



Advanced Tools for Infrastructure Design & Management

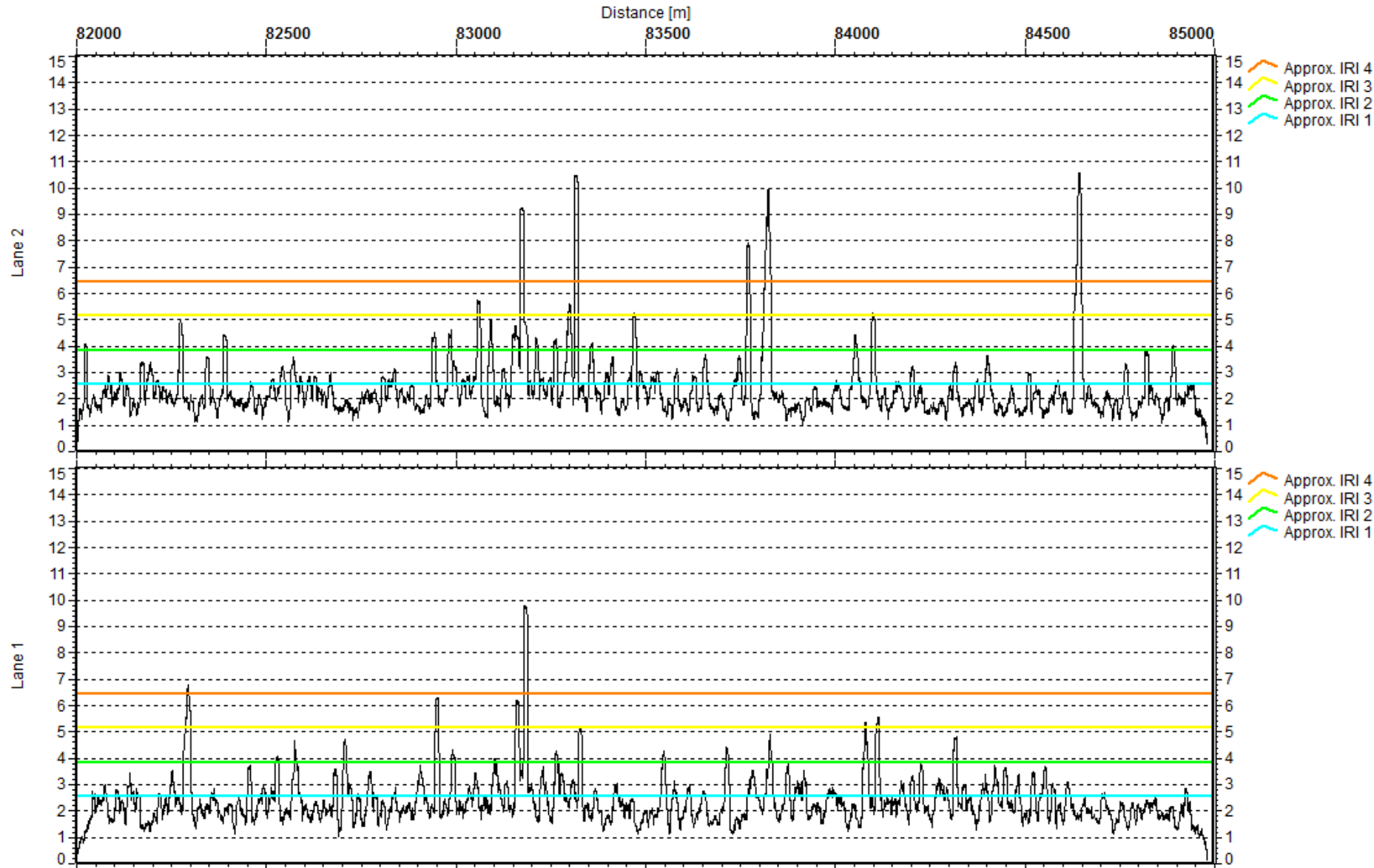
Section 4

Road 3, km 82-85



Roughness from Accelerometer Data

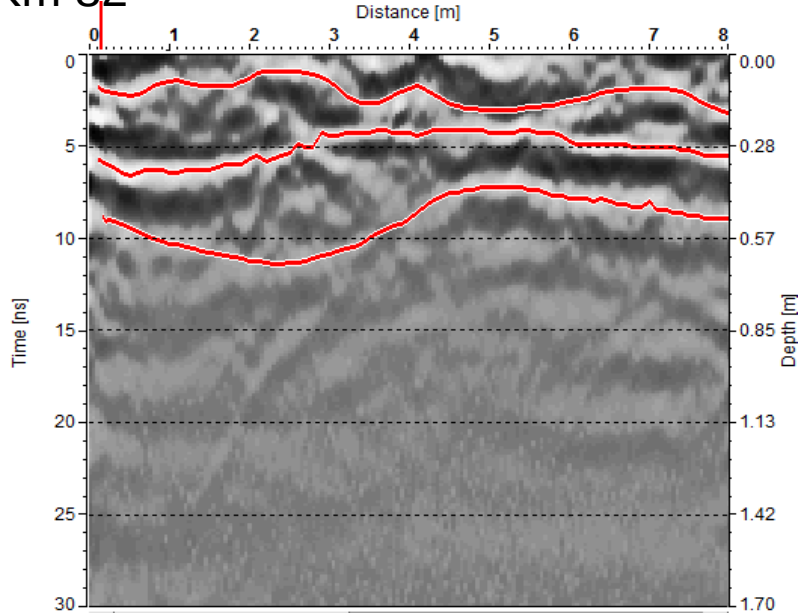
4_Road3_km82_85



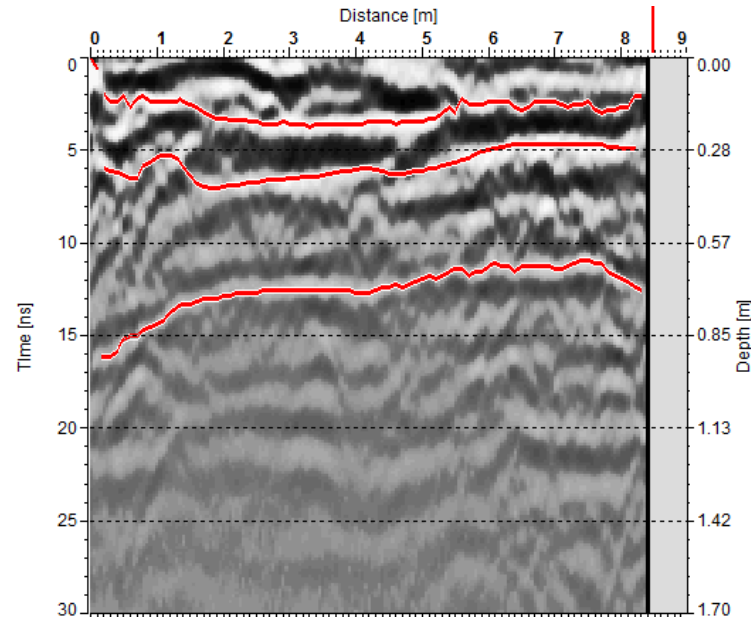
GPR Cross Sections

Materials	[cm]
TAB 12 I	4
PAB 16	5
Complex stabilization KS 32	15

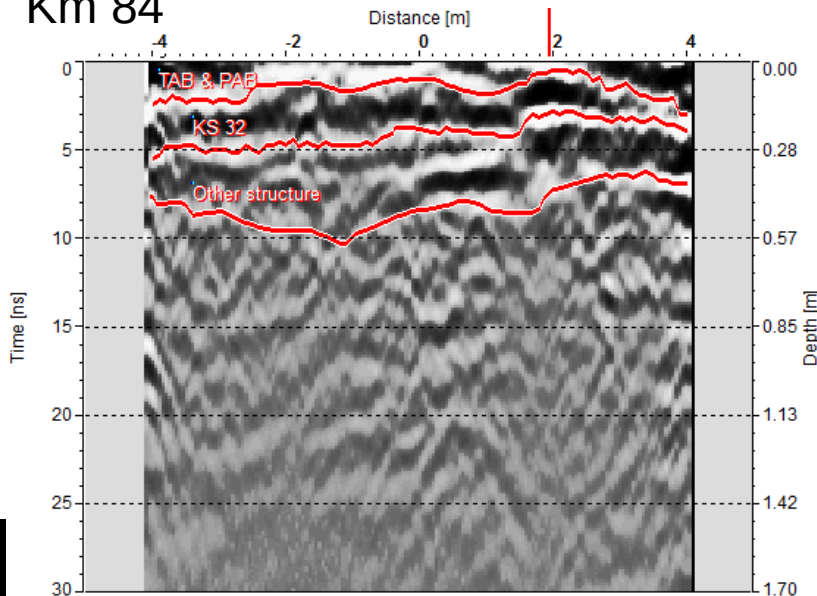
Km 82



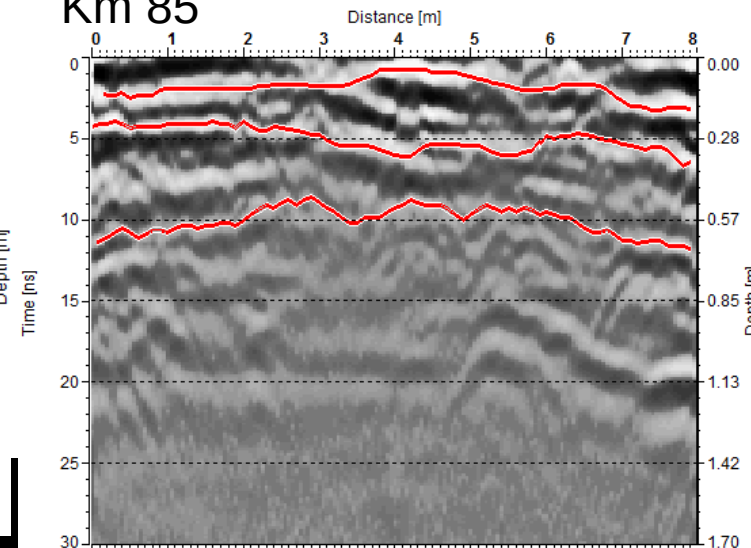
Km 83



Km 84



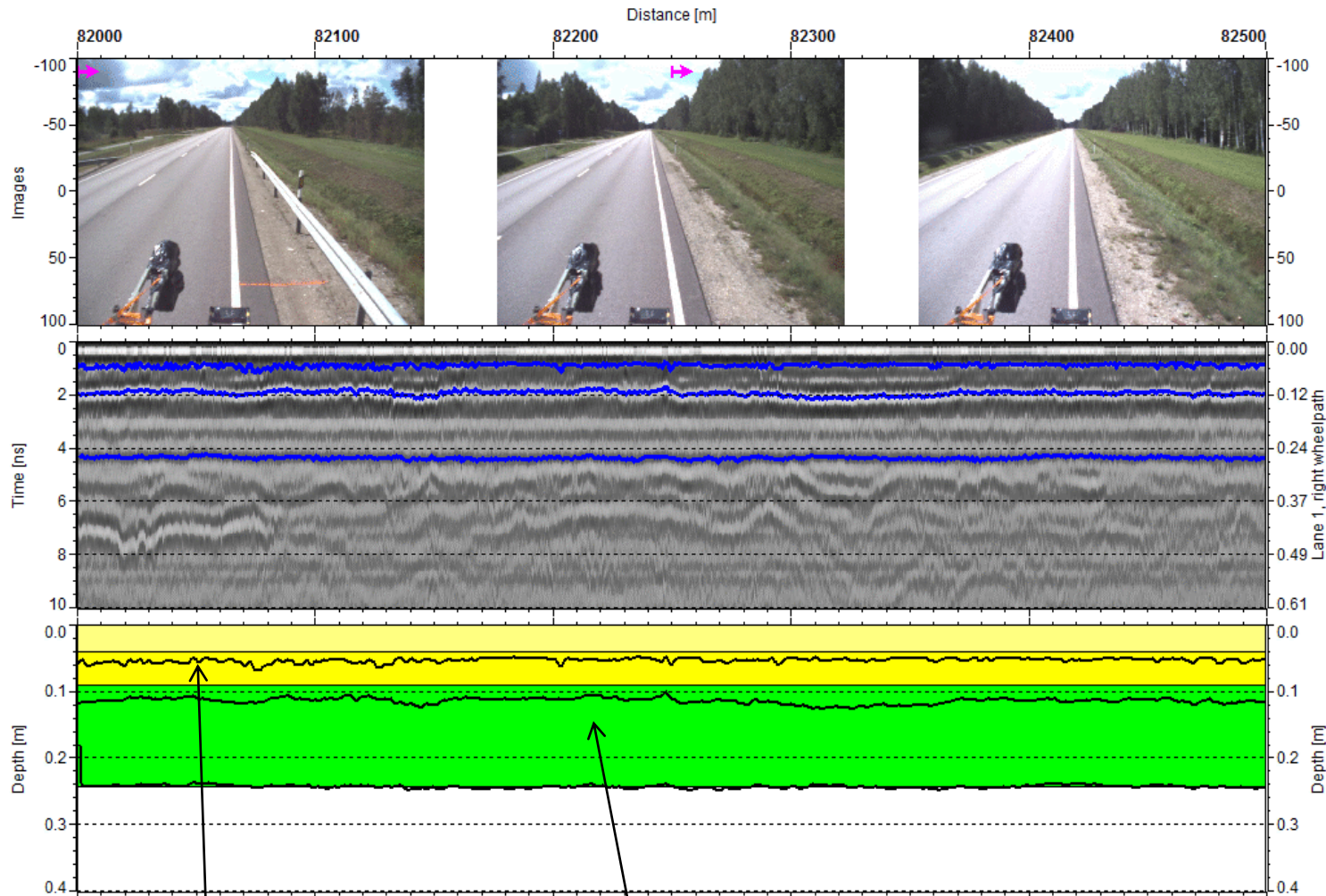
Km 85



Explanation for longitudinal profiles

-Profiles are presented from Lane 1, right wheelpath

4_Road3_km82_85



Images in
250m intervals

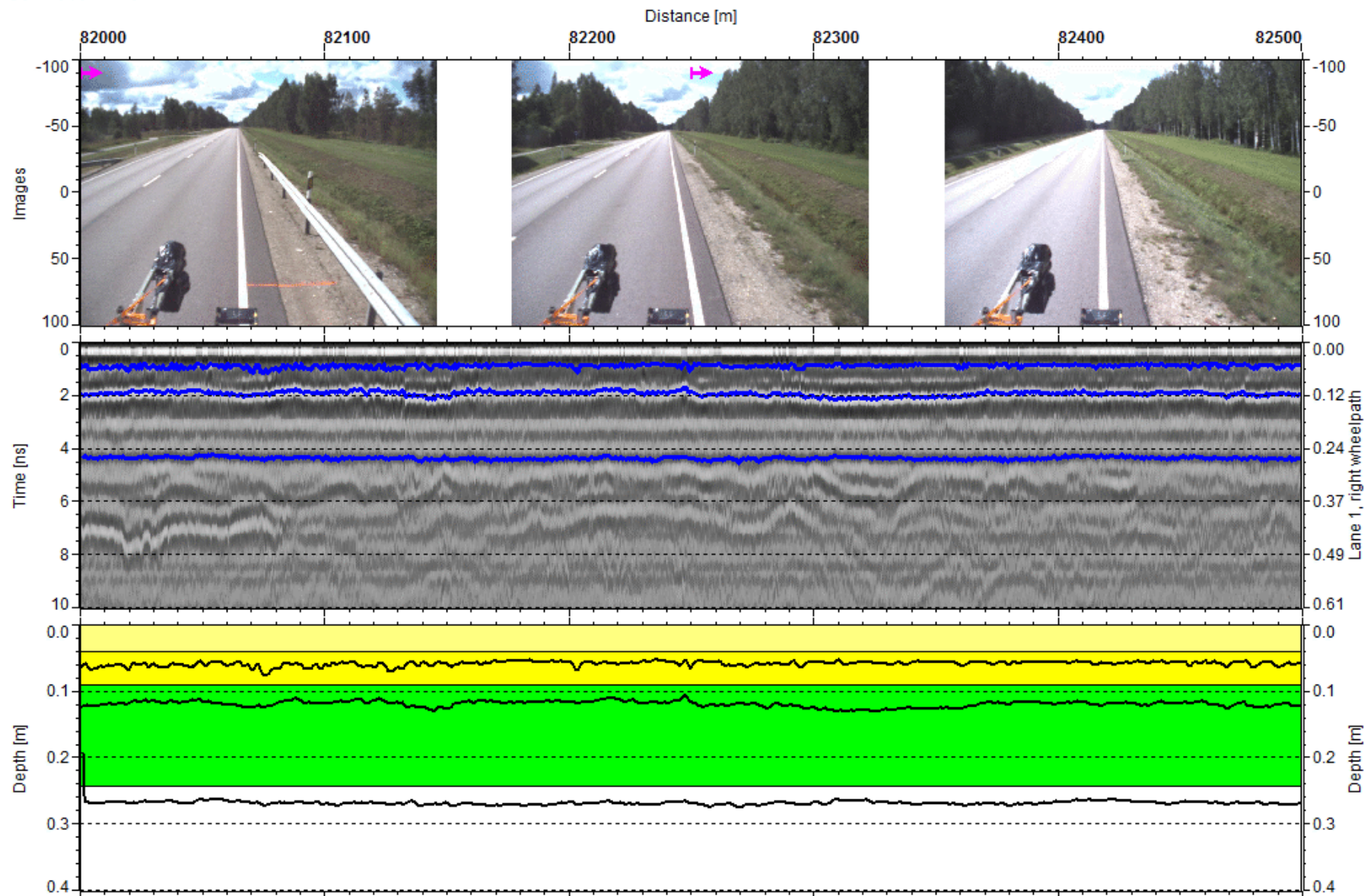
Air coupled
GPR data with
interpretation

Interpretation
compared to
designed plan

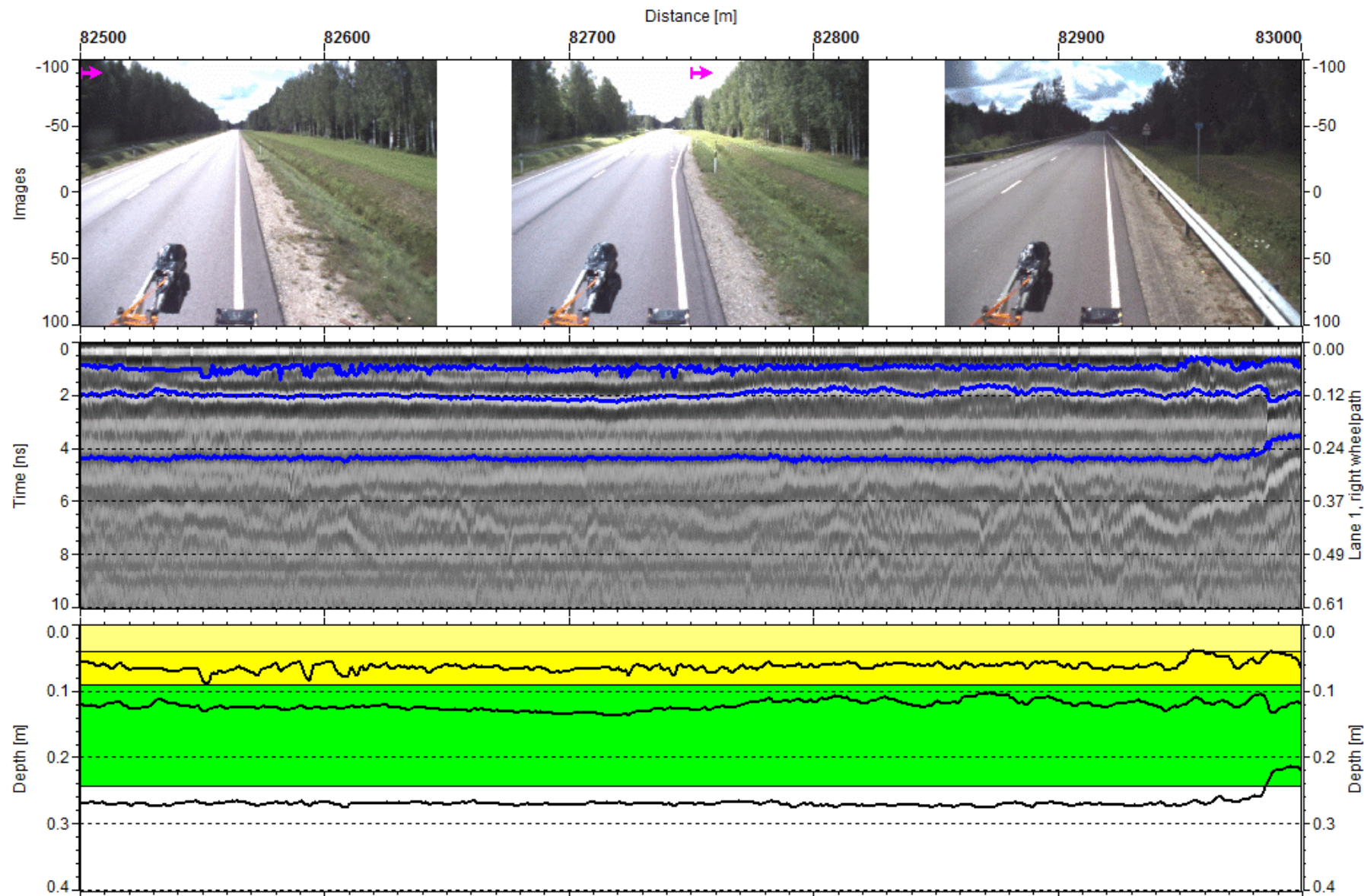
Yellow:
TAB 12 4cm & PAB16 5cm

Green:
KS32 (kompleksstabi) 15cm

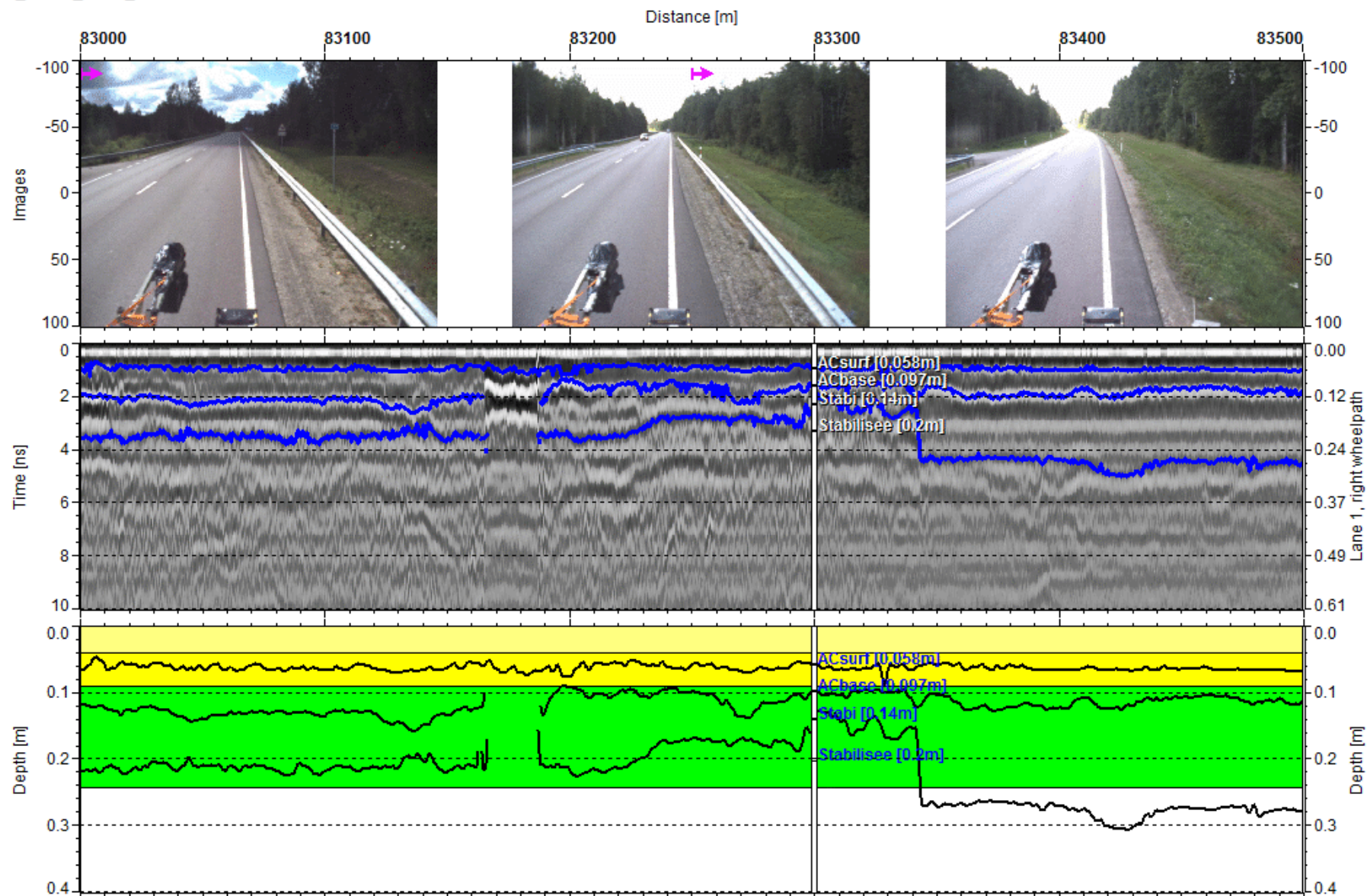
12



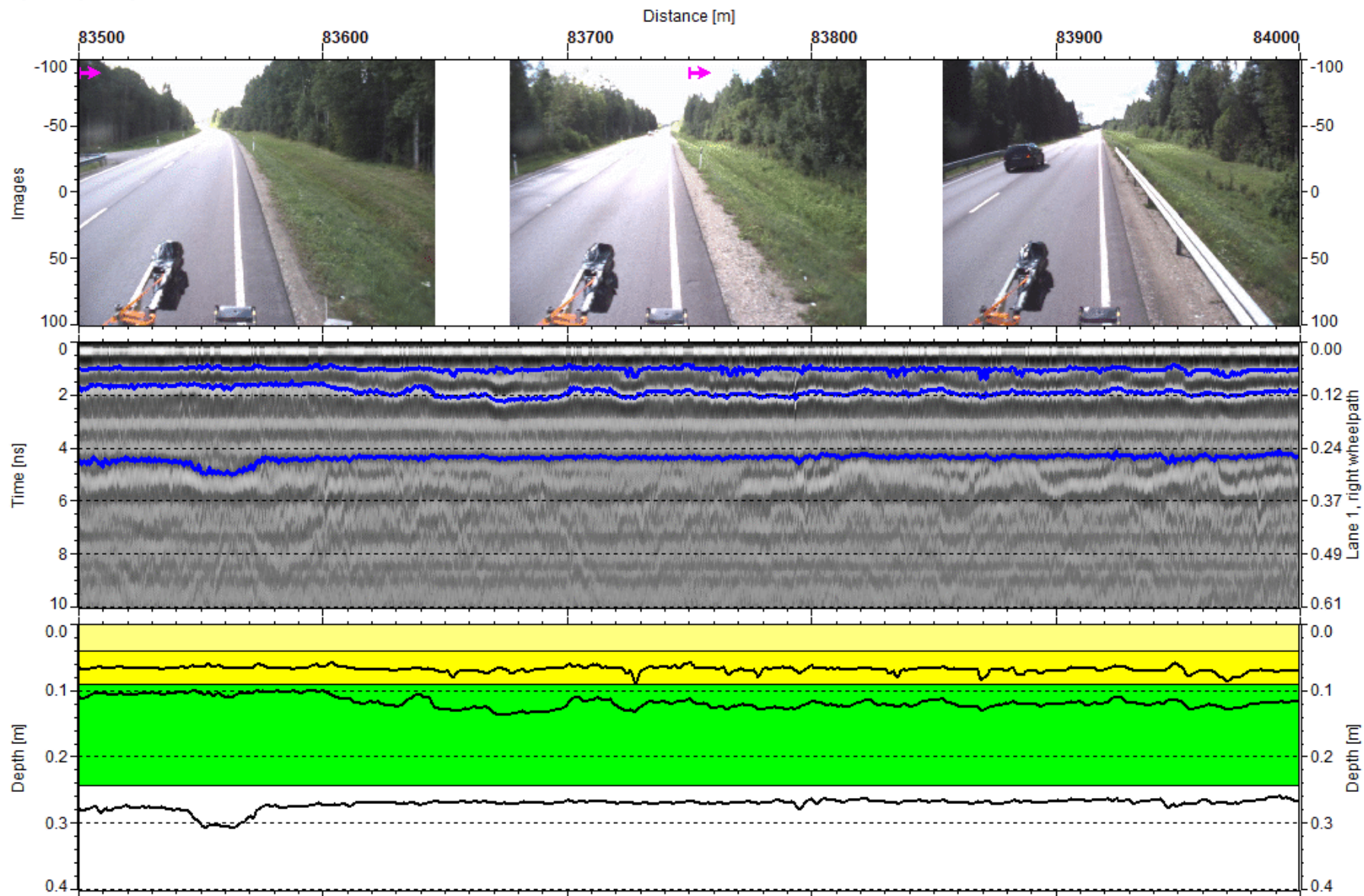
Roadscanners Oy, 10/2012



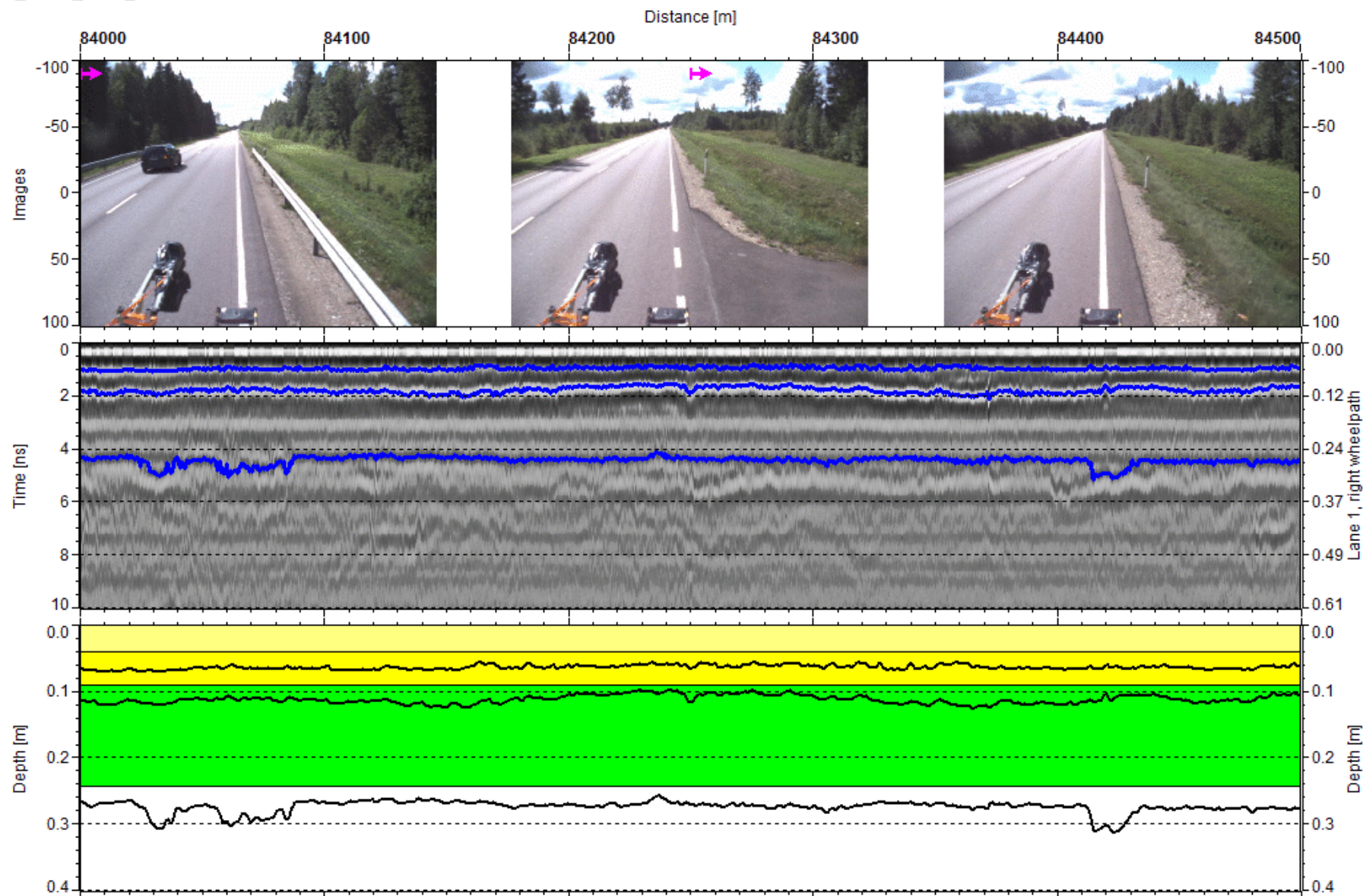
Roadscanners Oy, 10/2012



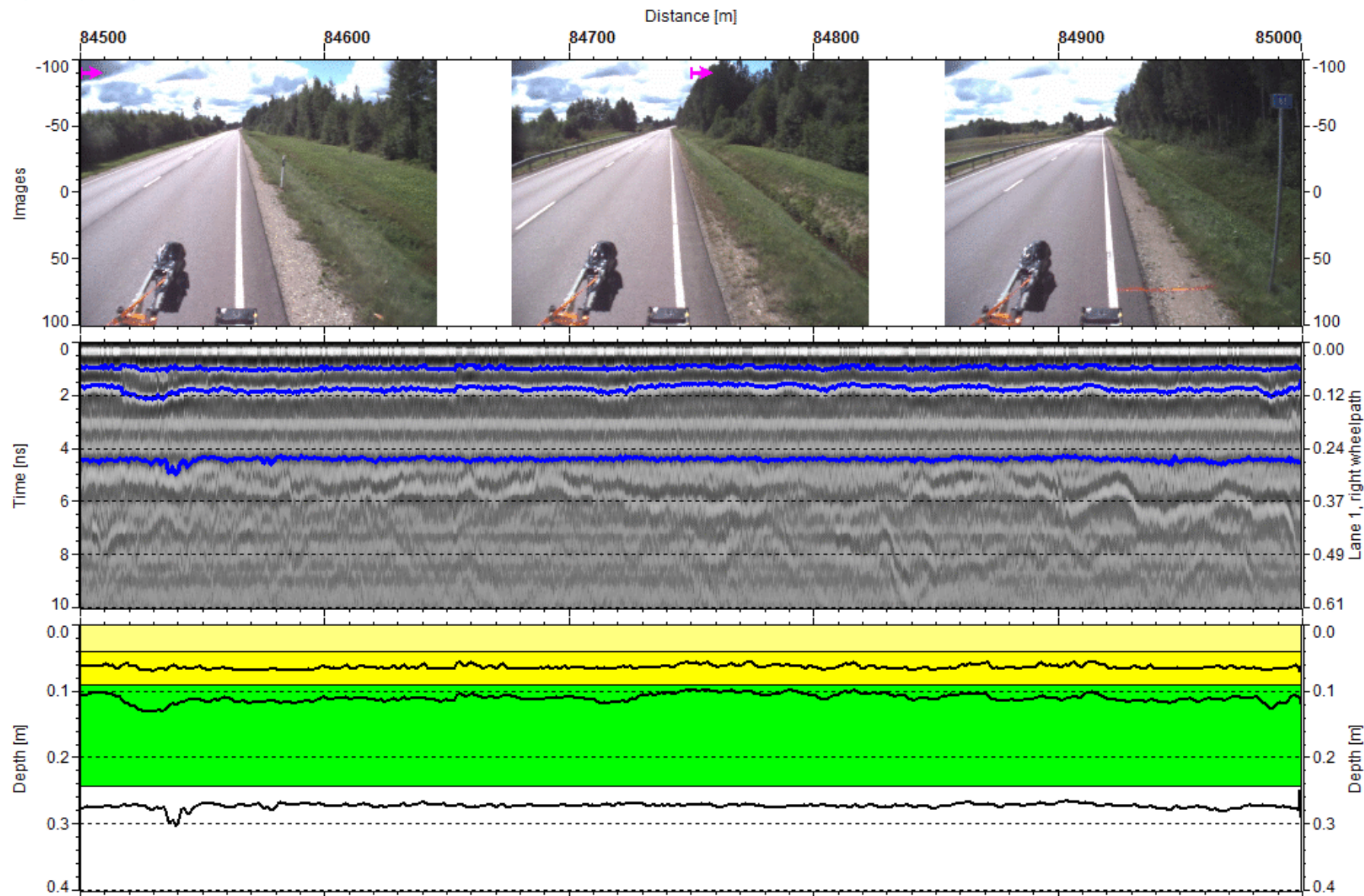
Roadscanners Oy, 10/2012



Roadscanners Oy, 10/2012



Roadscanners Oy, 10/2012

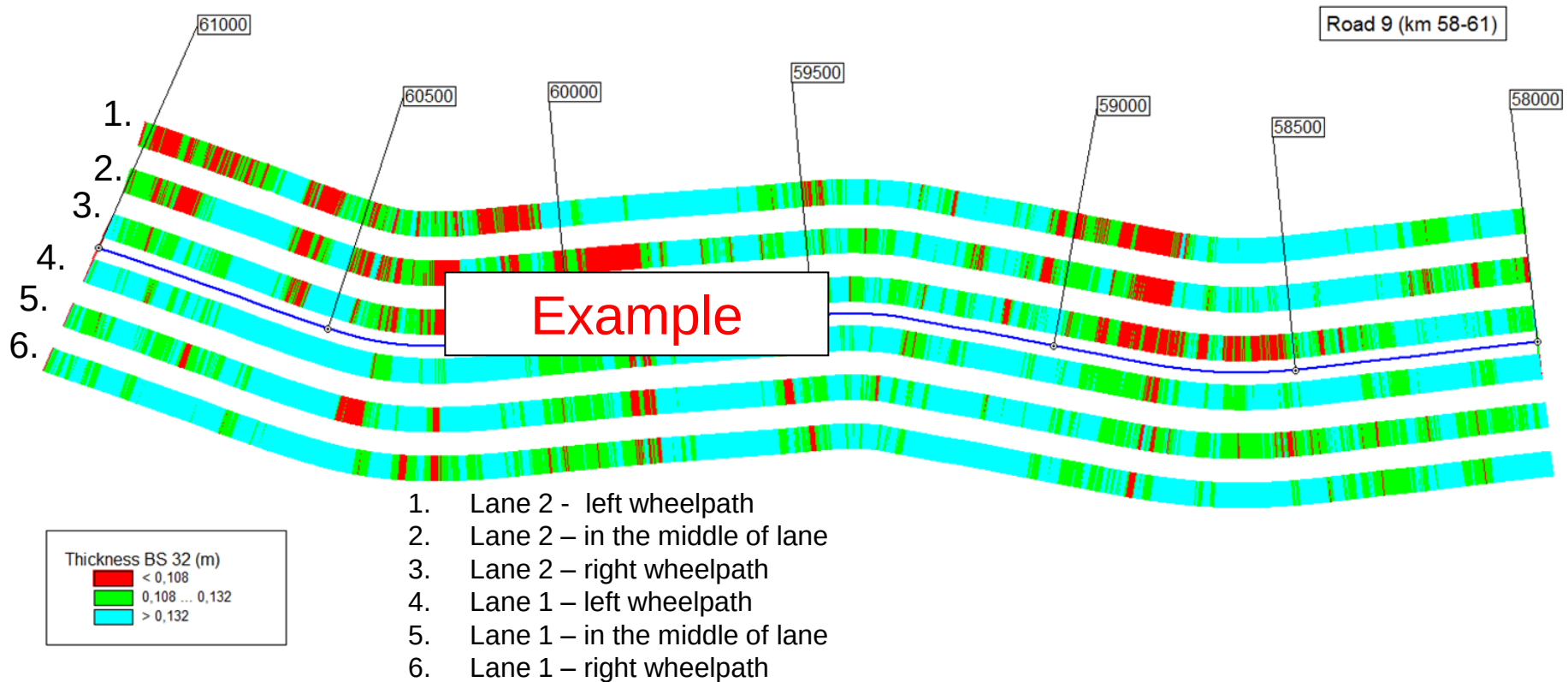


Roadscanners Oy, 10/2012

Explanation of Thickness Statistics and Maps

Table of average and statistical values:

<i>Planned thickness = 0,04 m (TAB 12)</i>	L2 right	L2 middle	L2 left	L1 left	L1 middle	L1 right
Average layer thickness (m)	0.063	0.064	0.064	0.061	0.061	0.063
% of distance where thickness is more than 10 % under	0.0	0.0	0.0	0.0	0.0	0.0
Average undershoot from planned in "more	Example					
% of distance where thickness is more than 10 % over						
Average overshoot from planned in "more than 10 % over" class (m)	0.023	0.024	0.024	0.021	0.021	0.023
% of distance where thickness is between +- 10 %	0.0	0.0	0.0	0.1	0.0	0.6
Standard deviation (m)	0.005	0.004	0.006	0.006	0.004	0.005

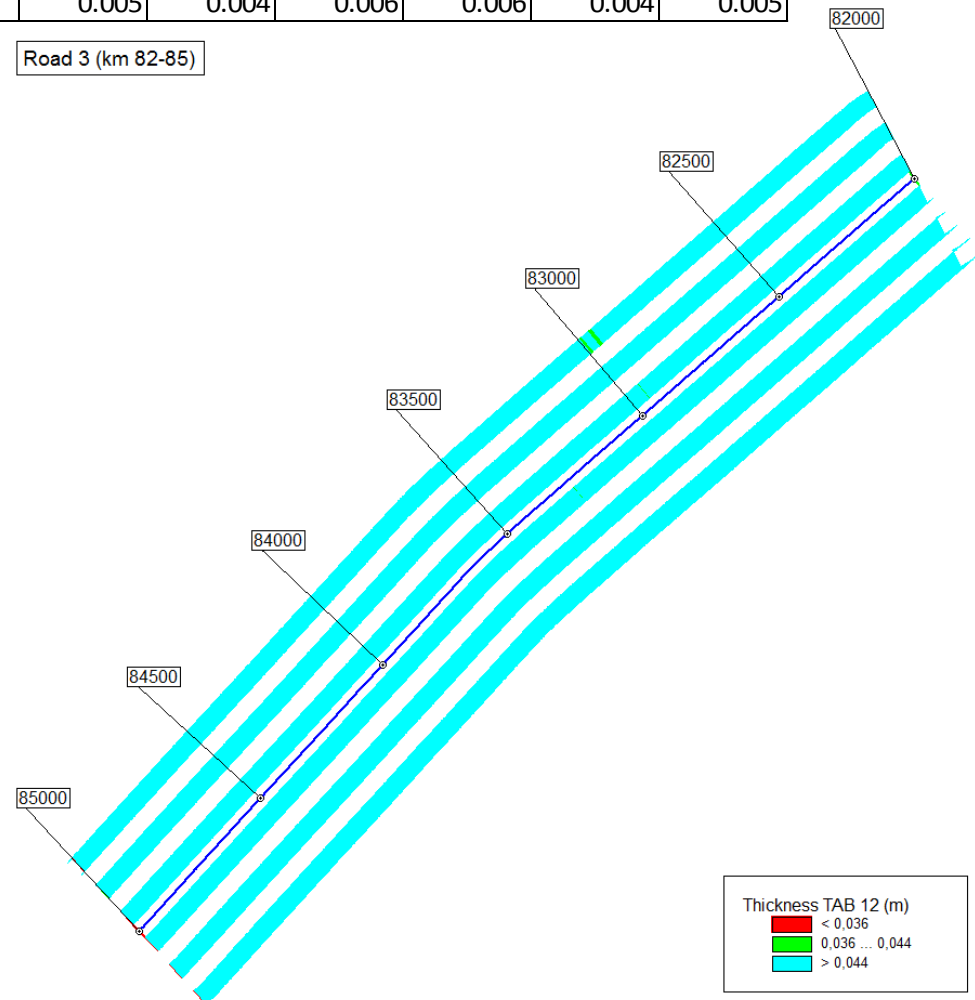


Maps of Layer Thicknesses

[1 / 3]

Planned thickness = 0,04 m (TAB 12)	L2 right	L2 middle	L2 left	L1 left	L1 middle	L1 right
Average layer thickness (m)	0.063	0.064	0.064	0.061	0.061	0.063
% of distance where thickness is more than 10 % under	0.0	0.0	0.0	0.0	0.0	0.0
Average undershoot from planned in "more than 10 % under" class (m)						
% of distance where thickness is more than 10 % over	100.0	100.0	100.0	99.9	100.0	99.4
Average overshoot from planned in "more than 10 % over" class (m)	0.023	0.024	0.024	0.021	0.021	0.023
% of distance where thickness is between +- 10 %	0.0	0.0	0.0	0.1	0.0	0.6
Standard deviation (m)	0.005	0.004	0.006	0.006	0.004	0.005

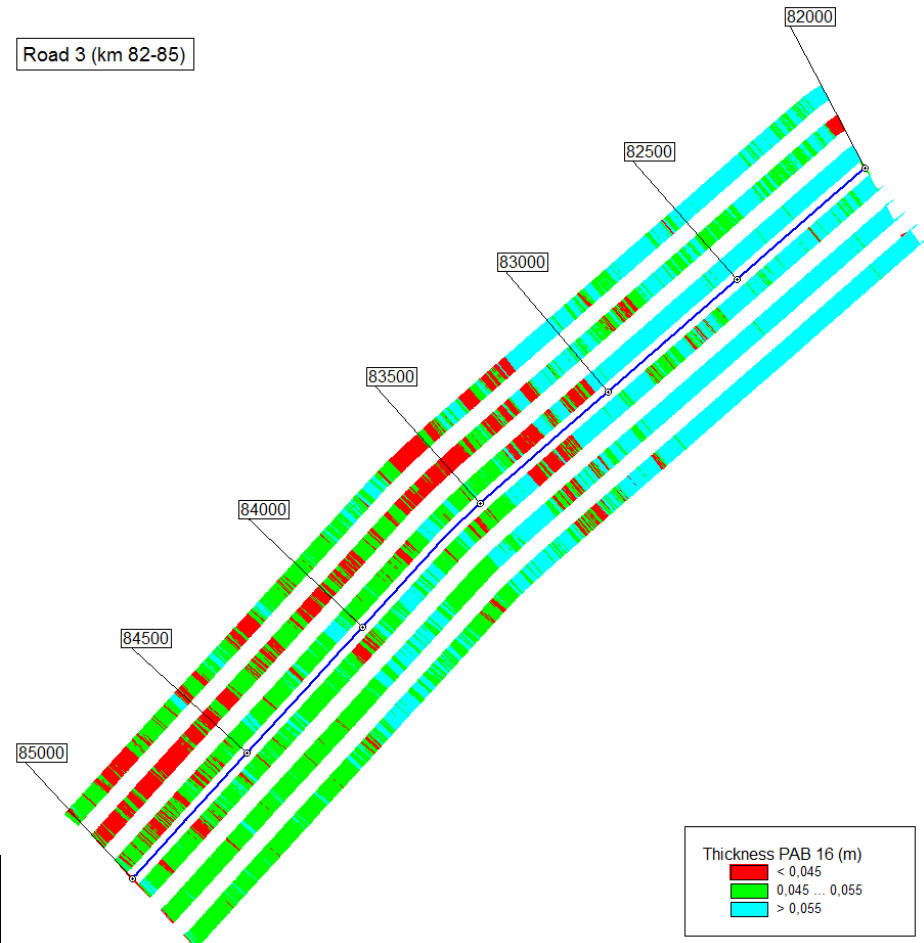
Road 3 (km 82-85)



Maps of Layer Thicknesses

[2/3]

Planned thickness = 0,05 m (PAB 16)	L2 right	L2 middle	L2 left	L1 left	L1 middle	L1 right
Average layer thickness (m)	0.058	0.057	0.054	0.054	0.048	0.052
% of distance where thickness is more than 10 % under	3.4	2.5	12.6	11.3	38.4	19.5
Average undershoot from planned in "more than 10 % under" class (m)	-0.011	-0.010	-0.009	-0.010	-0.009	-0.011
% of distance where thickness is more than 10 % over	51.9	49.9	40.6	38.5	17.1	36.5
Average overshoot from planned in "more than 10 % over" class (m)	0.015	0.015	0.013	0.014	0.012	0.013
% of distance where thickness is between +- 10 %	44.7	47.5	46.8	50.3	44.5	44.0
Standard deviation (m)	0.009	0.009	0.009	0.010	0.009	0.011

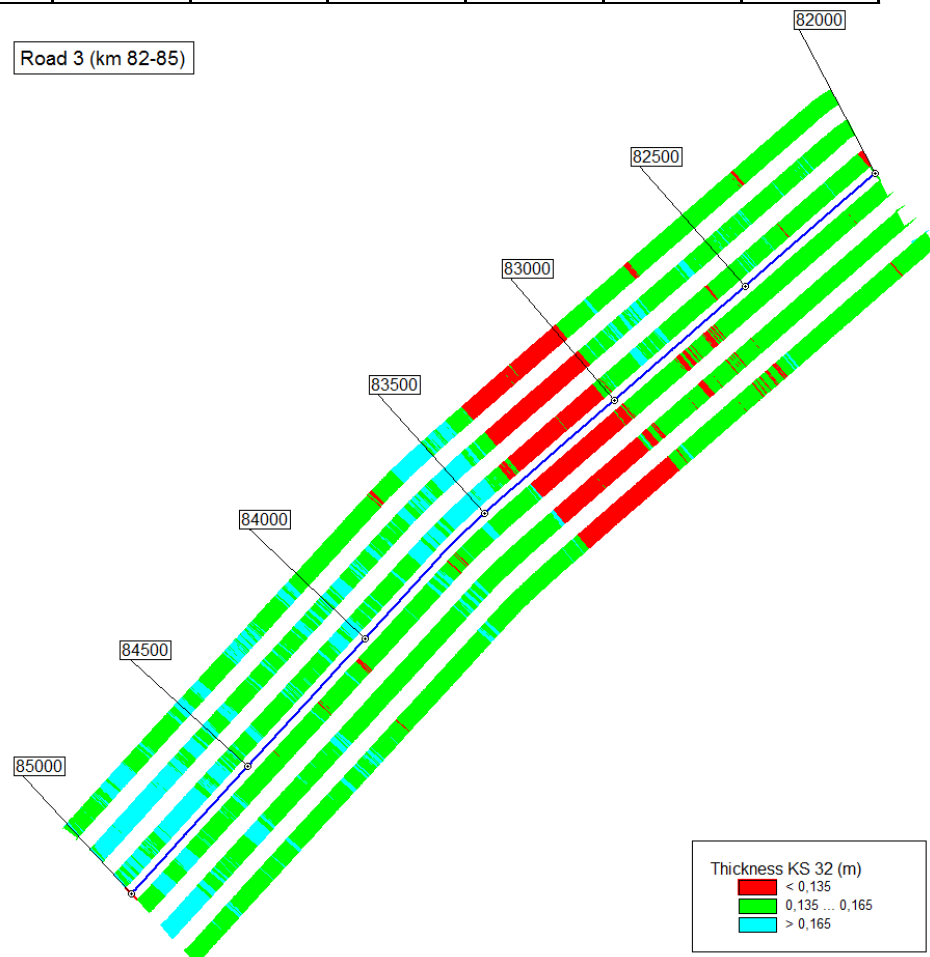


Maps of Layer Thicknesses

[3/3]

Planned thickness = 0,15 m (KS 32)	L2 right	L2 middle	L2 left	L1 left	L1 middle	L1 right
Average layer thickness (m)	0.142	0.144	0.142	0.151	0.151	0.144
% of distance where thickness is more than 10 % under	13.0	12.8	14.8	12.0	11.9	13.2
Average undershoot from planned in "more than 10 % under" class (m)	-0.069	-0.069	-0.055	-0.067	-0.076	-0.071
% of distance where thickness is more than 10 % over	3.3	10.5	5.8	25.8	27.9	15.4
Average overshoot from planned in "more than 10 % over" class (m)	0.021	0.038	0.025	0.028	0.023	0.023
% of distance where thickness is between +- 10 %	83.7	76.7	79.4	62.2	60.2	71.4
Standard deviation (m)	0.027	0.031	0.025	0.030	0.031	0.030

Road 3 (km 82-85)



Explanation of Rut Analysis from Laser Scanner Data

- Rutting was calculated from the laser scanner data using the wire rutting method and rutting was averaged over 5m distances.
- Rutting was analyzed from both driving lanes and from both wheel tracks.

