

Indicator Fact Sheets

GDYNIA

Indicator Fact Sheets

List of indicators

| TELLUS objective | Indicator | Unit of the indicator |
|--|--|------------------------------------|
| Reduce congestion | Average vehicle speed – peak / off peak | km/hr |
| Reduce air pollution | Level of CO | milligramme/m ³ |
| | Level of NO ₂ | µg/m ³ |
| | Level of PM ₁₀ | |
| Reduce noise | Noise level | dB(A) |
| Improvement of intra-organisational co-operation at the city level | Quality of intra-organisational co-operation | qualitative terms |
| Achievement of political and public awareness | Media exposure | qualitative and quantitative terms |
| | Events organised | |
| | Presentations given | |

TELLUS objective monitoring and evaluation
Indicator Fact Sheet for TELLUS objective
“reduce congestion”

TELLUS Key Indicator: average vehicle speed – peak / off peak

Context, Description of the indicator

TELLUS Key Indicator „average vehicle speed – peak / off peak“ is appropriate to measure the phenomenon of congestion. The longer the mean journey time at the certain route is the lower is the flow of traffic and the average vehicle speed.

The quality of a transport system is described by the effects of congestion on travel conditions. A measure refers to congestion experienced by users and includes duration of waiting and total trip time due to congestion.

Average vehicle speed at the certain points of the examined route measured at the representative periods of time gives the base to calculate a value concerning speed at the whole length of that route. As the modernization of the Świętojańska Street has been carried out gradually (3 stages) value of the indicator obtained after two first phases (in 2003) was influenced by the conditions on not modernized part.

Unit of the indicator

km/hr

Indicator-related objectives

Reduce congestion by 5% until 2006

Reduce congestion by 10% until 2010

Critical aspects of the objectives

The road congestion problem is an example of a self-reinforcing process with feedback loops stimulating car use. Policies aimed at reducing road traffic congestion and improving speeds lead to a further proliferation of the system. Therefore any congestion policy should contain travel speeds within economically tolerable limits.

Less congestion expressed by increasing average speeds means to make travelling by car more attractive. More car use because of increased average vehicle speed means more negative effects on environment-related, social-related, mobility behaviour-related and road traffic-related objectives. Hence the achievement of the TELLUS objectives becomes more difficult.

Methods of measurement

Measurement concerning speed - peak was carried out at the rush hours (from 2 p.m. to 4 p.m.) by means of a test vehicle drifting with traffic at both directions. In case of off peak situation measurement was carried out by means of a test vehicle drifting with traffic at the free flow traffic (from 10 p.m. to midnight) at both directions. Average vehicle speed (peak as well as off peak) between intersections was taken into consideration when the value of indicator is calculated.

Data was verified using spot individual speed measurement.

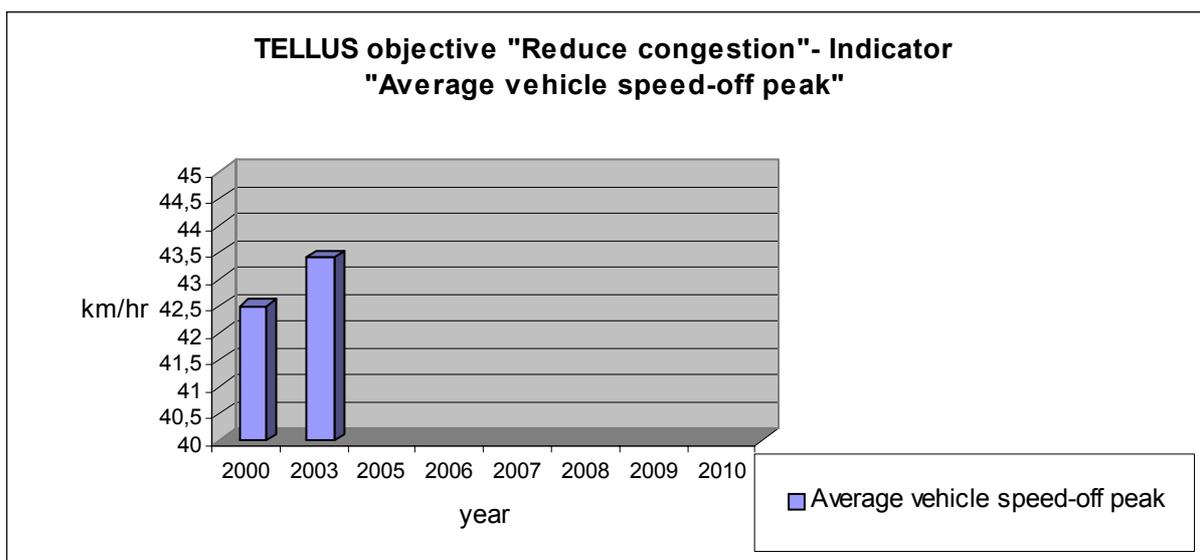
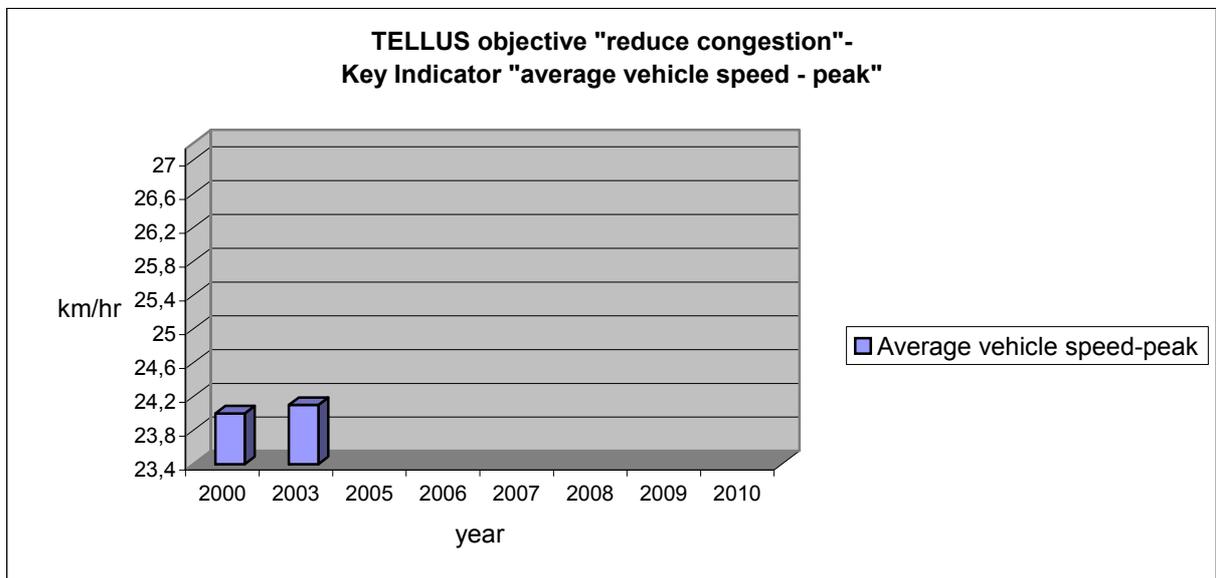
Source of data and analysis

Studies based on collected and calculated data [“Study on road traffic for the first stage of modernization of the Świętojańska Street”, “Measurements of road traffic at the Świętojańska Street in Gdynia after the second stage of modernization for TELLUS project”] worked out by transport specialists from Technical University of Gdańsk (owners of the TRAFIK civil partnership company). Whilst the analyses had been done by the European Integration Department (Municipality of Gdynia).

Time table to collect and analyse the data

Retrospective view: according to LEP from 2000 (base year) until the end of the TELLUS project data should be collected and analysed two times (November 2003 and September 2005¹).

Development of the indicator value



¹ It turned out that the third stage of modernization of the Świętojańska Street will be delayed because of technical and financial problems and will be completed after the end of TELLUS project. Since the third stage will be still under work in September 2005 measurements planned on this date will not be undertaken as they were aimed at finding final results of the completed demonstration measure.

The charts show values of the average vehicle speed (peak and off peak) at the Świętojańska Street in 2000 and 2003 year. In case of average vehicle speed (peak) value has changed insignificantly, whilst in case of off-peak it has increased by 1 km/h. As it is a data after two stages and modernization of the Street is not accomplished it is hard to assess the final impact of the demo on this indicators' values.

Relation to other indicator systems

| Study (institution or country) | Proposed Indicator with regard to the issue |
|--|--|
| METEOR (EU: CIVITAS Initiative) | - Daily trip length (peak and off peak) - Average vehicle speed (peak and off peak) |
| TERM | Average journey length and time per person, by mode and purpose (work/education, business, shopping, leisure, holidays). |
| EST | - |
| CSD | - |
| NFP (Switzerland) | - |
| BPI/PRR | - |

References

EEA: Are we moving in the right direction? Indicators on transport and environment integration in the EU. TERM 2000. Environmental issues series No 12. Copenhagen 2000.
 METEOR (2002): WP4 Project Impact Evaluation. Task 4.1. Evaluation Guidelines.

TELLUS objective monitoring and evaluation**Indicator Fact Sheet for TELLUS objective
“reduce air pollution”****TELLUS Key Indicator: level of CO****Context, impacts**

The transport sector is a major source of air pollution especially in urban areas, having overtaken the combustion of high-sulphur coal, oil and industrial combustion processes. Within this sector, road traffic is the most important contributor to urban air pollution. While EU regulations aimed at automobile emission reductions (such as the introduction of catalytic converters or unleaded petrol) have resulted in considerably lower emissions per vehicle, the continuous expansion of the vehicle fleet is partly offsetting these improvements.

Health effects associated with the most common pollutants include respiratory effects ranging from minor symptoms (cough) to more serious (chest congestion and asthma). Children, the elderly and those with pre-existing respiratory and cardiac conditions are most susceptible. Exposure to air pollution can also damage vegetation and materials (notably, the cultural heritage).

Carbon monoxide (CO) is produced almost entirely (90%) from road traffic emissions in European urban areas. It survives in the atmosphere for a period of approximately one month and is eventually oxidised to carbon dioxide (CO₂).

Sustained concentrations of carbon monoxide (CO) may harm humans and other vertebrates as compounds are formed with haemoglobin in the blood which restricts oxygen supply to the tissues and can cause disorders of the nervous system. CO also contributes indirectly to the greenhouse effect by depleting atmospheric levels of hydroxyl radicals and thus slowing the destruction of methane, a powerful greenhouse gas.

Unit of the indicator

milligramme/m³

Indicator-related objectives

Reduce air pollution to levels below national and EC directives until 2006

Methods of measurement

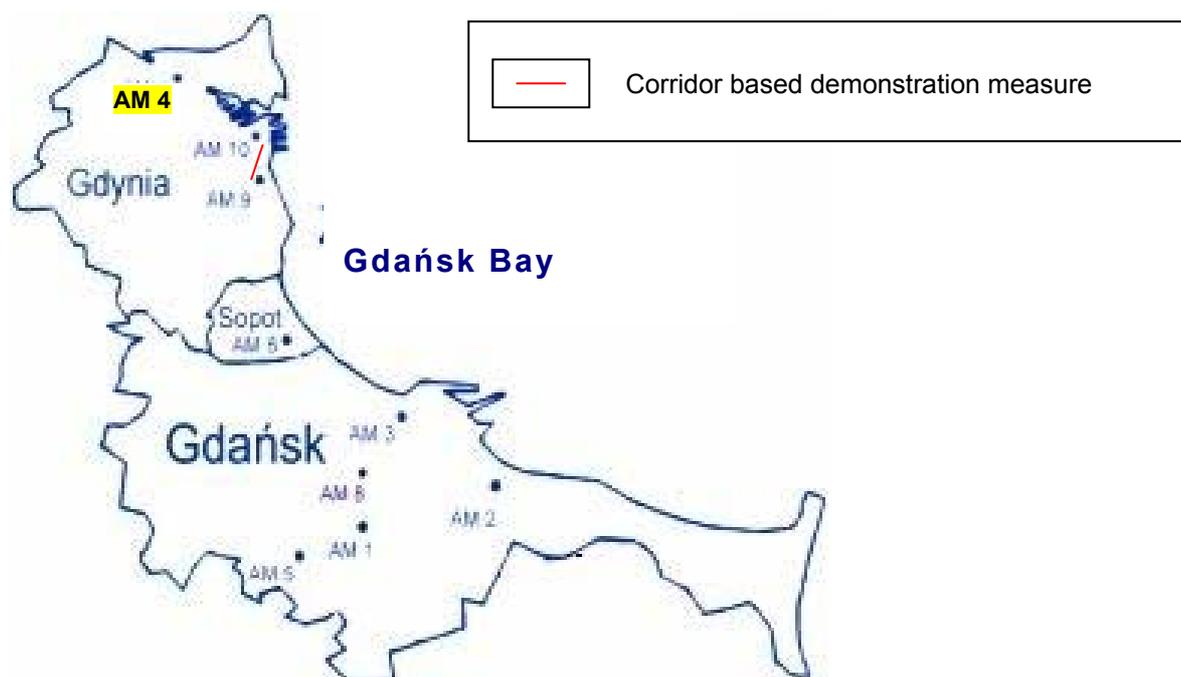
Air pollution data in Gdynia was obtained from points of the measuring network established by the ARMAAG Foundation². The automatic measuring points are located (in Gdynia) in three, specially

² *The Foundation: Agency of Regional Air Quality Monitoring in the Gdańsk metropolitan area was founded in 1993 by the following municipalities: Gdańsk, Gdynia, Sopot and Tczew together with "Nederpol" Company. The Foundation was founded to create the regional monitoring network. Within the air monitoring system continuous measurements of the air quality are taken in several 'representative' points and in so called "hot points", where the concentrations of pollutants are the highest one.*

The data from the automatic monitoring network in Gdańsk metropolitan area enables: identification of the area and reason of air pollution problems, verification of the criteria evaluate the air quality, evaluation of long term tendencies, modeling processes, evaluation of recommendation effectiveness.

chosen places considered as representative for the air quality or known as so called „hot points”, meaning unusually high air pollution concentration.

Data concerning concentration of CO over the lifetime of the TELLUS Project was taken from the station no. 4 located in the northern part of the city as it has been the only one in Gdynia measuring levels of CO. Since station no. 4 is not located in the laboratory area itself but in a certain distance, the interpretation of the indicator has to take into consideration influence of other non-transport and non-project related factors.



| Station | Starting date | Location | Geographic coordinates | Height over sea level | Category |
|---------|---------------|----------------------------|--------------------------|-----------------------|--------------------------|
| AM 4 | 09.1998 | Gdynia, Porebskiego Street | 54°33'39"N 18°29'36"E | 70 | Urban background station |

| Station | Type of measured contamination | | | | | | |
|---------|--------------------------------|----------------------------------|-----------------|----------------|------------------|----|-----------------|
| | SO ₂ | NO _x /NO ₂ | NH ₃ | O ₃ | PM ₁₀ | CO | CO ₂ |
| AM 4 | x | x | | x | x | x | x |

Source of data and analysis

Necessary data was collected through the network for monitoring air quality belonged to ARMAAG Foundation owned by the municipalities of Tczew, Gdańsk, Sopot and Gdynia (station No. 4) [de-

scribed in four reports of ARMAAG Foundation “Situation of air contamination in Gdańsk agglomeration in 2001/2002/2003/2004 year and information on activity of ARMAAG Foundation”].

Obtained data was analysed by the European Integration Department.

Legal basis, standard values, political objectives

EU directive:

Directive 2000/69/EC of the European Parliament and of the Council of 16 November 2000 relating to limit values for benzene and carbon monoxide in ambient air

| | Averaging Period | Limit Value | Margin of Tolerance | Date by which limit value is to be met |
|--|---------------------------|----------------------|--|--|
| Limit value for the protection of human health | Maximum daily 8-hour mean | 10 mg/m ³ | 6 mg/m ³ on 13 December, reducing on 1 January 2003 and every 12 months thereafter by 2 mg/m ³ to reach 0% by 1 January 2005 | 1 January 2005 |

The maximum daily 8-hour mean concentration was selected by examining 8-hour running averages, calculated from hourly data and updated each hour. Each 8-hour average so calculated was assigned to the day on which it ends i.e. the first calculation period for any one day will be the period from 17.00 on the previous day to 01.00 on that day; the last calculation period for any one day was the period from 16.00 to 24.00 on that day.

National law:

There was a change in Polish law related to environment adjusting it to European law in 2002 so the data concerning 2001 is presented according to the new decrees.

Two decrees of Environment Ministry of 6 June 2002:

- Assessment of the substances' levels in the air decree (Dz.U.2002.87.798),
- Permissible substances' levels in the air, alarm levels of certain substances in the air and thresholds for permissible levels of particular substances decree (Dz.U.2002.87.796).

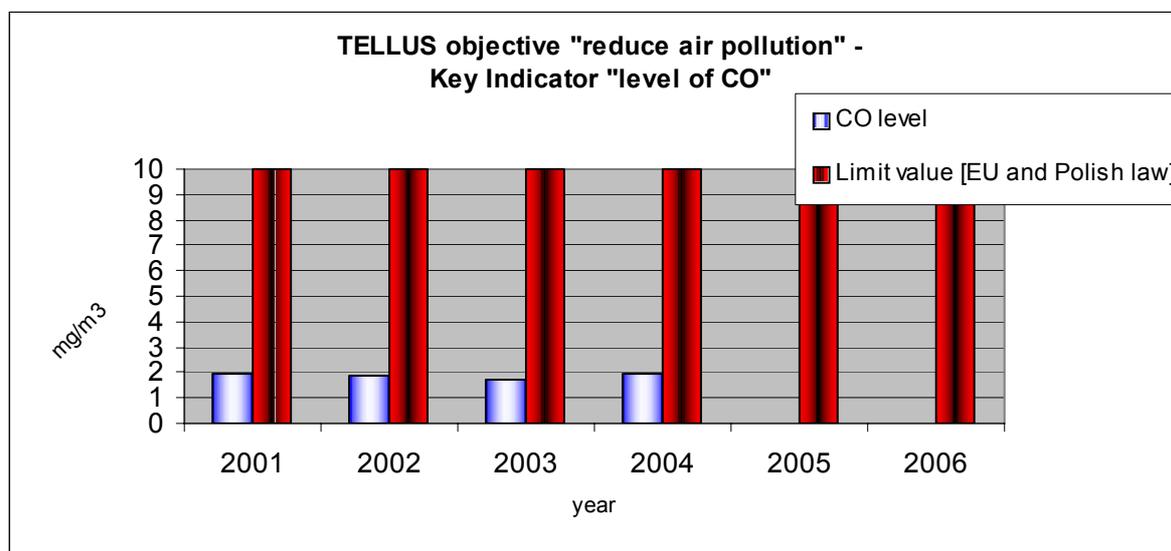
| | Averaging Period | Limit Value | Margin of Tolerance | Date by which limit value is to be met |
|--|------------------------------------|-----------------------|--|--|
| Limit value for the protection of human health | Maximum daily 8-hour concentration | 10 mg /m ³ | 6 mg/m ³ on the entry of that Decree, reducing on 1 January 2003 and every 12 months thereafter to reach 0% by 1 January 2005 | 1 January 2005 |

The maximum daily 8-hour mean concentration was selected by examining 8-hour running averages, calculated from hourly data and updated each hour. Each 8-hour average so calculated was assigned to the day on which it ends i.e. the first calculation period for any one day was the period from 17.00 on the previous day to 01.00 on that day; the last calculation period for any one day was the period from 16.00 to 24.00 on that day.

Time table to collect and analyse the data

Retrospective view: from 2001 until end of the TELLUS project, the data will be collected and analysed every year.

Development of the indicator value



Margin of Tolerance was not taken into account at the graph as there was no danger of breaking the law

The graph shows the values of a maximum daily 8-hour mean of CO level from 2001 to 2004 measured at the station no. 4 (that is the only station in Gdynia measuring level of CO). It dropped in 2002 and 2003, but increased in 2004, but still the value of 2004 is lower than that of 2001. It is hard to conclude that the only reason of these changes was modernization of the Świętojańska Street. Because of the long distant from the station to the laboratory area a lot of external factors can influence the value.

Relation to other indicator systems

| Study (institution or country) | Proposed indicator with regard to the issue |
|---------------------------------|--|
| METEOR (EU: CIVITAS initiative) | - |
| TERM | annual emissions of CO in kilo tonnes: emission reduction by 26% between 1990 and 2000 |
| EST | - |
| CSD | - |
| NFP (Switzerland) | - |
| BPI/PRR (UBA Germany) | - |

References

EEA: „Are we moving in the right direction?” Indicators on transport and environment integration in the EU. TERM 2000. Environmental issues series No 12. Copenhagen 2000.

METEOR (2002): WP 4 Project Impact Evaluation. Task 4.1. Evaluation Guidelines.

EU: Directive 2000/69/EC of the European Parliament and of the Council of 16 November 2000 relating to limit values for benzene and carbon monoxide in ambient air.

Polish law: decrees of Environment Ministry of 6 June 2002:

- Assessment of the substances' levels in the air decree (Dz.U.2002.87.798),
- Permissible substances' levels in the air, alarm levels of certain substances in the air and thresholds for permissible levels of particular substances decree (Dz.U.2002.87.796).

TELLUS objective monitoring and evaluation
**Indicator Fact Sheet for TELLUS objective
“reduce air pollution”**
TELLUS Key Indicator: level of NO₂
Context, impacts

The transport sector is a major source of air pollution and the dominant source in urban areas, having overtaken the combustion of high-sulphur coal, oil and industrial combustion processes.

Exposure to air pollution is associated with adverse health effects, most acute in children, asthmatics and the elderly and can damage vegetation and materials (notably, the cultural heritage).

Within the transport sector, road traffic is the most important contributor to urban air pollution. While EU regulations aimed at automobile emission reductions (such as the introduction of catalytic converters or unleaded petrol) have resulted in considerably lower emissions per vehicle, the continuous expansion of the vehicle fleet is partly offsetting these improvements.

Nitrogen oxides are formed during high temperature combustion processes from the oxidation of nitrogen in the air or fuel. The principal source of nitrogen oxides – nitric oxide (NO) and nitrogen dioxide (NO₂), collectively known as NO_x – is road traffic. NO and NO₂ concentrations are therefore greatest in urban areas where traffic is heaviest. Children are subject to cough and bloodshot because of high nitrogen dioxide level. It can intensify asthmatics' respiratory problems as well.

Unit of the indicator

µg/m³

Indicator-related objectives

Reduce air pollution to levels below national and EC directives until 2006

Methods of measurement

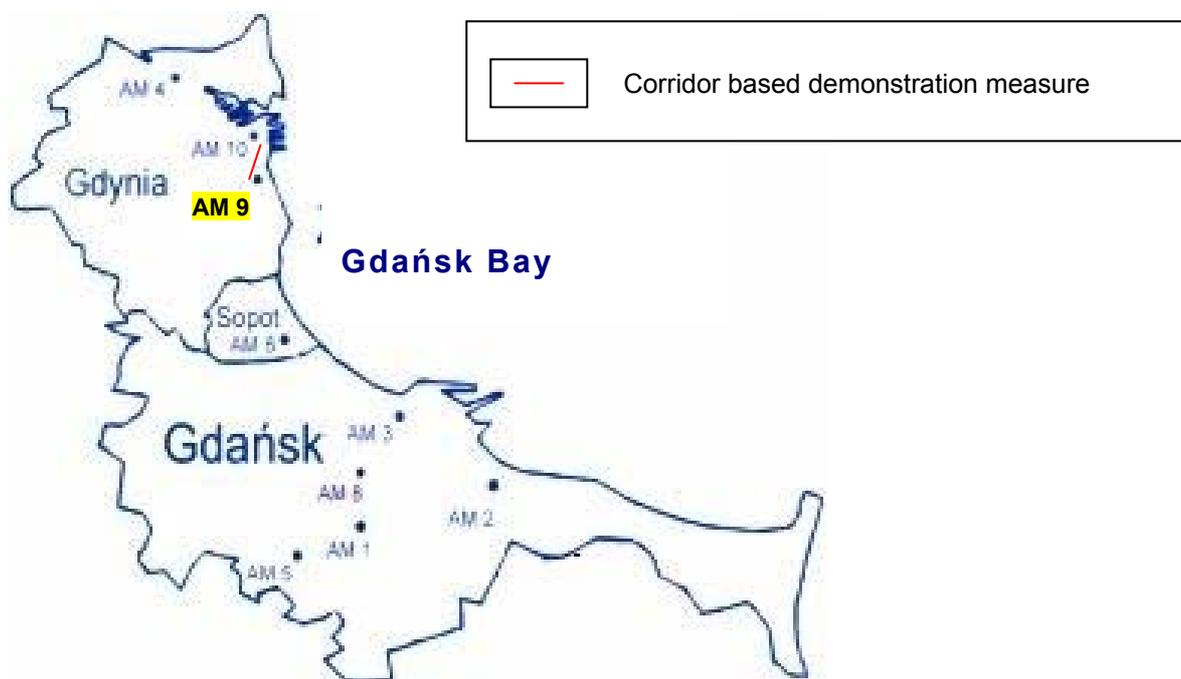
Air pollution in Gdynia has been monitored in measuring points of the network established by the ARMAAG Foundation³. The automatic measuring points are located in three, specially chosen places considered as representative for the air quality or known as so called „hot points”, meaning unusually high air pollution concentration.

Data concerning concentration of NO₂ (average annual level) over the lifetime of the TELLUS Project will be taken from the station no. 9 located in the southern area of the city as it is the nearest one to the laboratory area having annual data for the year 2001 (base year). Since station No. 9 is not

³ *The Foundation: Agency of Regional Air Quality Monitoring in the Gdańsk metropolitan area was founded in 1993 by the following municipalities: Gdańsk, Gdynia, Sopot and Tczew together with "Nederpol" Company. The Foundation was founded to create the regional monitoring network. Within the air monitoring system continuous measurements of the air quality are taken in several 'representative' points and in so called "hot points", where the concentrations of pollutants are the highest one.*

The data from the automatic monitoring network in Gdańsk metropolitan area enables: identification of the area and reason of air pollution problems, verification of the criteria evaluate the air quality, evaluation of long term tendencies, modeling processes, evaluation of recommendation effectiveness.

located in the laboratory area itself but in a certain distance, the interpretation of the indicator has to take into consideration influence of other non-transport and non-project related factors.



| Station | Starting date | Location | Geographic coordinates | Height over sea level | Category |
|---------|---------------|--------------------------|--------------------------|-----------------------|--------------------------|
| AM 9 | 11.1999 | Gdynia, Kopernika Street | 54°29'40"N 18°33'15"E | 30 | Urban background station |

| Station | Type of measured contamination | | | | | | |
|---------|--------------------------------|----------------------------------|-----------------|----------------|------------------|----|-----------------|
| | SO ₂ | NO _x /NO ₂ | NH ₃ | O ₃ | PM ₁₀ | CO | CO ₂ |
| AM 9 | x | x | | x | x | | |

Source of data and analysis

Necessary data has been collected through the network for monitoring air quality belonged to the ARMAAG Foundation owned by the municipalities of Tczew, Gdańsk, Sopot and Gdynia (station No. 9) [described in four reports of ARMAAG Foundation "Situation of air contamination in Gdańsk agglomeration in 2001/2002/2003/2004 year and information on activity of ARMAAG Foundation"].

The European Integration Department analyses collected data.

Legal basis, standard values, political objectives
EU directive:

Council Directive 1999/30/EC

| | Averaging Period | Limit Value | Margin of Tolerance | Date by which limit value is to be met |
|---|------------------|---|--|--|
| Hourly limit value for the protection of human health | One hour | 200 µg/m ³ NO ₂ , not to be exceeded more than 18 times a calendar year | 50% on the entry into force of this Directive, reducing on 1 January 2001 and every 12 months thereafter by equal annual percentages to reach 0% by 1 January 2010 | 1 January 2010 |
| Annual limit for the protection of human | Calendar year | 40 µg/m ³ NO ₂ | 50% on the entry into force of this Directive, reducing on 1 January 2001 and every 12 months thereafter by equal annual percentages to reach 0% by 1 January 2010 | 1 January 2010 |

National law:

There was a change in Polish law related to environment adjusting it to European law in 2002 so the data concerning 2001 is presented according to that new decrees.

Two decrees of Environment Ministry of 6 June 2002:

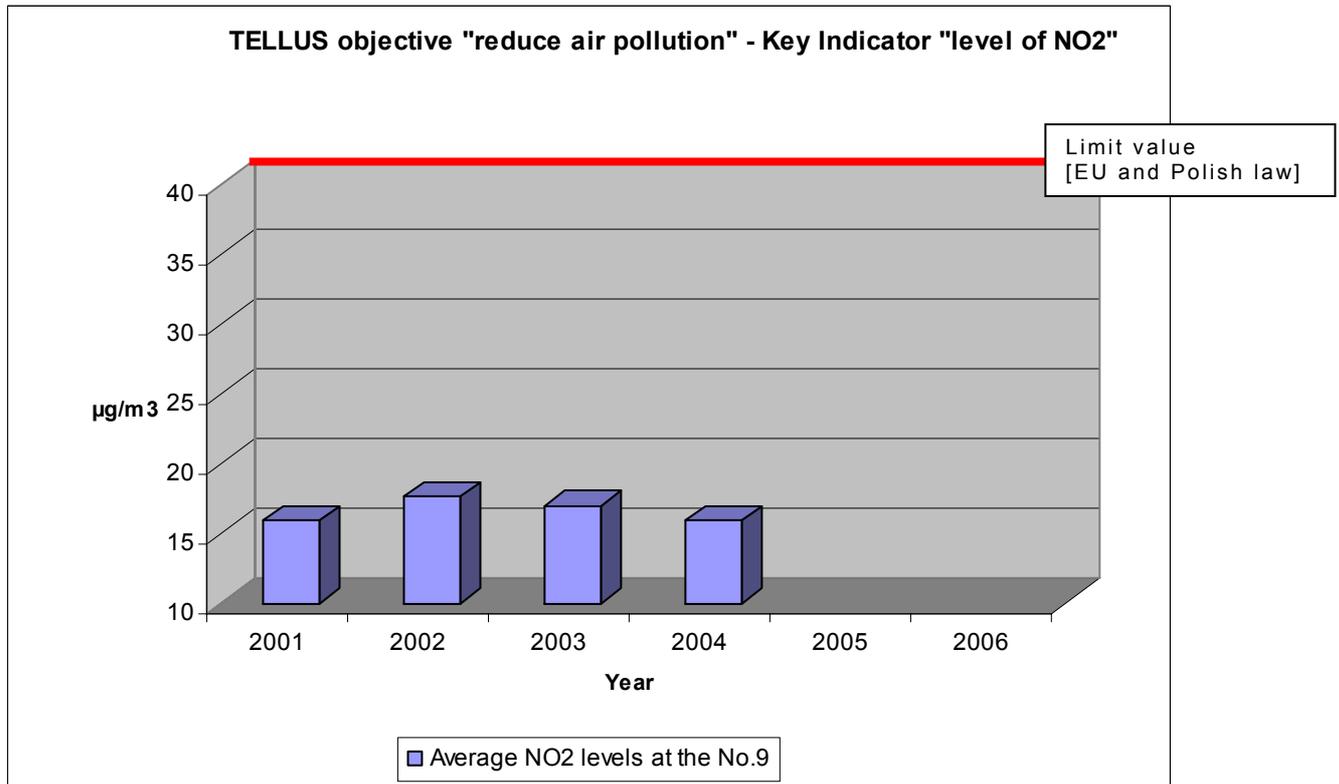
- Assessment of the substances' levels in the air decree (Dz.U.2002.87.798),
- Permissible substances' levels in the air, alarm levels of certain substances in the air and thresholds for permissible levels of particular substances decree (Dz.U.2002.87.796).

| | Averaging Period | Limit Value | Margin of Tolerance | Date by which limit value is to be met |
|---|--|---|---|--|
| Hourly limit value for the protection of human health | One hour (99,8 percentile of all average 1 hour values of year) | 200 µg/m ³ NO ₂ , not to be exceeded more than 18 times a calendar year | 40% (80 µg/m ³) on the entry into force of this Decree, reducing on 1 January 2003 and every 12 months thereafter by equal annual percentages to reach 0% by 1 January 2010 | 1 January 2010 |
| Annual limit for the protection of human | Calendar year | 40 µg/m ³ NO ₂ | 40% (16 µg/m ³) on the entry into force of this Decree, reducing on 1 January 2003 and every 12 months thereafter by equal annual percentages to reach 0% by 1 January 2010 | 1 January 2010 |

Time table to collect and analyse the data

Retrospective view: from 2001 until end of the TELLUS project, the data will be collected and analysed yearly.

Development of the indicator value



Margin of Tolerance was not taken into account at the graph as there was no danger of breaking the law

The graph shows values of average NO₂ level measured at the station no. 9 from 2001 to 2004 year. It had increased in 2002 and then decreased in 2003 and finally in 2004 the value was equal to the value in 2001. Since station No. 9 is not located in the laboratory area itself but in a certain distance, the interpretation of the indicator has to take into consideration influence of other non-transport and non-project related factors.

Relation to other indicator systems

| Study (institution or country) | Proposed indicator with regard to the issue |
|--|--|
| METEOR (EU: CIVITAS initiative) | NOx levels (NOx concentration on an annual basis, in ppm or g/m ³) |
| TERM | <ul style="list-style-type: none"> - emissions of NOx in kilo tonnes: emission reduction by 14% between 1990 and 2000; NOx is the key pollutant to acidifying substances, ozone precursors and secondary particulate emissions - percentage of urban population exposed to NO₂ concentrations above EU air quality limit values; peak concentrations of NO₂ tend |

| | |
|------------------------------|--|
| | to decrease, but year-to-year fluctuation in measured concentrations can significantly influence trends |
| EST | - |
| CSD | - |
| NFP (Switzerland) | NOx level at the places of residence (% excessively burdened people) |
| BPI/PRR (UBA Germany) | Percentage of inhabitants exposed to NOx levels under 25 µg/m ³ , resp. Percentage of road length |

References

EEA: Are we moving in the right direction? Indicators on transport and environment integration in the EU. TERM 2000. Environmental issues series No 12. Copenhagen 2000.

METEOR (2002): WP 4 Project Impact Evaluation. Task 4.1. Evaluation Guidelines.

EU: Council Directive 1999/30/EC

Polish law: decrees of Environment Ministry of 6 June 2002:

- Assessment of the substances' levels in the air decree (Dz.U.2002.87.798),
- Permissible substances' levels in the air, alarm levels of certain substances in the air and thresholds for permissible levels of particular substances decree (Dz.U.2002.87.796).

TELLUS objective monitoring and evaluation
Indicator Fact Sheet for TELLUS objective
“reduce air pollution”

TELLUS Key Indicator: level of PM₁₀

Context, impacts

The transport sector is a major source of air pollution, and the dominant source in urban areas, having overtaken the combustion of high-sulphur coal, oil and industrial combustion processes. Within this sector, road traffic is the most important contributor to urban air pollution. While EU regulations aimed at automobile emission reductions (such as the introduction of catalytic converters or unleaded petrol) have resulted in considerably lower emissions per vehicle, the continuous expansion of the vehicle fleet is partly offsetting these improvements.

Exposure to air pollution is associated with adverse health effects, most acute in children, asthmatics and the elderly and can damage vegetation and materials (notably, the cultural heritage).

Airborne particulate matter varies widely in its physical and chemical composition, source and particle size. PM₁₀ particles [the fraction of particulates in air of very small size (<10 l/m)] are of major current concern, as they are small enough to penetrate deep into the lungs and so potentially pose significant health risks. Larger particles meanwhile, are not readily inhaled, and are removed relatively efficiently from the air by sedimentation. The principal source of airborne PM₁₀ matter in European cities is road traffic emissions, particularly from diesel vehicles. are emitted from the exhaust (for example, soot emissions which are mainly produced by diesel powered vehicles) through the re-suspension of road-side dust, and generated as abrasion products from tyre, brake and road surface wear. PM levels are increased as a result of poor vehicle maintenance. Particulates are also formed by atmospheric chemical processes (for example, formation of nitrates and sulphates associated with acidification of water courses). The main impacts arise from deposition of toxic combustion residues. Unsurfaced roads, such as in rural areas or urban suburbs, may produce significant amounts of **dust** which can damage fragile habitats or crops. Repeated exposure to vehicle smoke can cause soiling to buildings and materials in its vicinity. The health effects are generally associated with the respiratory system and are correlated with particle size.

Unit of the indicator

µg / m³

Indicator-related objectives

Reduce air pollution to levels below national and EC directives until 2006

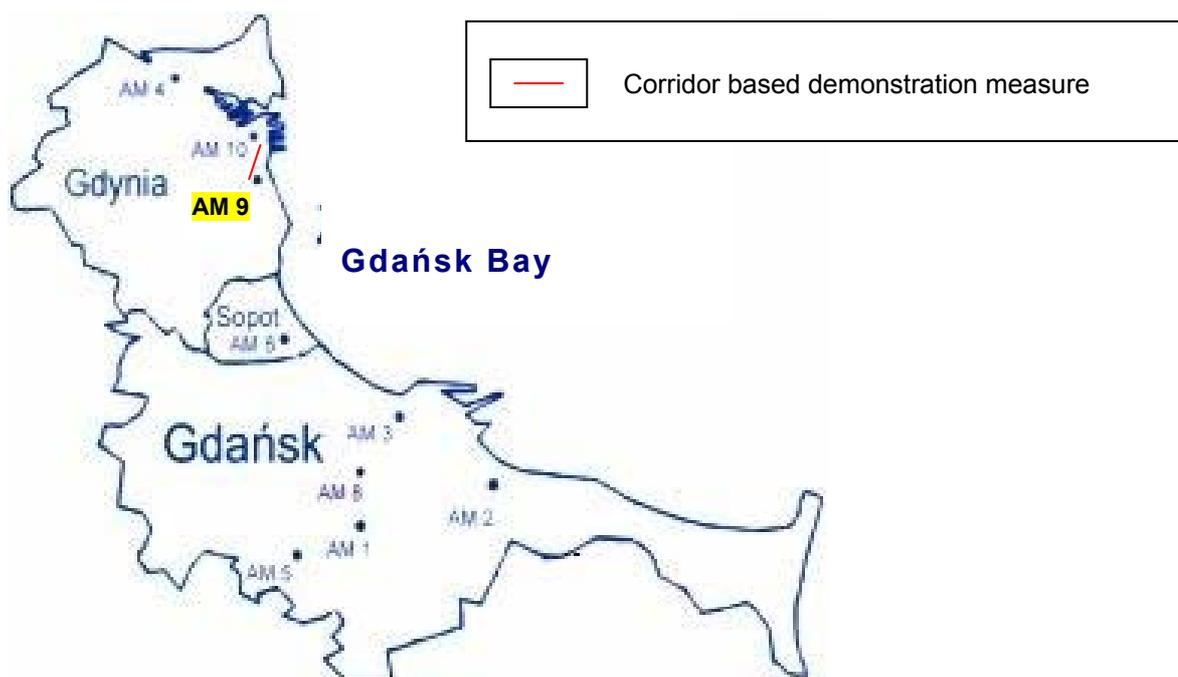
Methods of measurement

Air pollution in Gdynia has been monitored in points of the measuring network established by the ARMAAG Foundation⁴. The automatic measuring points are located in three, specially chosen

⁴ *The Foundation: Agency of Regional Air Quality Monitoring in the Gdańsk metropolitan area was founded in 1993 by the following municipalities: Gdańsk, Gdynia, Sopot and Tczew together with "Nederpol" Company. The Foundation was founded to create the regional monitoring network. Within the air monitoring system continuous*

places considered as representative for the air quality or known as so called „hot points”, meaning unusually high air pollution concentration.

Data concerning concentration of PM₁₀ over the lifetime of the TELLUS Project will be taken from the station No.9 located in the southern area of the city as it is the nearest one to the laboratory area having data of PM₁₀ concerning the period since 2001. Since station No.9 is not located in the laboratory area itself but in a certain distance, the interpretation of the indicator has to take into consideration influence of other non-transport and non-project related factors.



| Station | Starting date | Location | Geographic coordinates | Height over sea level | Category |
|---------|---------------|--------------------------|--------------------------|-----------------------|--------------------------|
| AM 9 | 11.1999 | Gdynia, Kopernika Street | 54°29'40"N 18°33'15"E | 30 | Urban background station |

| Station | Type of measured contamination | | | | | | |
|---------|--------------------------------|----------------------------------|-----------------|----------------|------------------|----|-----------------|
| | SO ₂ | NO _x /NO ₂ | NH ₃ | O ₃ | PM ₁₀ | CO | CO ₂ |
| AM 9 | x | x | | x | x | | |

measurements of the air quality are taken in several 'representative' points and in so called "hot points", where the concentrations of pollutants are the highest one.

The data from the automatic monitoring network in Gdansk metropolitan area enables: identification of the area and reason of air pollution problems, verification of the criteria evaluate the air quality, evaluation of long term tendencies, modeling processes, evaluation of recommendation effectiveness.

Source of data and analysis

ARMAAG Foundation owned by the municipalities of Tczew, Gdańsk, Sopot and Gdynia which created ten-station network monitoring air quality (station no.9) [described in four reports of the ARMAAG Foundation “Situation of air contamination in Gdańsk agglomeration in 2001/2002/2003/2004 year and information on activity of ARMAAG Foundation”].

The European Integration Department analyses collected data.

Legal basis, standard values, political objectives

EU directive:

Council Directive 1999/30/EC

STAGE 1

| | Averaging Period | Limit Value | Margin of Tolerance | Date by which limit value is to be met |
|--|------------------|---|--|--|
| 24-hour limit value for the protection of human health | 24 hours | 50 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 35 times a calendar year | 50% on the entry into force of this Directive, reducing on 1 January 2001 and every 12 months thereafter by equal annual percentages to reach 0% by 1 January 2005 | 1 January 2005 |
| Annual limit value for the protection of human health | Calendar year | 40 $\mu\text{g}/\text{m}^3$ PM ₁₀ | 20% on the entry into force of this Directive, reducing on 1 January 2001 and every 12 months thereafter by equal annual percentages to reach 0% by 1 January 2005 | 1 January 2005 |

STAGE 2

[Indicative limit values to be reviewed in the light of further information on health and environmental effects, technical feasibility and experience in the application of Stage 1 limit values in the Member States.]

| | Averaging Period | Limit Value | Margin of Tolerance | Date by which limit value is to be met |
|--|------------------|---|--|--|
| 24-hour limit value for the protection of human health | 24 hours | 50 $\mu\text{g}/\text{m}^3$ PM ₁₀ , not to be exceeded more than 7 times a calendar year | To be derived from data and to be equivalent to the STAGE 1 limit value | 1 January 2010 |
| Annual limit value for the protection of human health | Calendar year | 40 $\mu\text{g}/\text{m}^3$ PM ₁₀ | 50% on 1 January 2005 and every 12 months thereafter by equal annual percentages to reach 0% by 1 January 2010 | 1 January 2010 |

National law:

There was change in Polish law related to environment adjusting it to European law in 2002 so the data concerning 2001 is presented according to the new decrees.

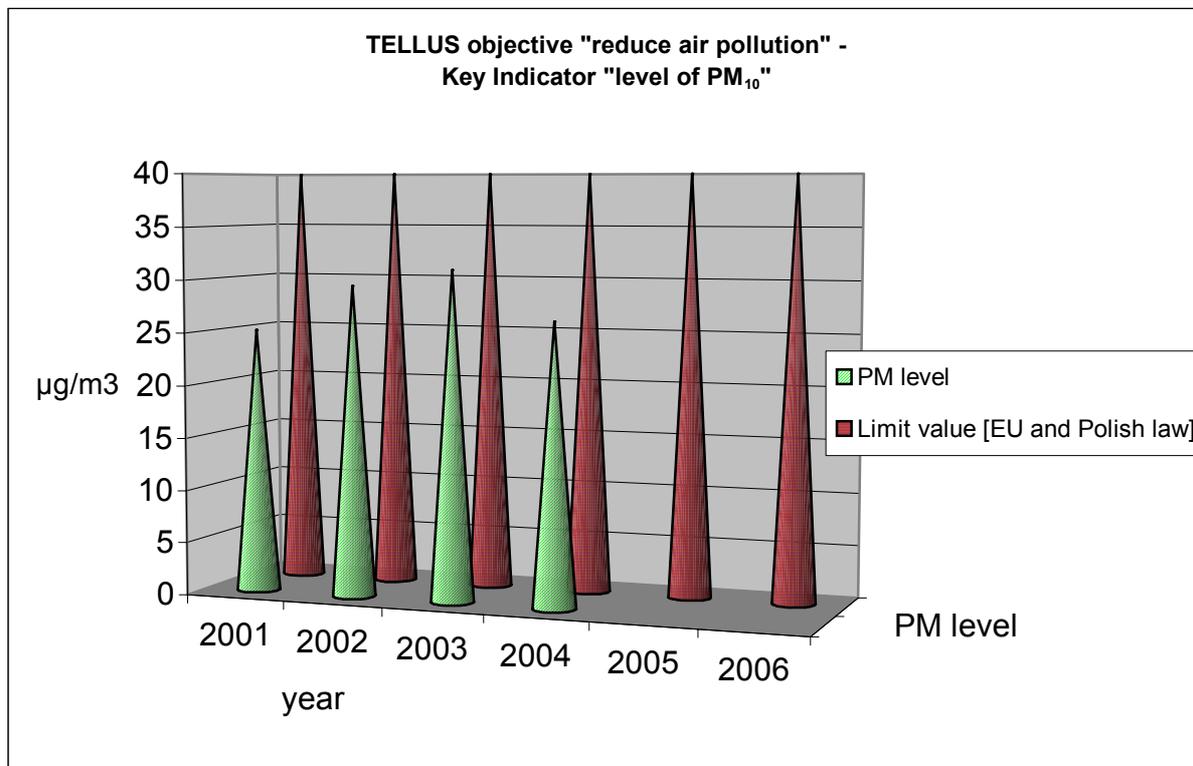
Two decrees of Environment Ministry of 6 June 2002:

- Assessment of the substances' levels in the air decree (Dz.U.2002.87.798),
- Permissible substances' levels in the air, alarm levels of certain substances in the air and thresholds for permissible levels of particular substances decree (Dz.U.2002.87.796).

| | Averaging Period | Limit Value | Margin of Tolerance | Date by which limit value is to be met |
|--|------------------|---|---|--|
| 24-hour limit value for the protection of human health | 24 hours | 50 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 35 times a calendar year | 30% (15 $\mu\text{g}/\text{m}^3$) on the entry into force of this Decree, reducing on 1 January 2003 and every 12 months thereafter by equal annual percentages to reach 0% by 1 January 2005 | 1 January 2005 |
| Annual limit value for the protection of human health | Calendar year | 40 $\mu\text{g}/\text{m}^3$ PM ₁₀ | 12% (4,8 $\mu\text{g}/\text{m}^3$) on the entry into force of this Decree, reducing on 1 January 2003 and every 12 months thereafter by equal annual percentages to reach 0% by 1 January 2005 | 1 January 2005 |

Time table to collect and analyse the data

Retrospective view: from 2001 until end of the TELLUS project, the data will be collected and analysed yearly.

Development of the indicator value


Margin of Tolerance was not taken into account at the graph as there was no danger of breaking the law

The graph presents values of the PM₁₀ levels from 2001 to 2004 measured at the station no 9. It increased in two subsequent years.

Since the station No. 9 is not located in the laboratory area itself but in a certain distance, the interpretation of the indicator has to take into consideration influence of other non-transport and non-project related factors.

Relation to other indicator systems

| Study (institution or country) | Proposed indicator with regard to the issue |
|---------------------------------|---|
| METEOR (EU: CIVITAS initiative) | Particulate levels (PM ₁₀ concentration on an annual basis, in ppm or g/m ³) |
| TERM | - |
| EST | - |
| CSD | - |
| NFP (Switzerland) | PM ₁₀ level at the places of residence (% excessively burdened people) |
| BPI/PRR (UBA Germany) | - |

References

EEA: Are we moving in the right direction? Indicators on transport and environment integration in the EU. TERM 2000. Environmental issues series No 12. Copenhagen 2000.

METEOR (2002): WP 4 Project Impact Evaluation. Task 4.1. Evaluation Guidelines

EU: Council Directive 1999/30/EC

Polish law: decrees of Environment Ministry of 6 June 2002:

- Assessment of the substances' levels in the air decree (Dz.U.2002.87.798),
- Permissible substances' levels in the air, alarm levels of certain substances in the air and thresholds for permissible levels of particular substances decree (Dz.U.2002.87.796).

| |
|---|
| <p style="text-align: center;">TELLUS objective monitoring and evaluation</p> <p style="text-align: center;">Indicator Fact Sheet for TELLUS objective</p> <p style="text-align: center;">“reduce noise”</p> <p style="text-align: center;">TELLUS Key Indicator: Noise level</p> <p style="text-align: center;">Indicator: L_{day} (day equivalent A-weighted sound level)</p> <p style="text-align: center;">Indicator: L_{night} (night equivalent A-weighted sound level)</p> |
|---|

Context, impacts

Noise levels caused by transportation sector present a health concern or serious nuisance. Noise affects people physiologically and psychologically: noise levels above 40 dBA can influence well-being, with most people being moderately annoyed at 50 dBA and seriously annoyed at 55 dBA. Levels above 65 dBA are detrimental to health (WHO, 1999).⁵

The principal source of noise of the rolling stock is made up by the bearing noise, i.e. the noise produced by rail-wheel interaction. This problem concerns of course both the transport of passengers and that of freight, but it is much acuter in the latter case.

Traffic noise is the most important source of environmental annoyance. According to the Environmental Expert Council of Germany, severe annoyance consistent over prolonged periods of time is to be regarded as causing distress. Even during sleep the noise from traffic may be categorized as danger signals and induce the release of stress hormones. In accordance with the noise stress hypothesis chronic stress hormone dysregulations and increases of established endogenous risk factors of ischaemic heart diseases have been observed under longterm environmental noise exposure. Therefore, an increased risk of myocardial infarction is to be expected. The results of individual studies on this subject in most cases do not reach statistical significance. However, according to the Environmental Expert Council, they show a consistent trend towards an increased cardiovascular risk if the daytime immission levels exceed 65 dBA.

According to experts noise levels from transport which do not impair health should be in all places below 65 dBA and in residential areas below 55 dBA during the day and below 45 dBA at night.⁶

Unit of the indicator

dB(A)

Indicator-related objectives

Reduce noise to levels below national and EC directives until 2006

Methods of measurement

Measurement is carried out using partial observation, for two representative periods of day time, that is from 1.00 to 5.00 p.m. and from 7.00 to 9.00 p.m. with the time of observation $t = 60'$, and for the least favourable night time, that is from 10.00 to 11.00 p.m. ($t = 60'$). Measurement points are lo-

⁵ EEA (2000), p. 32.

⁶ OECD (1999), p. 23.

cated near the facades of chosen buildings located at the lately modernised part of the street (after each stage of modernization). Estimated measuring error does not exceed “-1,5 –+” 1,5 dB brackets.

Source of data and analysis

Studies [“Road noise imission along the Świętojańska Street in Gdynia I phase” (August 2002), “Road noise imission after modernization of the Świętojańska Street in Gdynia” (November 2002), “Road noise imission after the second stage of modernization of the Świętojańska Street in Gdynia” (November 2003)] carried out by the INFO-EKO company on the basis of measurements as well as calculations and analysed by the European Integration Department of the Municipality of Gdynia.

Legal basis, standard values

National law:

Act on Environment Protection of 27 April 2001 (Dz.U. nr 62, poz. 627, further amendment involved);
Decree of the Minister of the Environment, Natural Resources and Forests on permissible environmental noise level of 13 May 1998 (Dz.U. nr 66, poz. 463);
Decree of the Minister of the Environment on noise level thresholds of 9 January 2002 (Dz.U. nr 8, poz. 81).

Restrictions of Polish law concerning noise level are different for two periods of day and night:

16 hours for day time from 6 a.m. to 10 p.m.

8 hours for night from 10 p.m. to 6 a.m.

Table 1: Permissible environmental noise level

| Area | Permissible environmental noise level expressed with equivalent A-weighted sound level (dB) | |
|---|---|-------------------------------------|
| | Day, period of reference equal 16h | Night, period of reference equal 8h |
| Downtowns of cities with over 100 thousand inhabitants, close buildings and concentration of administrative, trade and service structures | $L_{Aeq,T=16} = 65$ | $L_{Aeq,T=8} = 55$ |

Table 2: Noise level thresholds in environment

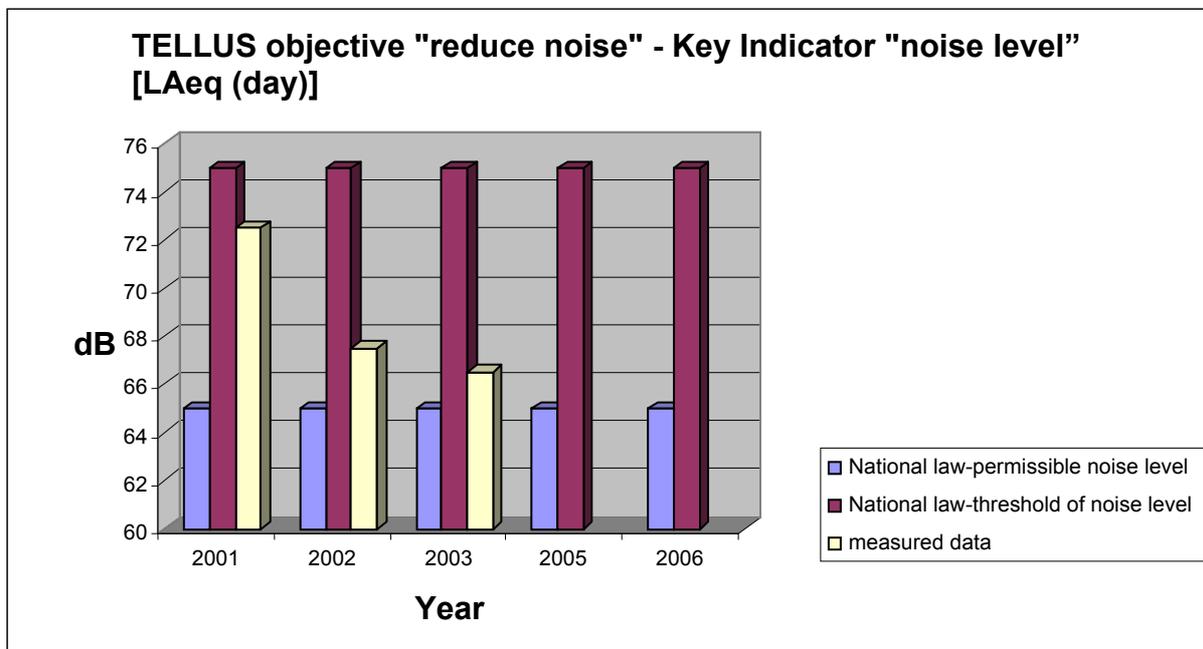
| Area | Noise level tresholds expressed with equivalent A-weighted sound level (dB) | |
|-------------------|---|-------------------------------------|
| | Day, period of reference equal 16h | Night, period of reference equal 8h |
| Housing buildings | $L_{Aeq,T=16} = 75$ | $L_{Aeq,T=8} = 67$ |

Time table to collect and analyse the data

Retrospective view: according to the LEP the data should be collected from 2001 (for the baseline data was calculated in August 2002 using data from 2001) until end of the TELLUS project after each

stage of Świętojańska Street modernization⁷. The European Integration Department collects and analyses the data.

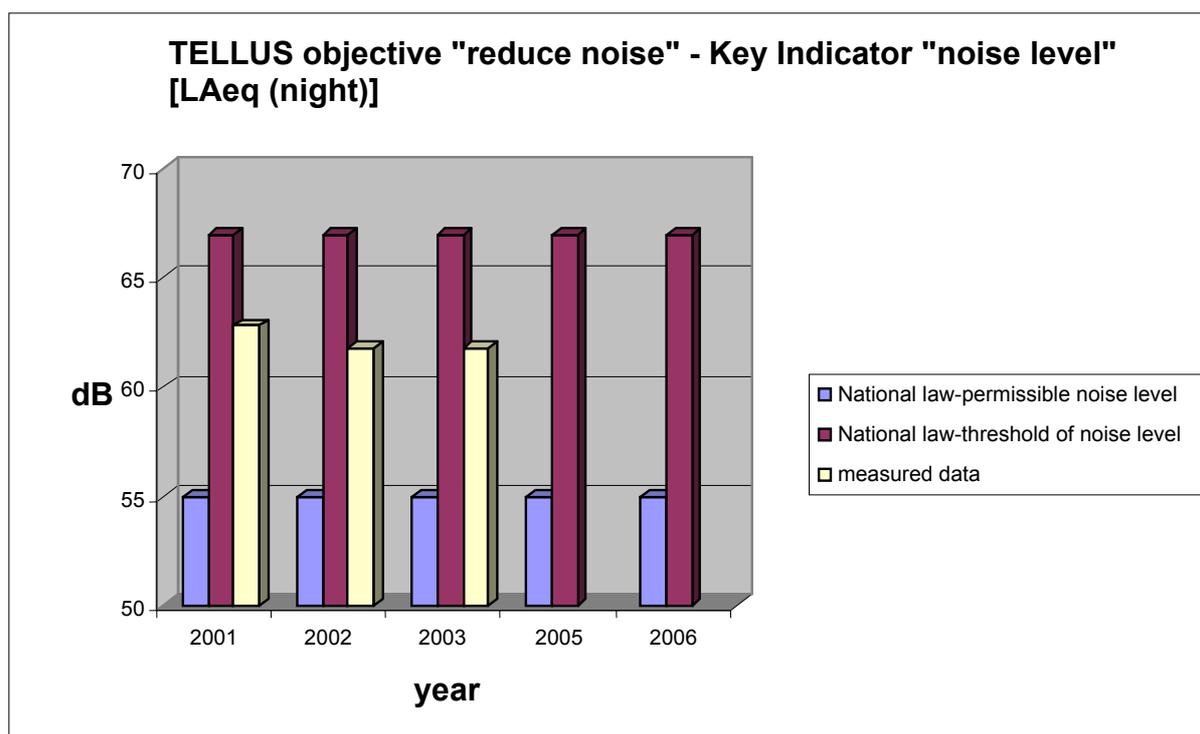
Development of the indicator value



Margin of Tolerance was not taken into account at the graph as there was no danger of breaking the law

The chart above presents values of noise levels (L_{Aeq}) during a day in 2001, 2002 and 2003 year i.e. before modernization as well as after the first and the second stage. It dropped significantly after the first stage (by 5 dB) and a bit after the second one (by 1 dB). So huge decrease probably results from the fact that within the demo pavements had been widened and measurement points were chosen near the facades of chosen buildings located at the lately modernised part of the street (after each stage of modernization). Consequently the source of noise in 2001 was located farther than in 2002 and 2003.

⁷ It turned out that the third stage of modernization of the Świętojańska Street will be delayed because of technical and financial problems and will be completed after the end of TELLUS project. Since the third stage will be still under work in September 2005 measurements planned on this date will not be undertaken as they were aimed at finding final results of the completed demonstration measure.



Margin of Tolerance was not taken into account at the graph as there was no danger of breaking the law

The chart above presents values of noise levels (L_{Aeq}) during a night in 2001, 2002 and 2003 year i.e. before modernization as well as after the first and the second stage. It dropped only a bit after the first stage (by 1 dB) and remained at the same level after the second one. Despite the fact that within the demo pavements had been widened and measurement points were chosen near the facades of chosen buildings located at the lately modernised part of the street (after each stage of modernization) the values in subsequent years did not changed significantly as during a night only a few cars drove through the Świętojańska Street.

Relation to other indicator systems

| Study (institution or country) | Proposed Indicator with regard to the issue |
|---|---|
| METEOR (EU: CIVITAS Initiative) | Noise perception (% of population exposed, broken down into 5 different perception bands of L_{day} and L_{night} , classification: absolutely dissatisfied, partly dissatisfied, absolutely satisfied, partly satisfied, neither satisfied nor dissatisfied) |
| NFP (Switzerland) | Noise level at the places of residence (% excessively burdened people) |
| BPI/PRR (UBA Germany) | Percentage of inhabitants exposed to noise levels under 65 dB(A) at days, percentage of inhabitants exposed to noise levels under 45 dB(A) at nights, resp. percentage of road length |
| TERM (EU: European Environment Agency) | percentage of population exposed to 4 transport noise exposure levels (in L_{dn}): 45<55 dB, 55-65 dB, 65-75 dB and >75 dB percentage of population highly annoyed by traffic noise from various transport modes |
| EST (OECD) | Noise levels from transport |

| Study (institution or country) | Proposed Indicator with regard to the issue |
|--------------------------------|--|
| CSD (Germany) | Percentage of population troubled with traffic noise |

References

EEA: Are we moving in the right direction? Indicators on transport and environment integration in the EU. TERM 2000. Environmental issues series No 12. Copenhagen 2000.

METEOR (2002): WP4 Project Impact Evaluation. Task 4.1. Evaluation Guidelines

OECD, Dist.: 24-Sep-1999: Environmentally Sustainable Transport. Final Report on Phase II of the OECD EST Project. Volume 1: Synthesis Report.

Polish law: Act on Environment Protection of 27 April 2001 (Dz.U. nr 62, poz. 627, further amendment involved); Decree of the Minister of the Environment, Natural Resources and Forests on permissible environmental noise level of 13 May 1998 (Dz.U. nr 66, poz. 463); Decree of the Minister of the Environment on noise level thresholds of 9 January 2002 (Dz.U. nr 8, poz. 81).

TELLUS objective monitoring and evaluation**Indicator Fact Sheet for TELLUS objective****„Improvement of intra-organisational co-operation at the city level”****TELLUS Key Indicator: Quality of intra-organisational co-operation****Description of the indicators, relevance**

A successful transport and environmental policy requires a good co-operation between the different stakeholders. With regard to TELLUS the risks that could affect a successful implementation of the demonstration measures could be reduced by a good co-operation between relevant commune's units. The TELLUS objective „Improvement of intra-organisational co-operation at the city level” refers to the quality of co-operation between the different departments of the administration. The TELLUS project can benefit from an improved intra-organisational co-operation but also further projects in the field of sustainable transportation for example the development of integrated policy strategies for the transport sector.

Unit of the indicator

Analysis of qualitative interviews

Indicator-related objectives

Improvement of intra-organisational co-operation

Methods of measurement

Municipality of Gdynia planned a survey in November 2003 and September 2005. After identification of employees involved in the TELLUS Project in Gdynia interviews with filling in forms prepared by the European Integration Department were carried out. As there is not many people working for the TELLUS Project in Departments of the City Hall and Commune's Units almost all of them were examined. The most important issue was to find out mainly about co-operation on the level of “ordinary” employees and not on the level of managerial posts. Therefore Deputy Mayors were not interviewed and heads of departments/units were interviewed mainly when no other (or only one) employees from a certain department/unit were involved in the TELLUS project or if a complex view from the point of the whole people working for TELLUS at the certain department/unit was necessary.

Details of the survey questions: identification of the departments co-operated with each other; scale of the co-operation; improvements evaluation; problems; propositions of different improvements; communication means used more often.

Source of data and analysis

The survey carried out among by the European Integration Department.

Questionnaire used in Gdynia:

QUESTIONNAIRE SURVEYING CO-OPERATION BETWEEN DEPARTMENTS OF THE CITY HALL OF GDYNIA AND COMMUNE'S UNITS INVOLVED IN THE TELLUS PROJECT

 Name:..... Surname:.....

Department/Commune's Unit:.....

Post:.....

1. Which Department/Commune's Unit are you co-operating with on the TELLUS Project?

| LP. | DEPARTMENT/COMMUNE'S UNIT |
|-----|---------------------------|
| a. | |
| b. | |
| c. | |
| d. | |
| e. | |

2. What do you think of co-operation with each of the pointed Departments/Units on the TELLUS Project?

| DEPARTMENT/COMMUNE'S UNIT | IT IS VERY GOOD | IT IS GOOD | IT IS NEUTRAL | IT IS BAD | IT IS STRONGLY BAD | I HAVE NO IDEA |
|---------------------------|-----------------|------------|---------------|-----------|--------------------|----------------|
| a. | | | | | | |
| b. | | | | | | |
| c. | | | | | | |
| d. | | | | | | |
| e. | | | | | | |

3. Has co-operation with these Departments/Units improved?

| DEPARTMENT/COMMUNE'S UNIT | YES | NO |
|---------------------------|-----|----|
| a. | | |
| b. | | |
| c. | | |
| d. | | |
| e. | | |

4. In case of 'Yes' answer to Q no. 3 – What has improved: quality or intensity (frequency) of contacts?

| DEPARTMENT/COMMUNE'S UNIT | QUALITY | INTENSITY |
|---------------------------|---------|-----------|
| a. | | |
| b. | | |
| c. | | |
| d. | | |
| e. | | |

5. In case of 'No' answer to Q no. 3 – What is the reason of lack of co-operation improvement between certain Departments/Units involved in the TELLUS Project?

| | | | | | | |
|---|-----------------|----|----|----|----|----|
| It was good enough earlier | DEPARTMENT/UNIT | a. | b. | c. | d. | e. |
| It has improved not because of the TELLUS Project | DEPARTMENT/UNIT | a. | b. | c. | d. | e. |
| Departments/Units have established contacts due to the TELLUS Project | DEPARTMENT/UNIT | a. | b. | c. | d. | e. |
| Interpersonal conflicts | DEPARTMENT/UNIT | a. | b. | c. | d. | e. |
| Lack of means making co-operation easier | DEPARTMENT/UNIT | a. | b. | c. | d. | e. |
| Other | DEPARTMENT/UNIT | a. | b. | c. | d. | e. |

6. Do you think that co-operation with such Departments/Units might be improved and/or it is worth to do it?

• **IT CAN BE**

| DEPARTMENT/ COMMUNE'S UNIT | YES | NO | HOW |
|-------------------------------|-----|----|-----|
| a. | | | |
| b. | | | |
| c. | | | |
| d. | | | |
| e. | | | |

• **WORTHWHILE**

| DEPARTMENT/ COMMUNE'S UNIT | YES | NO | WHY/WHAT FOR |
|-------------------------------|-----|----|--------------|
| a. | | | |
| b. | | | |
| c. | | | |
| d. | | | |
| e. | | | |

7. Were a co-ordinator or task teams [or some other instruments] established to improve co-operation between Departments/Units? If yes, what kind of them? Do you think they are useful?

| DEPARTMENT/ COMMUNE'S UNIT | YES | NO | IMPROVEMENT | USEFULNESS | |
|-------------------------------|-----|----|-------------|------------|----|
| | | | | YES | No |
| a. | | | | | |
| b. | | | | | |
| c. | | | | | |
| d. | | | | | |
| e. | | | | | |

8. What are the means of communication you use when contacting with other Departments/Units on the TELLUS Project?

| DEPARTMENT/ COMMUNE'S UNIT | PHONE CALLS | E-MAILS | MEETINGS | OTHER |
|-------------------------------|-------------|---------|----------|-------|
| a. | | | | |
| b. | | | | |
| c. | | | | |
| d. | | | | |
| e. | | | | |

9. Additional comments

.....

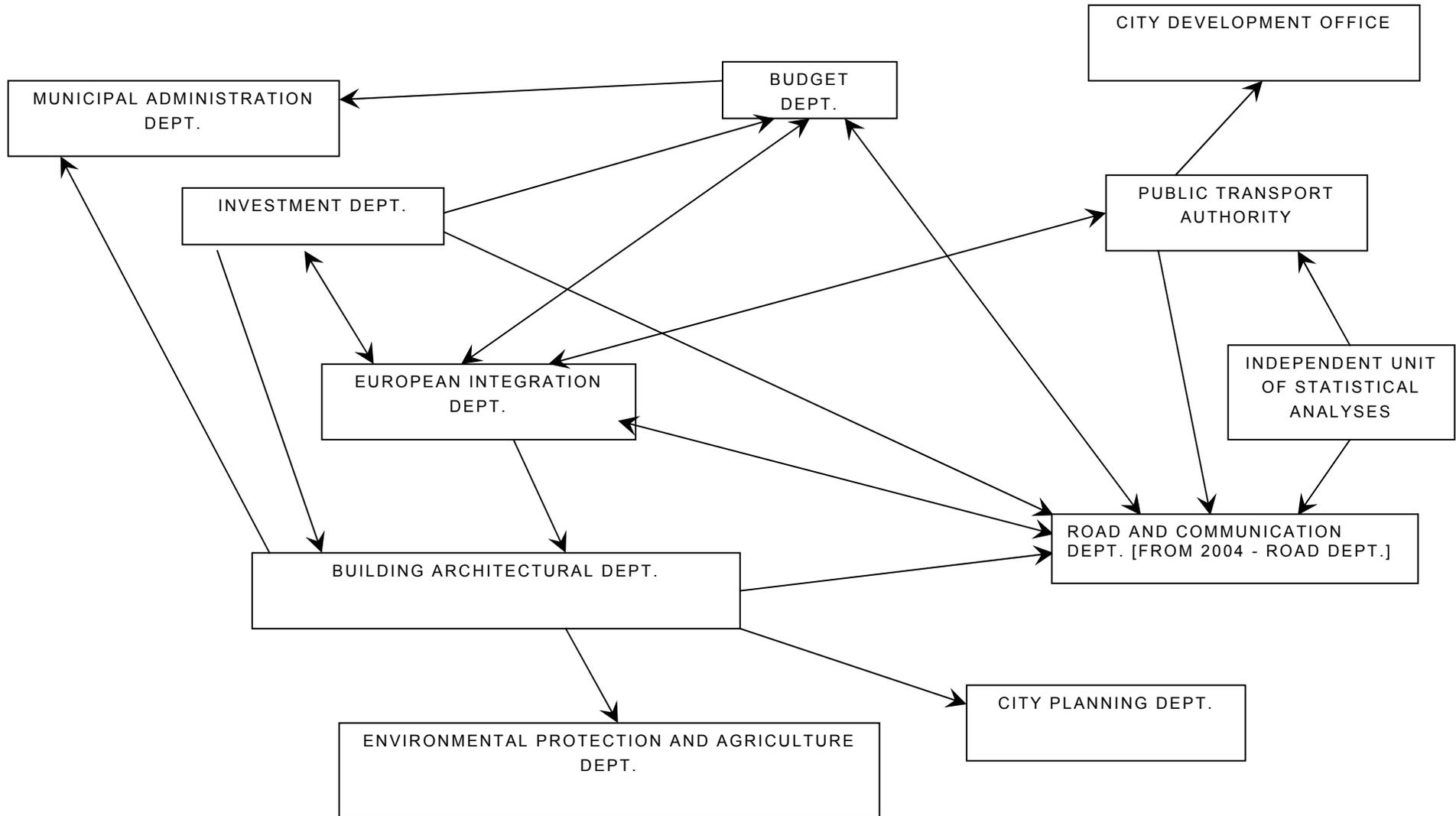
Time table to obtain and analyse the data

Survey and analysis of the data in November 2003 and September 2005.

Development of the indicator

Following graph features interactions indicated by employees of City Hall of Gdynia and Commune's Units surveyed in November 2003 and September 2005 involved in the TELLUS project in Gdynia.

Two-direction arrows mean that units have identified each other, whilst one-direction arrows inform that only one party thinks that co-operates with another unit (pointed party).



In November 2003 seventeen employees from eleven units of the Municipality of Gdynia were surveyed. A survey included filling in a form (questionnaire) and short interview.

The most frequently pointed unit was Road and Communication Department (13 times), European Integration Department (11 times) and Budget Department (7 times).

Some Departments were pointed, but no one from them was working for the TELLUS Project. There was an incidental contact e.g. request for some data.

Roads and Transport Department was pointed by 6 other units, but it pointed only 2 (Budget and European Integration).

57% of interactions were defined as very good, 39% good and 4% neutral.

In 69% of identified interactions co-operation has improved and in 31% it has not improved because „it was good enough until now” – 24% [75% of those who told that co-operation had not improved], „first contact due to the TELLUS” – 7% [25% of those who told that co-operation had not improved].

Quality and intensity have improved alike.

Respondents have been using first of all phone calls (45%), meetings (38%) and e-mails (17%).

In September 2005 seventeen employees from eleven units of the Municipality of Gdynia were surveyed again. It was the same people as in November 2003 with one exemption – in ZKM one person stopped working for the TELLUS Project and his place was taken by another person.

In the European Integration Department one person was not working for TELLUS Project since 2003 and nobody replaced her. Moreover one person from this Department was promoted in July 2005 for an independent post but it had not influenced inter-relations within the TELLUS Project in Gdynia (he was still treated as a person from the European Integration Department).

Additionally support from the only one person working for TELLUS within Independent Unit of Statistical Analyses at the beginning of the Project was not necessary for the last two years of the Project. Moreover as for last two years (i.e. from November 2003) no technical works were carried out most of the people were slightly involved in the Project. ZKM, European Integration Department and Budget Department were working as intensively as earlier due to intense promotion of the Public Transport.

Other Departments started working more for TELLUS in the spring 2005 when works on the tenders for the third (last) stage of modernization had commenced.

Majority of the surveyed has not changed their answers within two years as it was hard for them to divide time they were working for the TELLUS Project into two periods – one before the first survey and the second between the first and the second survey. Consequently no graph was drawn after the second survey, the more so as interactions within the period between the first and the second survey were not so intensive as at the beginning of the Project.

Summarizing, undoubtedly thanks to the TELLUS Project acceptance and understanding of the UE's standards as well as financial and organizational requirements within departments/commune's units have arisen significantly. Moreover it is better to co-operate with people you have ever worked with.

Relation to other indicator systems

| Study (institution or country) | Proposed Indicator with regard to the issue |
|--------------------------------|---|
| METEOR (EU: CIVITAS) | - |
| NFP (Switzerland) | - |
| BPI/PRR (UBA Germany) | The indicator is a question which can be proved by a simple yes/no statement. The question with regard to intra-organisational co-operation is: Exists an integrated transportation development plan? |

| | |
|---|---|
| TERM (EU: European Environment Agency) | inter-ministerial co-operation approach to transport and environment by ad hoc studies and questionnaires |
| EST (OECD) | - |
| CSD (Germany) | - |

References

TELLUS objective monitoring and evaluation

Indicator Fact Sheet for TELLUS objective

„Achievement of political and public awareness for TELLUS”

TELLUS Key Indicator: Media exposure

TELLUS Key Indicator: Events organized

TELLUS Key Indicator: Presentations given

Description of the indicators, relevance

To obtain long distance effects and change inhabitants attitude towards transportation and environmental issues coherent information should be provided. As media is called „the fourth power” achieving its attention is important and can be very fruitful.

Acceptance of transport and environment policies correlates positively with availability of information and awareness of environmental problems. Public awareness and knowledge of environmental problems is therefore central to the development of appropriate transport policies.⁸

Political and public awareness for TELLUS has two meanings: awareness for the several demonstration measures of the TELLUS project and awareness for the TELLUS objectives on the city level which should be reached by the implementation of the demonstration measures.

Awareness for demonstration measures: The better people are informed about the new measures the more likely they will take advantage of the measures and the better the measure performance will be.

Awareness for TELLUS objectives: Beside awareness for the demonstration measures TELLUS will also raise awareness for the necessity of a more environmentally friendly and a more efficient transportation system which takes into account the variety of consequences of the transport sector. These issues are expressed in the TELLUS objectives. Awareness for these issues raises the acceptance for integrated policy strategies too.

The better politicians are aware of such topics, the better the chances of implementation of a sustainable transportation policy and planning will be.

Unit of the indicator

Analysis

Indicator-related objectives

Achieve extensive political and public awareness for TELLUS

Methods of measurement

Information is regularly collected and analysed by European Integration Department.

The analysis is done according to the following criteria:

⁸ EEA (2000), p. 123.

- for **media exposure** (in newspapers, magazines, radio or television): date, name of medium, title of article and author (if known), short description of content, reach (local, regional, national or European);
- for **events organised**: date, reach (local, regional, national or European), type of audience, number of participants when available;
- for **presentations given**: date, context of the presentation/ kind of meeting where the presentation is given (local, national, international), number of participants when available, keynote of the presentation, speaker.

The issue of political awareness is checked out by looking on the integration of the TELLUS demonstration measures into local transport policy.

Source of data and analysis

Data collection and analysis is done by the European Integration Department.

Legal basis

-

Time table to obtain and analyse the data

The collection of the relevant data is done continuously, the analysis is done yearly.

Development of the indicator

From 01 February 2002 to 31 October 2005 following number of

| Indicator | Description | Number |
|---------------------|---|--------|
| Media exposure | Information in newspapers, magazines, radio or television | 40 |
| Events organized | Workshops, conferences and meetings organized | 4 |
| Presentations given | Presentations given | 14 |

appeared.

MEDIA EXPOSURE

| Item | Date (DD-MM-YY) | Name of medium | Title of article and author | Short description of content of article | Reach (local, regional, national or European) |
|------|-----------------|--|---|--|---|
| 1. | 19-02-02 | Newspaper "Dziennik Bałtycki" | "Modernization of the second line of Świętojańska Street" | The article is about new and innovative techniques used during modernization of the street. City authorities after consultations with the inhabitants of the street decided to use a new noiseless method of stabilising the soil. The deputy Mayor informs the citizens of Gdynia on the EU co-financing for certain elements of modernisation. | regional |
| 2. | 8-03-02 | Ratusz – Informations of the Council and the Mayor of the City – (weekly bulletin) | "TELLUS project in Gdynia" Press Team | The article describes the general idea of the TELLUS project and its consortium. It describes also the foreseen tasks for Gdynia during the project. | local |
| 3. | 14-06-02 | Newspaper "Dziennik Bałtycki" | "New Świętojańska – grew pretty for 11 m zlotys" | The article describes what has been done during modernisation, what was the cost, what are the other stages of modernisation. It contains also opinions of the street users and | regional |

| Item | Date (DD-MM-YY) | Name of medium | Title of article and author | Short description of content of article | Reach (local, regional, national or European) |
|------|-----------------|--|---|---|--|
| | | | | inhabitants about what has been done. | |
| 4. | 21-08-02 | Newspaper "Dziennik Bałtycki" | "In a new Świętojańska Street in summer" | The article describes the opinions of the tourists and inhabitants about the modernised street and shows how the life in the street has changed. | regional |
| 5. | 23-09-02 | Newspaper "Rzeczpospolita" (weekly supplement – "Nasza Europa") | "Puzzles' strategy" | The article describes the ways how the Municipality of Gdynia is developing and how the European Union is supporting this development. Among various projects co-financed by the EC the TELLUS project is described | national |
| 6. | April 2003 | Monthly Bulletin of Economic Chamber of Municipal Transport (IGKM) | „The TELLUS project” Maciej Warszawski | The general information on the project and consortium. Information about the structure of the project and what is particularly being done in Gdynia and other partner cities. | national |
| 7. | June 2003 | Local television (TVP 3) | special 20 sec. TV promotion spot | TV promotion spot to invite inhabitants of Tricity to the celebration of the street modernised in the TELLUS project. | spot was broadcasted 21 times on regional television |
| 8. | 18-06-03 | Newspaper "Dziennik Bałtycki" | "Feast of the Świętojańska Street." Author's initials "RM" | Agenda of the Feast in detail with a map presenting restrictions for cars and parking. Description of the modernization stages and their costs. | regional |
| 9. | 20-06-03 | Newspaper "Dziennik Bałtycki" | "Huge Parade. Gdynia. Feast of the Świętojańska Street." Author's initials "bj" | Agenda of the Feast in detail with a map presenting restrictions for cars and parking. | regional |
| 10. | 20-06-03 | Ratusz – Informations of the Council and the Mayor of the City – (weekly bulletin) | "Summer, summer, summer is waiting!" Press Team | Scheme of the Feast of the Świętojańska Street on the Midsummer Day and notices on traffic organization changes. | regional |
| 11. | 21-06-03 | Newspaper "Gazeta Wyborcza" | "Feast of the Świętojańska Street" Author's initials "KAF" | On 22 nd June (Midsummer's Day) there will be Huge Parade at the Świętojańska Street [modernized part] organized. Some scenes offering amusement such as competition for children, concerts, shows, etc. will be installed there. | regional |
| 12. | 23-06-03 | Newspaper "Dziennik Bałtycki" | "Feast of the Świętojańska Street" Author - Renata Moroz | Report on Midsummer's Day organized at the Swietojaeska Street – Huge Parade with Mayor of Gdynia, Gdynia's famous "ancient" celebrities and feast with stands offering Polish cuisine. Dozens of Thousands of Gdynia's inhabitants attended the feast. | regional |
| 13. | 23-06-03 | Newspaper "Gazeta Wyborcza" | "One-day promenade" Author's initials "MHL" | Report on Midsummer's Day organized at the Świętojańska Street – description of the Parade and entertainment, available only for pedestrians. | regional |
| 14. | 23-06-03 | Newspaper "Dziennik Bałtycki" | "What a laugh" Author's initials "RM" | Report on Midsummer's Day organized at the Świętojańska Street - Huge Parade, picnics, entertainment, concerts were carried out all day. | regional |
| 15. | 23-06-03 | Newspaper "Głos Wybrzeża" | "Feast of the Świętojańska Street" Author's initials "TN" | Report on Midsummer's Day organized at the Świętojańska Street – short description of Parade, competitions, concerts and meals served then. | regional |

| Item | Date (DD-MM-YY) | Name of medium | Title of article and author | Short description of content of article | Reach (local, regional, national or European) |
|------|-----------------|--|--|---|---|
| 16. | 01-07-03 | Newspaper "Dziennik Bałtycki" | "Driving out drivers" Author's initials "sz" | Article describing TELLUS Project, its aims, partners and modernization of the Świętojańska Street with map presenting location of the posts limiting number of parking places at the city centre. Short speech of the ZKM's [Public Transport Authority] spokesman on the increase in number of trolley buses' passengers. | regional |
| 17. | 19-09-03 | Ratusz – Informations of the Council and the Mayor of the City – (weekly bulletin) | "Feast of the trolley-buses" Press Team | Description of the Feast organized on the 60 th anniversary of the trolley-buses in Gdynia and its agenda. | regional |
| 18. | 26-09-03 | Ratusz – Informations of the Council and the Mayor of the City – (weekly bulletin) | "International conference and workshop on urban transport in Europe" Press Team | Info on the workshop in Gdynia 24-26 of September, description on the CIVITAS Initiative, TELLUS, its aims and measures carried out within its frames. | regional |
| 19. | 17-10-03 | Ratusz – Informations of the Council and the Mayor of the City – (weekly bulletin) | "Świętojańska Street after modernization" Press Team | Info on celebration of the end of the second stage of the modernization and introduction of the trolley-buses traffic at the Świętojańska Street. | regional |
| 20. | 21-10-03 | Newspaper "Dziennik Bałtycki" | "Quiet trolley-bus" Author "aga" | Article on the new, modern, quiet and faster trolley-bus traction at the Świętojańska Street installed during the second stage of its modernization. | regional |
| 21. | 23-10-03 | Newspaper "Głos Wybrzeża" | "Świętojańska Street is almost prepared" Author's initials "KAF" | Short info on the second stage of the Street modernization and organizational changes after the end of it. | regional |
| 22. | 24-10-03 | Newspaper "Dziennik Bałtycki" | "The last cobblestone" Author Szymon Szadurski | Report on the solemn opening of the street after the second stage of its modernization with a description of the whole investment and speeches of two, ordinary inhabitants. | regional |
| 23. | 24-10-03 | Newspaper "Głos Wybrzeża" | "Whole beauty of the Świętojańska Street" Author's initials "KAF" | Short, detailed description of the second stage of the Street modernization with all outputs listed. | regional |

| Item | Date (DD-MM-YY) | Name of medium | Title of article and author | Short description of content of article | Reach (local, regional, national or European) |
|------|-----------------|--|---|--|---|
| 24. | 24-10-03 | Newspaper "Głos Wybrzeża" | "Świętojańska Street anew" Author's initials "TN" | Report on the solemn opening of the street after the second stage of its modernization with a description of that investment. | regional |
| 25. | 24-10-03 | Ratusz – Informations of the Council and the Mayor of the City – (weekly bulletin) | "Świętojańska Street after modernization" Press Team | Info on traffic reorganization after the second stage of the Street modernisation. | regional |
| 26. | 19-11-03 | Newspaper "Dziennik Bałtycki" | "With the Union's support" Author's initials „RM" | Scheme of the Public Transport Authority's transportation network will be realised within the framework of the TELLUS project as the mean of promotion of the public transport in Gdynia. | regional |
| 27. | 23-12-03 | Newspaper "Gazeta Wyborcza" | "New maps of the ZKM networks" Author's initials "PB" | "The Public Transport Authority" has spent 25 000 PLN for the promotion of the public transport within the confines of the TELLUS-CIVITAS project. This amount was dedicated for the special plans of the ZKM transportation network, which will be hang on all bus stops in the city. The folded version is distributed through special Customer Service Office of ZKM. | regional |
| 28. | 18-06-04 | Newspaper „Dziennik Bałtycki" | Special supplement to the edition on the Świętojańska Street and the TELLUS project. | Description of the modernized Świętojańska Street and information on the TELLUS project. | regional |
| 29. | 29-06-04 | Welcomeurope pour Localtis (internet Bulletin) | « Le programme européen Civitas place le transport au coeur de la cité » Caroline Garcia | The article presents what is being done in Gdynia, and what are the advantages for the City to be in Civitas initiative. | European |
| 30. | 22-09-04 | Newspaper „Dziennik Bałtycki" | « Free PT for drivers» Author "agka, RM" | The article on the 'day without a car' celebration in the Tri-city. To encourage drivers to go by PT authorities made it free for them 22 nd September. | regional |
| 31. | 23-09-04 | Newspaper „Dziennik Bałtycki" | Special supplement to the edition on the 75 th anniversary of the Public transport in Gdynia | Description of the PT history in Gdynia as well as agenda of events celebrating the anniversary. | regional |

| Item | Date (DD-MM-YY) | Name of medium | Title of article and author | Short description of content of article | Reach (local, regional, national or European) |
|------|-----------------|--|--|--|---|
| 32. | 10-06-05 | Newspaper „Dziennik Bałtycki“ | Special supplement to the edition on the trade streets of the Tri-city | Description of the Świętojańska Street and stages of its modernization as well as its role of the trading, shopping and leisure place. | regional |
| 33. | 15-06-05 | Newspaper „Dziennik Bałtycki“ | “Feast of the Świętojańska Street” Author “mok” | Article encouraging to participate in the event (breaking a record in cooking soup) planned in 2005 on 19 June– day ‘Feast of Świętojańska Street’. | regional |
| 34. | 17-06-05 | Newspaper “Dziennik Bałtycki” | Special supplement to the edition “Feast of the Świętojańska Street” | Eight-page supplement on the Świętojańska Street, its history, events planned on the Feast of the Świętojańska Street in 2005 on 19 June and TELLUS project. | regional |
| 35. | 18/19-06-05 | Newspaper “Dziennik Bałtycki” | “Feast of the Świętojańska Street” Author “mok” | Article encouraging to participate in the events planned in 2005 on 19 June – to celebrate day ‘Feast of Świętojańska Street’. | regional |
| 36. | 18/19-06-05 | Newspaper “Gazeta Wyborcza” | “Świętojańska Street has its own Feast” Author Emilia Salac | Article on the events planned in 2005 on 19 June – to celebrate day ‘Feast of Świętojańska Street’. | regional |
| 37. | 20-06-05 | Newspaper “Dziennik Bałtycki” | “It will make Guinness’ mouth water. Feast of the Świętojańska Street.” | Description of the celebration of the ‘Feast of Świętojańska Street’. | regional |
| 38. | 25-07-05 | Newspaper “Dziennik Bałtycki” | “For cyclists. New map.” Author (aga) | Article on a new free of charge updated map of bicycle routes in Gdynia financed from the TELLUS budget. | regional |
| 39. | 23-08-05 | Newspaper “Dziennik Bałtycki” | “Festively all the year round. Modern centre of Gdynia.” Author Kazimierz Netka | Description of the Świętojańska Street and its major role in the city and its modernization stages. | regional |
| 40. | 28.10-03.11.05 | Ratusz – Informations of the Council and the Mayor of the City – (weekly bulletin) | “From where the city has money and what does it spend money for?” | Information on the TELLUS Project in Gdynia | regional |

EVENTS ORGANISED

| Date (DD-MM-YY) | Title of Event | Event description | Type of Audience (experts, politicians, citizens, press etc.) | No of participants | Reach (local, regional, national or European) |
|------------------------|---|--|---|-----------------------------------|--|
| 31-05-03 | Scientific Picnic | meeting where Gdynia's experiences with TELLUS and CIVITAS initiative were presented | Citizens | 200 | local |
| 26-09-03 | TELLUS international workshop in Gdynia "Integrated planning" | The international workshop during which results of various TELLUS sites and other CIVITAS projects were described | experts, politicians, press, representatives of other CIVITAS projects | 120 | European, national, regional |
| 24-10-03 | Official opening of the second modernized part of the Świętojańska Street | The street was officially opened for the citizens. A great ceremony was organised with various parades. | Inhabitants, politicians | Several thousands | local |
| 20-10-05 | Public Transport Seminar on Trolley-bus Systems in Gdynia | The Commission on Transportation in cooperation with the CIVITAS/TELLUS Project organized a seminar in Gdynia the 20th of October with focus on trolley-bus systems. Since trolley-buses are very common in the countries around the Baltic sea, and are a large part of the public transport system, it is of interest to discuss and exchange ideas about trolley-bus systems, their advantages/disadvantages, their future etc. | Experts, politicians, press, representatives of the members of the Union of the Baltic Cities | 16 from abroad and 23 from Poland | European, national, regional |

PRESENTATIONS GIVEN

| Item | Date (DD-MM-YY) | Title of Conference | Title of your presentation and name of lecturer | Type of Audience (experts, politicians, citizens, press etc.) | No of people that attended | Reach (local, regional, national or European) |
|-------------|------------------------|-------------------------------|--|--|-----------------------------------|--|
| 1. | 05-05-03 | CESURA | TELLUS project and the experiences of Gdynia in CIVITAS Maciej Warszawski | Transport experts, politicians | 60 | national and European |
| 2. | 31-05-03 | Scientific Picnic | TELLUS project and the experiences of Gdynia in CIVITAS Maciej Warszawski | Citizens | 200 | local |
| 3. | 30-06-03 | CIVITAS II Information Day | TELLUS project and the experiences of Gdynia in CIVITAS Maciej Warszawski | Transport experts, politicians | 60 | national |
| 4. | 26-09-03 | International TELLUS Workshop | Creating an attractive city centre for Gdynia Marek Stępa | Transport experts, politicians, press | 120 | European |
| 5. | 26-09-03 | International TELLUS Workshop | Communication strategies for public transport Olgierd Wyszomirski | Transport experts, politicians, press | 120 | European |

| Item | Date (DD-MM-YY) | Title of Conference | Title of your presentation and name of lecturer | Type of Audience (experts, politicians, citizens, press etc.) | No of people that attended | Reach (local, regional, national or European) |
|------|-----------------|--|--|---|----------------------------|---|
| 6. | 21,22-10-03 | I CIVITAS FORUM Graz | Transforming the city centre into a clean urban transport area Marek Sępa | Transport experts, politicians | 50 | European |
| 7. | 22-12-03 | Weekly press conference of the city authorities | Presentation of the plan of ZKM transportation network created within TELLUS Marcin Gromadzki, Olgierd Wyszomirski | press | 20 | local |
| 8. | 29-01-04 | Meeting dedicated to projects co-financed by the EU | European projects co-financed by the EU in Gdynia Krystyna Borkowska | Experts, politicians, citizens, press | 100 | local |
| 9. | 22-04-04 | CODATU | TELLUS project and the experiences of Gdynia in CIVITAS Maciej Warszawski | Politicians, Public Transport experts | Apr. 200 | European |
| 10. | 20-04-04 | Fast track to Financing Public Transport in the EU New Member States and Candidate Countries | TELLUS project and the experiences of Gdynia in CIVITAS Maciej Warszawski | Public Transport experts | Apr. 40 | European |
| 11. | 11-06-04 | UBC Commission on Transportation Kaunas | TELLUS project and the experiences of Gdynia in CIVITAS Maciej Warszawski | Politicians, Public Transport experts | Apr. 40 | European |
| 12. | 26-11-04 | Meeting dedicated to projects co-financed by the EU | Presentation on the projects in Gdynia, including TELLUS project Maciej Warszawski | Representatives of the Municipalities of the Union of the Opal Coast (North France) | 20 | European |
| 13. | 03-02-05 | Meeting dedicated to projects co-financed by the EU | Presentation on the projects in Gdynia, including TELLUS project Maciej Warszawski | Representatives of the North Denmark Eu office Yutland | 10 | European |
| 14. | 20-10-05 | Public Transport Seminar on Trolleybus Systems in Gdynia | Development of trolleybus system in Gdynia Olgierd Wyszomirski | Experts, politicians, press, representatives of the members of the Union of the Baltic Cities | | European, national, regional |

Relation to other indicator systems

| Study (institution or country) | Proposed Indicator with regard to the issue |
|---|--|
| METEOR (EU: CIVITAS) | Awareness level: knowledge of the new integrated measures on account of provided information. Data collection could be done by means of surveys (questionnaires or face to face interviews). |
| NFP (Switzerland) | - |
| BPI/PRR (UBA Germany) | - |
| TERM (EU: European Environment Agency) | Public awareness and transport behaviour; data: responses to questionnaire |
| EST (OECD) | - |
| CSD (Germany) | - |

References

EEA: Are we moving in the right direction? Indicators on transport and environment integration in the EU. TERM 2000. Environmental issues series No 12. Copenhagen 2000.

METEOR (2002): WP4 Project Impact Evaluation. Task 4.1. Evaluation Guidelines.