

Environment impact indicators

A. ROAD TRANSPORT INFRASTRUCTURE

1) NO_x EMISSIONS (KILOTONNES/ YEAR)

Relevance	++	During the combustion process, automotive engines emit several types of pollutants, including nitrogen oxides (NO _x). Thus, the indicator is suitable to measure the impact on environment of modernisation and development of road (KAI 1.1 and KAI 2.1) and intermodal infrastructure (KAI 3.1).
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	+	The emissions estimate comes from models which are based on traffic intensity and structure (vehicle categories) at a certain point. These models could be updated regularly (quarterly, yearly)
Cost	+	Data collection involves additional costs of authorised services for measurement of emissions level on site.

2) SO₂ EMISSIONS (KILOTONNES/ YEAR)

Relevance	++	During the combustion process, automotive engines emit several types of pollutants, including sulphur dioxide (SO _x). Thus, the indicator is suitable to measure the impact on environment of modernisation and development of road (KAI 1.1 and KAI 2.1) and intermodal infrastructure (KAI 3.1).
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	+	The emissions estimate comes from models which are based on traffic intensity and structure (vehicle categories) at a certain point. These models could be updated regularly (quarterly, yearly).
Cost	+	Data collection involves additional costs of authorised services for measurement of emissions level on site.

3) VOLATILE ORGANIC COMPOUNDS - VOC_s (KILOTONNES/ YEAR)

Relevance	++	During the combustion process, automotive engines emit several types of pollutants, including volatile organic compounds (VOCs). Thus, the indicator is suitable to measure the impact on environment of construction of modernisation and development of road (KAI 1.1 and KAI 2.1) and intermodal infrastructure (KAI 3.1)..
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	+	The emissions estimate comes from models which are based on traffic intensity and structure (vehicle categories) at a certain point. These models could be updated regularly (quarterly, yearly)
Cost	+	Data collection involves additional costs of authorised services for measurement of emissions level on site.

4) PARTICULATE MATTER EMISSIONS – PM10 (KILOTONNES/ YEAR)

Relevance	++	The dust generated from travel on roads contributes to the total suspended particulate in the air, the PM 10 emissions. Thus, the indicator is suitable to measure the impact on environment of modernisation and development of road (KAI 1.1 and KAI 2.1) and intermodal infrastructure (KAI 3.1).
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	+	The emissions estimate comes from models which are based on traffic intensity and structure (vehicle categories) at a certain point. These models could be updated regularly (quarterly, yearly).
Cost	+	Data collection involves additional costs of authorised services for measurement of emissions level on site.

5) GHG EMISSIONS: CO2 EQUIVALENT (KILOTONNES/ YEAR)

Relevance	++	The modernisation/ upgrading or construction of existent transport infrastructure is expecting to increase traffic and fuel consumption therefore fuel consumption emissions, including GHG emissions. Thus, the indicator is suitable to measure the impact on environment of modernisation and development of road (KAI 1.1 and KAI 2.1) and intermodal infrastructure (KAI 3.1).
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	+	The emissions estimate comes from models which are based on traffic intensity and structure (vehicle categories) at a certain point. These models could be updated regularly (yearly).
Cost	-	Data collection involves higher costs of authorised services for measurement of emissions level on site.

6) LAND TAKE BY TRANSPORT (HA/YEAR)

Relevance	++	The expansion of existent road infrastructure or construction of new one requires the use of land. Thus, the indicator is suitable to measure the impact on environment of modernisation and development of road (KAI 1.1 and KAI 2.1).
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	++	Data is available at the level project and could be collected and reported on regular basis to the MA.
Cost	++	No additional resources are needed for its usage, except for the operational costs resulting from reporting requirements at project level and for OP monitoring, at the level of the MA/ACIS.

7) PEOPLE EXPOSED TO HIGH LEVEL OF TRAFFIC NOISE (NUMBER OF PERSONS)

Relevance	++	Noise associated with road transport comes from engine operations, pavement-wheel contact, aerodynamics effects, and vibrating structures during operation. Thus, the indicator is suitable to measure the impact on environment of construction of motorways, bypasses and expressways, and modernisation of national roads (KAI 1.1 and KAI 2.1).
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	+	The noise estimate is measured with models which are based on traffic intensity and structure (vehicle categories) at a certain point. These models could be updated regularly (yearly).
Cost	+	Data collection involves additional costs of authorised services for measurement of noise level.

8) PEOPLE EXPOSED TO AIR QUALITY LEVELS ABOVE STANDARDS VALUES (NUMBER OF PERSONS)

Relevance	++	The vehicles emit air pollutants from their exhaust, evaporation, use of air conditioners, as well as fugitive dust which is stirred up from the road surface. Thus, the indicator is suitable to measure the impact on environment of rehabilitation/ upgrading/ modernisation of rail transport infrastructure (KAI 1.2).
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	+	The air quality and affected population in the area is measured with models which are based on traffic intensity and structure (vehicle categories) at a certain point. These models could be updated regularly (yearly).
Cost	+	Data collection involves additional costs of authorised services for measurement of air quality level.

9) LENGTH OF TRANSPORT INFRASTRUCTURE INSIDE DESIGNED AREAS (KM)

Relevance	++	The modernisation/ upgrading or construction of existent transport infrastructure leads to the habitat fragmentation. Thus, the indicator is suitable to measure the impact on environment of construction of motorways, bypasses and expressways, and modernisation of national roads (KAI 1.1 and KAI 2.1).
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	+	Data is relative available at the level project and could be collected and reported on regular basis to the MA.
Cost	+	Data collection may involve the costs of authorised services for measurement.

10) PROXIMITY OF TRANSPORT INFRASTRUCTURE TO THE DESIGNED AREAS (M)

Relevance	++	The modernisation/ upgrading or construction of existent transport infrastructure is requires the use of land in the proximity of designed areas, therefore is a factor of potential disturbance to the biodiversity and ecosystems. Thus, the indicator is suitable to measure the impact on environment of construction of motorways, bypasses and expressways, and modernisation of national roads (KAI 1.1 and KAI 2.1).
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	+	Data is relative available at the level project and could be collected and reported on regular basis to the MA.
Cost	+	Data collection may involve the costs of authorised services for measurement.

11) NUMBER OF THE AFFECTED DESIGNED AREAS (KM2)

Relevance	++	The modernisation/ upgrading or construction of existent transport infrastructure is requires the use of land of designed areas. Thus, the indicator is suitable to measure the impact on environment of construction of motorways, bypasses and expressways, and modernisation of national roads (KAI 1.1 and KAI 2.1).
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	++	Data is available at the level project and could be collected and reported on regular basis to the MA.
Cost	++	No additional resources are needed for its usage, except for the operational costs resulting from reporting requirements at project level and for OP monitoring, at the level of the MA/ACIS.

12) REDUCTION OF ACCIDENTS CAUSING SOIL POLLUTION (NUMBER)

Relevance	++	The improvement of technical parameters of the road infrastructure will led to reduction of road accidents, therefore of soil pollution. Thus, the indicator is suitable to measure the impact on environment of construction of motorways, bypasses and expressways, and modernisation of national roads (KAI 1.1 and KAI 2.1).
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	++	Data is available at the level project and could be collected and reported on regular basis to the MA.
Cost	++	No additional resources are needed for its usage, except for the operational costs resulting from reporting requirements at project level and for OP monitoring, at the level of the MA/ACIS.

13) REDUCTION OF ACCIDENTS CAUSING WATER POLLUTION (NUMBER)

Relevance	++	The improvement of technical parameters of the road infrastructure will led to reduction of road accidents, therefore of water pollution. Thus, the indicator is suitable to measure the impact on environment of construction of motorways, bypasses and expressways, and modernisation of national roads (KAI 1.1 and KAI 2.1);
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	++	Data is available at the level project and could be collected and reported on regular basis to the MA.
Cost	++	No additional resources are needed for its usage, except for the operational costs resulting from reporting requirements at project level and for OP monitoring, at the level of the MA/ACIS.

B. RAIL TRANSPORT INFRASTRUCTURE

1) NO_x EMISSIONS (KILOTONNES/ YEAR)

Relevance	++	The trains exhaust emissions from fuel combustion, including nitrogen oxides (NO _x). Thus, the indicator is suitable to measure the impact on environment of modernisation and development of rail infrastructure (KAI 1.2 and KAI 2.2).
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	+	The emissions estimate comes from models which are based on traffic intensity and structure (vehicle categories) at a certain point. These models could be updated regularly (quarterly, yearly).
Cost	+	Data collection involves additional costs of authorised services for measurement of emissions level on site.

2) SO₂ EMISSIONS (KILOTONNES/ YEAR)

Relevance	++	The trains exhaust emissions from fuel combustion, including sulphur dioxide (SO _x). Thus, the indicator is suitable to measure the impact on environment of modernisation and development of rail infrastructure (KAI 1.2 and KAI 2.2).
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	+	The emissions estimate comes from models which are based on traffic intensity and structure (vehicle categories) at a certain point. These models could be updated regularly (quarterly, yearly).
Cost	+	Data collection involves additional costs of authorised services for measurement of emissions level on site.

3) VOLATILE ORGANIC COMPOUNDS - VOC_s (KILOTONNES/ YEAR)

Relevance	++	The trains exhaust emissions from fuel combustion,, including volatile organic compounds (VOCs). Thus, the indicator is suitable to measure the impact on environment of modernisation and development of rail infrastructure (KAI 1.2 and KAI 2.2).
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	+	The emissions estimate comes from models which are based on traffic intensity and structure (vehicle categories) at a certain point. These models could be updated regularly (quarterly, yearly).
Cost	+	Data collection involves additional costs of authorised services for measurement of emissions level on site.

4) PARTICULATE MATTER EMISSIONS – PM10 (KILOTONNES/ YEAR)

Relevance	++	The dust generated from trains and freight handling operations contributes to the total suspended particulate in the air, the PM 10 emissions. Thus, the indicator is suitable to measure the impact on environment of modernisation and development of rail (KAI 1.2 and KAI 2.2) and intermodal infrastructure.
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	+	The emissions estimate comes from models which are based on traffic intensity and structure (vehicle categories) at a certain point. These models could be updated regularly (quarterly, yearly)
Cost	+	Data collection involves additional costs of authorised services for measurement of emissions level on site.

5) GHG EMISSIONS: CO2 EQUIVALENT (KILOTONNES/ YEAR)

Relevance	++	The modernisation/ upgrading or construction of existent transport infrastructure is expecting to increase traffic and fuel consumption therefore fuel consumption emissions, including GHG emissions. Thus, the indicator is suitable to measure the impact on environment of modernisation and development of rail (KAI 1.2 and KAI 2.2) and intermodal infrastructure.
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	+	The emissions estimate comes from models which are based on traffic intensity and structure (vehicle categories) at a certain point. These models could be updated regularly (yearly).
Cost	-	Data collection involves higher costs of authorised services for measurement of emissions level on site.

6) LAND TAKE BY TRANSPORT (HA/YEAR)

Relevance	++	The expansion of existent infrastructure requires the use of land. Thus, the indicator is suitable to measure the impact on environment of modernisation and rehabilitation of rail stations (KAI 2.2).
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	++	Data is available at the level project and could be collected and reported on regular basis to the MA.

7) PEOPLE EXPOSED TO HIGH LEVEL OF TRAFFIC NOISE (NUMBER OF PERSONS)

Relevance	++	Noise associated with rail transport comes from engine operations, rail-wheel contact, aerodynamic effects, and vibrating structures during operations. Thus, the indicator is suitable to measure the impact on environment of rehabilitation/ upgrading/ modernisation of rail transport infrastructure (KAI 1.2 and KAI 2.2).
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	+	The noise estimate is measured with models which are based on traffic intensity and structure (vehicle categories) at a certain point. These models could be updated regularly (yearly).
Cost	+	Data collection involves additional costs of authorised services for measurement of noise level.

8) PEOPLE EXPOSED TO AIR QUALITY LEVELS ABOVE STANDARDS VALUES (NUMBER) – RAILWAYS

Relevance	++	Rail transport directly affects the air quality through emissions from fuel consumption. Thus, the indicator is suitable to measure the impact on environment of modernisation and development of rail infrastructure (KAI 1.2 and KAI 2.2).
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	+	The air quality and affected population in the area is measured with models which are based on traffic intensity and structure (vehicle categories) at a certain point. These models could be updated regularly (yearly).
Cost	+	Data collection involves additional costs of authorised services for measurement of air quality level.

9) LENGTH OF TRANSPORT INFRASTRUCTURE INSIDE DESIGNED AREAS (KM)

Relevance	++	The modernisation/ upgrading or construction of existent transport infrastructure is requires the use of land of designed areas, therefore the fragmentation of natural and landscapes. Thus, the indicator is suitable to measure the impact on environment of modernisation and development of rail infrastructure (KAI 1.2 and KAI 2.2).
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	+	Data is relative available at the level project and could be collected and reported on regular basis to the MA.
Cost	+	Data collection may involve the costs of authorised services for measurement.

10) PROXIMITY OF TRANSPORT INFRASTRUCTURE TO THE DESIGNED AREAS (M)

Relevance	++	The modernisation/ upgrading or construction of existent transport infrastructure requires the use of land in the proximity of designed areas, therefore is a factor of potential disturbance to the biodiversity and ecosystems. Thus, the indicator is suitable to measure the impact on environment of modernisation and development of rail infrastructure (KAI 1.2 and KAI 2.2).
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	+	Data is relative available at the level project and could be collected and reported on regular basis to the MA.
Cost	+	Data collection may involve the costs of authorised services for measurement.

11) NUMBER OF THE AFFECTED DESIGNED AREAS (KM2)

Relevance	++	The modernisation/ upgrading or construction of existent transport infrastructure requires the use of land of designed areas. Thus, the indicator is suitable to measure the impact on environment of modernisation and development of rail infrastructure (KAI 1.2 and KAI 2.2).
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	++	Data is available at the level project and could be collected and reported on regular basis to the MA.
Cost	++	No additional resources are needed for its usage, except for the operational costs resulting from reporting requirements at project level and for OP monitoring, at the level of the MA/ACIS.

12) REDUCTION OF ACCIDENTS CAUSING SOIL POLLUTION (NUMBER)

Relevance	++	The improvement of technical parameters of the rail infrastructure will lead to reduction of road accidents, therefore of soil pollution. Thus, the indicator is suitable to measure the impact on environment of modernisation and development of rail infrastructure (KAI 1.2 and KAI 2.2).
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	++	Data is available at the level project and could be collected and reported on regular basis to the MA.
Cost	++	No additional resources are needed for its usage, except for the operational costs resulting from reporting requirements at project level and for OP monitoring, at the level of the MA/ACIS.

13) REDUCTION OF ACCIDENTS CAUSING WATER POLLUTION (NUMBER)

Relevance	++	The improvement of technical parameters of the rail infrastructure will lead to reduction of road accidents, therefore of water pollution. Thus, the indicator is suitable to measure the impact on environment of modernisation and development of rail infrastructure (KAI 1.2 and KAI 2.2).
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	++	Data is available at the level project and could be collected and reported on regular basis to the MA.
Cost	++	No additional resources are needed for its usage, except for the operational costs resulting from reporting requirements at project level and for OP monitoring, at the level of the MA/ACIS.

C. WATER TRANSPORT INFRASTRUCTURE

1) NO_x EMISSIONS (KILOTONNES/ YEAR)

Relevance	++	Activities associated with the operation of vessel in ports (loading and unloading cargo and people) and fuel consumption for vessels is a potential source of air pollution, including nitrogen oxides (NO _x). Thus, the indicator is suitable to measure the impact on environment of the modernisation of water infrastructure (KAI 1.3 and KAI 2.3)
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	+	The emissions estimate comes from models which are based on traffic intensity and structure (vehicle categories) at a certain point. These models could be updated regularly (quarterly, yearly).
Cost	+	Data collection involves additional costs of authorised services for measurement of emissions level on site.

2) SO₂ EMISSIONS (KILOTONNES/ YEAR)

Relevance	++	Activities associated with the operation of vessel in ports (loading and unloading cargo and people) and fuel consumption for vessels is a potential source of air pollution, including nitrogen oxides (NO _x). Thus, the indicator is suitable to measure the impact on environment of the modernisation of water infrastructure (KAI 1.3 and KAI 2.3)
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	+	Actual measurement of all vessels emissions is impractical, the emissions estimates come from models
Cost	+	Data collection involves additional costs of authorised services for measurement of emissions level on site.

3) VOLATILE ORGANIC COMPOUNDS - VOC_s (KILOTONNES/ YEAR)

Relevance	++	Activities associated with the operation of vessel in ports (loading and unloading cargo and people) and fuel consumption for vessels is a potential source of air pollution, including nitrogen oxides (NO _x). Thus, the indicator is suitable to measure the impact on environment of the modernisation of water infrastructure (KAI 1.3 and KAI 2.3)
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	+	The emissions estimate comes from models which are based on traffic intensity and structure (vehicle categories) at a certain point. These models could be updated regularly (quarterly, yearly).
Cost	+	Data collection involves additional costs of authorised services for measurement of emissions level on site.

4) PARTICULATE MATTER EMISSIONS – PM10 (KILOTONNES/ YEAR)

Relevance	++	The dust generated from ports and vessels operations contributes to the total suspended particulate in the air, the PM 10 emissions. Thus, the indicator is suitable to measure the impact on environment of the modernisation of water infrastructure (KAI 1.3 and KAI 2.3)
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	+	Actual measurement of all vessels emissions is impractical, the emissions estimates come from models
Cost	+	Data collection involves additional costs of authorised services for measurement of emissions level on site.

5) GHG EMISSIONS: CO2 EQUIVALENT (KILOTONNES/ YEAR)

Relevance	++	The modernisation/ upgrading or construction of existent transport infrastructure is expecting to increase traffic and fuel consumption therefore fuel consumption emissions, including GHG emissions. Thus, the indicator is suitable to measure the impact on environment of the modernisation of water infrastructure (KAI 1.3 and KAI 2.3)
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	+	The emissions estimate comes from models which are based on traffic intensity and structure (vehicle categories) at a certain point. These models could be updated regularly (yearly).
Cost	-	Data collection involves higher costs of authorised services for measurement of emissions level on site.

6) LAND TAKE BY TRANSPORT (HA/YEAR)

- INLAND WATERS

- MARITIME

Relevance	++	The expansion of existent ports infrastructure requires the use of land. Thus, the indicator is suitable to measure the impact on environment of modernisation of ports infrastructure-river and maritime (KAI 2.3).
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	++	Data is available at the level project and could be collected and reported on regular basis to the MA.
Cost	++	No additional resources are needed for its usage, except for the operational costs resulting from reporting requirements at project level and for OP monitoring, at the level of the MA/ACIS.

7) PEOPLE EXPOSED TO HIGH LEVEL TRAFFIC NOISE (NUMBER OF PERSONNES) – AIRPORTS

Relevance	++	As a result of modernization and rehabilitation of waterways will increase the flights frequency and the number of aircraft ground operation, therefore the noise exposure to residential areas around airport. Thus, the indicator is suitable to measure the impact on environment of the modernisation of water infrastructure (KAI 1.3 and KAI 2.3)
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	+	The noise estimate is measured with models which are based on traffic intensity and structure (vehicle categories) at a certain point. These models could be updated regularly (yearly).
Cost	+	Data collection involves additional costs of authorised services for measurement of noise level.

8) PEOPLE EXPOSED TO AIR QUALITY LEVELS ABOVE STANDARDS VALUES (NUMBER) – RAILWAYS

Relevance	++	Similar pollutants are emitted from the vessels as from the motor vehicles, affecting the air quality and human health. Thus, the indicator is suitable to measure the impact on environment of modernisation and development of rail infrastructure (KAI 1.3 and KAI 2.3).
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	+	The air quality and affected population in the area is measured with models which are based on traffic intensity and structure (vehicle categories) at a certain point. These models could be updated regularly (yearly).
Cost	+	Data collection involves additional costs of authorised services for measurement of air quality level.

9) REDUCTION OF ACCIDENTS CAUSING WATER POLLUTION (NUMBER)

Relevance	++	The maritime travel is responsible for releases of solid waste, sewerage, and hazardous materials. Thus, the indicator is suitable to measure the impact on environment of modernisation and development of rail infrastructure (KAI 1.3 and KAI 2.3).
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	++	Data is available at the level project and could be collected and reported on regular basis to the MA.
Cost	++	No additional resources are needed for its usage, except for the operational costs resulting from reporting requirements at project level and for OP monitoring, at the level of the MA/ACIS.

D. AIR TRANSPORT INFRASTRUCTURE

1) NO_x EMISSIONS (KILOTONNES/ YEAR)

Relevance	++	Activities associated with the operation of airports and aircrafts are a potential source of air pollution, including nitrogen oxides (NO _x). Thus, the indicator is suitable to measure the impact on environment of modernisation and rehabilitation of airports (KAI 2.4).
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	+	The emissions estimate comes from models which are based on traffic intensity and structure (vehicle categories) at a certain point. These models could be updated regularly (quarterly, yearly).
Cost	+	Data collection involves additional costs of authorised services for measurement of emissions level on site.

2) SO₂ EMISSIONS (KILOTONNES/ YEAR)

Relevance	++	As a result of modernization and rehabilitation of airports will increase the flights frequency and the number of aircraft ground operation, therefore the emissions of various pollutants, including sulphur dioxide (SO _x). Thus, the indicator is suitable to measure the impact on environment of modernisation and rehabilitation of airports (KAI 2.4).
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	+	The factors that determine the quantity of pollutants emitted from aircraft operations depend on the type of aircraft and engine, mode of operation, the duration of each operating mode, and the fuel consumption.
Cost	+	Data collection involves additional costs of authorised services for measurement of emissions level on site.

3) VOLATILE ORGANIC COMPOUNDS - VOC_s (KILOTONNES/ YEAR)

Relevance	++	As a result of modernization and rehabilitation of airports will increase the flights frequency and the number of aircraft ground operation, therefore the emissions of various pollutants, including volatile organic compounds (VOCs). Thus, the indicator is suitable to measure the impact on environment of modernisation and rehabilitation of airports (KAI 2.4).
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	+	The emissions estimate comes from models which are based on traffic intensity and structure (vehicle categories) at a certain point. These models could be updated regularly (quarterly, yearly).
Cost	+	Data collection involves additional costs of authorised services for measurement of emissions level on site.

4) PARTICULATE MATTER EMISSIONS – PM10 (KILOTONNES/ YEAR)

Relevance	++	The dust generated from airport operations contributes to the total suspended particulate in the air, the PM 10 emissions. Thus, the indicator is suitable to measure the impact on environment of modernisation and rehabilitation of airports (KAI 2.4).
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	+	The emissions estimate comes from models which are based on traffic intensity and structure (vehicle categories) at a certain point. These models could be updated regularly (quarterly, yearly).
Cost	+	Data collection involves additional costs of authorised services for measurement of emissions level on site.

5) GHG EMISSIONS: CO2 EQUIVALENT (KILOTONNES/ YEAR)

Relevance	++	The modernisation/ upgrading or construction of existent transport infrastructure is expecting to increase traffic and fuel consumption therefore fuel consumption emissions, including GHG emissions. Thus, the indicator is suitable to measure the impact on environment of modernisation and development of air (KAI 2.4).
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	+	The emissions estimate comes from models which are based on traffic intensity and structure (vehicle categories) at a certain point. These models could be updated regularly (yearly).
Cost	-	Data collection involves higher costs of authorised services for measurement of emissions level on site.

6) LAND TAKE BY TRANSPORT (HA/YEAR) - AIRPORTS

Relevance	++	The expansion of existent infrastructure requires the use of land. Thus, the indicator is suitable to measure the impact on environment of modernisation and rehabilitation of airports (KAI 2.4).
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	++	Data is available at the level project and could be collected and reported on regular basis to the MA.
Cost	++	No additional resources are needed for its usage, except for the operational costs resulting from reporting requirements at project level and for OP monitoring, at the level of the MA/ACIS.

7) PEOPLE EXPOSED TO HIGH LEVEL TRAFFIC NOISE (NUMBER OF PERSONNES) – AIRPORTS

Relevance	++	As a result of modernization and rehabilitation of airports will increase the flights frequency and the number of aircraft ground operation, therefore the noise exposure to residential areas around airport. Thus, the indicator is suitable to measure the impact on environment of modernisation and rehabilitation of airports (KAI 2.4).
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	+	The noise estimate is measured with models which are based on traffic intensity and structure (vehicle categories) at a certain point. These models could be updated regularly (yearly).
Cost	+	Data collection involves additional costs of authorised services for measurement of noise level.

8) PEOPLE EXPOSED TO AIR QUALITY LEVELS ABOVE STANDARDS VALUES (NUMBER) – RAILWAYS

Relevance	++	Rail transport directly affects the air quality through emissions from fuel consumption. Thus, the indicator is suitable to measure the impact on environment of modernisation and development of rail infrastructure (KAI 1.2 and KAI 2.2).
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	+	The air quality and affected population in the area is measured with models which are based on traffic intensity and structure (vehicle categories) at a certain point. These models could be updated regularly (yearly).
Cost	+	Data collection involves additional costs of authorised services for measurement of air quality level.

9) PROXIMITY OF TRANSPORT INFRASTRUCTURE TO THE DESIGNED AREAS (M)

Relevance	++	The modernisation/ upgrading or construction of existent transport infrastructure is requires the use of land in the proximity of designed areas, therefore is a factor of potential disturbance to the biodiversity and ecosystems. Thus, the indicator is suitable to measure the impact on environment of modernisation and development of rail infrastructure (KAI 1.2 and KAI 2.2).
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	+	Data is relative available at the level project and could be collected and reported on regular basis to the MA.
Cost	+	Data collection may involve the costs of authorised services for measurement.

10) NUMBER OF THE AFFECTED DESIGNED AREAS (KM2)

Relevance	++	The modernisation/ upgrading or construction of existent transport infrastructure requires the use of land of designed areas. Thus, the indicator is suitable to measure the impact on environment of modernisation and development of rail infrastructure (KAI 1.2 and KAI 2.2).
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	++	Data is available at the level project and could be collected and reported on regular basis to the MA.
Cost	++	No additional resources are needed for its usage, except for the operational costs resulting from reporting requirements at project level and for OP monitoring, at the level of the MA/ACIS.

11) REDUCTION OF ACCIDENTS CAUSING SOIL POLLUTION (NUMBER)

Relevance	++	The improvement of technical parameters of the air infrastructure will lead to reduction of road accidents, therefore of soil pollution. Thus, the indicator is suitable to measure the impact on environment of modernisation and development of rail infrastructure (KAI 1.2 and KAI 2.2).
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	++	Data is available at the level project and could be collected and reported on regular basis to the MA.
Cost	++	No additional resources are needed for its usage, except for the operational costs resulting from reporting requirements at project level and for OP monitoring, at the level of the MA/ACIS.

12) REDUCTION OF ACCIDENTS CAUSING WATER POLLUTION (NUMBER)

Relevance	++	The improvement of technical parameters of the air infrastructure will lead to reduction of road accidents, therefore of water pollution. Thus, the indicator is suitable to measure the impact on environment of modernisation and development of rail infrastructure (KAI 1.2 and KAI 2.2).
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	++	Data is available at the level project and could be collected and reported on regular basis to the MA.
Cost	++	No additional resources are needed for its usage, except for the operational costs resulting from reporting requirements at project level and for OP monitoring, at the level of the MA/ACIS.

13) REDUCTION OF ACCIDENTS CAUSING WATER POLLUTION (NUMBER)

Relevance	++	The improvement of technical parameters of the air infrastructure will led to reduction of road accidents, therefore of water pollution. Thus, the indicator is suitable to measure the impact on environment of modernisation and development of rail infrastructure (KAI 1.2 and KAI 2.2).
Sensitivity	++	The indicator is responsive to environmental changes.
Availability	++	Data is available at the level project and could be collected and reported on regular basis to the MA.
Cost	++	No additional resources are needed for its usage, except for the operational costs resulting from reporting requirements at project level and for OP monitoring, at the level of the MA/ACIS.