

ROAD TRAFFIC NOISE MANAGEMENT IN LITHUANIA

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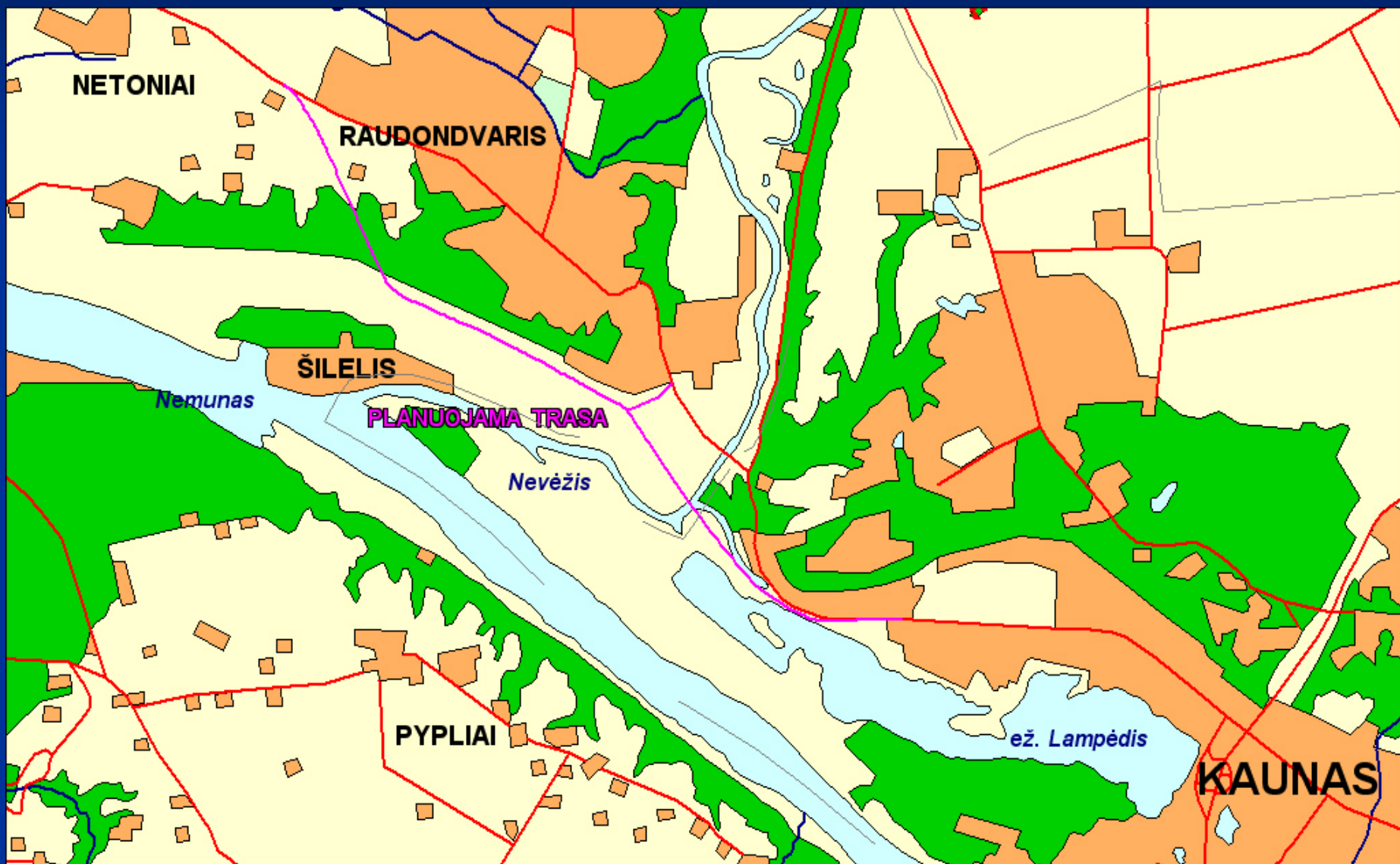
ENVIRONMENTAL IMPACT ASSESSMENT

- The main task of environmental impact assessment is:
 - to enable decision-making with the **lowest possible impact** on the environment by integrating environmental assessment with planning and design procedure

MITIGATION MEASURES

- By-passes
- replacing the existing windows
- Noise barriers
- Plants

RAUDONDVARIO BY-PASS



BY-PASSES

- Achievements:
 - Heavy vehicles don't go through the town
 - reduced traffic noise in the town
 - reduced air pollution

NOISE BARRIER

Kaunas-Marijampolė-Suwalki 57.7 km

- Length – 150 m
- Height – 2.5 m
- Wooden - noise absorptive barrier on grade-separated intersection in Marijampolė on the Via Baltica
- Noise reduction:
to permissible noise level



NOISE BARRIER ON VIA BALTICA

- Length – 385 m
- Height – 2.5 m
- Wooden - noise absorptive barrier in Garliava on Via Baltica
- Noise reduced
to permissible noise
levels



NOISE BARRIER ON TRANSPORT CORRIDOR IXB

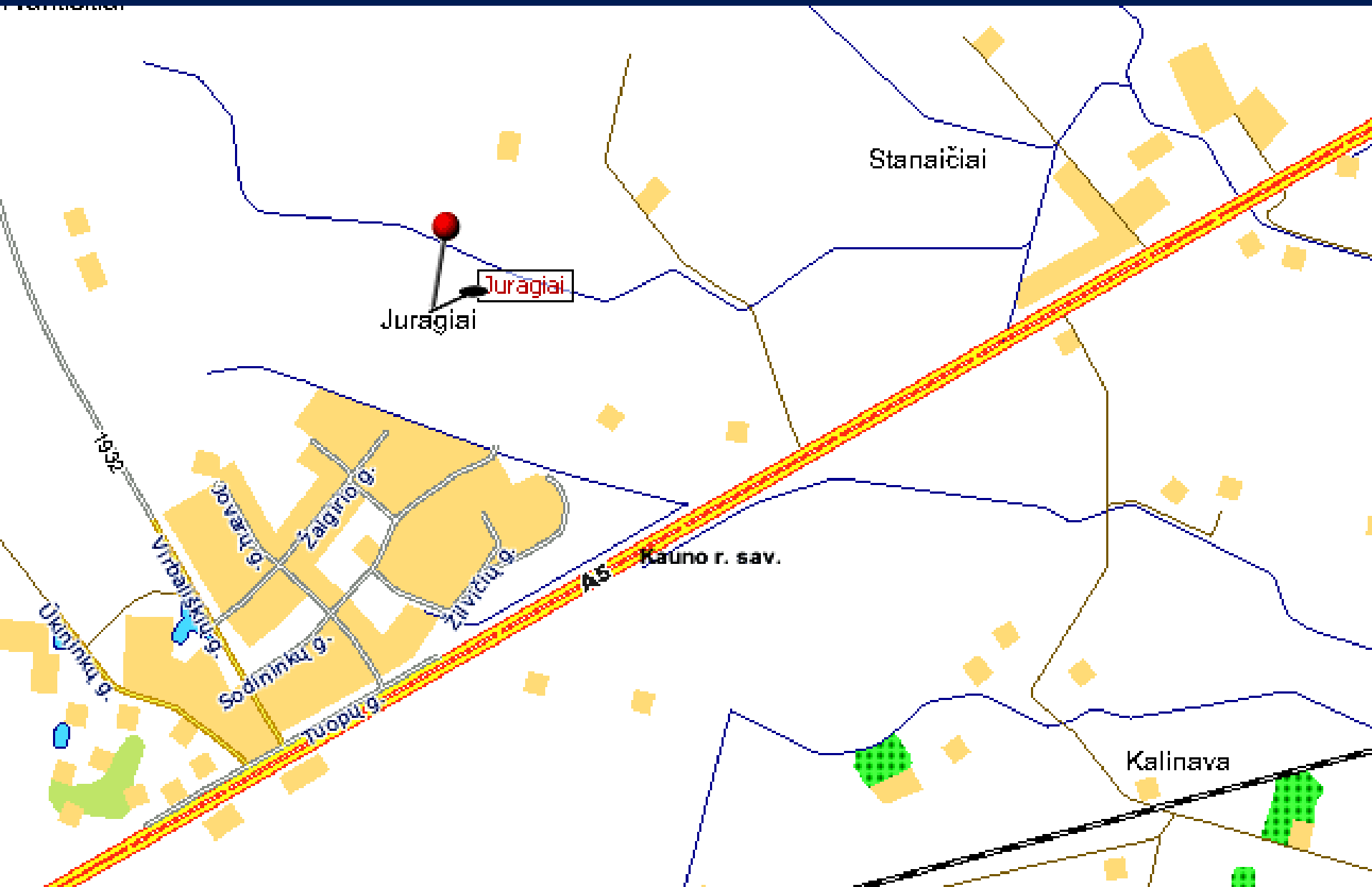
- Length – 548 m
- Height – 3.0 – 3.2 m
- *Durisol* blocks noise absorptive barrier
- Noise reduced
~ 10 dBA



Examples

- Juragiai ir Stanačiai
- Inhabitants against noise barrier

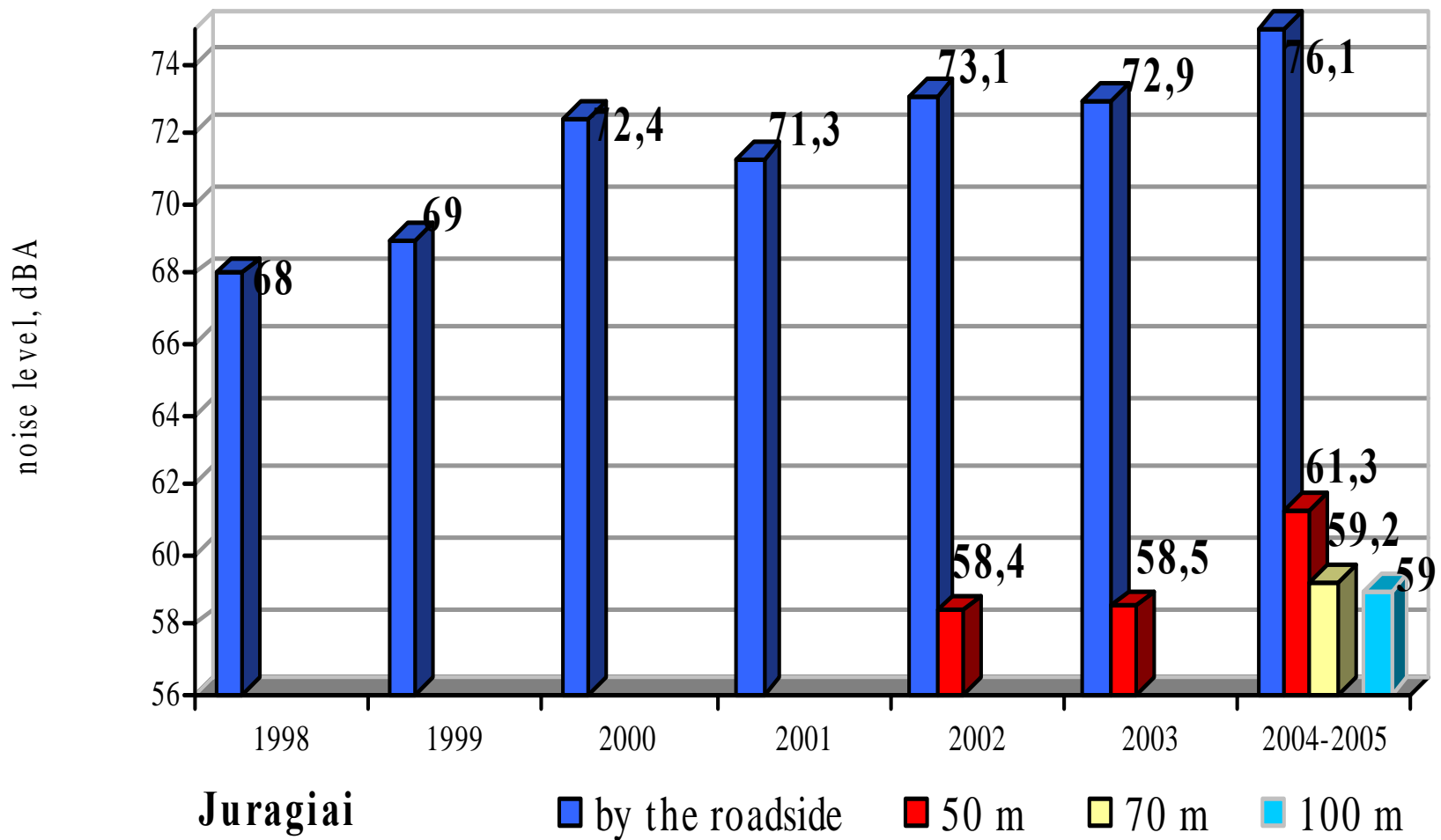
JURAGIAI and STANAČIAI



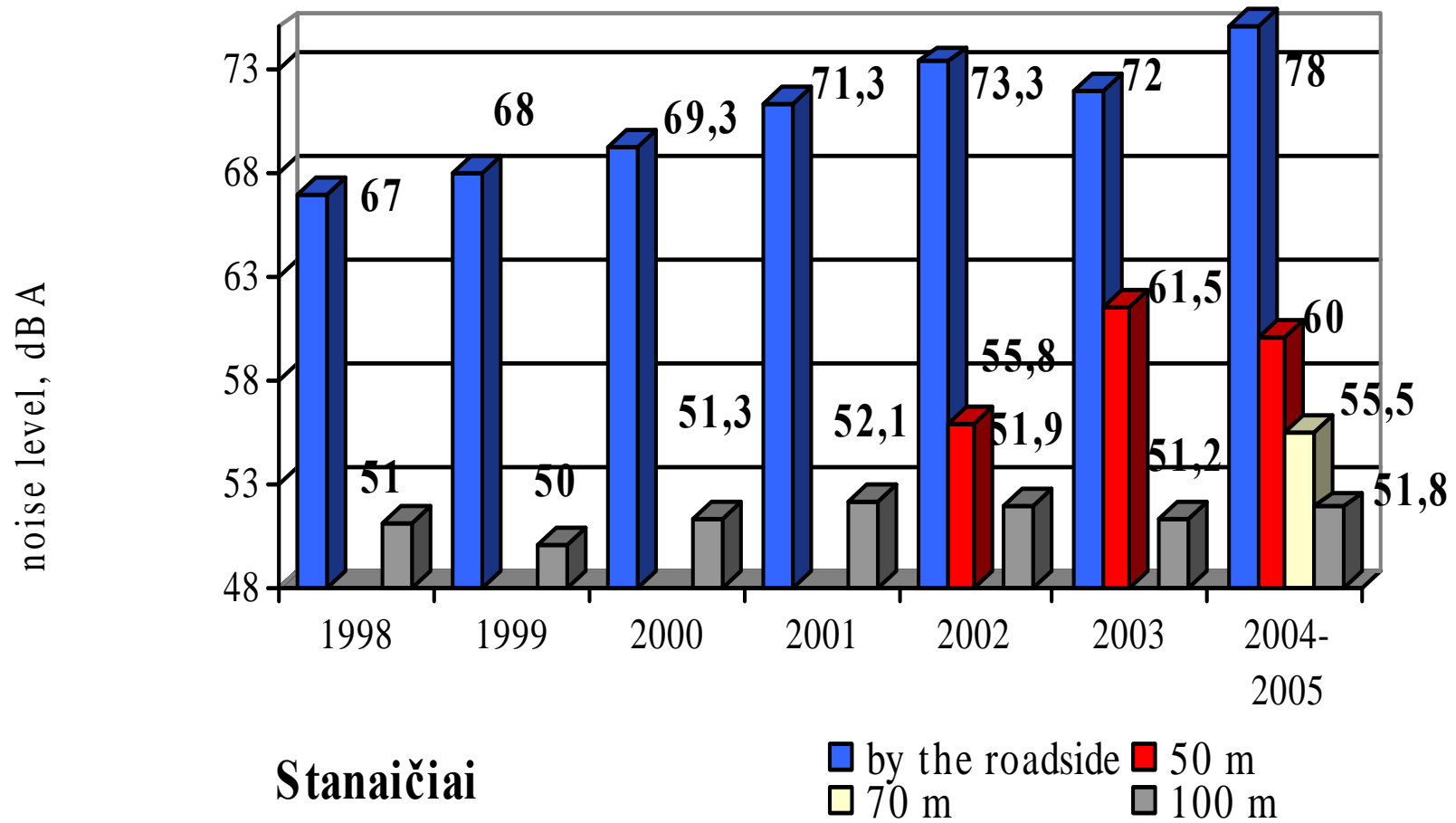
JURAGIAI and STANAIČIAI

- Distance from the road – 50-60 m
- Intensity > 9000 vehicles/day
- Speed limit – 90 km/h
- Acoustic measures

JURAGIAI



Stanaičiai



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	$L_{\text{night}} = 22-6$

OBJECTIONS

- Inhabitants against noise barrier:
 - „block off the Sun“
 - „want to see the road“
 - „Don't want to live behind the wall“

SOLUTION

- In 36 houses situated along the road the existing windows were replaced by double windows with increased acoustic isolation
- Behind these houses from the side of the road two rows of thujas were planted

CONCLUSIONS

- Inhabitants agree with suggested mitigation measures
- noise level was reduced inside the buildings
- LRA saved the money

Customers/Inhabitants complaints&proposals

Kaunas-Marijampolė-Suwalki 57.7 km

- Distance from the road ~ 20 m
- Intensity $> 10\,000$ vehicles/day
- Speed limit – 90 km/h
- Complaints from the inhabitants
- Acoustic measures
- Mitigation measures

Noise isolated windows



NOISE BARRIER

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- Noise reduction:
till permissible noise levels



Kaunas-Marijampolė-Suwalki 57.7 km left side

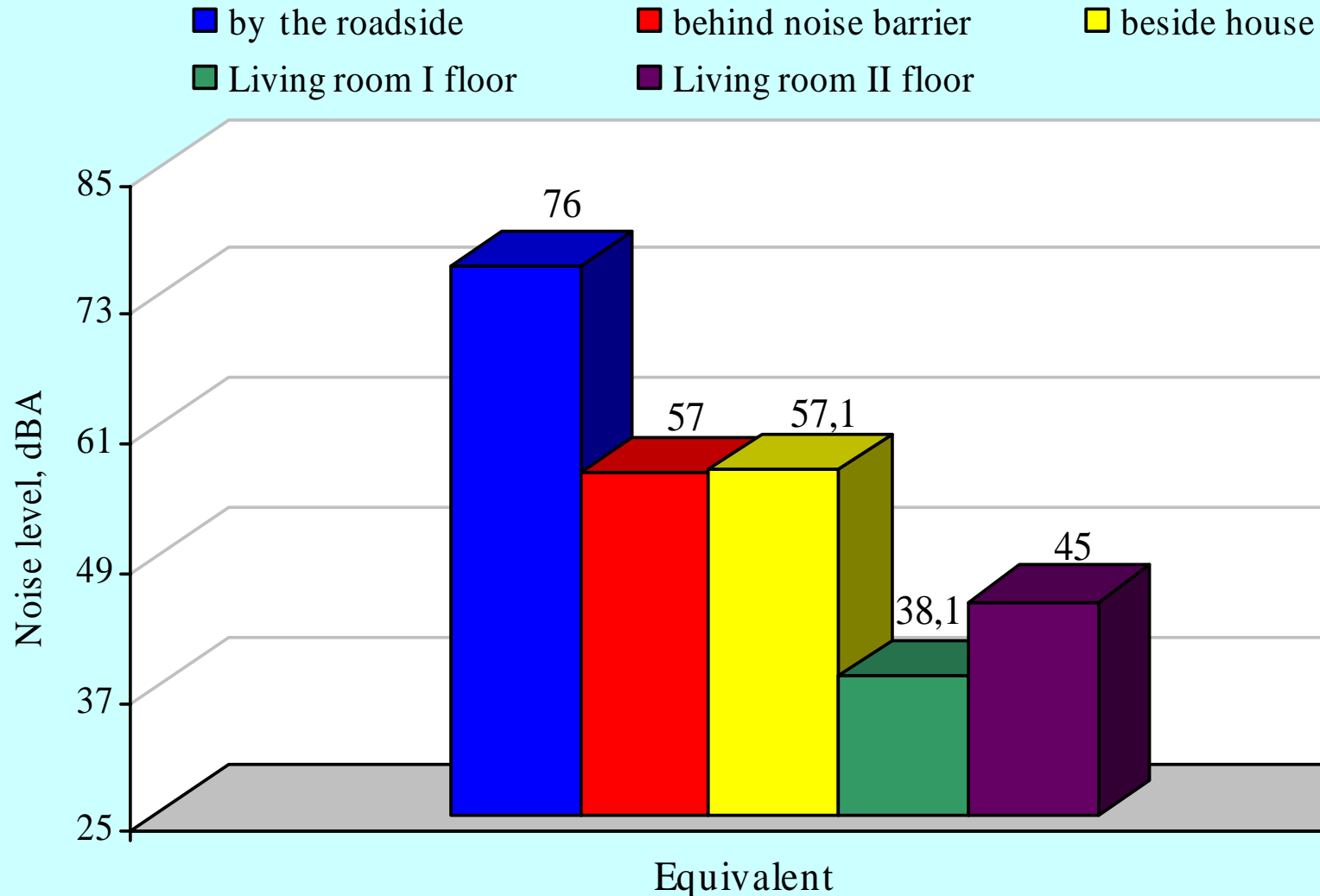


Kaunas-Marijampolė-Suwalki 57.7 km right side



Acoustic measurements

Kaunas-Marijampolė-Suwalki 57.7 km



CONCLUSIONS

- Inhabitants are happy
- Noise level was reduced inside and outside the buildings

**Thank you for your
attention!!!**