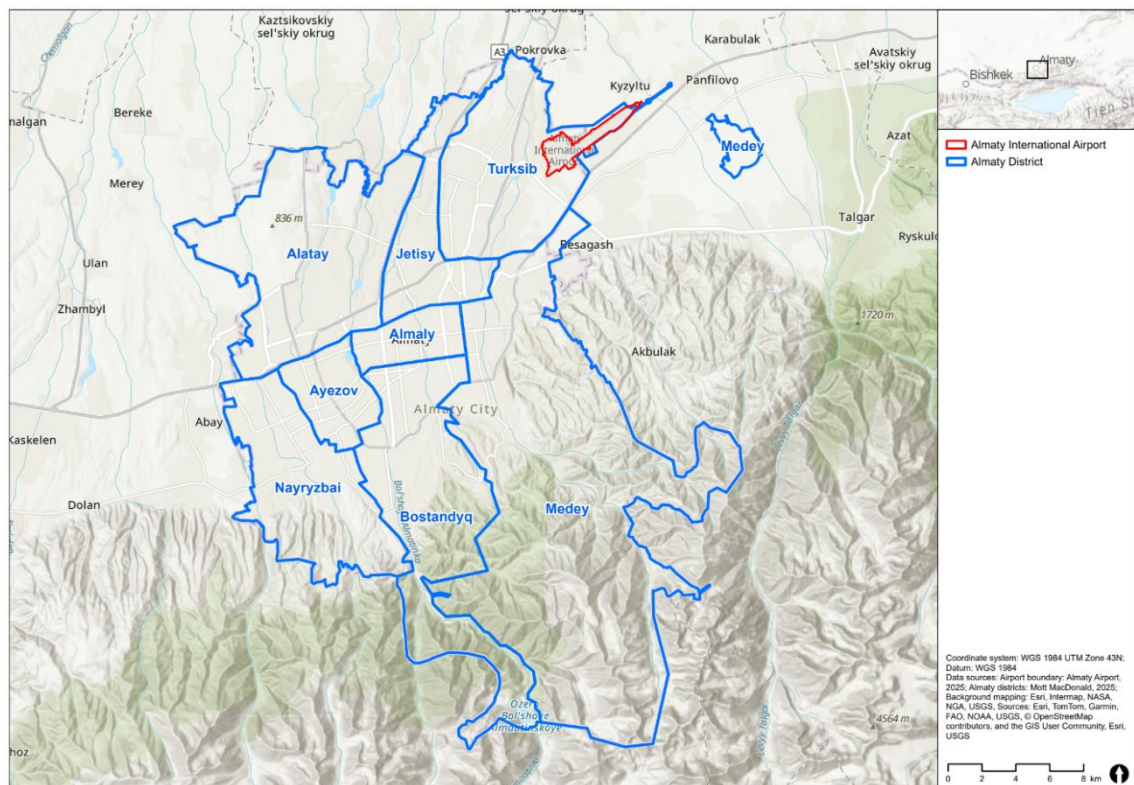
³ ESRI Field Maps is a mobile app integrated with ArcGIS that enables field workers to collect, edit, and share geographic data using interactive maps

⁴ A national website provides access to detailed and verified records of residential properties, which local authorities maintain, and which can be sourced for defined geographical areas.

Administrative area and demography

- 8.3.3 The Almaty Region, situated in the south-eastern part of Kazakhstan along the border with Kyrgyzstan, is one of the country's seventeen administrative regions. Although Almaty City is geographically encircled by the Almaty Region, it is administratively independent and holds the status of a city of national significance - one of three in Kazakhstan. It takes about 90 minutes to drive from one side of the Almaty Region to the other side. Hence, local workers will come from the city or the region and return home to rest.
- 8.3.4 Almaty City is divided into eight districts (refer to Figure 8.5). The communities within the direct area of influence are located across both Talgar District, which is situated outside the administrative boundaries of Almaty City within Almaty Region, and Turksib District within Almaty City. Specifically, the communities of Almerék, Guldala, and Panfilovo fall within the Talgar District. Hence the baseline presents information about Talgar District and Almaty City.

Figure 8.5: Almaty City districts



Source: Mott MacDonald, 2025

- 8.3.5 Almaty serves as Kazakhstan's foremost economic hub and is widely regarded as the most developed metropolis in Central Asia. It is home to numerous international organisations, financial institutions, and major enterprises, playing a pivotal role in the country's economic and commercial landscape.

Demography

- 8.3.6 Almaty Region is one of the fastest-growing areas in Kazakhstan. According to 2025 data from the Kazakh Bureau of Statistics (refer to Table 8.5 overleaf), it had a total population of 1,575,657 at the beginning of 2025, which represents growth of 1% since 2024. Within this region, Talgar District accounts for 260,690 residents, making up approximately 16% of the total population, and experiencing a growth of 2.18% since 2024.

- 8.3.7 Almaty City is the most populous city in Kazakhstan, with 2,292,055 residents as of 2025, and has experienced the most notable growth of 2.84% since 2024. Within the city, the Turksib District is home to 266,169 people, accounting for approximately 12% of Almaty's total population. After Almaty City, Talgar District has exhibited the most significant growth among the studied regions since 2024, with an increase of 2.66% compared to the previous period.
- 8.3.8 An analysis of the population by age using Kazakh Bureau of National Statistics from 2025 reveals that the region is experiencing demographic growth. In the Almaty Region, for Almaty City and Talgar District the most represented age group in 2025 comprises individuals aged between 0 and 14 years. Specifically, this age group accounts for 31% of the population in the Almaty Region, 25% in Almaty City, and 28% in Talgar District. In all cases, males constitute the majority within this age group. The average age in the Almaty Region is 32 years, while in both Almaty City and Talgar District it is slightly higher at 33 years. The age-related data demonstrates that the region has a relatively young population, with a significant proportion of individuals in the active working age group. On average, only 13% of the population across the three areas is aged 60 or above. Given that the current retirement age in Kazakhstan is 61 for women and 63 for men, this suggests a predominantly youthful and economically active demographic.

Ethnic composition

- 8.3.9 Kazakhs are the predominant ethnicity in the Project area. Kazakhs make up 61% of the population in Almaty with the second largest ethnicity being Russians (24%), followed by Uyghurs (5%), Koreans (2%), Tatars (1%) and other ethnic groups.
- 8.3.10 Mainly Russians and other minorities left the country after independence and their numbers have shrunk dramatically. Some estimates suggest about two million Russians may have left between 1989 and 2005. Kazakhstan's policy of attracting ethnic Kazakhs or kandasy⁵ (meaning "returnee" in Kazakh) to immigrate from the neighbouring countries (Uzbekistan, China, Turkmenistan, Russia, Kyrgyzstan, Mongolia, Iran, Afghanistan, Pakistan, etc.) has in part been intended to replace the outflow of non-Kazakhs from the country since independence.
- 8.3.11 According to the KII with its akim, the Guldala rural area has more than 10,000 residents: 30% Kazakhs, 30% Russians, 30% Uyghurs, 10% Chechens, Tajiks, Uzbeks, Germans, and Poles. The deputy akim of Turksib city district indicated that its population exceeded 267,000 and was growing rapidly. Throughout its history, the neighbourhood has been multi-ethnic, having among the Kazakhs also Russians, Ukrainians, Tatars, Koreans and others. In the 2000s, kandasy returning from abroad actively settled in the district.

⁵ Kandasy status is temporary and can be given to a persons or family for a period not exceeding one year. Since 1991 and by the end 2020, 1,695,000 kandasy were registered in Kazakhstan, making up more than 5% of the population. More than half of kandasy who arrived in Kazakhstan in 2020 (12,300 people) settled in Almaty. Previously having no need to speak Russian, kandasy can find it difficult to integrate in the country's Russian-speaking regions. Migrating kandasy are mostly working age population (57% in 2020) with kids (32% in 2020) while pension age kandasy were 11% in 2020.

Table 8.5: Total population of Almaty City, Almaty District, Turksib District, and Talgar District in 2025

	Population Jan 2024	Total population growth	Including		Population Jan 2025	For the period	
			Natural increase	Net migration		Growth rate, %	Average number
Almaty Region	1,560,124	15,533	7,673	7,860	1,575,657	1.00	1,567,890
Incl. Talgar District	255,124	5,566	1,136	4,430	260,690	2.18	257,907
Almaty City	2,228,675	63,380	22,196	41,184	2,292,055	2.84	2,260,365
Incl. Turksib District	259,294	6,902	1,884	5,018	266,196	2.66	262,745

Source: Kazakh Bureau of National Statistics, 2025

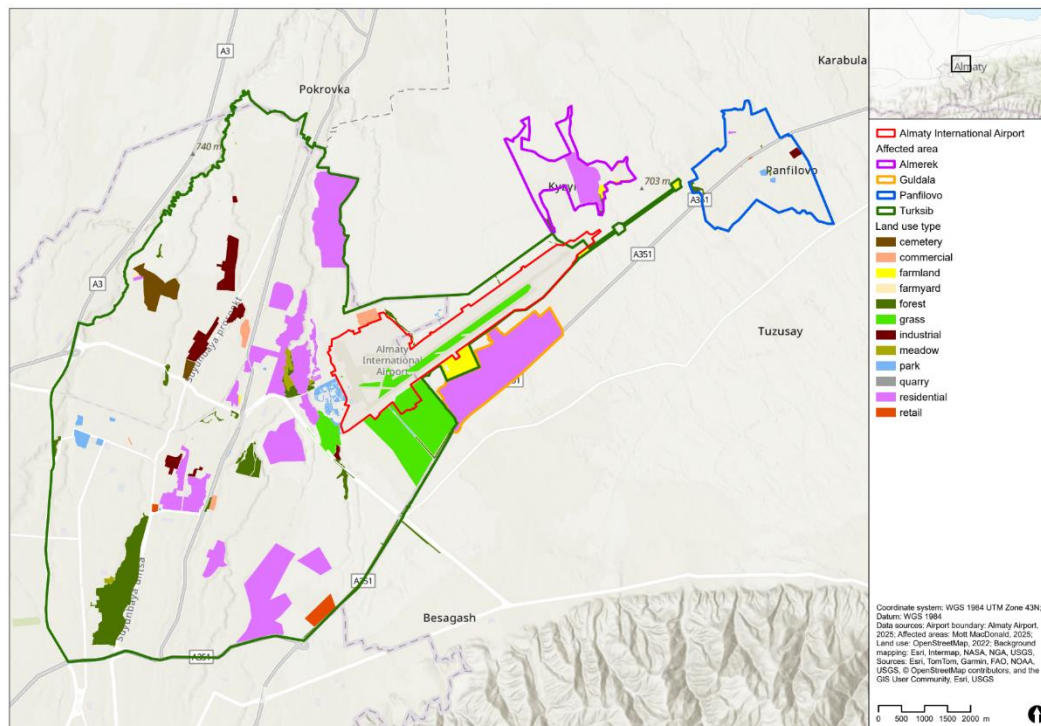
Historical context

- 8.3.12 ALA is Kazakhstan's largest and busiest airport. It was originally established in 1935 and has since evolved into a major regional air traffic hub. Following Kazakhstan's independence in 1991, the airport underwent significant modernisation, including the construction of new terminals and runways. In 2021, TAV Airports acquired its majority stake in the airport, initiating a new phase of expansion and investment. This included the opening of the new international terminal in June 2024, increasing the airport's capacity to 14 million passengers annually. Over the past years, aircraft movements have steadily increased, driven by rising international travel demand and the airport's growing role as a transit hub between Europe and Asia. This growth has been particularly notable since TAV's acquisition, with passenger traffic and the number of destinations nearly doubling. In sum, the land use for the airport has been a constant for almost 100 years.
- 8.3.13 The presence of local communities near the airport predates TAV Airports' acquisition of the asset in 2019. Turksib District is one of the oldest of Almaty City, having been formed in 1938. According to the Turksib akimat, it is the air and railway gateway of the city, and after several different names in 1995 it was officially named in honour of the Turkestan-Siberian railway. Guldala used to be called *Krasnoye Pole* (Beautiful Field). Despite the airport, people have been attracted to the area. The local population was historically engaged in agriculture. In Soviet times there was a lot of planting, and cattle breeding. People from Guldala, Almerek and Kairat villages worked in the Kunayev State Farm that grew vegetables and fruits. Panfilovo was previously part of Raiymbek District and home to the Kalinin collective farm.
- 8.3.14 Historically, residents have been exposed to elevated noise levels from aircraft operations linked to the old airport infrastructure. These legacy impacts existed prior to the development of Project Horizon. While Project Horizon may contribute to new sources of noise, the baseline exposure is already considerable. This legacy context was a key factor considered by Lenders during Project appraisal.

Land use

- 8.3.15 Land use within the immediate direct area of influence is predominantly residential (refer to Figure 8.6). The 2022 ESIA estimated that approximately 27,631 were residing in the noise affected communities within 4km, including 14,199 women.

Figure 8.6: Cadastral map of land use for the direct area of influence (2021)



Source: Mott MacDonald, 2021

- 8.3.16 Within the direct area of influence, Turksib is identified as the most urbanised district. The Turksib deputy akim indicated that because of the rapid industrial development and reasonable prices for housing, young families are also actively settling in the district, notably in the new Zhaskanat and Kairat areas. The neighbourhoods of Guldala and Almerek are experiencing rapid development, driven by the increasing number of new buildings under construction. Additionally, Almerek, Guldala⁶, and Panfilovo are surrounded by expanses of land designated for cultivation, highlighting a blend of urban growth and agricultural use in the region. The akim of Panfilovo stated that land began to be allocated in these villages approximately ten years ago, with the majority of new residents having relocated from Raiymbek District. Currently, half of the village of Tuzusai, half of the village of Panfilov, and the first farming unit of the village of Kyzylty fall within 4km of the airport boundary.
- 8.3.17 Based on the building identification conducted in 2021, a calculated total of 6,251 properties were estimated within a 4km radius of the airport. This included 1,021 buildings in the Turksib District, 539 in Nurshashkan, 765 in Guldala, 2,833 in South Guldala, 670 in Almerek, 521 in Panfilovo, and 842 in South Panfilovo.
- 8.3.18 Taking noise exposure into consideration, the number of affected buildings has increased significantly. The increased exposure to noise since 2021 has been affected by growth of airport activities and general population growth. Almaty has grown by 26,830 in the last year, which represents a 1.33% annual change⁷. Table 8.6 shows that in 2025 there are currently 71,959 buildings exposed to noise levels above 40dB within a 315.9km² area around the airport. Going forward with the Project, both the area and number of building exposed to noise will increase. Table 8.6 shows that 76,680 buildings within an 351.6km² area around the airport are expected

⁶ According to the Guldala Social Passport, out of the total of 3,749.44 hectares (ha), 2,991ha of land within the area are designated for agricultural and farming purposes.

⁷ <https://worldpopulationreview.com/cities/kazakhstan/almaty>, accessed 15 September 2025.

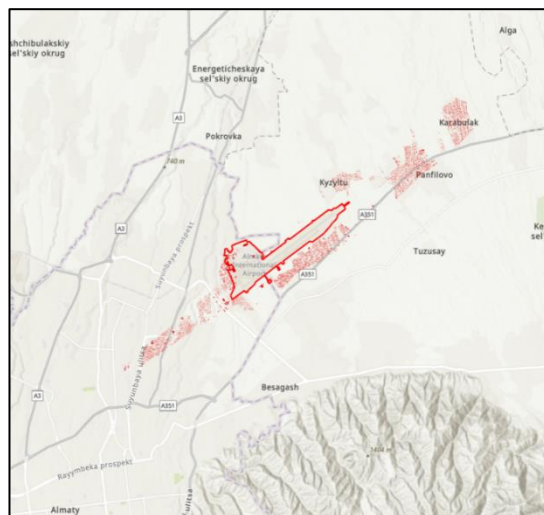
to be impacted by noise above 40dB. Refer to more details of the noise study findings in **ESIA Chapter 11: Noise**.

Table 8.6: Buildings affected by noise levels (dB(A)), differentiated by day and night, for the years 2025 and 2030

dB(A) between	2025				2030			
	Lday		Lnight		Lday		Lnight	
	Area km ²	Number of buildings	Area km ²	Number of buildings	Area km ²	Number of buildings	Area km ²	Number of buildings
40-45	147.6	32725	142.3	30042	157.3	39990	152.4	35799
45-50	88.0	17692	80.3	16104	101.8	16712	93.0	15081
50-55	44.5	10381	40.9	10050	51.0	9711	46.7	9436
55-60	21.2	8046	18.8	7285	24.2	7691	21.8	6995
60-65	8.2	2453	7.4	2008	9.8	2364	8.7	1965
65-70	3.4	592	3.0	459	4.2	210	3.7	152
70-75	1.6	70	1.4	50	1.8	2	1.6	2
75-80	0.8	0	0.8	0	0.9	0	0.9	0
80-85	0.4	0	0.4	0	0.4	0	0.4	0
>85	0.2	0	0.1	0	0.2	0	0.2	0

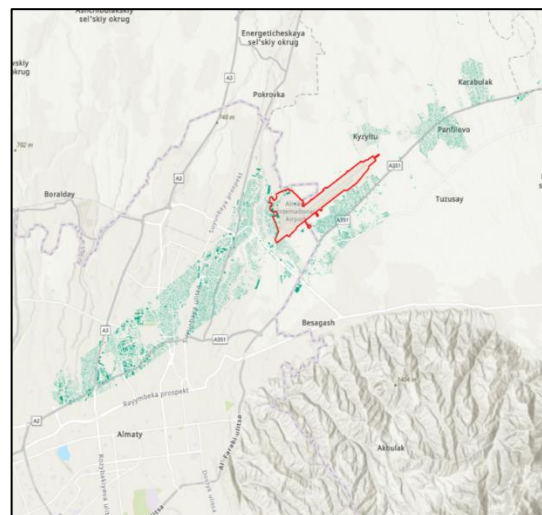
Source: Frekans, 2025

Figure 8.7: Location of affected buildings by noise, 2025



Source: Frekans, 2025

Figure 8.8: Location of affected buildings by noise, 2030



Source: Frekans, 2025

8.3.19 The current noise modelling estimates that 56,865 structures are exposed to noise levels exceeding 40dB(A) during the day, while 60,486 are affected during the night. As shown in Figure 8.7, these buildings are mainly concentrated in Guldala, Panfilovo and Almerék. According to projections for the year 2030 when the Project is expected to be in its operational phase, the number of buildings affected by noise levels is anticipated to rise to 73,874 during the day and 67,326 during the night.

8.3.20 Figure 8.8 illustrates that the majority of affected buildings in operation will be concentrated in the Turksib District. However, the increase in affected buildings across the other neighbouring

areas is also noteworthy and reflects a broader trend of expanding noise exposure. Considering the large number of buildings currently exposed to high noise levels and even recognising that there will likely be technology improvements in the future whereby aircraft engines and other equipment have better noise controls, this represents a significant concern for the well-being of the affected population.

Economic context⁸

- 8.3.21 The gross domestic product (GDP) of the Republic of Kazakhstan (RoK) is primarily driven by the trade and industrial sectors. Industry contributes 28% to the national GDP, while wholesale and retail trade accounts for just under 17%. Despite various government initiatives aimed at diversifying the economy and promoting non-resource-based industries, the overall structure has remained largely unchanged over the past decade. This continued reliance on raw materials is largely due to Kazakhstan's abundant oil, gas, and mineral resources.
- 8.3.22 Regional economic specialisation is closely tied to geography. Some regions are heavily industrialised, while others, benefiting from fertile land and favourable agricultural conditions, focus on farming. According to regional specialisation indicators, 65% of the country's regions are primarily specialised in either industry (35%) or agriculture (29%).
- 8.3.23 The services sector dominates the national economy, accounting for 61.3% of GDP. Within this, trade represents 17%, real estate activities 7%, and construction 6%. Sectors such as accommodation and food services, and arts, entertainment, and recreation contribute the least, each making up just 1% of GDP.
- 8.3.24 Almaty stands out as a leading region in several sectors, including construction, agriculture, forestry and fisheries, professional, scientific and technical activities, and arts, entertainment, and recreation. Notably, Almaty also plays a central role in Kazakhstan's employment landscape. As of 2024, the city's small and medium-sized enterprise (SME) sector employs approximately 972,100 people - accounting for 90% of total employment in Almaty. This underscores the city's strong orientation towards entrepreneurship, services, and private sector-led economic activity, further reinforcing its position as a key economic hub within the country.
- 8.3.25 The local population in Guldala and Almere were historically engaged in agriculture, growing vegetables and fruits and involved in cattle breeding. The akimat of Gulalda explained that because of the airport activities, it is not possible to expand planting areas or to keep a lot of cattle. The same goes for vegetable gardens and growing vegetables and crops as they attract birds that may obstruct flights.
- 8.3.26 Turksib District is one of the oldest of Almaty City, having been formed in 1938. According to the Turksib akimat, it is the air and railway gateway of the city, and after several different names in 1995 it was officially named in honour of the Turkestan-Siberian railway. It is also one of the largest industrial districts of the city. Since the Soviet period, large enterprises, factories, locomotive repair plants, construction and processing plants have been sited there, and it is associated with hard-working, active people. The parents of many of its citizens worked in these factories and some of those enterprises still operate.

Employment

- 8.3.27 In 2024, out of its 1,135,100 active population, Almaty City recorded a total of 1,083,000 individuals in employment, compared to 52,000 unemployed, resulting in an overall

⁸ Zhamilya, O. (2025). Economic specialization of regions of the Republic of Kazakhstan. In SHS Web of Conferences (Vol. 212, p. 01017). EDP Sciences.

SEC Almaty. (2025, May 19). The SME sector employs 972.1 thousand people — 90% of the total employment in Almaty. <https://spkalmaty.kz/en/news/the-sme-sector-employs-972-1-thousand-people-90-of-the-total-employment-in-almaty/>

unemployment rate of 4.6%. Among young people aged 15 to 28, the unemployment rate stood at 4.4%, reflecting a significant positive decline from 8.2% in 2014. The number of economically inactive individuals, or those not participating in the labour force, was reported at 519,000.

- 8.3.28 In 2023, Talgar District⁹ recorded an active population of 122,800 individuals, of whom 117,100 were employed. The number of unemployed persons stood at 5,700, resulting in an unemployment rate of 4.6%. This marks a notable shift, as the unemployment rate had been steadily increasing since 2014, when it was recorded at 4.3%. However, 2023 represents the first year in which a downward trend was observed, following a rate of 4.7% in the previous year.
- 8.3.29 The Guldala akimat in the KII indicated that despite the airport, people are attracted to the area. Many residents work in Almaty City, mainly in retail, but also many work at the airport. The close proximity of the airport creates jobs and opportunities for services such as warehousing, catering, transport and trade. The Turksib akimat indicated that local residents realise the airport's important economic and logistical role both for Almaty and for the whole country. The airport provides many jobs, including for the residents of this neighbourhood. The airport always has vacancies, and people from the district are not excluded by criteria. Locals can apply, depending on their qualifications.
- 8.3.30 The representative of the Asar-Ume Public Foundation which supports vulnerable families in Guldala commented that over the last three to four years, proximity to the airport appeared to be an economic advantage because property prices have risen. He further informed that the city and the ring road proximity did not encourage the development of the infrastructure and facilities like hotels near the airport but all the logistical companies with their storage facilities are all around it. They provide jobs of various levels. Both, Almerek and Guldala facilities and infrastructure are in sufficient quantity and condition: schools, shops, streets condition is good and the area is being developed further. The ring road opening affected this development positively.

Tourism

- 8.3.31 When it comes to tourism impact, Zheldibayev *et al* (2024)¹⁰ reveals that tourist flows to Almaty have shown a marked increase over the past decade. In 2014, the number of foreign visitors to Kazakhstan stood at 679,000, rising to 1,084,800 in 2023 - a 16.9% increase compared to 2022. During the first nine months of 2023, the highest numbers of tourists originated from Russia (58,200), Uzbekistan (11,200), and Kyrgyzstan (3,100). Specifically in Almaty, 261,571 foreign tourists arrived in 2023, alongside 710,586 domestic visitors. As a result, tourism accounted for 11.3% of Almaty's GDP.
- 8.3.32 The study identified several key challenges that must be addressed to further enhance tourist flows to the city. Chief among these is the need to improve infrastructure, making it more convenient and attractive for visitors. Additionally, investment in marketing and promotional campaigns is essential to draw tourists from a wider range of regions and countries. Almaty's unique offerings, such as cultural events, culinary festivals, hiking, and skiing, were also recognised as valuable assets for attracting both domestic and international tourists.

⁹ Based on information from the Guldala Social Passport (2021), out of a total population of 17,466 residents, 796 individuals were of working age, representing approximately 4.56% of the population. Among them, 7,601 were employed, and 1,736 were self-employed. A total of 162 individuals were unemployed, of whom 55 were under the age of 35, accounting for 34% of the total unemployed population. Additionally, 55 individuals were classified as working-age pensioners, also representing 0.31% of the population.

¹⁰ Zheldibayev, A., Kulazhanov, Y., Moldagaliyeva, A., Abdildayeva, N., Zhoya, K., Sarkitkan, K., ... & Pavlichenko, L. (2024). Study of the Current State and Prospects for the Development of Tourist Flow in the City of Almaty, Kazakhstan. *Geo Journal of Tourism and Geosites*, 57, 1952-1963.

- 8.3.33 The development of tourism in Almaty includes improving service quality, encouraging entrepreneurship, increasing local income and employment, and analysing current trends and future prospects. The main priorities identified include enhancing infrastructure, improving tourism services, fostering cooperation with local tourism companies, creating accessible and well-designed tourist routes, promoting cultural events and festivals, and establishing international partnerships.

Community infrastructure¹¹

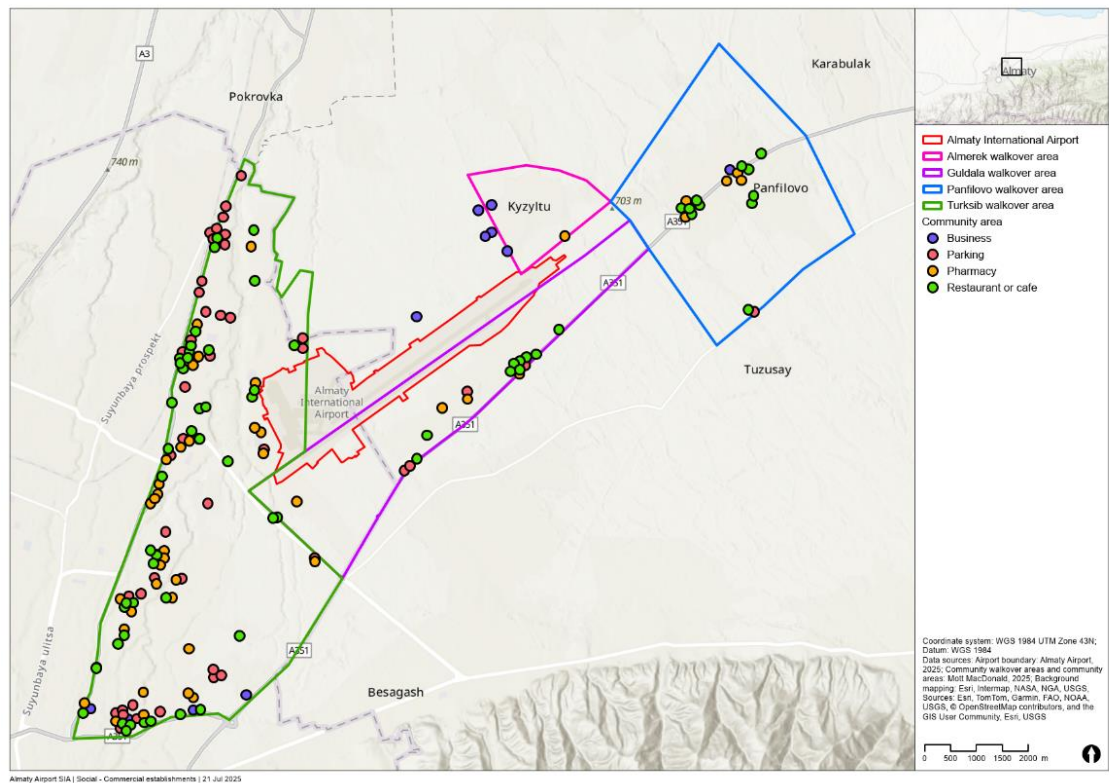
- 8.3.34 Almaty is the largest city in Kazakhstan and serves as the country's financial, business, transport, scientific, educational, and cultural centre. In recent years, Almaty has made significant progress in infrastructure development, with priorities including social and engineering infrastructure, transport, housing, public safety, and emergency preparedness. Between 2018 and 2023, the city saw the construction of 130,300 apartments, 22 schools, 24 kindergartens, one hospital, and four outpatient clinics. Nearly 1 trillion tenge was invested in the transport sector, with 1,150 new buses and 100 trolleybuses purchased, 25km of new roads built, and 200km repaired in 2023 alone.
- 8.3.35 Despite ongoing challenges, Almaty ranks highest in Kazakhstan for infrastructure quality, with 89.1% compliance with the System of Regional Standards by the end of 2022. This is largely due to the availability of educational, healthcare, cultural, and sports facilities. However, the city faces issues with ageing infrastructure, particularly in water supply (only 19.1% compliance, with 56% of networks worn out), wastewater disposal (47.7% provision, with 57.5% wear), and heating (60% network deterioration). While gas supply coverage is high at 99.2%, only 57.7% of infrastructure meets standards due to 36% pipeline wear. Electricity is universally available, but 65% of networks are worn and 13% of power is lost in transmission.
- 8.3.36 Transport remains a major concern. Although several interchanges and the Big Almaty Ring Road (BAKAD) have been completed, rapid population growth and increasing car ownership strain the system. Public transport provision is at 65.7%, road infrastructure at 89.8%, and street lighting at 84.0%. By 2024, it was estimated that the city needed 1,000 more buses, 200 trolleybuses, and 30 new routes. To address this, Almaty has adopted a Transport Master Plan to 2030, aiming to develop multimodal corridors, expand the metro, convert buses to gas and electricity, and build three major transport hubs. By 2026, the plan envisions 14 transport corridors and a more mobile, accessible city. There are also plans to connect BAKAD with the airport entry by a straight road to bypass the residential areas.
- 8.3.37 The Turksib akimat informed in the KII that global positioning system (GPS) applications on phones and maps leads drivers from BAKAD through the streets of Almerek and Guldala. His perception is that these streets are already congested in peak hours and the hours when most of the international flights arrive. But he also noted that the airport has changed the night flight schedule to reduce traffic jams and noise.

Community mapping infrastructure identification

- 8.3.38 During the community mapping process (refer to Section 'Primary data collection') within the direct area of influence, various types of buildings were identified from a social perspective. The following maps highlight buildings categorised as either commercial establishments (refer to Figure 8.9) or public-use facilities (refer to Figure 8.10).

¹¹ Institute of Economic Research (2024) Infrastructure development in Almaty.
https://eri.kz/ru/Novosti_instituta/id=6390

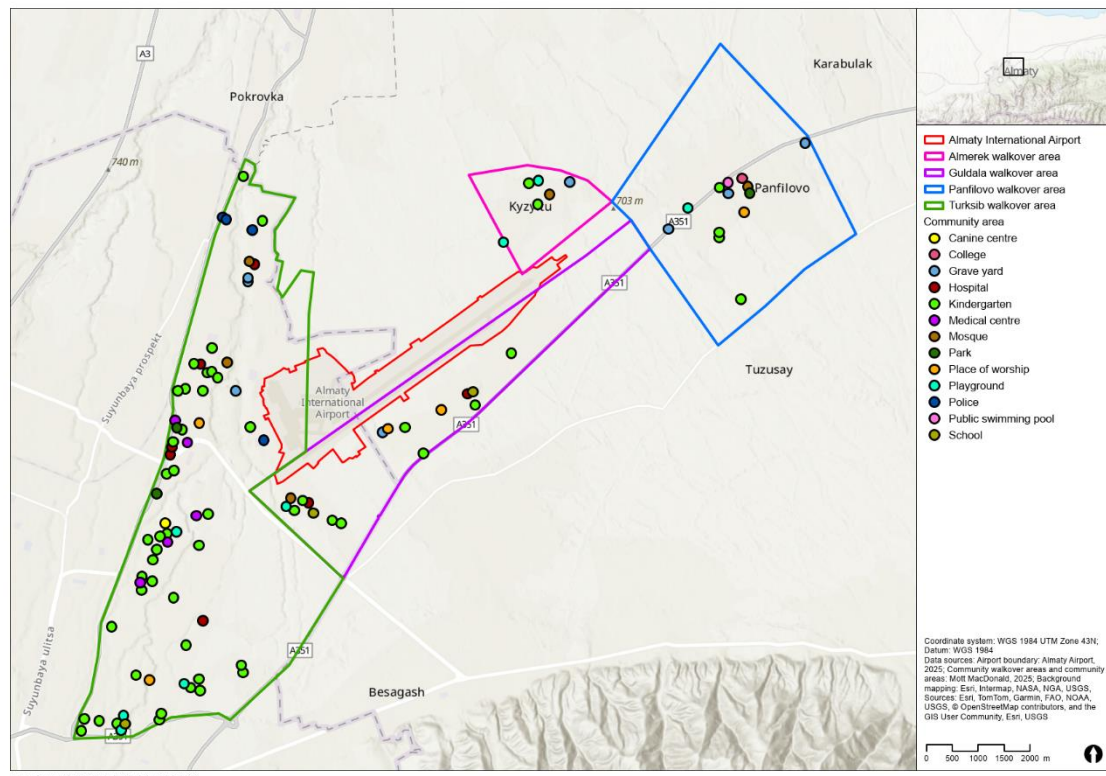
Figure 8.9: Commercial establishments



Source: Mott MacDonald, 2025

- 8.3.39 With regard to commercial establishments, the community mapping process identified in the direct area of influence (refer to Figure 8.9) a total of 11 businesses, 64 restaurants or cafés, 44 pharmacies, and 46 parking facilities. The majority of these facilities are concentrated in the Turksib District, which is the most developed area within the direct area of influence.

Figure 8.10: Community facilities



Source: Mott MacDonald, 2025

- 8.3.40 With regard to community facilities, the community mapping exercise identified a range of infrastructure, including three schools, 54 kindergartens, nine playgrounds, two parks, seven hospitals, two medical centres, five places of worship, five mosques, four police stations, and eight graveyards.
- 8.3.41 The representative of the Asar-Ume Public Foundation informed that the city and the ring road proximity do not encourage the development of the infrastructure and facilities like hotels near the airport but all the logistical companies with their storage facilities are around it, providing jobs of various levels. He indicated that Almerek and Guldala facilities and infrastructure are in sufficient quantity, that the conditions of schools, shops, and streets are good, and that the area is being developed further. He said that the ring road opening positively affected local development to a great extent.
- 8.3.42 The Turksib deputy akim commented that the airport contributes to the development of logistics, transport, trade, services, etc. Furthermore, he stated that the presence of the airport in general raises the status of the neighbourhood and makes it more accessible by transport. He also mentioned some discomforts, which are covered in the impact assessment analysis.
- 8.3.43 Based on the facilities examined, it can be concluded that the direct area of influence is a developed region, with Turksib being the most urbanised of the neighbourhoods. The notably high number of kindergartens within the direct area of influence is particularly relevant when considering the noise levels recorded in the studied neighbourhoods.

Gender considerations

- 8.3.44 According to national statistics, in May 2025 there were 10,397,426 women in the RoK representing 51% of the total population. This trend remains consistent within the study area: in

the Almaty Region, women represent 50% of the population; in Almaty City 53%; and in Talgar District 51%.

- 8.3.45 The United Nations Development Programme (UNDP) and United Nations Women in Kazakhstan, with support from the Ministry of Culture and Information of the RoK, released in 2024 an analytical report titled “Public Perception of Gender Equality and Women’s Empowerment in Kazakhstan”.¹² The report draws on data from a survey of 3,800 respondents across all 17 regions of Kazakhstan and the three cities of republican significance. Experts interviewed for the study identified several persistent gender-related challenges in the country, including underrepresentation of women in politics and leadership, a gender pay gap, horizontal and vertical gender segregation in the labour market, legislative shortcomings, domestic violence, and harassment.
- 8.3.46 These issues were also partially reflected in the findings of the mass survey and focus group discussions which informed the study, although many respondents did not fully grasp their scope or implications. Despite the challenges, 76% of the study respondents believed the gender situation in Kazakhstan is satisfactory, with women’s rights and opportunities seen as sufficient or even excessive. This perception is more common among men, while women are significantly less likely to feel that their rights are fully realised.
- 8.3.47 A key factor contributing to gender inequality is the persistence of entrenched stereotypes about gender roles. One of the most widespread is the belief that a woman’s primary role is to bear and raise children. These norms often overshadow other forms of self-realisation, such as career development, civic engagement, or political participation. Both the study’s experts and focus group participants noted that gender roles and behavioural expectations begin forming in early childhood. When asked whether a woman’s primary duty is to maintain the home and care for children without working, 54% of women and 68% of men agreed. Only 6% of women and 2% of men supported the idea of a woman being the head of the household.
- 8.3.48 According to the study, these stereotypes significantly limit women’s ability to participate in public life. Respondents of both genders agreed that women have the least rights and opportunities in politics and public life, and the most within the family. Many women in the study expressed that these limitations feel restrictive. Women are also more likely than men to report experiencing gender-based discrimination and to acknowledge the existence of gender inequality, with 37% of women reporting violations of their rights based on gender, compared to 19% of men.
- 8.3.49 Gender-based violence, including intimate partner violence and harassment, remains a pressing issue in Kazakhstan. While most study respondents expressed opposition to violence against women, many failed to recognise certain behaviours - such as forced sexual acts without consent, intimidation, and controlling a woman’s appearance or finances - as forms of violence.
- 8.3.50 Although experts generally avoid singling out specific regions, they often cite southern and western Kazakhstan as areas of concern. Quantitative data supports this: in Shymkent, the proportion of respondents who condone physical violence against women is 5.1 times higher than in Akmola Region or Almaty City, 5.7 times higher than in Astana, and 7.3 times higher than in the North Kazakhstan Region.

¹² UNDP (2024). Public perception of gender equality and expansion of women's rights and opportunities in Kazakhstan. Available at: <https://www.undp.org/kazakhstan/publications/public-perception-gender-equality-and-expansion-womens-rights-and-opportunities-kazakhstan#:~:text=In%202023%2C%20the%20UN%20Development%20Programme%20%28UNDP%29%20in,and%20women%27s%20empowerment%20in%20the%20Republic%20of%20Kazakhstan>. Last accessed on 26 July 2025.

- 8.3.51 In conclusion, while public perception in Kazakhstan may suggest that gender equality has been achieved, the study's data revealed persistent structural inequalities, deeply rooted stereotypes, and regional disparities that continue to limit women's rights, opportunities, and safety.

Community vulnerability indicators from survey respondents

- 8.3.52 For the purposes of this assessment, vulnerable individuals were defined as those suffering from illnesses, residing in poor housing conditions, living in households with a high number of dependents, such as elderly persons and children, or living in poverty.
- 8.3.53 According to responses from Survey A, 165 households reported having at least one member receiving some form of government subsidy. Of these, 84 were located in Turksib, 37 in Guldala, 24 in Almerék, and 20 in Panfilovo. Among the government subsidies reported by respondents, the most prevalent was retirement support or pension, received by 56.52% of those who confirmed receiving assistance. Support for large families followed, accounting for 23.91%, while 8.70% reported receiving support for disabled adults. Maternity support was mentioned by 5.43% of respondents, and support for disabled children by 2.17%. Other forms of assistance were less common, each representing 0.54% of the total, including Kandasi, loss of breadwinner, orphan allowance, and single mother support.
- 8.3.54 According to the results of both surveys, residents within the AoI identified elderly individuals as the most vulnerable group. Considering the number of people receiving pensions, it is evident that this demographic is significantly overrepresented among vulnerable populations. Furthermore, elderly individuals are more likely to suffer from health conditions. As will be discussed in the next section on Vulnerability to noise, older adults are also among those most affected by noise associated with airport operations.
- 8.3.55 Survey B identified five houses in poor condition—three in Almerék, one in Turksib, and one in Panfilovo, while Survey A reported 19 houses in poor condition, with the majority located in Nurshashkan (seven) and Guldala (four)¹³. Of these 19 households, eight were receiving government subsidies: four due to large family status, one for a combination of disability and retirement, two for pension support, and one for both pension and motherhood.
- 8.3.56 In summary, out of the 435 surveys undertaken as part of Survey A, 38% of households reported receiving government subsidies, an indicator of vulnerability, with the highest concentration located in Turksib. However, when considering the proportion of respondents within each neighbourhood, Panfilovo and Almerék emerge as the most vulnerable communities. Approximately 50% of surveyed households in both areas (24 out of 50 in Almerék and 20 out of 50 in Panfilovo) reported receiving some form of subsidy. In contrast, when focusing on housing conditions, the neighbourhoods of Guldala and Nurshashkan show the highest concentration of dwellings in poor condition, indicating a different dimension of vulnerability that is not solely captured by government subsidy data.

Vulnerability to noise

- 8.3.57 The vulnerability examined in this chapter centres on the impact of aircraft noise exposure, with particular attention to groups identified as most sensitive to its psychological and physiological

¹³ According to an interview with the district police inspector of Guldala, the neighborhood's proximity to the city contributes to a frequently changing population, with many newcomers residing in rented apartments without official registration. Residents in such housing situations are considered vulnerable due to the precarious nature of their living arrangements. According to the district police inspector of Guldala, approximately 50% of the local population is officially registered, while the remainder are not. The area is home to many low-income families, and financial hardship often leads to domestic disputes and incidents of theft. The majority of reported crimes in the neighbourhood are theft-related.

effects. According to the WHO Noise facts sheets¹⁴ and academic papers¹⁵, these groups include children, the elderly, and shift workers.

- 8.3.58 The elderly are especially susceptible due to naturally fragmented sleep patterns and a reduction in deep sleep phases. Although studies show that the actual duration of deep sleep in elderly individuals is not significantly altered by aircraft noise levels, their subjective experience of sleep quality declines as noise exposure increases. This group also reports higher levels of annoyance, likely because they spend more time awake during the night, increasing their awareness of noise events. Interestingly, despite their heightened sensitivity, elderly individuals experience fewer noise-induced awakenings compared to adults aged 18 to 55.
- 8.3.59 Children, while less likely to report annoyance or consciously perceive sleep disturbances, show measurable physiological changes. Higher aircraft noise exposure is associated with reduced deep sleep duration, although children's self-assessed sleep quality remains largely unaffected. Like the elderly, children also experience fewer awakenings from noise than middle-aged adults. However, their vulnerability is compounded by their developmental stage and limited coping mechanisms, which make them more susceptible to long-term impacts.
- 8.3.60 Shift workers, particularly those who sleep during the day, represent another highly vulnerable group. Their irregular sleep schedules expose them to more frequent and intense noise events during rest periods. Among all groups studied, shift workers exhibited the most significant increases in wake time during sleep, indicating a marked disruption in sleep continuity and quality.
- 8.3.61 Together, these findings illustrate how aircraft noise affects vulnerable populations in distinct but interrelated ways, with implications for both immediate well-being and long-term health and cognitive outcomes.
- 8.3.62 As discussed under land use, the airport has been in place for almost 100 years so neighbourhood residents having been coping with its noise effects since their birth. Nonetheless, with the Project, exposure to noise levels will change and increase with the growing airport use (refer to **ESIA Chapter 11: Noise**).
- 8.3.63 The above study findings are reflected in comments made in the KIs and surveys. According to the Guldala akim, families with young children who are sensitive sleepers are woken up by the noise, preventing their mothers from getting enough sleep. Elderly people also have sleep problems and noise disturbs their sleep.
- 8.3.64 Guldala's senior nurse also noted that the individuals most affected by noise are the elderly, those with hypertension, and children with cerebral palsy. However, she also stated that even individuals in good health may experience fatigue and strain on their nervous system due to prolonged exposure. Overall, she felt that the presence of the airport has led to an increase in the prevalence of certain illnesses¹⁸. This view was echoed by the Imam of the Guldala mosque, who stated that the rise in certain illnesses is linked to deteriorating air quality, which he attributes to increased airport activity. On the other hand, the deputy head physician in a Turksib district clinic stated that noise and air pollution from the airport are not direct causes of disease, but they can play a role as a triggering factor. However, she expressed concern that the rising number of flights may pose a risk to the local population, particularly vulnerable groups. This

¹⁴ WHO (2011) Noise. Available at <https://www.who.int/Europe/news-room/fact-sheets/item/noise>. Accessed on August 2025.

¹⁵ Bartels et al. (2024). Proceedings of INTER-NOISE 2024 'Aircraft noise effects in vulnerable populations'

¹⁸ She stated that, in comparison with other villages in the Talgar district, Guldala reports a higher incidence of cancer, allergies, hypertension, and respiratory conditions such as chronic obstructive pulmonary disease, asthma, and tuberculosis. Among younger individuals, cases of high blood pressure, asthma, and allergies have also become increasingly common.

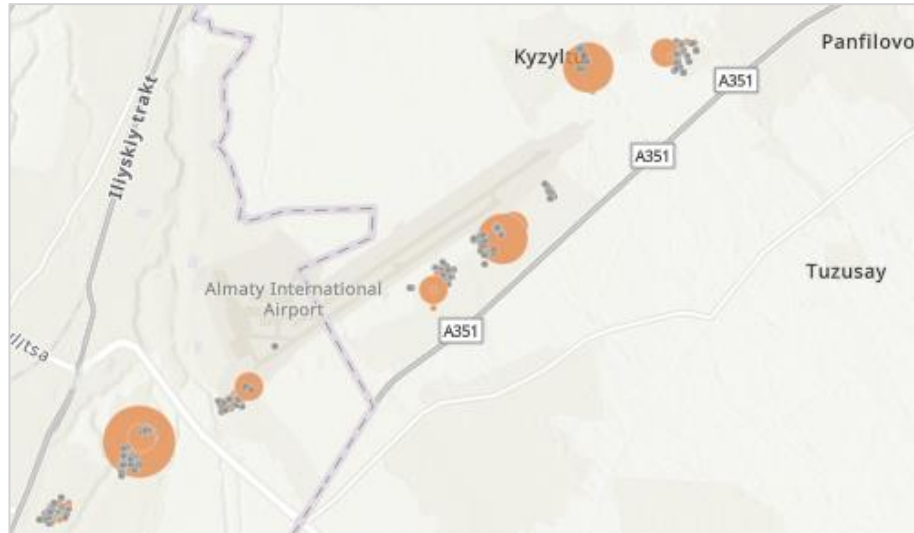
includes individuals with cardiovascular conditions (particularly common among residents), patients suffering from chronic respiratory illnesses such as chronic obstructive pulmonary disease (COPD), and those with allergies triggered by atmospheric emissions.

- 8.3.65 The representative of the Asar-Ume Public Foundation stated that in terms of noise, people say that when the aircraft flies right above a house, it is noisy, but when it flies slightly sideways, because it is low, the noise is considerably less. None of the families that they accommodated in Guldala and which they monitored, complained about the noise.
- 8.3.66 The Turksib deputy akim also mentioned discomfort related to the planes' noise and their physical presence overhead, especially in Zhaskanat, Kairat and Nurshashkan areas, but he qualified it saying that the noise has become a familiar background and people simply do not pay attention to it in their daily life. He explained that he lives directly next to the airport, and planes fly by, but one does not pay so much attention to it, because one has gotten used to it already. He further informed that the council receives very few complaints are about aircraft noise and the airport but that he thinks there are segments of the population who are more vulnerable to noise impact. For example, the elderly who are particularly sensitive to noise, also those who have sleep disturbance, some kind of anxiety, chronic cardiovascular, neurological, psycho-emotional disorders. Also, toddlers may wake up from the aircraft noise. But in his opinion, aircraft noise will be part of everyday life for the Turksib District. In addition to the airport noise, the district also has noise from the trains that pass through the neighbourhood.
- 8.3.67 According to the KII conducted with the principal of a Panvilovo school, the primary issue caused by noise at the school is its impact on pupils' attention spans. This is particularly noticeable during outdoor activities or school events. Although students gradually become accustomed to the noise, it remains disruptive during lessons. Pupils often gaze out of the window, and teachers are frequently required to pause, repeat instructions, and re-engage the class due to noise, which negatively affects concentration and the overall learning environment.

Survey results for noise effects

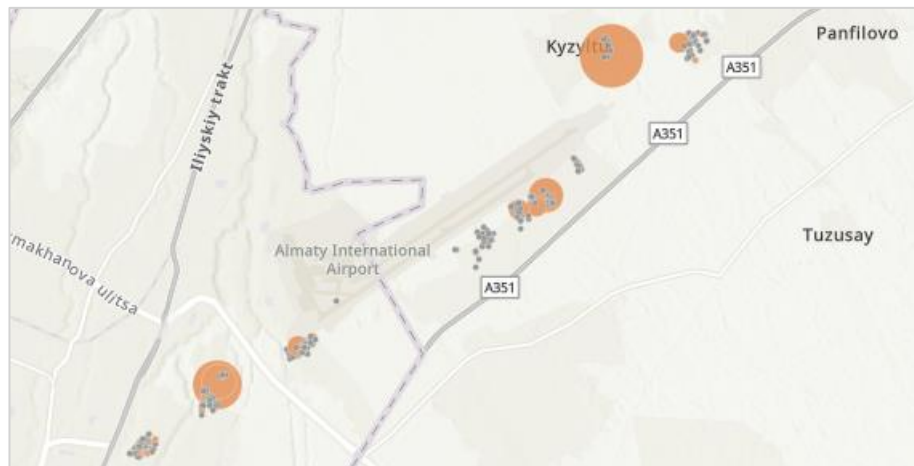
- 8.3.68 The survey, conducted in July 2025 as part of this ESIA in the areas currently exposed to noise levels above 60 dB(A) LA (max), included several questions addressing the perceived impact of noise. In response to the question which asked about the number of household members whose health has been affected by airport activities, 130 households of 430 answered affirmatively (30%). Of the 130 households identifying noise impacts, 74 receive government subsidies, considered an indicator of general vulnerability. Among the affected households, 63 (48%) reported that one or more male family members had experienced health impacts due to airport noise, while 67 households indicated that at least one female family member had been similarly affected. The distribution of affected residents by neighbourhood and sex is shown below in Figure 8.11 and Figure 8.12.

Figure 8.11: Distribution of female individuals who perceive that their health has been adversely impacted by exposure to airport noise (size of circle indicates number of individuals who responded in that area)



Source: Mott MacDonald, July 2025

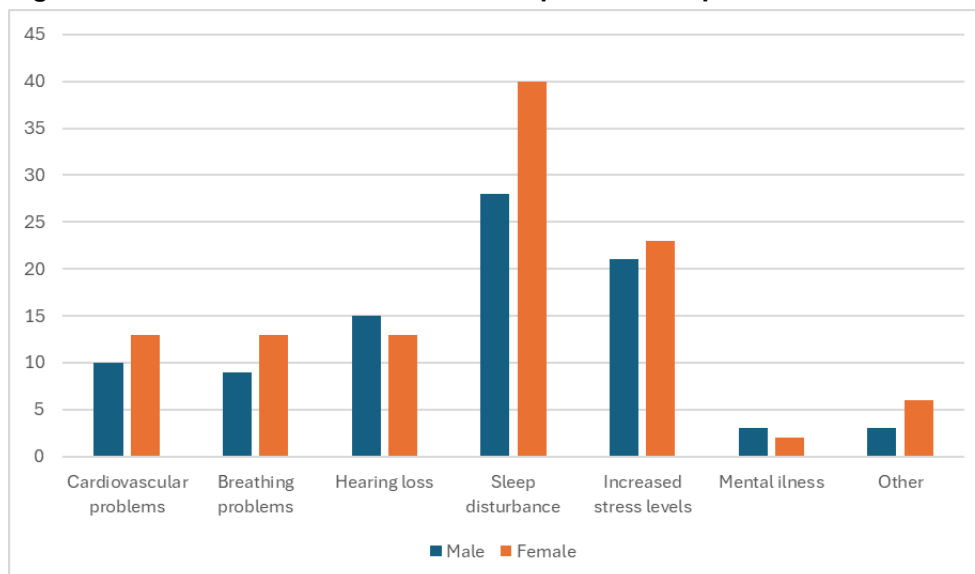
Figure 8.12: Distribution of male individuals who perceive that their health has been adversely impacted by exposure to airport noise (size of circle indicates number of individuals who responded in that area)



Source: Mott MacDonald, July 2025

- 8.3.69 Turksib is the neighbourhood where the highest number of female individuals were reported as being affected by airport noise. This trend can largely be attributed to the greater number of surveys conducted in that neighbourhood (224 of 430). However, it is noteworthy that Almerék and Guldala residents show a higher likelihood of having at least one household member affected - both female and male - when considering the proportion of surveys conducted in those areas.
- 8.3.70 When examining the types of health effects experienced by household members exposed to airport noise (refer to Figure 8.13), sleep disturbance emerges as the most commonly reported issue, particularly among women. This is followed by elevated stress levels, which also show a higher prevalence among female respondents. In contrast, hearing loss and mental health conditions are more frequently reported by male household members.

Figure 8.13: Health effects attributed to exposure to airport noise



Source: Mott MacDonald, 2025

- 8.3.71 Regarding the ages of individuals reporting health effects attributed to the airport, the youngest male was two months old (experiencing sleep disturbances), while the oldest was 75. Among women, the youngest age recorded was three years old, and the oldest was 79. In terms of reported cases, 12 men over the age of 60 stated that their health had been affected by airport operations, along with five boys under the age of 18. Among women, 12 respondents over 60 and two girls under 18 also reported health impacts.
- 8.3.72 In Survey B, respondents identified the most common vulnerable groups in the area as pregnant women (12%), followed by families with an adult with a disability (8%), and large families (6%). When asked about the most vulnerable groups to noise in the neighbourhood, the most frequently mentioned were pregnant women and the elderly, each cited by 12% of respondents. When asked how noise affects people in the neighbourhood, 32.47% of respondents said it wakes them up, 22% reported that it causes window vibrations, 20% mentioned disruptions to television or internet connections, and 14% said it leads to headaches.
- 8.3.73 As is mentioned more in the next section, households who are building structures illegally without permits are vulnerable. The Asar-Ume Public Foundation has been working in Guldala and Almerek and has provided housing support for 10 to 30 families a month according to a crisis centre list it maintains of poor large families eligible for housing including those with children with cerebral palsy.

Discussions on protection and safety zones for communities

- 8.3.74 The 2022 ESIA identified various zones that are being considered by ALA and a range of authorities including the ministries of health, transport and environment. The zones presented below that are being discussed by government and communities are a sanitary protection zone, an aviation safety zone, and a public safety zone. After a summary of the discussions with authorities, public inputs on these zones is described.
- 8.3.75 **Sanitary protection zone (SPZ)** refers to any area around the airport complex declared (or to be declared) as a sanitary protection zone for the purposes of regulating the level of noise or other environmental pollutants arising from aviation activities pursuant to the laws of the

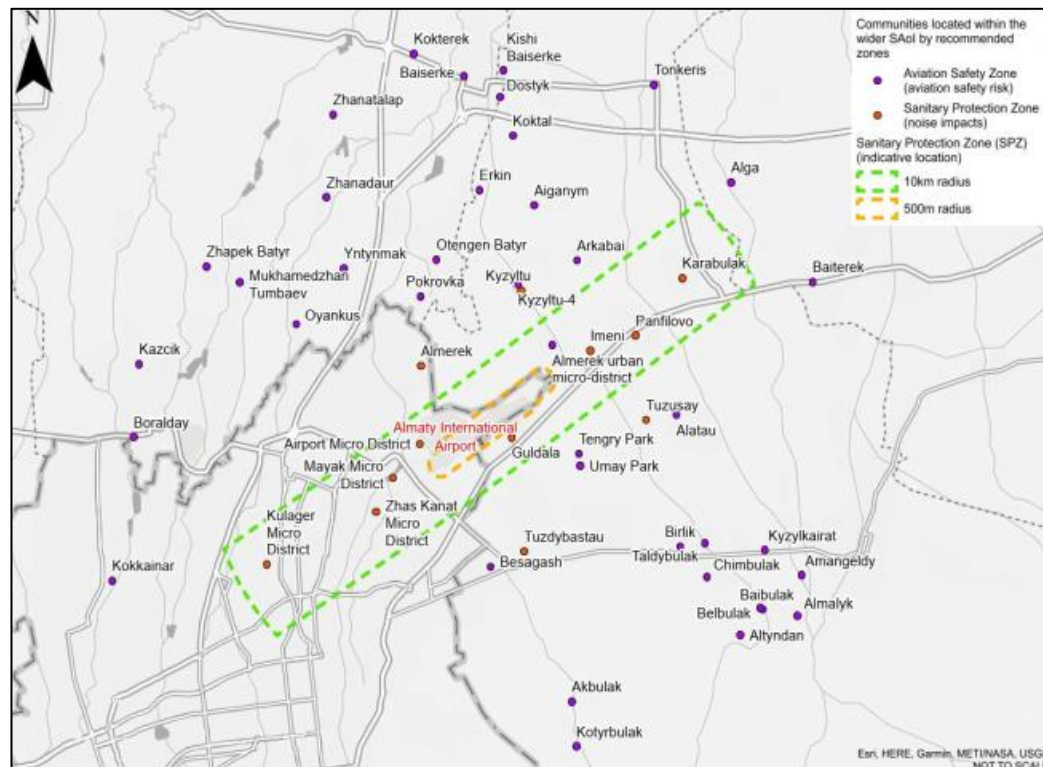
RoK¹⁹. In Kazakhstan, an SPZ can be established by the Ministry of Health and environmental authorities to protect public health from environmental and sanitary impacts such as:

- Noise pollution – supporting compliance with permissible noise level standards, especially near residential areas and facilities such as schools and hospitals servicing sensitive or vulnerable groups
- Air quality and emissions – addressing airborne pollutants from activities such as airport operations, ground vehicles and fuel storage. This would include the range of pollutants assessed in **ESIA Chapter 5: Air quality**
- Water and soil contamination – preventing contamination, in the case of the airport for fuel spills, de-icing chemicals and wastewater (refer to **ESIA Chapter 9: Geology and Soils** and **ESIA Chapter 14: Water Resources**)
- Radiation or electromagnetic exposure – addressing radiation safety, when near radar installations or other high frequency equipment
- General health and epidemiology safety – focusing on minimising health risks to communities

8.3.76 SPZs in Kazakhstan may apply to industrial facilities, waste treatment plants, and others including the Almaty airport. Residential housing, schools, hospitals, and other sites sensitive to noise impacts are prohibited in the SPZs. The 2022 ESIA referenced that a zone of 500m was being considered for establishing the SPZ. However, the noise modelling at that time identified that noise impacts may extend up to 10km from the ends of the runway (because of the take-off and landing of aircraft from those directions) and up to 2km perpendicular to the runways. For comparison, Figure 8.14 shows neighbourhoods and the 500m and 10km distance from the airport. In an October 2024 public meeting in Guldala, the SPZ was discussed. Where the 500m would be measured from, either the runway centre or from the airport boundary fence, was covered but not resolved. ALA has developed a SPZ draft, which has been accepted by the relevant authorities, although it has not yet been formally finalised. However, if the zone was established, the construction of any new residential buildings within it would likely be prohibited.

¹⁹ Including the Environmental Code of the Republic of Kazakhstan dated 9 January 2007 No.212, the Code on People's Health and Healthcare System dated 18 September 2009 No-193-IV and the Sanitary regulations "Sanitary and epidemiological requirements for the establishment of a sanitary protection zone of industrial facilities" (approved by Order of the Ministry of National Economy No. 237 of 20 March 2015).

Figure 8.14: Distances from the airport



Source: Mott MacDonald 2021

- 8.3.77 **Public safety zone (PSZ)** is the area of land at the ends of the runways of an airport complex, within which development should be restricted in order to control the number of people on the ground at risk of death or injury in the event of an aircraft accident during take-off or landing. The term “public safety zone” does not appear in RoK legislation. However, the 2020 air safety study²⁰ commissioned by ALA recommended enhancing control over land use near the airport by establishing a ‘Public Safety Zone’ and using the British “Control of Development in Airport Public Safety Zones²¹” to delineate the PSZ. The 2022 ESIA identified that this zone can vary from 100-350m width at the end of the runways and a total length of 280-3,000m. In addition to recommending that such zone limit any future development in the vicinity of the runways in the airport and permit only suitable land use; the study recommended retaining all existing buildings constructed to date in compliance with the planning requirements of Kazakhstan, while controlling, limiting or not allowing any future planning and land use within such safety areas/zones.
- 8.3.78 **Aviation safety zone (ASZ)** refers to the territory of the land’s surface with the centre at the control point of the aerodrome and the radius defined by the authorised agency in the spheres of civil and state aviation, within which certain activities are subject to regulation on grounds of

²² For the RoK, this includes Article 90 of the Law On Use of Air Space of the Republic of Kazakhstan and Aviation Activity dated 15 July 2040 No. 339-IV and the Rules for the Authorization of Activities That May Pose a Threat to Aircraft Flight Safety, approved by Government Resolution dated 12 May 2021 No.504, which specify, inter alia, that a recommendation from the airport commission is necessary in order to build any object of any height at a distance of up to 4km from the nearest point of the runway.

²² For the RoK, this includes Article 90 of the Law On Use of Air Space of the Republic of Kazakhstan and Aviation Activity dated 15 July 2040 No. 339-IV and the Rules for the Authorization of Activities That May Pose a Threat to Aircraft Flight Safety, approved by Government Resolution dated 12 May 2021 No.504, which specify, inter alia, that a recommendation from the airport commission is necessary in order to build any object of any height at a distance of up to 4km from the nearest point of the runway.

aviation safety pursuant to the laws of the country²². The term ASZ does not appear in RoK legislation but is recognised internationally. Instead, the RoK legislation uses the concept of aerodrome vicinity. The Aviation Administration of Kazakhstan (AAK) defines an aerodrome vicinity as a radius of 46km from the aerodrome reference point. The Government of Kazakhstan²³ uses the concept in its decree of 2011 to control developments and operations against potential risks to aviation safety within the vicinity and around the airport. The decree applies a 4km radius from the nearest point of the runway and 15km from the airport control point and requires a permit to station objects within these two radiuses. Refer to Table 8.7.

Table 8.7: General RoK aviation safety restrictions

Restrictions within 4km	Restrictions within 15km	Restrictions within the airport boundaries
Any object of any height is subject to permitting	Any object with true (geometric) height of 45m or above relative to the level of the airfield	Any object with true (geometric) height of 100m or above relative to the ground level
	Any domestic waste dumping sites, fur farms, slaughterhouses and other facilities that may attract a large number of birds	
Communication lines, power transmission lines, as well as other objects of radio, electromagnetic and light radiation, which can interfere with the normal operation of aviation radio equipment and light-signalling equipment		
Flare devices for emergency combustion of discharged gases. When determining the height of flare devices, the maximum possible height of the flame is taken into account		
Industrial and other enterprises and structures which may lead to a deterioration in visibility in the areas of airfields (heliports)		
Explosive objects		

Source: Law "On the use of airspace of the Republic of Kazakhstan and aviation activities" dated 15 July 2010; "Rules of issuance of permits for the activities that may pose threat to flights safety", approved by the Decree of Kazakhstan's Government²⁴

8.3.79 Within 4km of an airport, national law²⁵ allows constructing low-rise individual houses in a simplified manner under a sketch design, without the need to obtain specific permits or undergo complex procedures²⁶. However, in respect of other small-scale commercial and technical facilities that are normally located in urban districts (e.g. vehicle servicing depots, small shops, etc.) a broader list of permits may apply.

²² For the RoK, this includes Article 90 of the Law On Use of Air Space of the Republic of Kazakhstan and Aviation Activity dated 15 July 2040 No. 339-IV and the Rules for the Authorization of Activities That May Pose a Threat to Aircraft Flight Safety, approved by Government Resolution dated 12 May 2021 No.504, which specify, inter alia, that a recommendation from the airport commission is necessary in order to build any object of any height at a distance of up to 4km from the nearest point of the runway.

²³ The Rules of issuance of permits for the activities that may pose threat to flight safety. Government of the Republic of Kazakhstan. (2011, May 12). Decree No. 504 on Approval of the Rules for Issuing Permits for Activities that May Pose a Threat to the Safety of Aircraft Operations. <https://caa.gov.kz/en/department-for-issuing-permits>

²⁴ Government of the Republic of Kazakhstan. (2011, May 12). Decree No. 504 on Approval of the Rules for Issuing Permits for Activities that May Pose a Threat to the Safety of Aircraft Operations. <https://caa.gov.kz/en/department-for-issuing-permits>

²⁵ Article 60.2, Law "On Architectural, Town-planning and Construction Activities in the Republic of Kazakhstan" No.242-II dated 16 July 2001 (the "Construction Law").

²⁶ By law, a land plot is first granted by the akimats as a short-term lease (up to 3 years) and after commissioning of the constructed facility: i. Land is purchased by a land user as ownership, or ii. Lease rights thereto are extended for a long-term period.

- 8.3.80 The Guldala akim in the KII suggested that there are almost 500 illegally built cottages in the 500m high noise level area. For people living in these houses, the biggest problem is the lack of possibility to legalise these houses as they do not have registration and resident permits, and they cannot use free medical care and have no access to social assistance. The legalisation process (which is allowed by national legislation) was moving forward but due to the 2019 plane crash (see below), it was suspended. Now a main delay for legalisation is the Guldala Master Plan, which the Department of Architecture and Construction cannot finalise due to the discussions about the SPZ. The representative of the Asar-Ume Public Foundation which found a sponsor to secure land in Guldala close to the airport fence indicated that legalisation of property was more of a concern than airport noise for community members with whom they have interacted.

Community engagement on the protection and safety zones

- 8.3.81 The identification and formalisation of the above zones is important to community members for a range of reasons depending on whether the structures on neighbouring properties have been constructed with or without the required permits. During the public consultation for the 2022 ESIA, a major concern was the establishment of the SPZ and the households that would be part of it. Many community members had been living in their houses for more than 30 years because the Guldala community has existed since the 1980s. It was indicated in the public consultation meeting that the overall approach is for the SPZ to minimise influx of new residents, while maintaining the status quo for the existing properties. In May 2022, a working group was formed to discuss the establishment of an SPZ and a PSZ.
- 8.3.82 ALA has a community liaison team that keeps a summary stakeholder engagement log. In 2023, engagement activities focused on the previous construction activities (covered by the 2022 ESIA). In 2024, discussions with communities were organised to discuss and address operations relating to noise and the airport's noise insulation programme (NIP) available to households known to be exposed to more than 60dB(A). The objectives and implementation of the NIP were shared with the intention of households volunteering to partake and benefit from the airport funded house renovations. Aimed at helping to muffle and minimise noise disturbances, the renovations included installation of triple-glazed windows and roof insulation.
- 8.3.83 While ALA was engaging with community members about the NIP from mid-2024 onwards, the akimats were also holding meetings that discussed airport created disturbances. In October 2024, the Guldala rural area akimat arranged a public hearing with residents to present information about establishing an SPZ as part of a new master plan. In December 2024, there was also a meeting with representatives of the Ministry for Transport, sanitary epidemiological control committee (part of Ministry of Health), laboratory and Air Astana to discuss the establishment of a final SPZ around the ALA area. Furthermore, the akimat of Almaty had previously raised the possibility of needing to relocate houses to protect residents and these topics resurfaced in December 2024. Since the beginning of 2025, ALA staff have been meeting with government entities (Ministry of Transport, Ministry of Health, Ministry of Agriculture) along with the Almaty and Talgar akimats and their Land Relations offices to discuss the issues in an ongoing manner. In May 2025, a working group was formed to discuss the establishment of a SPZ and a PSZ. The working group is expected to continue to be key for obtaining an agreement on these protection zones.

Future baseline

- 8.3.84 Even in the absence of the Project, it is likely that community growth in the area will continue, largely due to the existing presence of the airport. Urbanisation is a dynamic and ongoing process, and airports around the world are widely recognised as catalysts for regional development. They often serve as strategic hubs that attract investment, stimulate infrastructure

expansion, and encourage residential and commercial growth. In this context, the airport's influence is expected to remain a key driver of urban expansion in the surrounding areas.

8.4 Potential impacts

8.4.1 People in the neighbouring communities will be affected by the following impacts and risks:

- Generation of procurement opportunities
- Construction disruption to existing businesses in and around the airport
- Creation of nuisance and disturbances to nearby communities during construction
- Construction phase community safety and security risks
- Localised economic development
- Community disturbance from increased air traffic (especially noise) and road traffic
- Definition and enforcement of the protection and safety zones
- Operational phase community safety and security risk

8.4.2 These impacts and risks are assessed in more detail in the following sections, organised by construction and operational phases.

8.5 Assessment of effects

Construction phase effects

Generation of procurement opportunities

8.5.1 During the construction phase the Project will need to purchase supplies and materials, equipment, goods and various services. This will create opportunities and revenue for local, regional and national suppliers and service providers, especially for those who receive longer term contracts, as part of the supply chain. For example, opportunities will be available for suppliers of construction materials, plant and equipment. Goods and services that can be procured locally during the construction phase include office equipment and furniture, stationery and office supplies, some worker accommodation, worker transportation, catering, cleaning and laundry, security services, vehicle maintenance, oil and fuel, printing, etc. If these contracts are provided to local companies and businesses within the indirect area of influence, as is anticipated, this could help to benefit the local economy. Spending on goods and services by construction workers who will generate disposable income as a result of the Project and will have the ability to spend more money in the local economy will also induce a small temporary economic effect within the indirect area of influence.

8.5.2 Overall, the procurement of goods, equipment and services by the Project will be a beneficial impact to local suppliers from within the indirect area of influence, which are considered to be of **low** sensitivity as Almaty Region has a full range of products and services commensurate with an urban metropolis that it represents. Across the Almaty Region, there will be a range of other projects, schemes and activities generating access to similar opportunities. The magnitude of this impact is considered to be **minor** as it will be largely restricted to the construction phase and therefore temporary. Therefore, combining sensitivity and magnitude makes this a **beneficial minor** effect and **not significant**.

Disruption to existing businesses in or around the airport

8.5.3 Businesses operate within the airport, such as shops or restaurants in the terminals, airlines or suppliers to airlines (such as catering), and third-party organisations providing airside services. Impacts on these businesses resulting from the construction works are expected to be

minimised, as activities will be confined to designated areas that do not interfere with airport operations. The construction activities will primarily take place outside the airport terminal area, which is expected to limit direct disruption to businesses operating within the airport itself.

- 8.5.4 During the construction phase, increased traffic from workers, machinery, supply trucks, and construction vehicles is expected to cause increased congestion around the airport. This may hinder customer access to nearby businesses, potentially reducing footfall and sales. Additionally, in connection with the construction of the parking area, elevated levels of noise and air pollution could deter customers from visiting businesses in close proximity, prompting them to seek alternatives further away. However, the works on improving the parking for airport users will be temporary and the steady flow of passengers is expected to continue. On the plus side, the concentration of construction workers may generate new demand for localised services such as food, retail, and to a lesser extent accommodation.
- 8.5.5 Overall, businesses in or around the airport are considered to have a **low** sensitivity to construction disruption, with a **minor** impact magnitude. Overall, this is a **minor adverse** effect and **not significant**.

Creation of nuisance and disturbances to nearby neighbourhoods during construction

- 8.5.6 People in the closest communities within the immediate area of influence of the airport boundaries are unlikely to be affected by noise and vibration generated by the construction activities at site. The main construction activities (runway, fuel farm, catering facility) will occur more to the centre of the airport property than at its boundaries. The noise from the construction activities is anticipated to be less severe than the noise that is generated by aircraft traffic which will be ongoing during the construction activities. If noise from construction activities is perceived by community members, it will be temporary, intermittent, and during daytime working hours. Refer to **ESIA Chapter 11: Noise** for more details.
- 8.5.7 Construction activities, such as demolition, groundworks and foundations, storage, and transport of materials will generate dust and air emissions. As mentioned above, the works will be undertaken within the airport property. Already there are buffer areas close to the boundaries which should help protect people in closest residential areas and hotel guests as well as businesses operating in the immediate vicinity from being directly affected. Refer to **ESIA Chapter 5: Air quality** for more details.
- 8.5.8 There will be some traffic impacts on road users and houses, particularly along Mailin Road (the primary access road to the airport) close to Nurshashkan neighbourhood, due to construction traffic carrying materials, plant and equipment and workers to and from the site. The intention is to avoid residential streets where possible, but workers and airport visitors may be led by transportation apps through communities if the arrival time is shorter and if parking is shown as available. Refer to **ESIA Chapter 12: Traffic and transport** for more details. Construction activities and the presence of construction workers generate waste that needs to be managed. Refer to **ESIA Chapter 13: Waste and resources** for more details.
- 8.5.9 ALA's grievance log from construction activities in 2023 and 2024 provides an indicator of the types of community nuisance issues that previously arose which can be mitigated. Four grievances between February 2023 and June 2024 from residents in various locations (Turksib, Panfilovo) raised construction phase concerns about:
- Parking issues caused by airport employees parking in residential areas (the grievance log indicates that more shuttle buses and routes were provided to encourage employees to not use their personal cars).
 - Unpleasant interactions with airport employees.
 - Environmental issues like increased trash and noise from airport construction.

- Neglected maintenance in public areas.
- Complaints about airport service buses creating noise and pollution in residential zones

8.5.10 Waste dumping (the grievance log indicates that some was not related to airport workers but that awareness sessions with workers were undertaken with employees). The noise, air, traffic and waste disturbances will affect the same neighbouring communities at the same time (i.e. during the construction phase) creating a cumulative impact. Residents in the immediate area of influence are considered to be highly sensitive to the construction period nuisances as they are already under the noise influences of the ongoing ground operations and aircraft landing/take off activities at the airport, as well as congested traffic on Mailin Street and small industries within close proximity to the Project. The area around the airport has already experienced extensive urbanisation and construction activities over the previous years. Taking into account the temporary nature of the construction works on site the magnitude of the community disturbance impact is considered to be minor. Combining **high** sensitivity with **minor** magnitude, makes the cumulative construction nuisance and disturbances a **moderate adverse** effect, and hence **significant**.

Community safety and security risks

- 8.5.11 Community safety risks relating to construction activities, such as exposure to heavy equipment, trip and fall hazards, falling objects, materials and chemicals, electrical hazards and use of tools and machinery will be minimised because the works will be undertaken within the airport boundary.
- 8.5.12 The construction areas will have restricted right of entry within the operational airport site, making it difficult for community members or animals to randomly access, presenting a low security level. Although the probability of community members being directly affected by the construction activities is extremely low, the contractors must have a Construction Environmental and Social Management Plan (CESMP) in place to prevent and protect community members from the construction activities and an Emergency Preparedness and Response Plan (EPRP) in place to prepare and respond to unforeseen or emergency incidents.
- 8.5.13 With regards to security management, there is already existing security and access procedures for the airport. However, the Engineering, Procurement and Construction (EPC) Contractors may have some small number of security staff. For instance, YDA's (EPC responsible for the construction of several Project components including the full depth reconstruction of the main runway, new taxiway, new cargo apron, full depth reconstruction of existing VIP apron, new de-icing pad, and rehabilitation of parking stands) staffing schedule identifies having a security manager.
- 8.5.14 As mentioned in the methodology section, no significance is attributed to community risks, but management measures are identified.

Operational phase effects

Localised economic development

- 8.5.15 Almaty airport can significantly drive localised economic development by acting as a hub for employment, business growth, and tourism. Once the operational phase starts, direct jobs will be created within the airport itself as well as indirect and induced employment in sectors like hospitality, retail, and transportation²⁷. The need for skilled workers in aviation and related industries can lead to the development of training programs and educational institutions, further

²⁷ Based on figures at [Facts & figures | ATAG](#), 11.6, for every one direct airport job, 1.75 indirect jobs generated through the purchases of goods and services from companies in the air transport industry supply chain; and 1,48 induced jobs from industry employees spending of wages.

contributing to the region's economic vitality. The creation of new employment opportunities may attract individuals to relocate to Almaty, thereby contributing to the city's development through the construction of new residential buildings and the expansion of local services. As more people settle and establish their lives in Almaty, including starting families, this population growth supports the city's overall economic and social advancement.

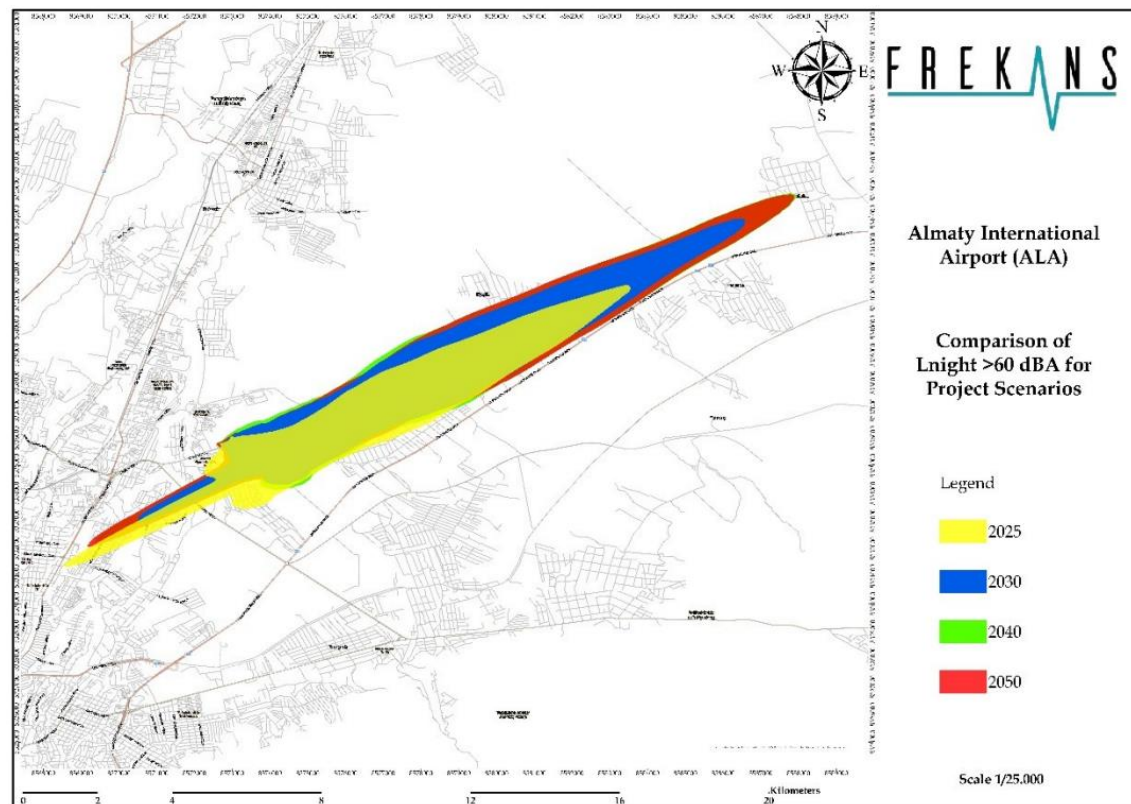
- 8.5.16 To date, the KIIs have provided positive feedback on the employment and service contributions provided to the neighbourhoods surrounding the airport. Internationally, there is also analysis that positively represents the impact of airports on local economies²⁸.
- 8.5.17 Improved connectivity makes the area more attractive to national and international businesses, especially those that rely on fast logistics. Also, it stimulates tourism by making Almaty more accessible, which benefits local hotels, restaurants, and cultural attractions. Additionally, the airport will support trade by facilitating air cargo transport, encouraging the growth of logistics hubs and distribution centres. In light of the above considerations, the sensitivity of the economy is assessed as **low**, while the magnitude of the impact is considered to be **high**, creating a **beneficial moderate** effect which is **significant**.

Community disturbance from increased air traffic (especially noise) and road traffic

- 8.5.18 Once the operational phase of the Project commences and the newly constructed runway becomes functional, a notable increase in air traffic to and from Almaty is anticipated. This additional runway, located to the north of the existing one, will mean noise impacts are further away from households in Guldala, which is adjacent to the south of the airport. However residential areas such as Almerek and Panfilovo that are located to the north-east of the airport along the take-off and landing routes of the new runway are expected to be exposed to heightened noise levels from increased air traffic. With the new runway the intention is to preference east to west flights paths. The overall spatial area affected by airport traffic noise will increase and move north (refer to Figure 8.15), further away from current residential areas. Refer to **ESIA Chapter 11: Noise** for more details.

²⁸ See for instance "The impact of airports on local economies" written in 2024 at [The Impact of Airports on Local Economies](#) which positively reflects on the abilities of airports to create jobs and employment opportunities directly and indirectly, boost local tourism and support business travel, act as a trade and logistics hub, and leads to significant infrastructure develop and urban growth. The article also mentions that they bring challenges to sustainable growth whereby environmental and social impacts such as noise, air quality, and land use which affect local communities need managing. The website [The Economic Impact of Airports | Airport Gurus](#) cites many of the same arguments and states that research shows that for every million passengers, airports can create 2,000 to 4,000 jobs in various roles, from pilots and air traffic controllers to ground crews, security personnel, office staff, maintenance teams, and retail workers.

Figure 8.15: Comparison of Night > 60 dB(A) for Project Scenarios

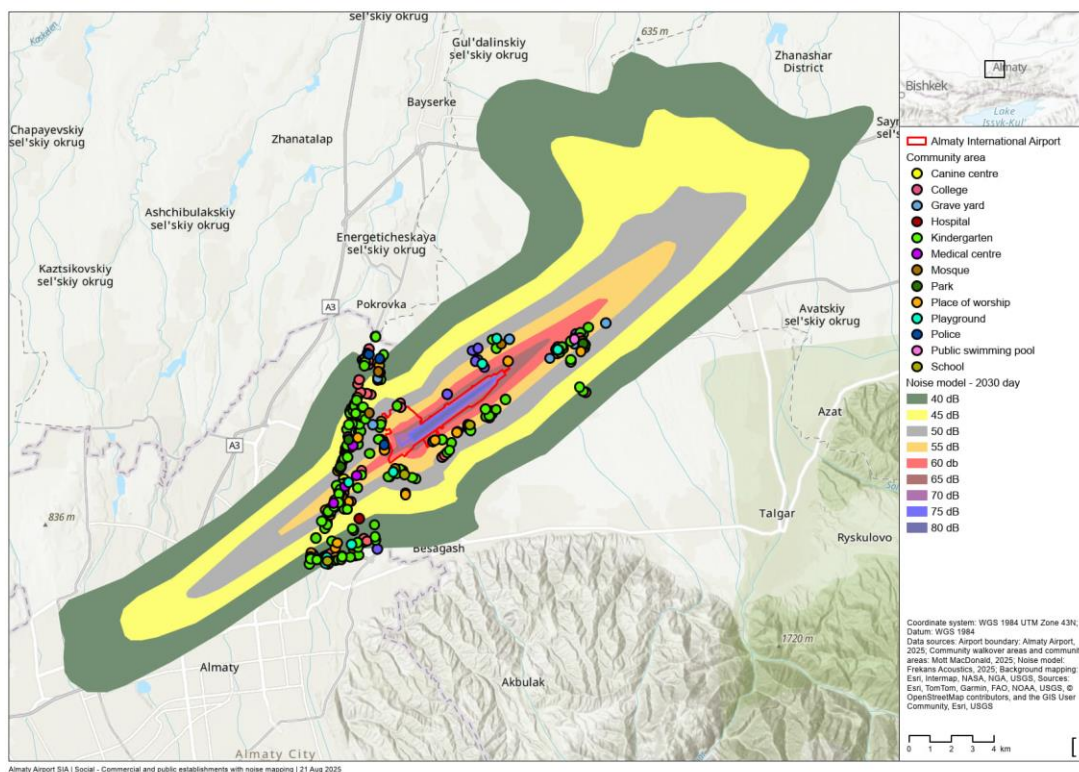


Source: Frekans 2025

8.5.19

Figure 8.16 identifies the noise modelling conducted by Frekans for the year 2030 and the community infrastructure identified in the walkover. Refer to the baseline section on community infrastructure. It is evident that several community facilities across different neighbourhoods will be affected by elevated noise levels. Among these, six commercial establishments are expected to be affected by daytime noise levels exceeding 60dB(A), and four during nighttime. These include two businesses, two pharmacies, one restaurant, and one parking facility. Additionally, six community facilities will be impacted during the day and four at night by noise levels above 60dB(A). These community facilities include two kindergartens, one graveyard, one place of worship, one medical centre, and one playground.

Figure 8.16: Community facilities affected by noise in 2030



Source: Mott MacDonald, 2025

8.5.20 In addition to the rise in air traffic, the increased utilisation of the airport is expected to result in a higher volume of road traffic in and around the airport vicinity. This concern was echoed by the director of School #44 in Turksib, who reported a noticeable increase in traffic in the area following recent airport developments. She also highlighted that the noise has been disruptive to students, a sentiment shared by the principal of School #33 in Panfilovo as well as by the principal of school #21 in Talgar²⁹. The noise particularly affects important lessons such as physical education, which are conducted outdoors, potentially impacting the children's health and well-being. The growth in passenger numbers will naturally lead to a greater demand for taxis and other forms of public transport. Furthermore, there will likely be a significant increase in the number of private vehicles, particularly those used by airport staff and other service providers. Given that traffic congestion is already a major concern in Almaty, it is expected that many drivers will continue to use alternative routes through residential neighbourhoods in an effort to avoid the heavily congested main highways.

8.5.21 One of the neighbourhoods most vulnerable to this increase in road traffic is Nurshashkan, situated to the west of Guldala. This area is already experiencing pressure from through-traffic, and the anticipated rise in vehicle numbers could exacerbate existing issues, potentially affecting the quality of life for local residents. A metro stop at the airport has been planned but could take at least a decade before it is functioning (refer to **ESIA Chapter 12: Traffic and Transportation** and **ESIA Chapters 16-17: Cumulative assessment and ESMF** for more details). Like in many places, residents and road users are forced to become accustomed to traffic congestion and add in travel time.

²⁹ Principals from schools #44 and #21 also reported internet disruptions caused by aircraft flying over the schools, which they noted significantly interrupts the learning process.

- 8.5.22 The individuals who will be impacted by the noise and disturbance from increased air traffic and road use are already considered vulnerable because of existing exposure to these effects, hence they are categorised as **high** sensitivity and the magnitude of impact is **major** because of the number of people in different neighbourhoods who will be affected. This results in a **major adverse** effect which is considered **significant**.

Definition and enforcement of the protection and safety zones

- 8.5.23 As mentioned above in Section 8.3 under 'Discussions on protection and safety zones for communities', protection and safety zones are being discussed. At this stage the mostly likely to proceed is the SPZ, possibly for 500m from the runway, leaving existing properties as they are and prohibiting residential development on other properties in that area. This is particularly critical for the neighbourhoods surrounding the airport - especially Almerek and Guldala - where new residential developments are currently underway. Current discussions appear to be focused on the establishment of a SPZ rather than a PSZ.
- 8.5.24 With the full depth reconstruction of the second runway, the boundaries of the aerodrome vicinity (which is an administrative delimitation prescribed by the RoK) may need to be modified, as the regulations stipulate a 4km radius from the nearest point of the runway and a 15km radius from the airport's control point. Given the ongoing expansion of residential neighbourhoods in the vicinity of ALA, it is reasonable to assume that this number has increased considerably by 2025.
- 8.5.25 Should protection and safety zones be formally established in response to the anticipated intensification of airport operations, the implications for urban development could be significant. Not only would this likely halt further residential and commercial development in the surrounding areas, but it could also place the legal status of existing properties within the zones into question. For instance, the Panfilovo akim suggested in the KII that the start of construction works may result in the development of sanitary, environmental and legal restrictions that could prevent the legalisation of housing and the construction of new houses.
- 8.5.26 The establishment of zones may affect property rights, planning permissions, and the ability of residents to make improvements or sell their homes, thereby creating uncertainty and potential socio-economic challenges for affected communities. At the same time, the establishment of the SPZ will provide clarity for those who have been involved in these discussions for some time and provide protection to community members over the long term. The individuals affected are considered vulnerable due to their exposure to noise. Those with compromised legal status of their housing are more vulnerable. Consequently, the sensitivity of the groups of affected people is assessed as **high**, and the magnitude of the impact is considered **major** because of the number of people affected in different neighbourhoods. Combining sensitivity and magnitude results in a **major adverse** effect which is considered **significant**.

Community safety and security risks

- 8.5.27 The WBG Environmental, Health, and Safety (EHS) guidelines for airports identifies issues that can potentially affect local communities including the highly infrequent, but potentially catastrophic, failure of aircraft during the landing and take-off cycle. The EHS guidelines require airport operations to develop and implement a safety management system to identify and correct unsafe conditions. Because the airport is already operational, management measures (risk assessments, policies, plans, procedures, staff, responsibility definitions) related to safe practice are in place and aligned with the International Civil Aviation Organisation (ICAO). For the last three years, the Lenders' Environmental and Social (E&S) Advisor has been undertaking monitoring to verify compliance performance with the EBRD ESRs and IFC PSs.

The monitors have praised the experience and capacity of TAV³⁰ as an international airport operator, indicating that ALA staff are reaping benefits from that guidance, gaining their own experience and understanding of international standards, and generally improving their abilities and skills to manage environmental and social related impacts and risks.

- 8.5.28 A key component of the Project is the fuel farm storage expansion and improvements to the existing fuel farm. The fuel farm is located within the airport boundary, 654m from the closest residences. The airport already has in place a system to inspect fire safety systems including fire detection and alarm, accessibility of exits and evacuation signalisation, smoke extraction, and automated fire-fighting equipment. The design of new buildings will follow the NFPA101, the Life Safety Code developed by the National Fire Protection Association in the United States - Fire Safety Codes for buildings accessible to the public. As mentioned, the airport already has management measures for a full range of emergencies in place. They stage drills to practice response.
- 8.5.29 Identified security risks during operations relate to:
- Drug trafficking, human trafficking, smuggling or other illicit activity facilitated by airport traffic
 - Harm caused through the use of inadequately trained security personnel who may inappropriately use force or weapons, abusing their power and the human rights of local community members
- 8.5.30 The airport already has key responsibilities for the safety of passengers against the consequences of unlawful acts. The airport has private and public security forces in place who are part of a security system with procedures to prevent and respond to security concerns. None of the new Project components are expected to warrant changes to the existing security system.
- 8.5.31 As mentioned in the methodology section, no significance is attributed to community risks, but management measures are identified.

8.6 Mitigation

- 8.6.1 This section describes the mitigation, enhancement and monitoring measures that will be taken to manage the impacts and risks of the Project.

Construction management

Promote local economic participation

- 8.6.2 To enhance the positive economic effects during the construction phase, the Project will actively promote the participation of local businesses and service providers in the procurement of goods, materials, and services. The concept of “local content” is about increasing the input of local labour, goods and services in the delivery of infrastructure projects to provide benefits and value to the local communities and host country. This can be achieved by encouraging the use of subcontractors, service providers and suppliers from within the direct and wider area of influence wherever feasible. By doing so, the Project can help stimulate the local economy, support job creation, and strengthen local supply chains.

³⁰ ALA is an airport operated by TAV Airports. TAV Airports, is a global airport operator operates a portfolio of 15 airports in eight countries, in which ALA is included.

8.6.3 Ways that the EPC contractors can encourage local companies' involvement in the construction activities include³¹:

- Deliver information on purchasing policies and upcoming contracts available as early as possible, to allow local businesses adequate preparation time
- Provide longer deadlines to assist small and medium enterprise responses
- Divide supply contracts into smaller work packages or requests, to encourage greater local competition and the participation of small or family businesses when possible
- Shape contracts to make them compatible with the capabilities of local businesses or set aside contracts or specific work packages that are only directed to local companies
- Offer technical assistance and training to local contractors with sufficient time to be prepared for the tenders
- Encourage outside contractors to partner with local businesses when awarding contracts
- Organise longer contract periods to justify acquisition of capital equipment or identify other ways to assist potential contractors in acquiring credit to purchase equipment that may be needed for use
- Provide support for local businesses to draft their company profiles
- Pay invoices in agreed shorter time frames to help small local companies manage their cash flow

8.6.4 The EPC contractors will need to appropriately advertise procurement opportunities and avoid sole sourcing by identifying options. Already it is known that YDA intends to rent some local accommodation. Typical services provided by local companies also include catering, personal protective equipment (PPE) and safety material provision, equipment and vehicle rental, and construction material supplies. ALA will require the EPC contractors to report quarterly on their procurement activities and local content results.

Provide business access and engage with affected business

8.6.5 To minimise disruption to businesses operating within and around the airport during the construction phase, the EPCs will produce and implement traffic management plans (TMPs) that include any required action or strategies to maintain clear and consistent access routes for travellers, customers, suppliers, and employees to businesses inside and around the airport, particularly during peak hours. Temporary signage, TMPs, and coordination with local authorities should be used to reduce congestion and promote safe and efficient movement around construction zones.

8.6.6 Additionally, regular and timely communication via ALA with affected businesses will be established to inform them of construction schedules, anticipated disruptions, and available support measures. Where feasible, efforts will be made to schedule high-impact activities during off-peak hours to reduce interference with business operations. By proactively managing access and maintaining open lines of communication, the Project can help mitigate short-term disruption while supporting the resilience and continuity of local businesses throughout the construction period. While efforts will be made to maintain access, the grievance mechanism will be available for local businesses to use if they need to report any specific situations that need rectification.

³¹ Based on Engineers Against Poverty's local procurement guidance. The information is from previous versions no longer readily available however a newer version is available at: [Local_content_briefing_note.pdf](#) ([engineersagainstopoverty.org](#))

Produce Construction Environmental and Social Management Plans (C-ESMP)

- 8.6.7 To manage (mitigate, enhance and monitor) impacts and risks, this ESIA includes an appropriately tailored Environmental and Social Management Plan (ESMP) to reflect the current scope, scale, and context of construction activities. The ESMP will include measures or sub-management plans to minimise the combined effects of noise, air emissions, traffic congestion, waste generation, and social disruption to the communities surrounding the airport. The ESMP from this ESIA acts as a framework for the EPCs to develop their scope and location specific C-ESMPs
- 8.6.8 Construction activities will be carefully scheduled to occur during daytime hours, (i.e. no nighttime work will be allowed) with efforts made to reduce noise and dust through appropriate equipment and suppression techniques. Refer to **ESIA Chapter 11: Noise** for more details on noise management and **ESIA Chapter 5: Air Quality** for more details on dust suppression.
- 8.6.9 Each EPC will need to produce and implement a TMP to outline routes for equipment deliveries, personnel transportation, strategies to minimise congestion and to coordinate with local authorities, including if needed some restrictions on residential streets. Refer to **ESIA Chapter 12: Traffic and transport** for more details on the TMPs.
- 8.6.10 Waste generated by construction and workers will be managed by EPC contractors adhering to the construction waste management plan. Workers will receive training on the plan and toolbox talks to prevent illegal dumping and maintain cleanliness not only around the site, but in their interactions with the neighbourhoods around the airport. The linkage between maintaining cleanliness around the site and health and safety measures to prevent the spread of communicable diseases will be emphasised. **ESIA Chapter 13: Waste and resources** on waste provides more details.
- 8.6.11 By integrating these measures into ALA's environmental and social management system, and in particular its construction monitoring programme, the Project can reduce the overall burden on neighbouring communities, mitigate conflict or dissatisfaction, and maintain a constructive relationship with them throughout the construction period. While efforts will be made to avoid nuisance and disturbance, ALA does have its grievance mechanism which will be communicated so that community members may identify any feedback or specific circumstances relating to the management of nuisance effects.

Manage and monitor construction phase community safety and security risks

- 8.6.12 To mitigate community safety risks associated with construction activities—such as exposure to heavy machinery, trip and fall hazards, falling objects, hazardous materials, and electrical equipment—the Project will confine works within the boundaries of the airport. Construction zones and hazards will be clearly demarcated, and access will be strictly controlled, significantly reducing the likelihood of unauthorised entry by community members.
- 8.6.13 The EPCs will be required to use the ESMP that is part of this ESIA as a framework to produce and implement an activity and location specific C-ESMP. This plan will include provisions to prevent and manage potential risks to the community, alongside an EPRP to support readiness and appropriate action in the event of unforeseen incidents. These measures will collectively help to uphold safety standards and protect the wellbeing of nearby residents throughout the construction period.
- 8.6.14 Each EPC will be mandated specific construction site security limits which are their responsibility to maintain. The use of security personnel will be carefully managed. Private sector security staff that EPCs employ will not be allowed to be armed. The staff will need to be vetted for previous infractions. Security personnel will need to be trained on human rights, use of force, community-sensitive approaches, the workers' code of conduct, relevant parts of the

airport security system, and the Project's EPRP. Security personnel of the EPC contractors and subcontractors must also receive training on sexual exploitation, abuse and harassment (SEAH) and gender-based violence (GBV).

- 8.6.15 As occurred during the previous construction activities, the EPCs will be required to produce an EPRP for their specific activities and locations. The EPRP will need to meet international requirements covering the legal and policy framework, a hazard and risk register, responsibilities including for communication, emergency materials and supplies (fire extinguishers, medical, water, electricity, other), emergency preparedness (staff training, drills, evacuation planning), emergency response (to fire, flooding, severe weather, terrorism, a critical accident, labour unrest, explosion, other), and restoration clean up, remediation, return to work. The construction EPRP will need to take into account and coordinate with ALA's existing EPRP which focuses on national requirements.
- 8.6.16 ALA's community grievance mechanism will be disclosed for community concerns to be addressed promptly and transparently, supported by regular engagement with residents to provide updates and gather feedback. Finally, ALA must clearly define the environmental and social roles and responsibilities of its management and personnel throughout both the construction and operational phases of the Project, to promote effective implementation and accountability.

Operational mitigation

Enhance economic development

- 8.6.17 To support local development during the operational phase, the CLO at ALA needs to actively contribute to tourism campaigns initiated by the government, as well as other initiatives aimed at promoting regional economic growth. The akimats of both Turksib and Guldala referenced in the KILs that with the growing importance of the airport, there is a need to develop the accompanying urban infrastructure. These efforts should particularly focus on leveraging the strategic role of the airport as a gateway to the region, enhancing its potential as a driver of sustainable economic and social development.
- 8.6.18 In addition to supporting tourism, the CLO could facilitate partnerships between local businesses and airport services, promote local products and crafts within airport retail spaces, collaborate with educational institutions to develop training programmes aligned with airport-related employment opportunities, and organise cultural events or exhibitions that showcase the region's heritage to travellers. According to the interview conducted with the principal of Panfilovo #33 School, a significant number of pupils choose to enrol in the aviation college after completing their studies. This trend appears to be influenced by the presence of the nearby airport, as many students aspire to secure future employment there. The college may represent a valuable partner for developing a local workforce or for delivering training programmes. Furthermore, the CLO could engage with local authorities and civil society organisations to facilitate that development initiatives are inclusive and responsive to community needs, thereby reinforcing the airport's role as a catalyst for long-term regional prosperity.
- 8.6.19 As an example to reinforce this idea, Panfilovo akim said that specific forms of social support are expected to be developed by the airport. He noted that when local initiatives—such as the development of sports halls, playgrounds, or public spaces³²—are supported by the airport or

³² Panfilovo akim suggested that the situation could be improved through the development of facilities such as a children's gym, playgrounds, and parks. He noted that although a gym exists in the village of Tonkeris, children currently train inside a shop due to the lack of proper infrastructure. In the past, playgrounds and recreational areas were constructed by the community itself; however, a master plan for the district's development has since been prepared. While this plan includes new parks and public spaces, some of the designated land has already been transferred into private ownership.

other major enterprises as part of their social responsibility, public trust tends to be reinforced and community perceptions are positively shaped.

- 8.6.20 Another example was provided by the district police inspector of Guldala, who highlighted the urgent need to install surveillance cameras in the fence area to help enhancing public safety due to the lack of police officers in the neighbourhood.

Mitigate community disturbance from increased air and road traffic

- 8.6.21 To mitigate the anticipated moderate adverse effects on residential communities surrounding the airport—particularly Almerek, Panfilovo, Guldala, Turksib, and Nurshashkan—the Project will implement the airport's ESMS with a targeted set of plans and procedures aimed at managing the effects of increased air traffic and road traffic. In parallel, the Project will coordinate with local authorities³³, to improve traffic flow and reduce congestion on key access routes, including Mailin Road while discouraging the use of residential streets through signage and digital navigation updates.
- 8.6.22 Noise mitigation measures will focus on the implementation of the NIP which is likely to be expanded. The NIP has staff and resources. The uptake of the NIP since the last quarter of 2024 has been considerable. Currently the NIP is focusing on people who volunteer to participate, some who may be vulnerable and some who may not.

Define and enforce any agreed protection and safety zones

- 8.6.23 It appears that discussions are leading to the identification of one SPZ rather than a PSZ or ASZ. The working committee needs to continue meeting to clearly define what the SPZ distances should be and how enforcement will be guaranteed. The SPZ will likely be a compromise that takes into account physical safety, well-being/health/sanitary protection, and formal property rights preservation. ALA needs to continue with its contributions. Once a decision is made and the proposal for the SPZ is transformed into law or regulations, ALA will need to respond accordingly with any corporate positions or procedures in adherence.
- 8.6.24 More attention is required by local and planning authorities for reviewing proposed development permitting requests and monitoring for constructions without permits. ALA's inputs and analysis of specific proposed developments need to continue, and it would be useful if their feedback could have more bearing on local planning.
- 8.6.25 While Kazakhstan does not have an ASZ defined in its legislation, instead it has an aerodrome vicinity based on the runway. When the runway changes, the aerodrome will also need to change.

Disclose information, consult and manage grievances

- 8.6.26 This ESIA assignment updates the current Stakeholder Engagement Plan (SEP). The implementation of the comprehensive SEP is designed to guide ongoing, transparent communication with interested and affected parties, especially neighbouring communities. The SEP will include regular updates on flight path changes, traffic management strategies, and operational schedules, as well as opportunities for residents to provide feedback and raise concerns. By maintaining open lines of communication and proactively addressing concerns, the Project can help build trust with local residents and reduce the risk of dissatisfaction or conflict, thereby enhancing the overall social sustainability of the airport's expansion. The

³³ According to the Turksib District Police Department Almerek police officer, preventive measures to avoid traffic accidents are being taken in the area by installing many speed control cameras along the Bukhtarminka and Mailin streets that lead the visitors into the city. Patrolling is more frequent along these streets too.

grievance mechanism will remain in place for community feedback. Monitoring grievance trends may also provide adaptive management strategies.

- 8.6.27 One KII respondent suggested the creation of a consultative body, council or commission, which would include representatives of the local council, environmentalists, and experts on safety, and on the impact of the airport. There should be a comprehensive plan to reduce the negative impact of airport activities. As well, a KII respondent expressed interest in hearing the results of the noise measurements, receiving independent experts' opinions on the results, receiving information about the construction plans and works in progress, and knowing independent experts' opinions on health impacts.
- 8.6.28 A different KII stated that a desire for openness and access to current information has been expressed by residents of the neighbourhood. When works or changes are planned by the airport, it is considered important that details regarding their nature, purpose, and potential consequences are communicated to the public in a timely manner. This approach is viewed as effective in reducing misunderstandings. He suggested that platforms for public feedback, including hearings, meetings, and surveys, are regarded as necessary to give residents a voice and to facilitate the joint resolution of local issues.
- 8.6.29 Another KII respondent suggested that the airport needs better logistical provisions for Umrah³⁴. He indicated that, in his opinion, the airport has a prayer room, but it is too small for such events nor does it provide for women who have to pray separately. He suggested that the airport should also have space for luggage during prayer, and that worship spaces for other denominations (Christians, Jews) may also require adequate provisions.

Manage and monitor operational phase community safety and security risks

- 8.6.30 Although possible causes of aircraft failures are numerous and complex, the guidelines indicate that airport operators can help prevent them with:
- Airport design
 - Minimising the presence of birds and other wildlife which can increase the likelihood of strikes by aircraft (refer to **ESIA Chapter 6: Biodiversity** for more details)
 - Operational safety procedures of aircraft during landing, take-off, and ground operations, including adequate emergency response. Potential hazards can be managed through regular runway maintenance and monitoring to identify and remove non-permissible objects on the runways (e.g. metal or other parts that may have fallen from other aircraft on the runway or during maintenance activities).
- 8.6.31 In terms of design, a key new Project component has been to include a de-icing pad³⁵ to allow for adequate de-icing. In addition, aircraft inspections will be conducted regularly, including thorough checks and de-icing procedures to provide operational safety in cold weather conditions.
- 8.6.32 From the previous construction activities, a Lender commitment by ALA was to use a suitably qualified professional with certification to:
- Design the life and fire safety systems in accordance with an internationally accepted life and fire safety (L&FS) standard
 - Conduct a review, as part of the project completion test, at the time of the L&FS systems testing and commissioning and certify that the construction of these systems was carried out

³⁴ The minor pilgrimage undertaken by Muslims when they enter Mecca.

³⁵ This recognises that a probable cause of the 2019 aircraft crash was relating to ground icing of the wings.

in accordance with the accepted design and the L&FS section of the WBG General EHS Guidelines

- 8.6.33 The same commitment will be required for this Project. Already the airport has in place a system to inspect fire safety systems including fire detection and alarms, accessibility of exits and evacuation signalisation, smoke extraction, and automated fire-fighting equipment. The design of new buildings will follow the NFPA101, the Life Safety Code developed by the National Fire Protection Association in the United States - Fire Safety Codes for buildings accessible to the public.
- 8.6.34 A flight safety assessment was produced in 2025 to determine the impact of construction works on aerodrome operations in terms of flight safety³⁶ and to develop measures to facilitate that an acceptable level of flight safety is maintained subject to the requirements of the NGEA GA RK³⁷ and ICAO. The assessment reviewed the works that will be undertaken and identified where and when restrictions on the movement of aircraft would be needed. It also identifies where some equipment and vehicles will enter the construction area within the airport boundaries. Reflective tapes and red lights (not air navigation ones) will need to be installed around the construction site. Control procedures for the execution of work in the movement area are identified. For the organisation of the construction work the assessment indicates that the EPC contractor is responsible for training/briefing staff in advance (airside safety, airside vehicle driving, post guarding, health and safety, firefighting and aviation security) and that some training can be provided by the airport on agreement. Briefings prior to construction works and pre-shift will be required on a full range of topics identified in the assessment. As well, notices to airstaff (NOTAM), which are official notifications issued by aviation authorities, will be used to inform pilots and aviation professionals about important information that may affect flight operations.
- 8.6.35 The current fuel farm does not meet international standards and improvements are needed. As discussed in **ESIA Chapter 2: Project description**, the fuel storage facilities will be designed, constructed and operated according to GIIP. The design is expected to take into account distances and bunding between individual tanks which is a current deficiency. A positive aspect is that there is already a buffer between the fuel storage area and adjacent buildings. Cooling water capacity is appropriate. Procedures for unloading the fuel that is delivered by road already exist. There is use of fail-safe control valves and emergency shutdown equipment.
- 8.6.36 Maintenance measures will need to include prevention of flooding and potential ignition sources, for instance to avoid static electricity buildup and lightning hazards, use of safe electrical installations and no-sparking tools, and implementation of work permit systems and procedures for any hot works. The above measures already and in the future will help prevent and control fire and explosion hazards. A fire current response plan exists, which includes identification of response roles and training. The training includes use of fire suppression equipment and evacuation. The new fuel farm will include fire suppression equipment such as portable extinguishers, specialised vehicles and fixed fire suppression equipment that meet internationally recognised technical specifications for the fuel stored at the facility. Once the fuelling area infrastructure is updated to a state-of-the-art facility, ALA will need to develop and implement a Major Accident Prevention Policy.
- 8.6.37 The WBG airport EHS guidelines indicate that the emergency plans should specifically address potentially catastrophic incidents such as aircraft crashes and fires, including a firefighting plan

³⁶ Flight safety is a condition in which the risk of harm to life or health of people or damage to property is reduced to an acceptable level and maintained at that level or lower through a continuous process of identifying sources of hazard and controlling risk factors.

³⁷ Government of the Republic of Kazakhstan. (2012, January 23). Order No. 156 on Regulations of Serviceability of Airfields (Helidromes) of Civil Aviation of the Republic of Kazakhstan. Available at <https://caa.gov.kz/en/legislation-map-kazakhstan-civil-aviation>. Last access on 30 July 2025.

and training program, applicable to airport and aircraft emergencies. Currently ALA's EPRP is more aligned to national requirements, and it will need to be updated to meet international standards. The EPRP will need to include a full assessment of emergency services capacity to respond.

- 8.6.38 ALA has a security system in place to manage operational airport security risks. This security system will need to be updated to cover the Project.

8.7 Summary of residual effects

- 8.7.1 Residual effects after the application of mitigation are presented in Table 8.8.

Table 8.8: Summary of residual effects for community

Description of effect	Permanent or temporary	Sensitivity of receptor	Magnitude of impact	Significance of effect before additional mitigation	Additional mitigation	Residual effect	Proposed monitoring
Construction phase							
Construction disruption to existing businesses in or around the airport.	Temporary	Low	Minor	Minor adverse (Not significant)	Develop and implement traffic management plan (TMP) to maintain clear access. Communicate regularly and in a timely manner with affected businesses and support local services to facilitate business continuity and resilience.	Minor adverse (Not significant)	Performance findings on TMP implementation Number, type and timeliness of communications
Generation of positive procurement opportunities for local and regional suppliers.	Temporary	Low	Minor	Minor beneficial (Not significant)	Prioritise local procurement Provide transparent information on procurement opportunities	Minor beneficial (Not significant)	Quarterly reporting by EPCs on procurement efforts and local content use
Creation of nuisance and disturbances to nearby neighbourhoods during construction	Temporary	High	Low	Moderate adverse (Significant)	Produce C-ESMPs that are activity and location specific and address the combined effects of noise, air emissions, traffic congestion, waste generation, and social disruption	Minor adverse (Not significant)	Performance findings on C-ESMP implementation Number, type and resolution of grievances
Community safety risks related to construction activities, such as exposure to heavy equipment, trip and fall hazards, falling objects, materials and chemicals, electrical hazards and use of tools and machinery.	Not applicable (N/A)	N/A	N/A	N/A	Confine construction work activities within airport boundaries and enforce strict access controls Require contractors to develop and implement tailored safety procedures and emergency preparedness and control plans. Require security personnel to be vetted and unarmed. Train security staff in use of force, human rights, community-sensitive practices, and emergency preparedness and response procedures. Security personnel must also receive training on SEAH and GBV. Conduct engagement with residents and a transparent grievance mechanism will support	N/A	Training schedule and training log on H&S and use of force and human rights and community-sensitive practices for security personnel. Updated stakeholder engagement log and community grievance mechanism.

Description of effect	Permanent or temporary	Sensitivity of receptor	Magnitude of impact	Significance of effect before additional mitigation	Additional mitigation	Residual effect	Proposed monitoring
					safety, accountability, and responsiveness throughout the construction phase.		
Operational phase							
Drive localised economic development by acting as a hub for employment, business growth, and tourism	Permanent	Low	High	Moderate beneficial (Significant)	Support tourism campaigns, promote local products and training, and foster business partnerships through the CLO. Participate in cultural events and link local services with airport needs. Engage regularly with authorities and civil society regarding airport activities for community-driven development	Moderate beneficial (Significant)	Corporate Social Responsibility (CSR) report reflecting activities conducted Updated stakeholder engagement log
Community disturbance from increased air traffic (especially noise) and road traffic	Permanent	High	Major	Major adverse (Significant)	Implement the airport's ESMS and coordinate with authorities to manage traffic and reduce congestion. Implement the Noise Management Plan (NMP). Expand the NIP in phases, offering insulation upgrades to eligible households. Maintain community outreach, clarify eligibility (including for informal housing), and adapt the programme based on lessons learned. Target families of children in the AoI with NIP information and awareness via schools. Assess how education and health facilities can be supported by the NIP to suppress noise.	Moderate adverse (Significant)	Noise monitoring according to the NMP. Updated NIP programme, showing the numbers for beneficiaries' houses Updated stakeholder engagement log showing NIP engagement activities and meetings with local authorities, households with children, and local schools and health facilities.
Definition and enforcement of the SPZ	Permanent	High	Major	Major adverse (Significant)	Continue ALA's participation in defining the SPZ and support its legal adoption. Align internal procedures with the final SPZ regulations once formalised. Monitor and provide input on local development proposals and encourage stronger enforcement against unpermitted construction.	Moderate adverse (Significant)	Meeting attendance records showing ALA's involvement in SPZ discussions Internal policy updates reflecting SPZ requirements Audit reports confirming implementation of updated procedures

Description of effect	Permanent or temporary	Sensitivity of receptor	Magnitude of impact	Significance of effect before additional mitigation	Additional mitigation	Residual effect	Proposed monitoring
							Records of coordination with local planning authorities
Community safety and security risks related to aircraft failure and operational safety incidents, alongside potential security threats such as trafficking or misuse of force by security personnel.	N/A	N/A	N/A	N/A	<p>Maintain wildlife control, runway inspections, and operational safety procedures to prevent aircraft hazards.</p> <p>Engage certified professionals to design and verify life and fire safety systems to international standards.</p> <p>Implement construction-phase flight safety controls, including staff training, site markings, and NOTAMs.</p> <p>Upgrade the fuel farm to meet international standards, with fire prevention systems and a Major Accident Prevention Policy.</p> <p>Update EPRP to align with international standards and assess emergency response capacity.</p> <p>Expand the airport's security system to cover new Project components.</p> <p>Conduct inspections regularly, including thorough checks and de-icing procedures to ensure operational safety in cold weather conditions.</p>	N/A	<p>Daily inspection logs for runways and wildlife activity and incident reports.</p> <p>Inspection reports and maintenance logs for fire alarms, sprinklers, and suppression systems</p> <p>Site inspection reports verifying markings, barriers, and lighting as well as NOTAM logs showing timely communication of construction activities</p> <p>Third-party safety audits for the fuel farm</p> <p>Updated EPRP</p> <p>Training records, weekly toolbox talks and safety briefings</p> <p>Security system design documents covering new Project areas and security audits presenting the results</p>

Appendix 8.A: Hand brochure

ALMATY INTERNATIONAL AIRPORT INFRASTRUCTURE DEVELOPMENT

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT

Almaty International Airport (ALA) is planning some infrastructure developments that will enhance its capabilities and improve services. These developments include:

1. Rehabilitation of the current runway and existing aprons, as well as construction of a new parallel taxiway, a new central deicing pad, and cargo aprons. Aprons are paved areas where aircraft are parked, loaded, unloaded, refueled, and maintained.
2. Additions of more parking spaces for cars and a new ground handling and aerodrome operations village. The village will include parking areas for aircraft, maintenance facilities, equipment storage, and offices for airport staff.
3. Expansion of the fuel storage area and improvements to existing fuel facilities.
4. Building of a modern catering facility for effective preparation of flight meals.

These developments will be carried out within the existing airport grounds. However, nearby communities might still experience some effects, particularly an increase in noise during the construction phase and from a future increase in flights.

To better understand how these activities might affect your community, a team of consultants, including specialists from the Almaty-based EcoSocio Analysts company

will carry out an **Environmental and Social Impact Assessment (ESIA)**.

The ESIA will study a full range of aspects related to construction activities and operational changes such as noise modelling, water and waste management, and traffic projections. The ESIA process will follow good international industry practice required by international financiers. The ESIA will contribute to the airport's existing suite of management policies, plans and procedures.

The ESIA includes learning how the developments could impact people living and working near the airport. Some **household surveys** in neighborhoods close to the airport will be carried out. These are expected to take place for four weeks starting in **June 2025**.

ALA is committed to maintaining strong and respectful relationships with the surrounding communities. We understand the importance of working together so that the airport development supports both regional growth and the well-being of local residents.

As a major gateway connecting Almaty to the rest of the country and the world, the airport plays a key role in the region's progress. That is why your feedback is so important to us—we are here to listen and to make sure the airport grows in a way that benefits everyone.

KEY FACTS

Assignment objectives: To assess the environmental and social impacts of the planned airport improvements.

ESIA study availability: Draft results will be available for public review and comments in September 2025.

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If you have any questions, please do not hesitate to contact us. Communications about the development and construction will also be available via the ALA website.

Appendix 8.B: NIP Leaflet

NOISE INSULATION PROGRAM

What is it?

Noise Insulation Program (NIP) is an initiative by Almaty International Airport aimed at reducing the impact of noise from airport operations on residential homes located near the airport. The program is fully funded by the airport.



How to apply?

Contact an airport representative using the contact details below and express your interest in participating in the Program. Provide your name and home address.



Main stages of the Program?

Measuring noise levels inside the home

Home inspection by the contractor and development of a work plan

Signing of a contract between the airport, Contractor and you

Start of construction works

Follow-up noise measurements inside the home



Frequently Asked Questions

Who can participate?

Houses located near Almaty Airport where the nighttime noise levels exceed 60 dB.

How much does it cost?

All works are performed free of charge for participants, funded by the airport.

What kind of work will be implemented?

The main work includes replacing existing windows with upgraded window systems, and roof and ceiling insulation if required.



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