

WINTER MAINTENANCE AS PART OF THE FINNISH AREA MAINTENANCE CONTRACTS

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The Finnish Road Administration is a governmental authority, which is responsible for the development and maintenance of public roads. The Finnish Road Administration does not have production capacity of its own but instead it buys all production work, including winter maintenance, from external contractors. The procurement strategy of the Finnish Road Administration was completed in 2003. The Finnish Road Administration will move towards extensive and long-term purchase practices that promote innovation and are affordable.

In accordance with the procurement strategy, the winter maintenance of roads has also been integrated into the area maintenance contracts. The contracts cover almost all daily maintenance tasks as well as a large part of the work relating to the periodic maintenance of the road networks. Each contract covers 500–2,000 kilometres of road network with a duration of 3-7 years. In relation to the area maintenance contracts, the significance of winter maintenance is extremely high, since approximately one half of the costs is generated by winter maintenance. It would not, however, be sensible to subject winter maintenance to competitive tendering separately, as this would lead to the loss of many significant benefits relating to the overall accountability for the maintenance of the road network and the year-round use of the contractors' machinery.

In relation to the Finnish maintenance contract practice, the determination of the quality of winter maintenance is based on the winter maintenance classification of roads and on quality requirements, which relate to functionality. The network of public roads in Finland is categorised into five maintenance classes and each have been set a different level of service and quality requirements. The client determines what condition the road must be in. The contractors have almost complete freedom in choosing the methods, machinery and materials that they use.

The area maintenance contracts are based on the principle of accountability for quality. The selection of contractors is based on overall affordability where attention is given not only to the price but also to quality aspects, since the selected contractor has to have the capability of providing the agreed quality. During the period of validity of the contract, the contractor is accountable for the quality and responsible for providing evidence thereof to the client. The client performs audits on the contractor as well as practices some random testing in order to ensure that the quality system of the contractor is efficient and that the contractor is producing the agreed level of quality. The client is also able to impose sanctions.

Due to the service-based nature of the area contracts it is also important that the contractors are motivated towards providing better service for road users. In order to ensure this, the service provided to road users is one of the aspects that is assessed in relation to quality when evaluating the bids of the contractors. The Finnish Road Administration has also instated a bonus system, which is based on customer satisfaction. Contractors are awarded a maximum of 1.6% bonus on the basis of the system if the road users of the area are sufficiently satisfied.

The initiation of competitive tendering of maintenance procurement has principally been successful and the Finnish model of area contracts functions well. Cost savings have been significant and quality levels have mainly been retained. The profitability of the contractors in charge of the maintenance service provision, however, is not yet at a sufficient level.



Winter Maintenance as a part of Finnish Area Maintenance Contract

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Piarc
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STRATEGY FOR PROCUREMENT OF ROAD MAINTENANCE

Goal 2007

More extensive, long-term contracts which make it possible to benefit from contractors' innovations and are less costly for the client.

The desired outcome of the level of service is achieved by specifying outcome-based requirements and condition standards for end products.

Main principles of procurement methods are accepted by companies working in road maintenance

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Implementation of the procurement strategy in winter maintenance

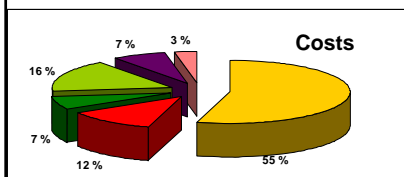


- Winter maintenance of public roads is contracted out entirely
- Maintenance is executed in the form of maintenance area contracts
- Road Administration specifies works and desired quality mainly by outcome-based requirements
- Contractor organises the work, chooses the procedures and is also responsible for quality control
- Road Administration checks randomly the quality and audits the contractor's processes

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Area Maintenance Contract

- 500-2000 km
- Broad Range of tasks
- 3, 5 and 7 Years
- Lump Sum plus Unit Prices

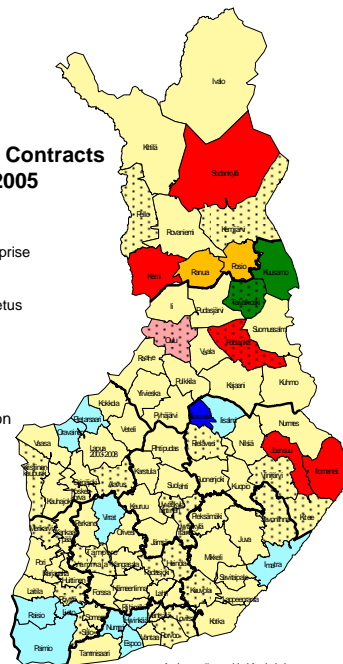


- Winter Maintenance
- Maintenance of traffic environment
- Maintenance of structures and facilities
- Maintenance of gravel roads
- Periodic Maintenance
- Minor Investments

Maintenance Contracts 2004-2005

- Contractor
- Road Enterprise
 - Määttä
 - NCC
 - Savon Kuljetus
 - Skanska
 - Karjaluoto
 - YIT

~
 ■ In competition 2005



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PAYMENT METHOD IN THE CONTRACTS

Hybrid system



- 75 % on lump sum basis

- Winter maintenance as a whole
- Gravel road routine maintenance
- Pothole patching
- Roadside vegetation control
- Drainage maintenance



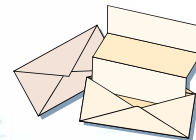
- 25 % on schedule of rates basis

- Renewal of road signs
- Larger road surface repairs
- Drainage repair
- Renewal of gravel road surface
- Repair of gravel road frost thawing sections

In some pilot contracts almost all work is done on total price basis.


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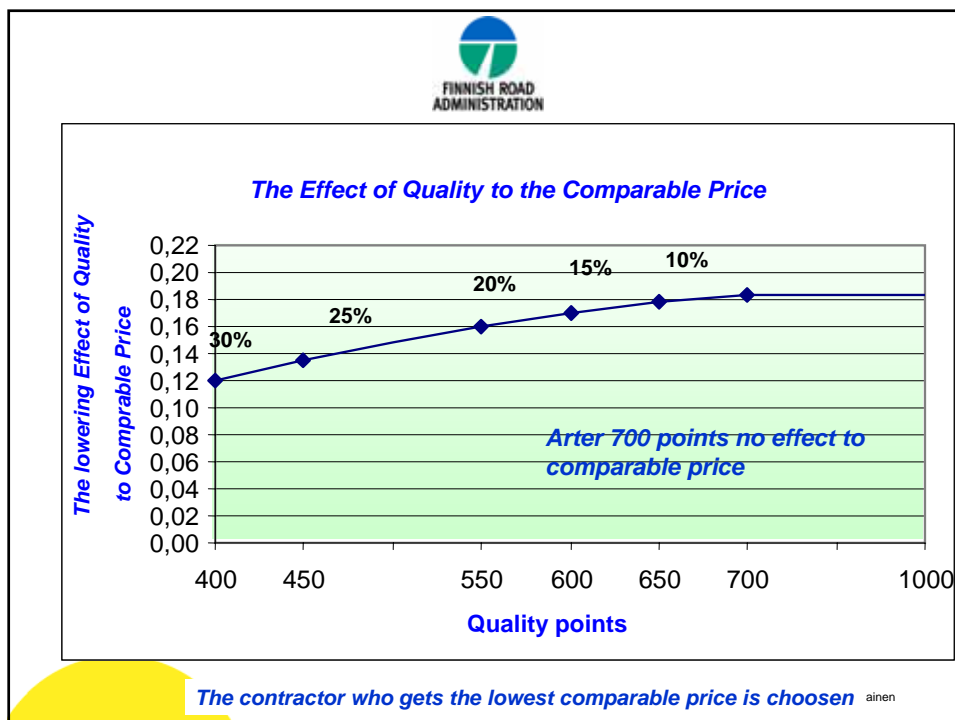
TENDERS' EVALUATION AND SELECTION CRITERIA



- Overall economy (two envelope method):
 1. performance ability,
 2. price
- Quality plan is required
- Weighted attributes:
 - performance and quality about 25 %,
 - price 75 %

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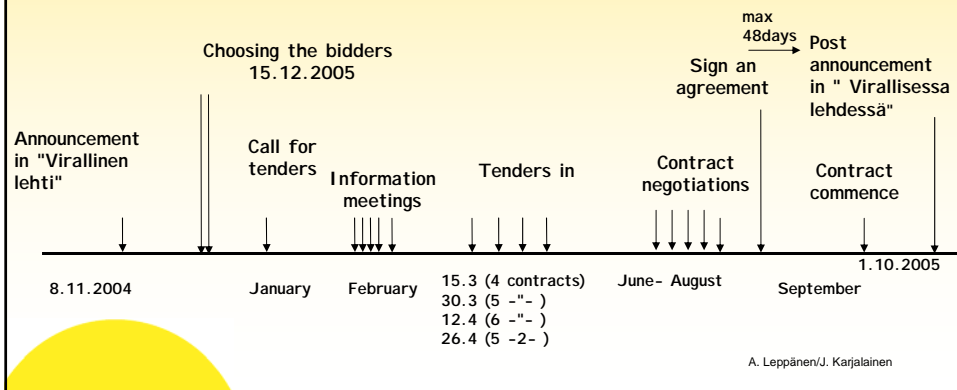
 Area Maintenance Contract Contents of Quality plan	
<u>Quality factors</u>	Weight
Background information and references of contractor	
1. Maintenance references of the company	5 %
2. Personnel (own personnel and sub-contractors' personnel)	10 %
3. Machinery and equipment, critical work plans, sites etc.	20 %
4. Principles for the use of sub-contractors and material suppliers	5 %
Carrying out the contract	
5. General quality assurance	15 %
6. Work- and traffic safety	5 %
7. Environmental issues	5 %
8. Plans for duty on call, road condition control, weather condition control and utilization of maintenance actions	20 %
9. Development of know how, communication and liason	5 %
10. Service of roadusers	10 %
	100 %



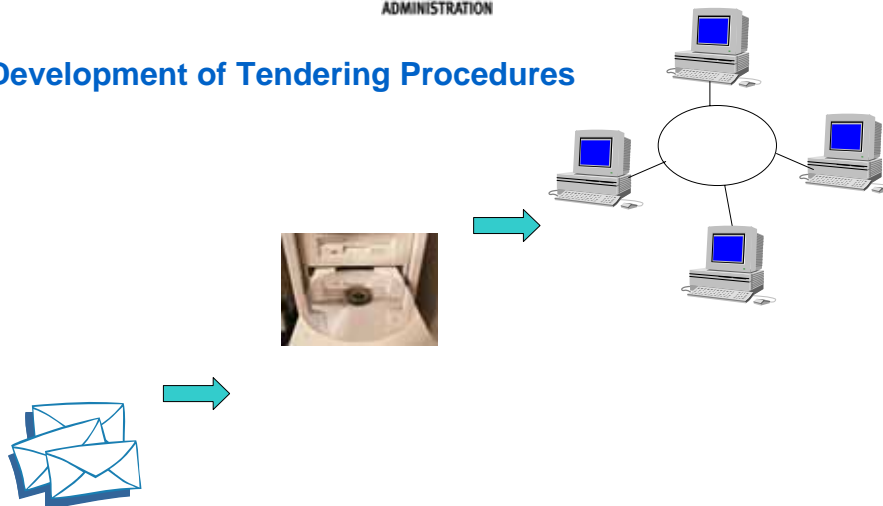


The Timetable for Tendering Process 2005

November 2004 - October 2005
20 Area Maintenance Contracts



Development of Tendering Procedures



Moving step-by step to electrical form

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The performance of traffic is secured on the whole road network also during the winter.



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Definition of Winter Maintenance Quality

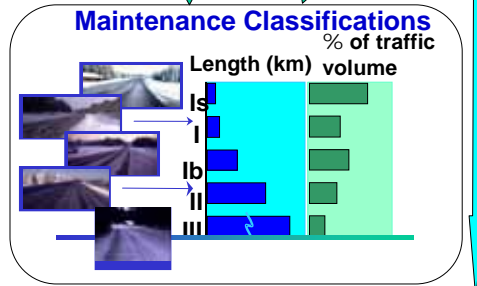
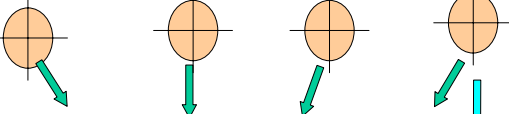


Targets, Restrictions

Road network

Regional climate

Customers



The client monitors the functionality of the contractor's quality system



Description of level of service

Contract documents
Quality standards

Contractors activities



National quality standards of winter maintenance (Simplified)

Winter Maintenance class	Friction	Temperature Threshold (°C)	Cycle Time (hr)	Snow Depth snow/slush (cm)	Cycle Time snow/slush (hr)	Evenness (cm)	Cycle Time (day)	Period of Validity (time)
IS	0.3	-6	2	4/2	2.5/2		1	5-22
I	0.28	-4	2	4/2	3/2.5	1	1	5-22
IB	0.25/ 0.22		3 (salt) 4 (sand)	4/2	3	1,5	1	5-22
II	As needed		6	8/4	4	3	1	6-22
III	As needed		8	10/5	6	3	2	6-22

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Friction value	0.00 – 0.14	0.15 – 0.19	0.20 – 0.24	0.25 – 0.29	0.30 – 0.44	0.45 – 1.00
De-scription of road surface	bad driving conditions, wet ice, very slippery	icy, slippery	tightly packed snow, satisf. winter conditions	rough, packed ice and snow, good winter conditions	bare and wet, not slippery	bare and dry, not slippery

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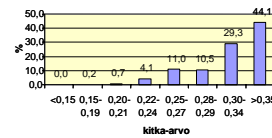
Quality Assurance

Contracts are service agreements based on the principle of quality responsibility.

The client primarily monitors the functionality of the contractor's quality system randomly.

Meetings once a month.

Bonus on the basis of customers - road users – satisfaction
Bonus on the basis of minimum salt use, too



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Sanctions		Sanction group A euros	Sanction group B euros
1	Winter Maintenance, Main roads (Maint classes Is ja I)	4 000	8000
2	Winter Maintenance, other roads	3 000	6000
3	Maintenance of road surroundings	2 000	4000
4	Maintenance of gravel roads	2 000	4000
(5)	Maintenance of structures and pavements	2 000	4000)
		(Group C) euros	
6	Exceed a time limit - Gravel road rehabilitation - (Road markings - Others	2 500 /week * 2 % of total cost of road markings/week) 1000 /week *	
7	Default of administrative act	1 000	
8	Actions against quality plan	5 000 *	
9	Incorrectness of quality documents	10 000 *	



Bonus to the Contractor due to the customer satisfaction

- There are a bonus system of customer satisfaction in 5 area maintenance contracts in 2004 (experimental) and in 2005 it will begin in all new contracts.
- Bonus is paid annually.
- Bonus is 0-1,6 % of the annual cost of the contract (v. 2005 about 1- 3 M€=> 4000 €-16000 €..12000 €-48000€).
- There are 4 aspects to estimate for the payment of the bonus 2005:
 - 2 based on special survey of customer satisfaction
 - 2 based mainly on the observations and estimation of the controller

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