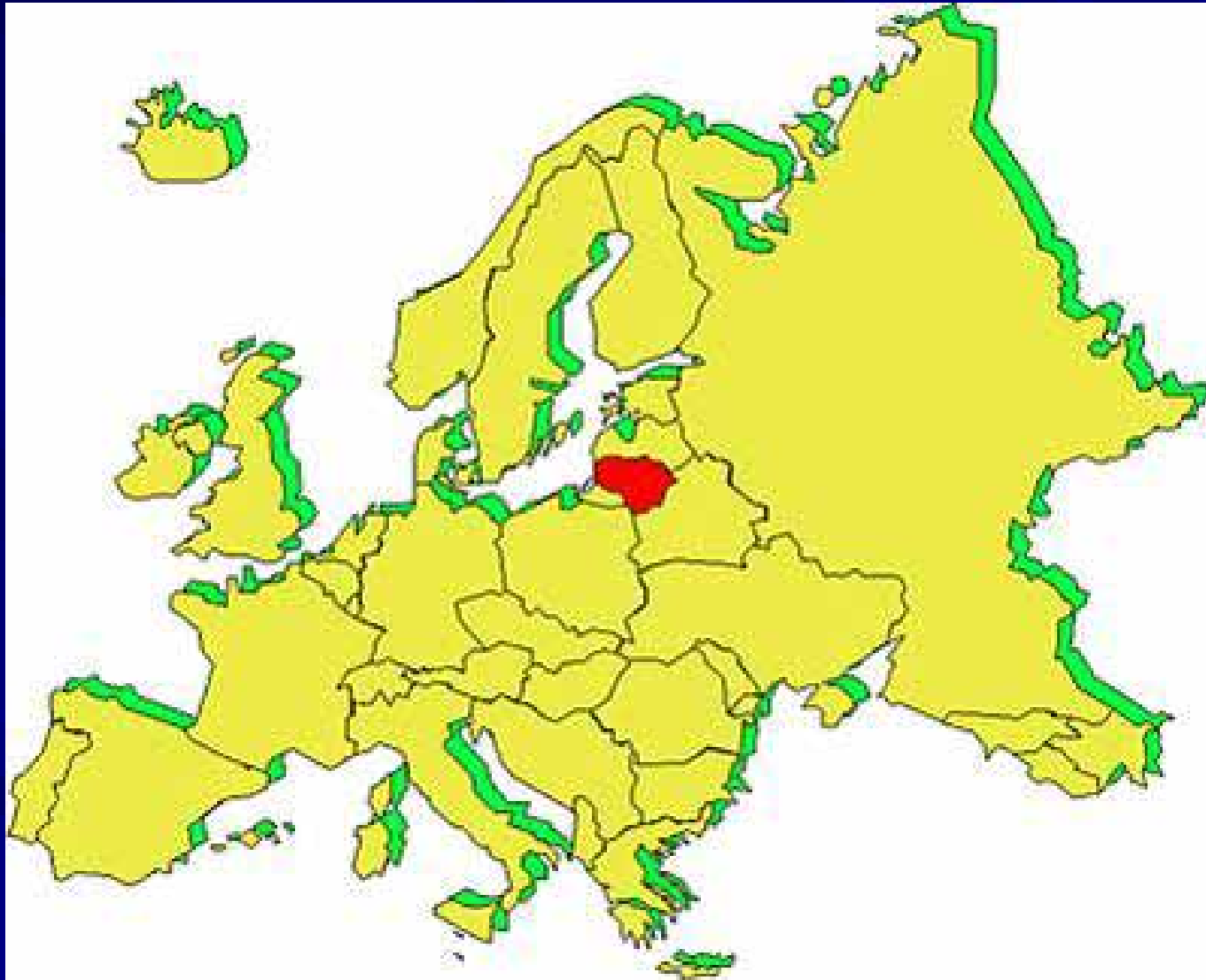


The key problems faced when drawing up Strategic Noise Maps in Lithuania

Jurate Sarpyte-Vaiciulioniene

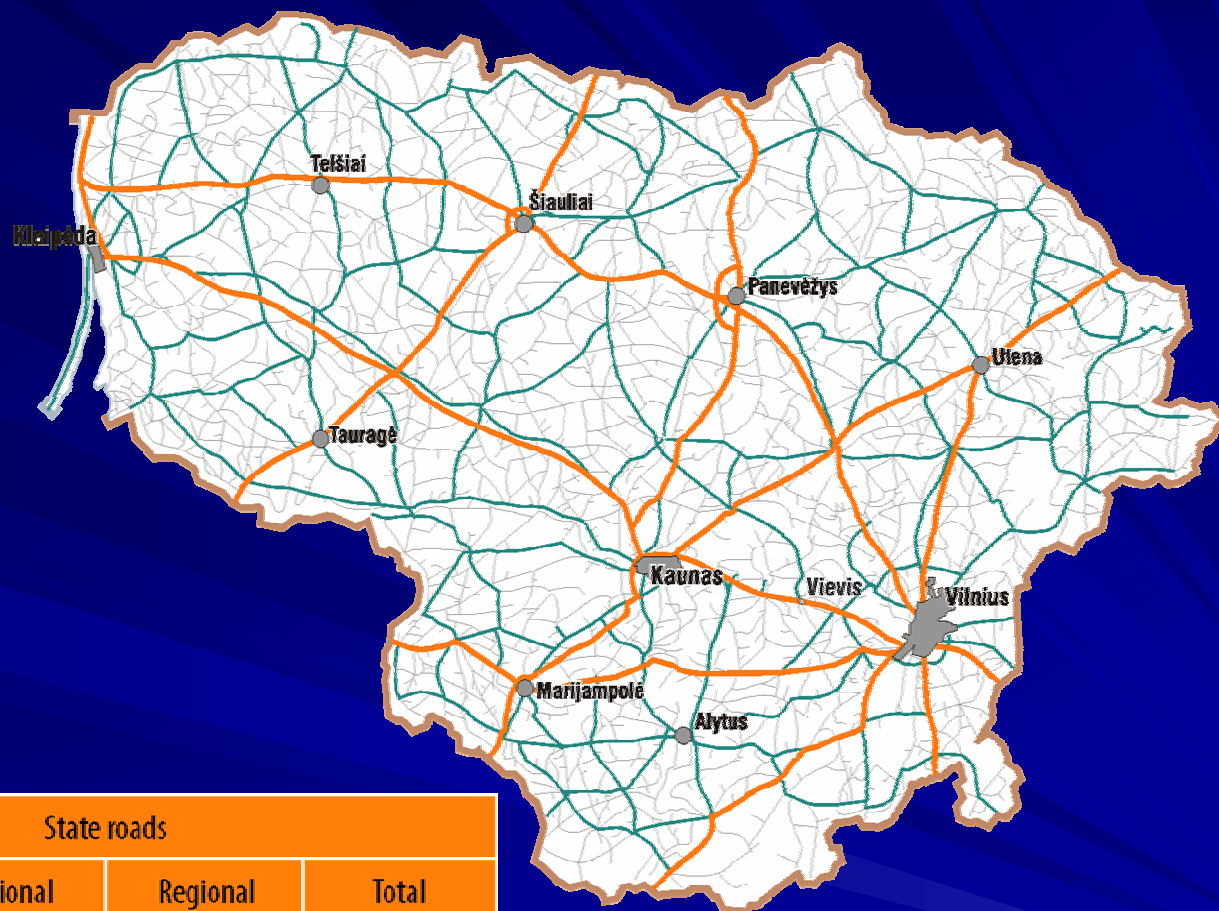
LITHUANIA - ?



General Road Network



● Road network

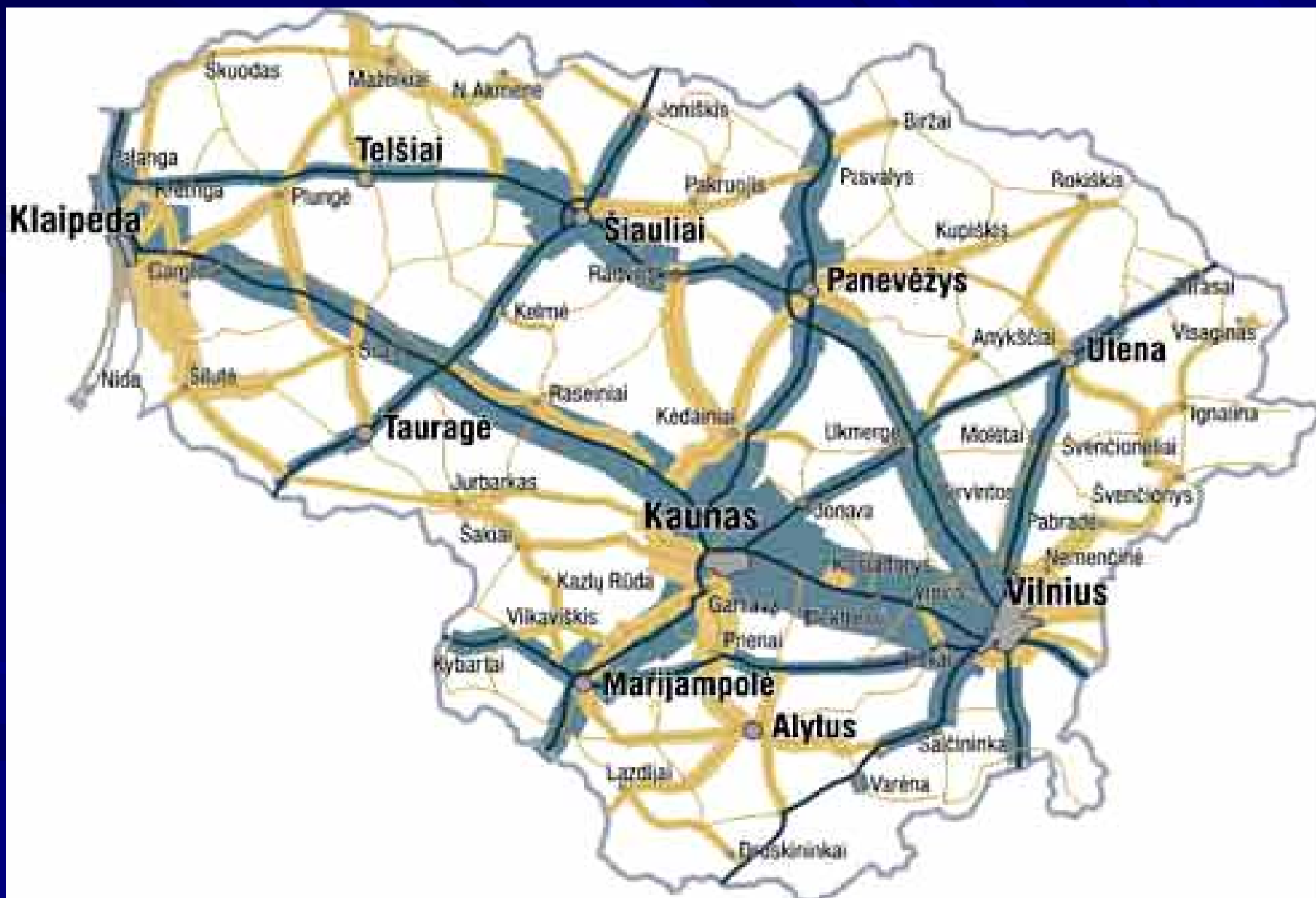


Road network, km

01 01 2006

Pavement	State roads			
	Main	National	Regional	Total
Asphalt concrete	1,665.3	4,947.9	6,203.98	12,817.18
Cement concrete	84.55	–	1.27	85.82
Gravel paving	–	–	8,415.87	8,415.87
Sett paving	0.20	–	9.02	9.22
Total	1,750.05	4,947.9	14,630.14	21,328.09

TRAFFIC VOLUMES, 2005



LITHUANIAN ROAD ADMINISTRATION

under Ministry of Transport and Communications



CONTENT

- Directive 2002/49/EC
- Law on Noise Management in Lithuania
- Major problems faced when drawing up Strategic Noise Maps in Lithuania:
 - By-laws
 - Noise limit value
 - Computation methods
 - Major roads in agglomeration
 - GIS
 - Public hearings

DIRECTIVE 2002/49/EC

- Directive on Environmental Noise aims at requiring competent authorities in Member States
 - To produce strategic noise maps on the basis of harmonized indicators
 - To inform the public about noise exposure and its effects
 - To draw up action plans to address noise issues

LAW ON NOISE MANAGEMENT IN LITHUANIA

- This law defines the legal basis for noise prevention and procedure of noise control and monitoring.
- The aim of the law is the development of a long-term EU strategy to reduce noise emitted by major sources in order to avoid negative impact on the people's health and environment.
- Practical application of the law – to produce strategic noise maps on the basis of harmonized indicators, to inform the public about noise exposure and its effects and to draw up action plans to address noise issues.

LAW ON NOISE MANAGEMENT IN LITHUANIA

- National noise management according to competence:
 - Government of the Republic of Lithuania
 - Ministries of the Republic of Lithuania
 - Municipalities
 - Council of Noise Prevention
 - Head of Counties

LAW ON NOISE MANAGEMENT IN LITHUANIA

- Competence of the Government of the Republic of Lithuania:
 - To confirm the National Programme of Strategic Mapping of Noise.
 - To confirm the National Programme of Noise Prevention Action Plans.
 - To co-ordinate the work of ministries and other governmental institutions during the implementation of this law.

LAW ON NOISE MANAGEMENT IN LITHUANIA

- Competence of the Ministry of Health:
 - To organize and to co-ordinate the preparation of the National Programs of Noise Strategic Mapping and Noise Prevention Action Plans.
 - To prepare and confirm noise norms.

LAW ON NOISE MANAGEMENT IN LITHUANIA

- Competence of the Ministry of Environment:
 - To estimate the requirements for protecting buildings from noise.
 - To regulate noise emission in to the environment by equipment for outdoor use.

LAW ON NOISE MANAGEMENT IN LITHUANIA

- Competence of the Ministry of Agriculture:
 - To estimate noise requirements for agricultural machinery.

LAW ON NOISE MANAGEMENT IN LITHUANIA

- Competence of the Council of Noise Prevention:
 - To assess the implementation of National Programs of Noise Strategic Mapping and Noise Prevention Action Plans.
 - To draw conclusions on assessment of the implementation of the National Programs of Noise Strategic Mapping and Noise Prevention Action Plans.
 - To submit the summary to the Government.
 - To act as mediator between the Government and ministries and municipalities on the issues of noise control.

LAW ON NOISE MANAGEMENT IN LITHUANIA

- Competence of the Head of Counties:
 - Implementation of the National program of Noise Prevention Action Plans.

LAW ON NOISE MANAGEMENT IN LITHUANIA

- Competence of municipalities:
 - Implementation of the National Programme of Noise Prevention Action Plans.
 - To identify quiet areas in agglomerations.
 - To make strategic noise maps for the agglomerations.
 - To draw up action plans for the agglomerations.
 - To implement monitoring of quiet areas of the agglomeration.

LAW ON NOISE MANAGEMENT IN LITHUANIA

- Competence of the Ministry of Transport:
 - To implement traffic noise management.
 - To make strategic noise maps for all major roads, railways and airports.
 - To draw up action plans aimed at preventing from noise places at the major roads, railways and airports.
 - To disseminate information concerning traffic noise control.
 - To regulate limited levels of road and air transport noise emission.

LAW ON NOISE MANAGEMENT IN LITHUANIA

- Major roads in Lithuania:
 - ~ 325 km > 3 000 000 vehicles/year.
 - ~ 144 km > 6 000 000 vehicles/year.

Major problems faced when drawing up Strateic Noise Maps in Lithuania

- By-laws
- Noise limit value
- Computation methods
- Major roads in agglomeration
- GIS
- Public hearings

BY-LAWS

- Regarding National Programs of:
 - Noise Strategic Mapping
 - Noise Prevention Action Plans
- Regarding the information to the public
- Regarding data to be sent to the Commission
- Regarding the procedure of National noise control

TRAFFIC NOISE LIMIT VALUES

- To determine different limit values according to EU directive 2002/49/EC :
 - for different types of noise (road-, rail-, air-traffic noise, industrial noise, etc.)
 - different surroundings
 - different noise sensitivity of the populations
 - for existing situations
 - for new situations

LAW ON NOISE MANAGEMENT IN LITHUANIA

- **Noise limit value** – L_{day} , $L_{evening}$ and L_{night} value the exceeding of which causes competent authorities to consider or enforce mitigation measures

Hygienic norm HN 33-1:2003

- Permissible noise level – short- or long term noise which can not cause disease or impact on health

Hygienic norm HN 33-1:2003

■ Permissible noise levels:

Object	Reciprocal noise level, dBA	Maximum noise level, dBA	Time, h
Inside living houses	40	55	$L_{\text{day}} = 6-18$
	35	50	$L_{\text{evening}} = 18-22$
	30	45	$L_{\text{night}} = 22-6$
Nearby living houses	55	70	$L_{\text{day}} = 6-18$
	50	65	$L_{\text{evening}} = 18-22$
	45	60	$L_{\text{night}} = 22-6$

COMPUTATION METHODS

- The European Commission has published **COMMISSION RECOMMENDATION** of 6 August 2003 concerning the **Guidelines on the revised interim computation methods for industrial noise, aircraft noise, road traffic noise and railway noise.**

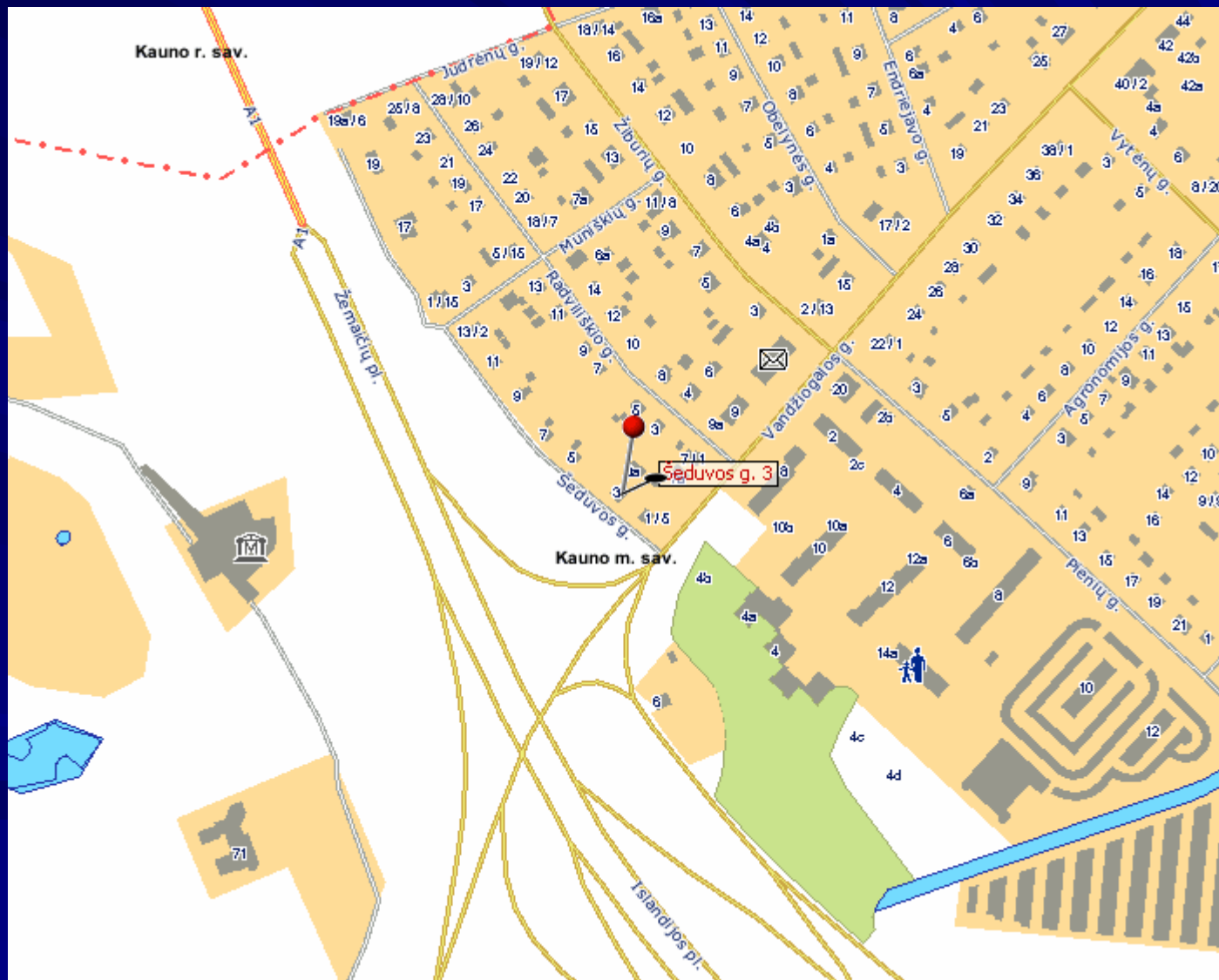
- ***For Road Traffic Noise:***

- French national computation method **NMPB-Routes-96**

IN LITHUANIA

- MapNoise - traffic noise calculation method based on Nordic Prediction Model for Road Traffic Noise, 1996, TemaNord 1996:525
- IMMI - traffic noise calculation method based on French national computation method NMPB-Routes-96 and „XPS 31-133
 - Not adapted for Lithuanian conditions (meteorological data)

MAJOR ROADS IN AGGLOMERATION

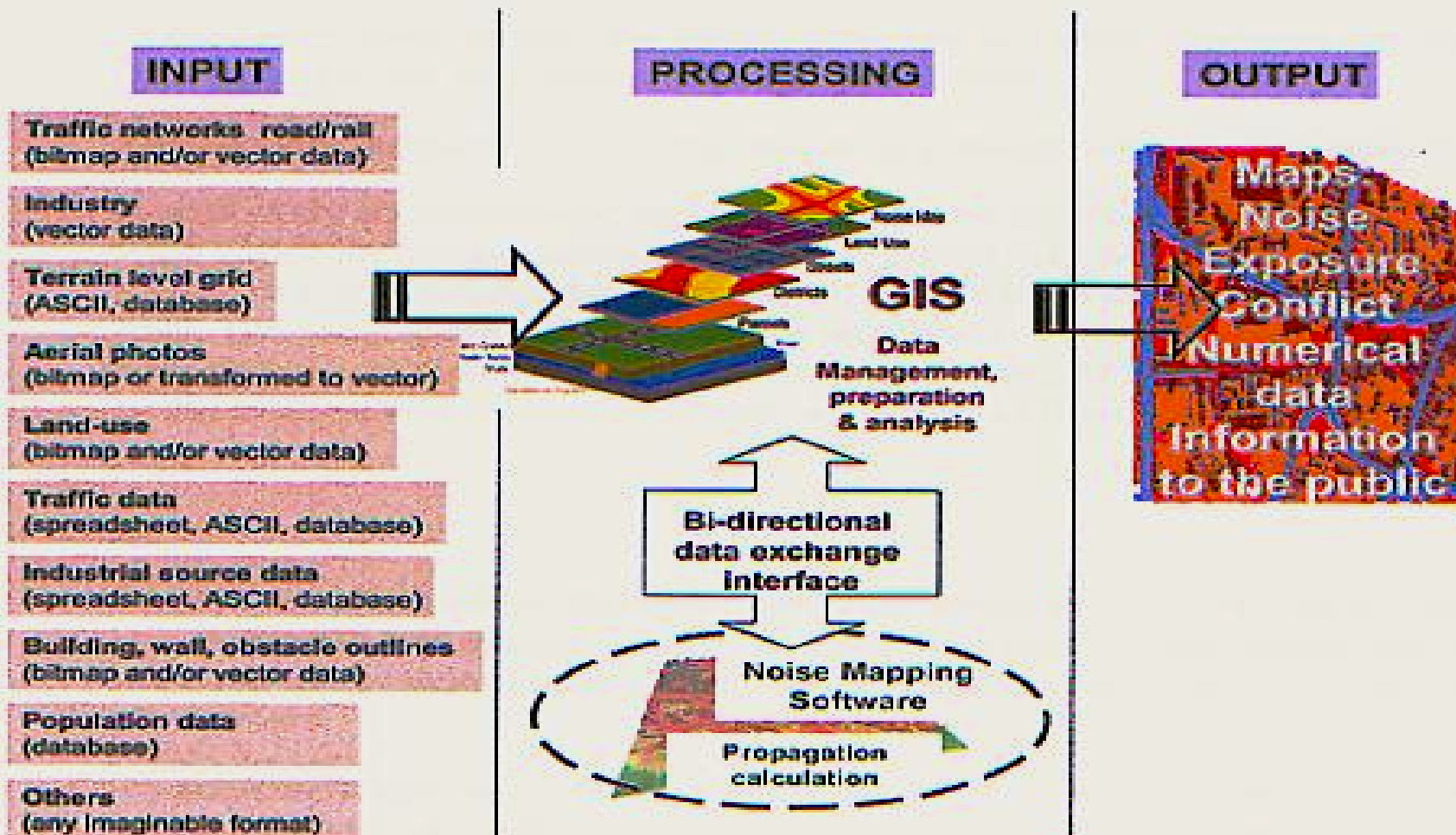


MAJOR ROADS IN AGGLOMERATION

- Who should be responsible for :
 - Noise Strategic Mapping ?
 - Noise Prevention Action Plans ?
- Resolution of the Government of the Republic of Lithuania on road maintenance:
 - LRA is in charge of the road *pavement* in built-up areas

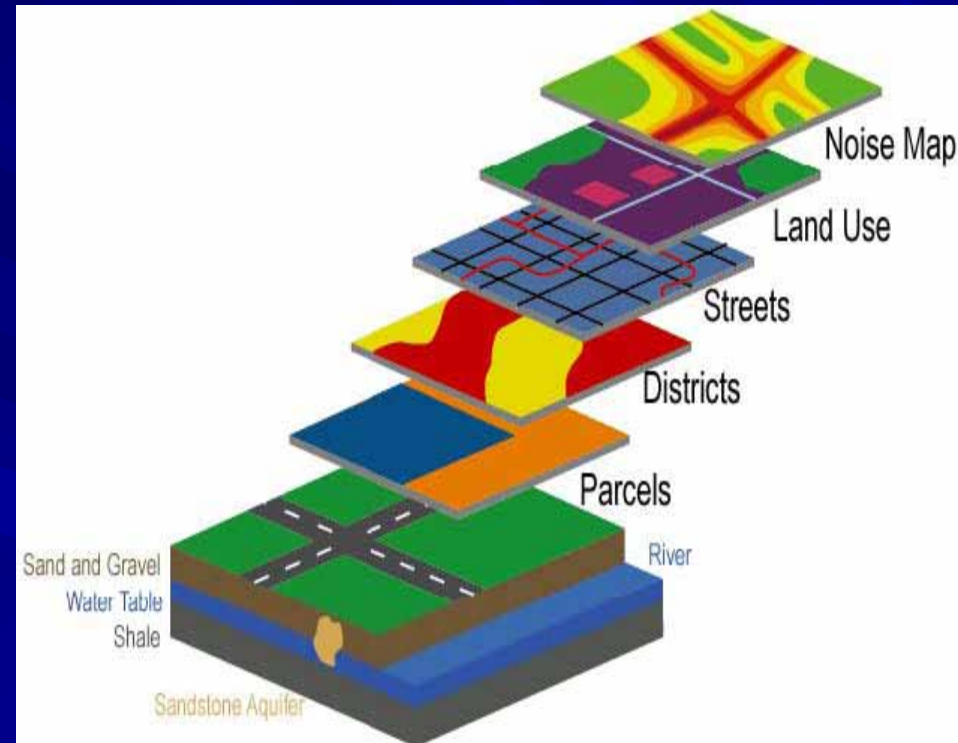
Geographical Information Systems (GIS)

Coupling GIS and Noise Mapping Software



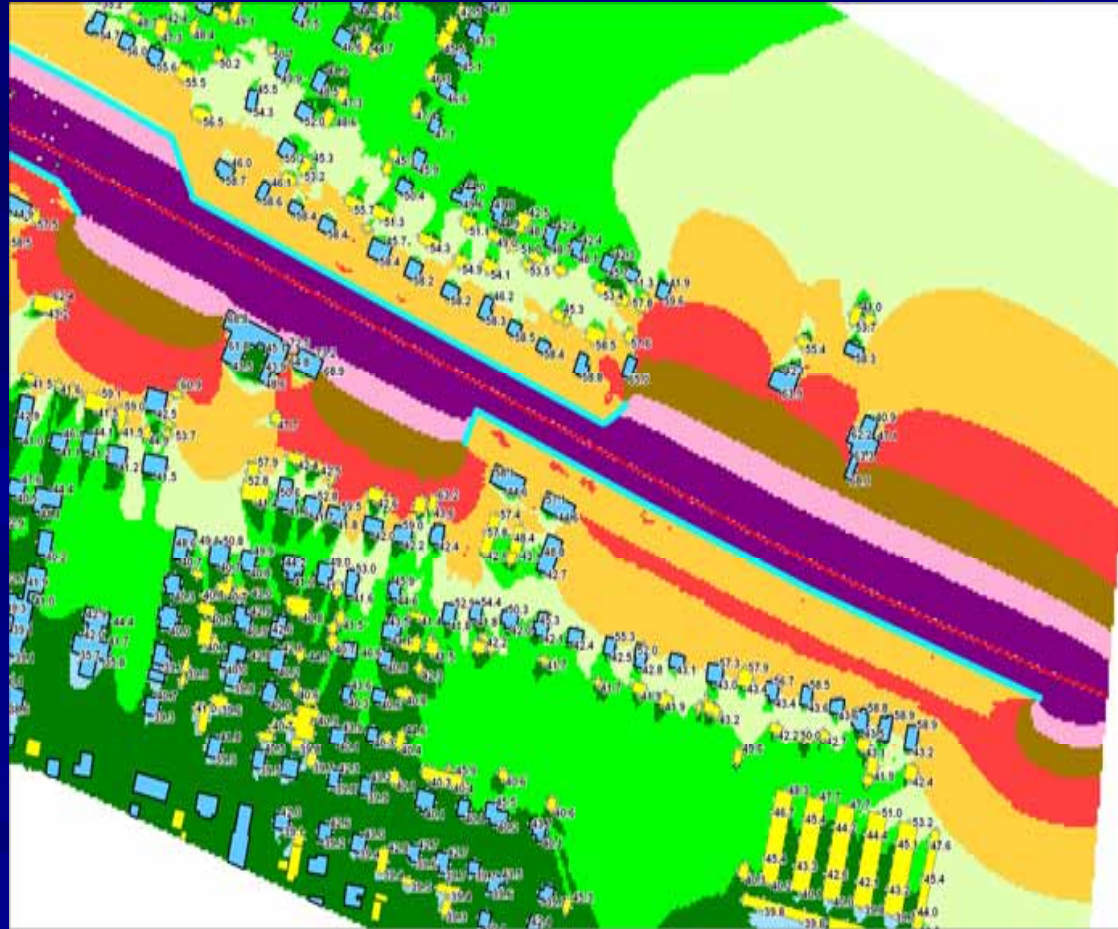
Geographical Information Systems (GIS)

- Lack of data on:
 - Relief
 - Places near major roads (300-800 m)
 - Buildings height and type
 - Adresses especially of single houses/steadings
 - Population in the calculated noise zones



PUBLIC HEARINGS

- To present drawn up Strategic Noise Maps for the public:
 - Clearly
 - Comprehensibly
 - Accessible
- People complaints about the existing situation:
 - Negative emotions
 - Mitigation measures/compensations



CONCLUSIONS

- To harmonise our by-laws with EU directives
- To determine noise limit values from different noise source (traffic)
- To adapt EU recommended noise computation methods to the Lithuanian conditions (meteorological data)

CONCLUSIONS

- To identify the responsibility for Strategic Noise Maps and Action Plans in built-up areas
- Lack of Digital Vectorial Topographical Maps
- Lack of Data Layers in GIS Maps.
- Inhabitants dissatisfaction about the noise level

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