



XIII  
INTERNATIONAL  
WINTER ROAD  
CONGRESS

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Québec 

# SUSTAINABLE WINTER SERVICE FOR ROAD USERS

*Winter maintenance policy in Finland*

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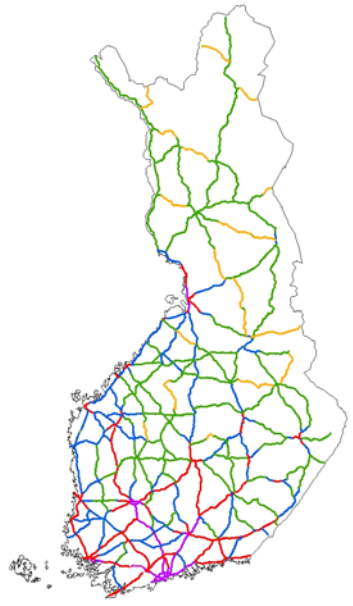
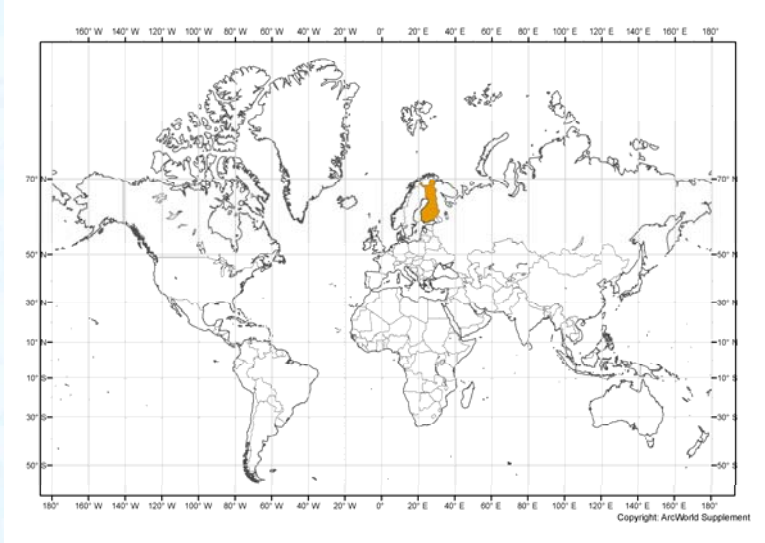
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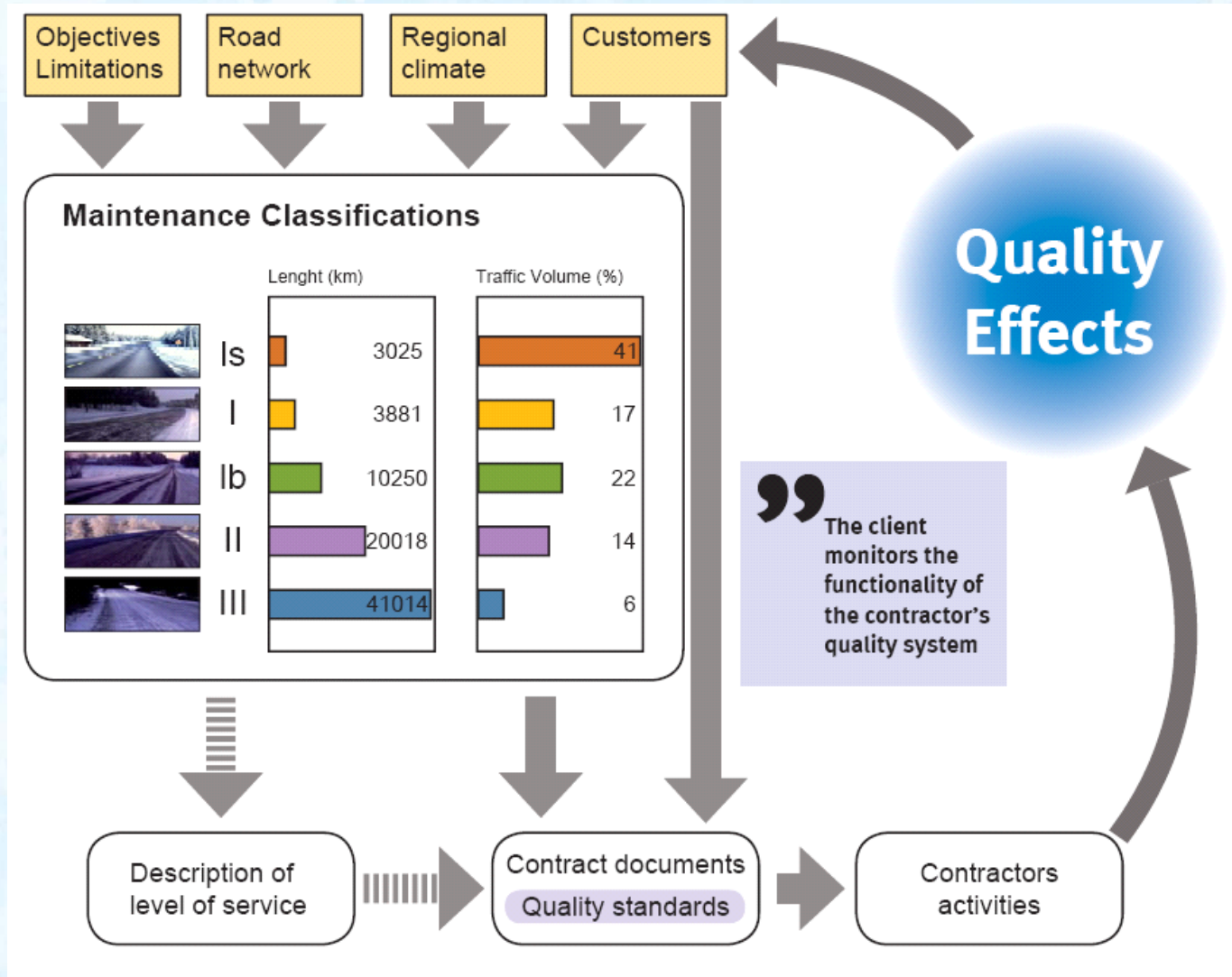


# FINLAND

- sparsely populated country with 5 300 000 inhabitants
- the public road network (78000 km) provides access even to the most remote areas of the country
- maintenance of public roads is contracted out entirely
- salt used mainly in 6000-7000 km
- winter traffic conditions usually occur for 5–6 months, the continuous winter period is 4–5 months
- lower speed limits during winter (120 -> 100 km/h, 100 -> 80 km/h)
- driver education: special training for driving in slippery winter conditions is mandatory
- winter tires are mandatory, most cars use studded tires



# On the quality of winter maintenance



# Three perspectives on quality

## Administration

- Do we achieve the level of quality we have ordered?
- Does the quality provided meet customers' needs and other winter maintenance objectives?



## Contractor

- Is the quality produced in accordance with the agreement?
- Does the quality satisfy road users?



## Customer

- Can the journey or transportation be undertaken
- safely
  - without any particular delays
  - without a lot of trouble?

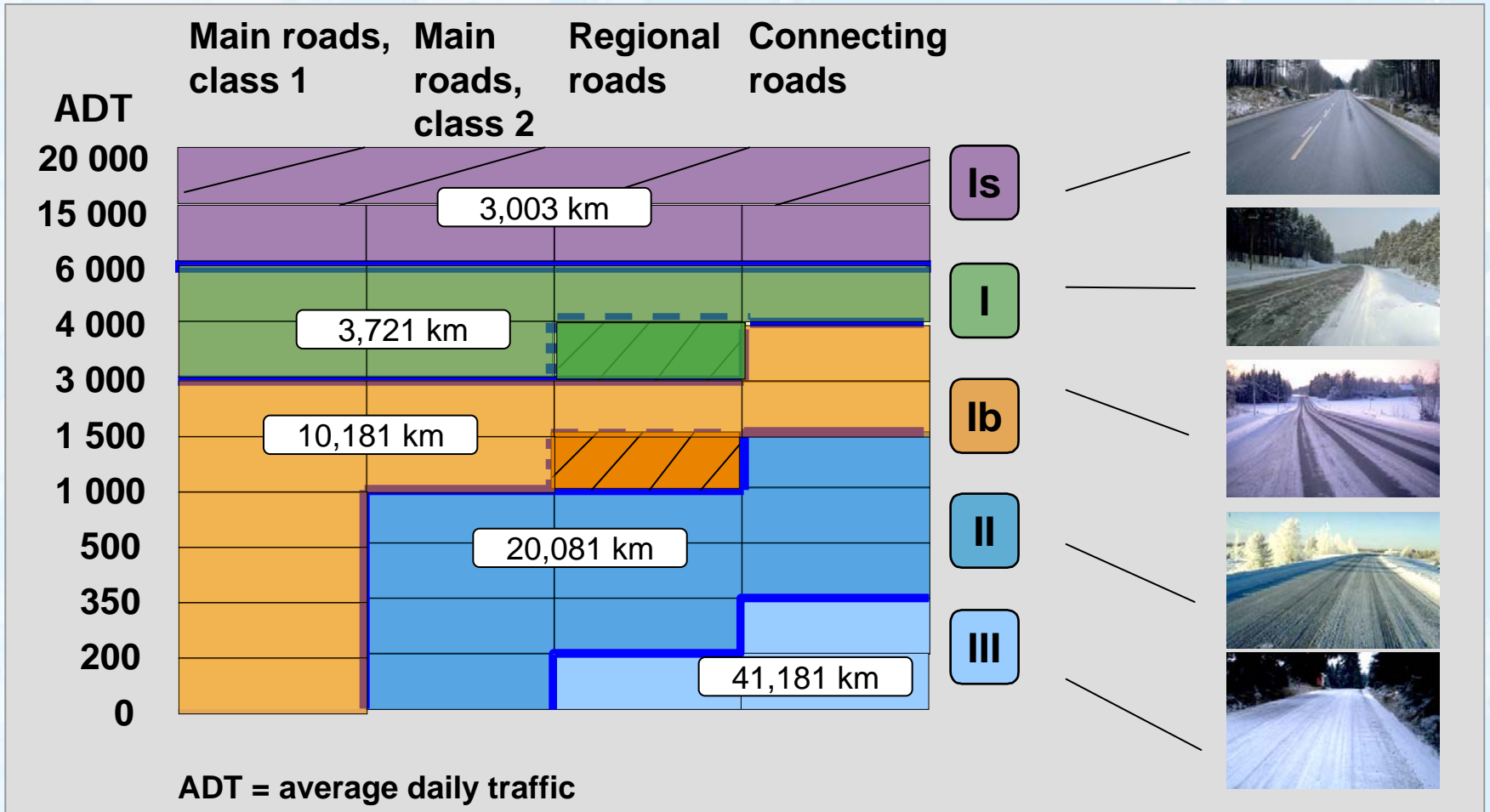
# Key policies (1/2)

- Consistent level of service on traffic links.
- Consistent level of service around the clock.
- The level of service is adjusted and controlled on a local and temporal basis so that the needs of customers and the conditions of the roads are taken into consideration.
- Winter maintenance provides the opportunity for safe travel during the winter. Antiskid treatment on busy roads will be improved in order to prevent accidents.
- On the busiest and most congested stretches of roads, winter weather will not cause significant additional delays.
- The service level is set cost-effectively. The basic level of service will usually be maintained even on low-traffic sections of the road network.
- There are clear operating procedures in case of exceptional weather conditions.

## Key policies (2/2)

- Environmental impacts are kept under control in groundwater areas. Replacements for sodium chloride are being sought in groundwater areas. Harm to air quality in urban areas will be reduced through cooperation.
- The provision of information on road conditions will improve the opportunities for road users to have an impact on safe and smooth winter travel.
- By improving cooperation between road maintenance authorities, it will be possible to avoid surprising differences in the quality of maintenance when crossing the border between the areas of two road maintenance authorities.
- The operational preconditions of public transport will be supported through targeted winter maintenance.
- The achievement of good quality is emphasised. Spot checks will be performed to monitor the achievement of quality requirements.

# The winter maintenance classification



# What is new in the winter maintenance policy





# New key policies

- On the ADT > 15000 road network, the aim is to achieve full predictability in antiskid treatment
- Consistent level of service around the clock in all service classes
- Driving conditions are improved in the low-traffic parts of the road network
  - a new description for the friction requirement
  - reduction of the groove depth (3 cm --> 2 cm)
- Specification of the level of service for exceptional weather conditions

# New Quality Requirements

## Quality Requirements

	Is	I	Ib	II	III
Friction requirement	0,30	0,28	0,25	Roughened surface, problem locations are spot sanded	Roughened surface, problem locations are spot sanded
Cycle time/anti-skid treatment	2 h / 0 h*	2 h	3-4 h	6 h	8 h
Max. snow depth when snowing	4 cm	4 cm	4 cm	8 cm	10 cm
Cycle time/snow removal	2,5 h	3 h	3 h	4 h	6 h
Evenness requirement	-	1 cm	1,5 cm	2 cm	2 cm

Cycle time in anti-skid treatment = the road is to be treated within the cycle time after becoming slippery.

Cycle time in snow removal = the road is to be ploughed within the cycle time after end of snowfall.

\* on busy roads (ADT > 15,000) 0 hrs



**Thank You!**