

Regional Workshop on Public-Private Partnership in Transport

Recent Experience and Lessons Learned with the Use of Performance Based Contracts

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Presentation Outline

- Forms of price-based contracts
- Where have PBC approaches been used?
- What have been the results?
- What are the potential pitfalls?
- How do you avoid them?
- World Bank Resource Guide on PBC
- Lessons Learned

Importance of Timely Maintenance

- **It is estimated that \$1 spent on timely maintenance can save more than \$3 that would be required for road reconstruction**
- **A well maintained paved road should last for 10 to 15 years before resurfacing, but lack of maintenance can lead to severe deterioration in 5 years**



ONE MAN

CONTRACTOR

Akromcedan-Kumasi Rd.

P.O. Box 14

Forms of Price based Contracts

- **Lump sum - payment based on a single price for the total work**
- **Admeasure - payment based on quantity of completed work and tendered rates (bill of quantities)**
- **Performance - payment based on performance (or results) achieved**

Performance Based Contracts Have Several Names

- **Output and Performance Based Road Contracts (OPRC)**
- **Performance Based Contracts (PBC)**
- **Performance Specified Maintenance Contract (PSMC)**
- **Performance Based Management and Maintenance of Roads (PMMR)**
- **Output Based Service Contract**
- **Performance Based Road Asset Management and Maintenance Contract**

PBC in Different Countries

- Performance specified maintenance contract in AU, NZ, Canada (3-10 years)
- CREMA (Contrato de REcuperacion y MAntenimiento) in Argentina, Brazil, Uruguay
- Warranty contracts in USA
- Asset Mgmt & Maint Contracts in VA, USA
- DBFO (up to 30 years) in UK, Finland, Portugal
- Some are hybrid type contracts (i.e., quantity-based and performance-based)

Why PBC?

- **Reduced administration: less effort to measure works**
- **Avoid frequent claims and contract amendments to increase quantities of activities**
- **Client focus: pay on the basis of user-related performance indicators**
- **More responsibility to contractors stimulates initiative and innovation**
- **Development of a new industry and creation of additional job opportunities**

Potential Pitfalls of PBC

- Longer tendering period
- Perceived loss of control and flexibility by road agencies
- Uncertainty of long term relationship
- Lack of some (or unclearly specified) performance standards and level of service
- Possible unfair competition for smaller contractors

Success Factors for PBC

- **Training workshops**
- **Technical studies**
- **Prequalification of contractors**
- **Bidding process**
- **Supervision arrangements**
- **Facilitation during pilot contracts**

Training Workshops

- **Target Audience: road agency, road users, contractors, consultants, donors**
- **Explain basic concepts**
- **Explain potential benefits**
- **Show examples from other countries**

Technical Studies

- **Carried out by road agency / qualified consultants**
- **Select candidate roads**
- **Carry out detailed technical evaluation**
- **Determine adequate service levels to be monitored through key indicators**
- **Estimate likely costs (benchmark costs)**

Prequalification of Contractors

- **Analyze capacity of contractors**
- **Determine prequalification criteria**
- **Organize workshop for potential bidders**
- **Carry out prequalification process**

Bidding Process

- **Prepare and launch bidding documents**
- **Organize pre-bid seminar for prequalified bidders**
- **Answer queries / issue addendum**
- **Carry out bid evaluation**
- **Award contracts**

Supervision Arrangements

- **Determine adequate supervision arrangements: consultants (individual or firm); road agency staff (e.g., Argentina, Estonia)**
- **Prepare TOR and Supervision Manual**
- **Train road agency staff and local consultants**
- **Coach supervisors during initial period**

Payments under PBC Contracts: Mostly based on the service provided

- **The contractor has to ensure that road users get a certain Level of Service**
- **Level of Service defined in terms of usability, road surface conditions, safety features, roadside assistance, etc.**
- **Specifications included in Contract describe Level of Service expected for each road**

Level of Service: Unpaved Roads

General

- Road open to traffic
- Average traffic speed

User Comfort & Safety

- Corrugation
- Rut Depth
- Other surface degradations
- Useable road width
- Cleanliness of surface
- Drainage cleanliness, condition
- Vegetation control

Level of Service: Paved Roads

- **Roughness**
- **Potholes / Patching**
- **Cracking**
- **Cleanliness of surface**
- **Rutting / Ravelling**
- **Broken pavement edges**
- **Shoulder drop-off, condition**
- **Drainage cleanliness, condition**
- **Vegetation control**

Facilitation During Pilot Contracts

- **Select and hire Facilitator (e.g., Serbia's Twinning Arrangements with Sweden)**
- **Facilitator should be neutral and independent**
- **Facilitator to conduct training and coaching of staff of road agency, contractor, supervision consultant**
- **Systematic evaluation of results and experience --- Learning Process**

PBC Savings in Serbia

Source:

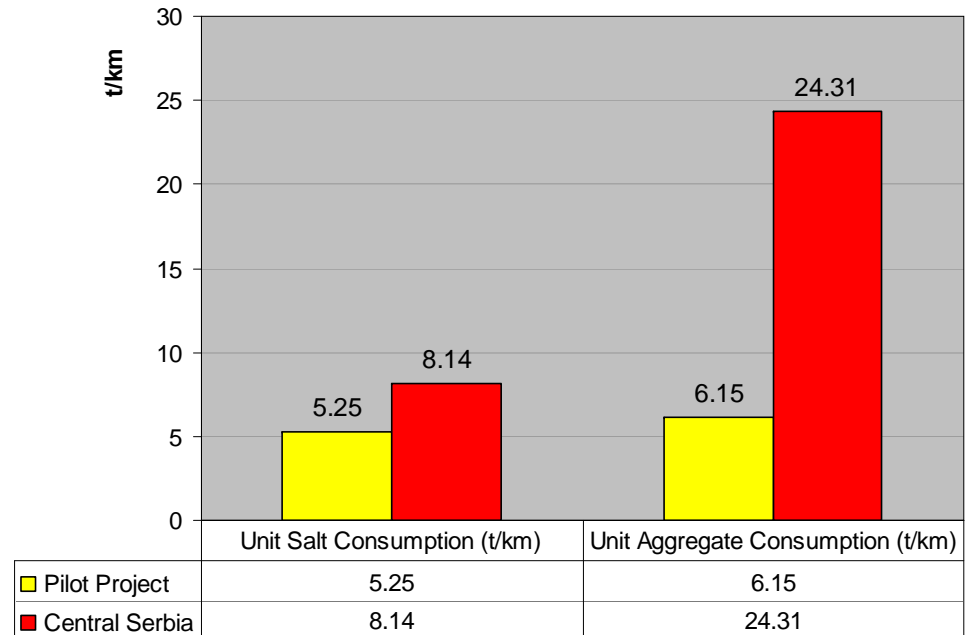
**Serbia: Routine and
Winter Maintenance
Pilot Project**

Žarko Belić

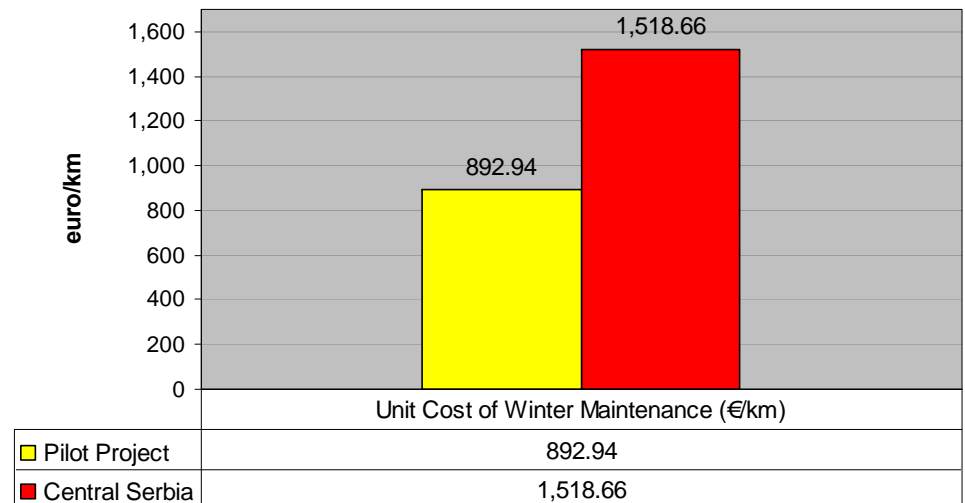
Belgrade

October 3, 2006

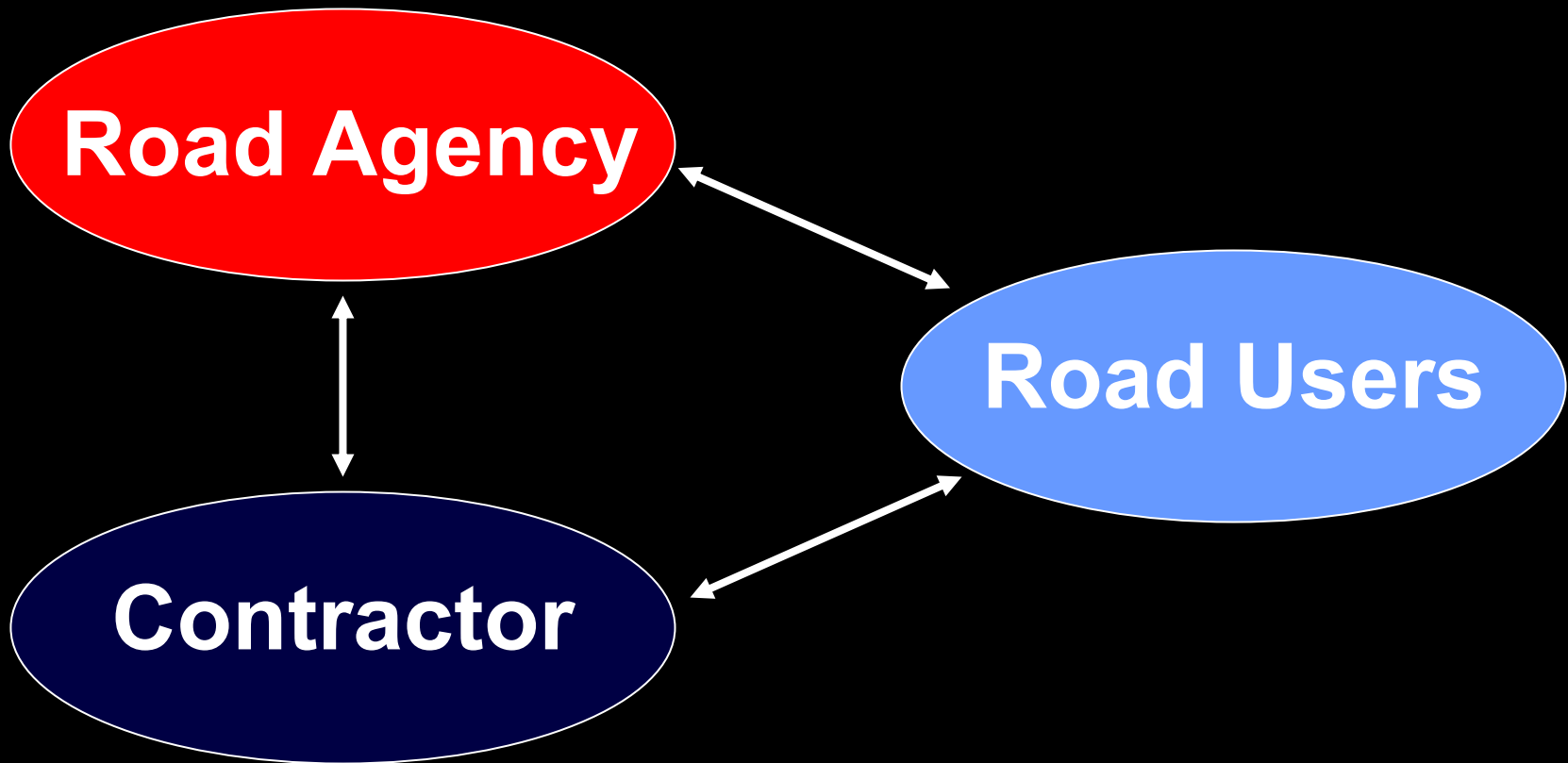
UNIT SALT AND AGREGATE CONSUMPTION (WINTER SEASON 2005/2006)



UNIT COST OF WINTER MAINTENANCE (WINTER SEASON 2005/2006)



Reconciling the Interests of Three Actors



Road Agency

- **Objective: meet public demand for safe and smooth roads; reduce budget expenditures**
- **Alternatives: force account, admeasure, performance-based, concessions**

Road Users

- **Acceptable level of service**
- **Safety**

Contractor

- **Risks and profit competitive with other investment alternatives**

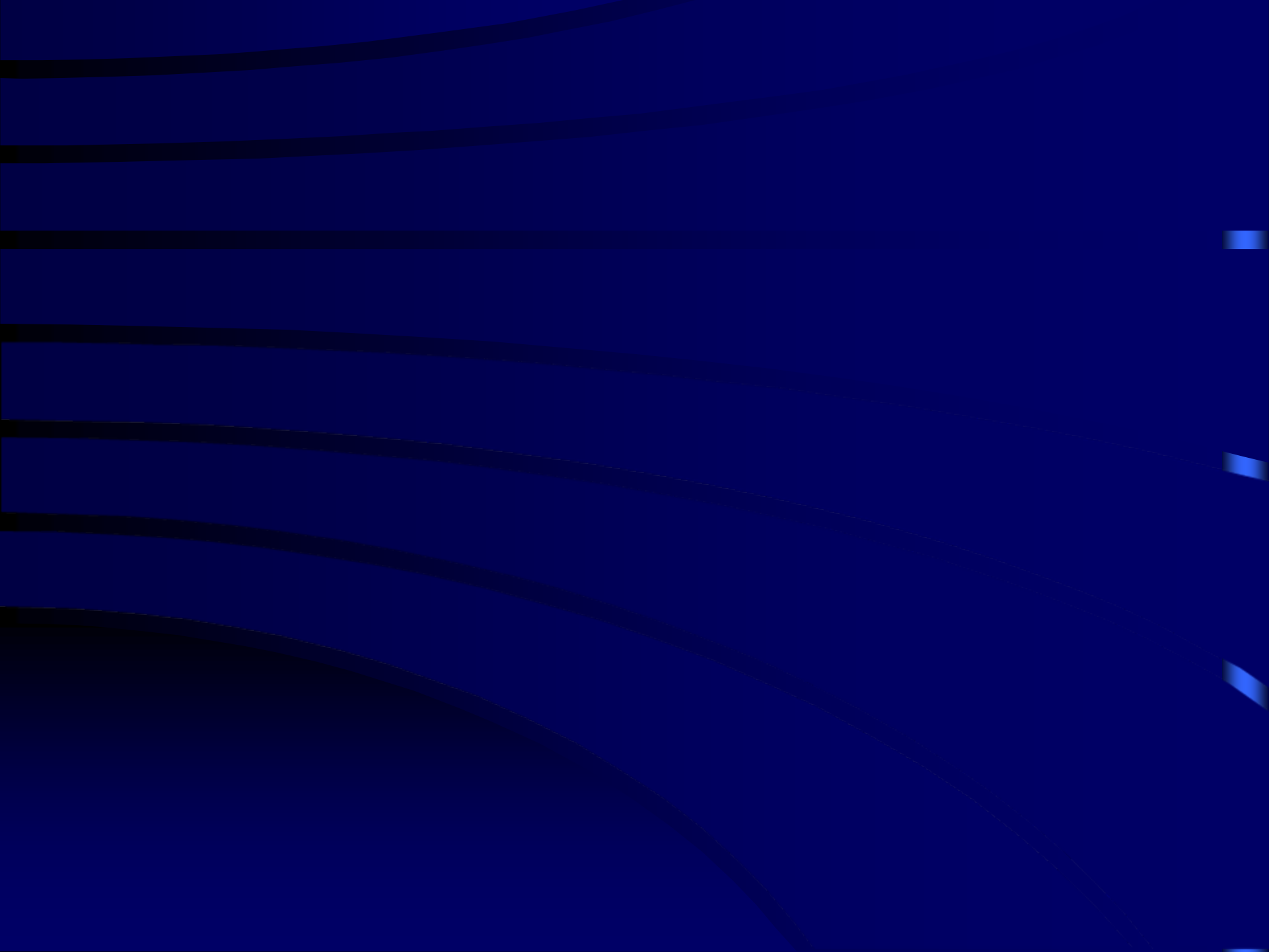
World Bank Resource Guide for Performance-based Contracting

- **Sample Bidding Document**
- **Sample TOR for preparation of PBC projects and support to bidding process**
- **Sample TOR for Supervision**
- **Sample TOR for Facilitator / Trainer**
- **Sample Technical Specifications**
- **WB Technical Note No. 27 on PBC**
- **Actual Contracts**
- **Resource People**

World Bank Resource Guide for Performance-based Contracting

Available on the WB website at:

<http://www.worldbank.org/transport/roads/resource-guide/index.html>



Lessons Learned: Contracting

- **Ensure solid and credible financing of contract during the entire contract period**
- **Use of small local contractors: Only after adequate preparation and training, and for contracts with very simple requirements (or as subcontractors)**
- **Build in a Dispute Resolution Mechanism**

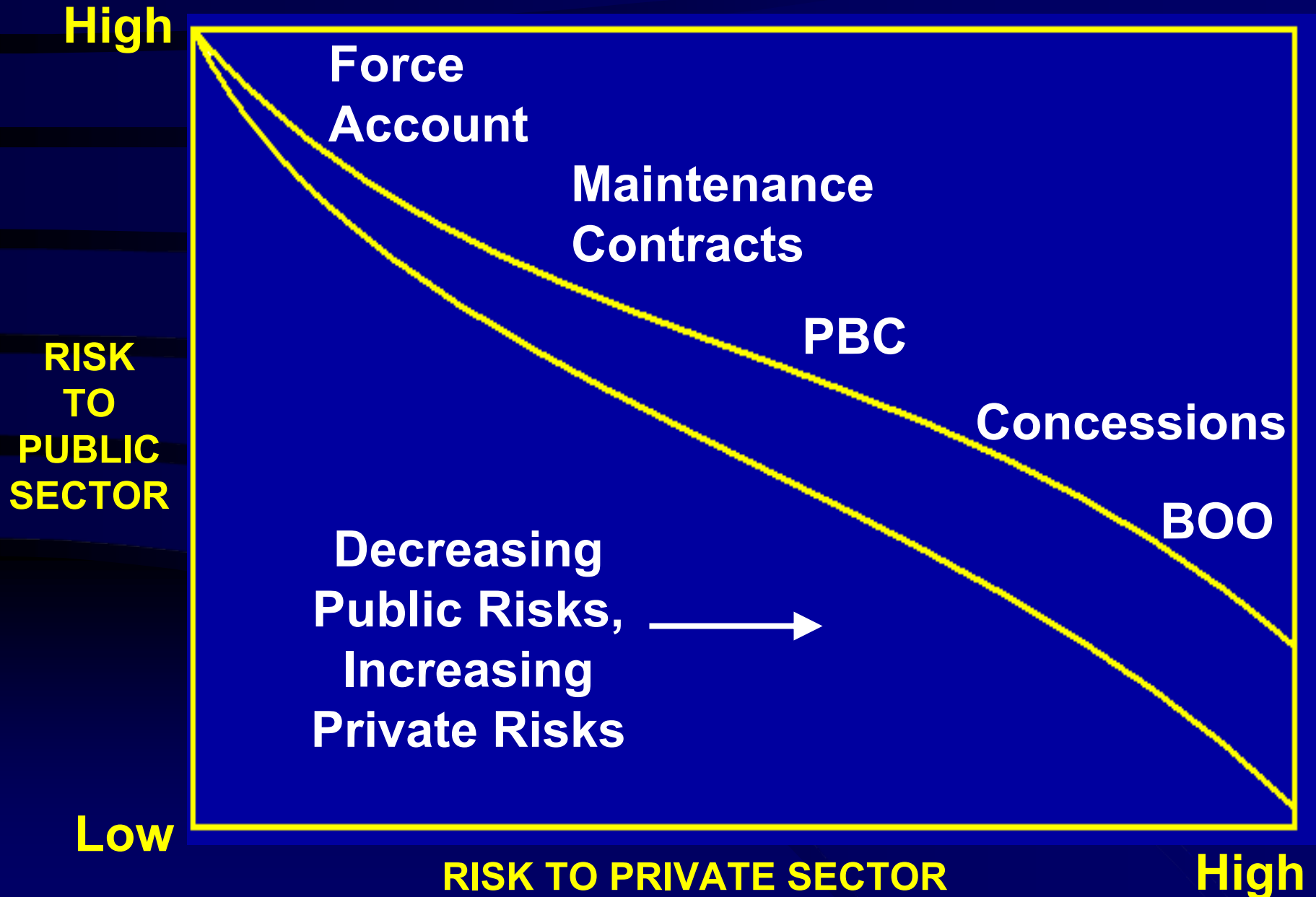
Lessons Learned: Management of PBC

- **Supervision consultant's role: control service level and assure overall technical quality - - but no micro-control and micro-management**
- **Road agency staff changed role: from performing quality control to focusing on quality assurance (no longer counting cubic meters...)**
- **Arrange communication links with contractors, including regular review sessions**

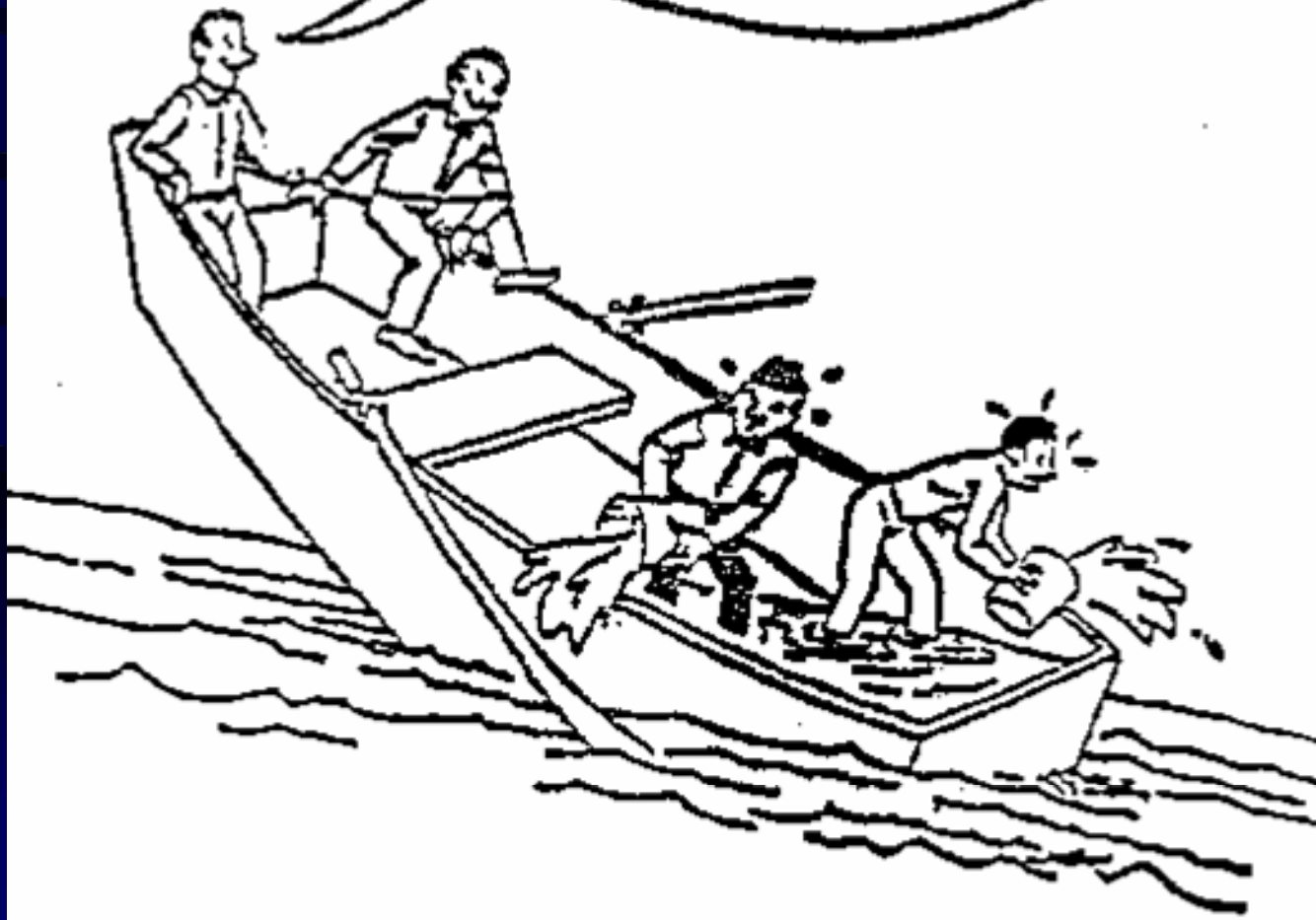
Lessons Learned: Planning of PBC

- **Define clear and simple performance standards and measures before advertising bids**
- **Include only “maintainable” roads (unless rehabilitation is envisaged)**
- **Have consistent documents and requirements**
- **Do not try to impose too many risks on the contractor**

Allocation of Risks



I'm sure glad the hole isn't in our end...



Thank you!

Some Basic References

World Bank (2006). "Resource Guide for Performance-based Contracting." Washington, D.C.

<http://www.worldbank.org/transport/roads/resource-guide/index.html>

World Bank (2005). "Performance-based Contracting For Preservation and Improvement of Road Assets." Transport Note No. 27. Washington, D.C.

http://www.worldbank.org/transport/roads/resource-guide/Docs-latest%20edition/PBC/trn_27_PBC_Eng_final_2005.pdf

World Bank (2005). "Sample Bidding Document: Output- and Performance-based Road Contract (OPRC)."

<http://www.worldbank.org/procure/>

World Bank (2003). "Toolkit for Public-Private Partnership in Highways." Public-Private Infrastructure Advisory Facility (PPIAF) and World Bank.

<http://rru.worldbank.org/Documents/Toolkits/Highways/index.htm>

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