

Session 3a:

Performance-Based Maintenance Contract: Why?

- Introduce Performance-Based Maintenance Contracts (PBMC)
- Experience to date
- Reasons for adopting PBMC
- Different forms of PBMC
- Advantages and disadvantages of PBMC

Evolution of Road Maintenance

In-house direct labour maintenance



Input-based maintenance contracting



Performance-based maintenance contracting



Road concessions

Terminology

- Input-based maintenance contract
 - Method based
 - Ad measurement
- Performance-based maintenance contract (PBMC)
 - Performance-based contract (PBC)
 - Performance-based contract for management and maintenance of roads (PMMR)
 - Output and performance-based road contract (OPRC)
- Concession
 - Public-Private Partnership (PPP)

Simple Origins of PBMC

- Length man
 - Vegetation control, drainage cleaning
 - Nepal, Bhutan, many other countries
- Community-based maintenance
 - Rural access roads
 - Afghanistan, many countries



Milestones

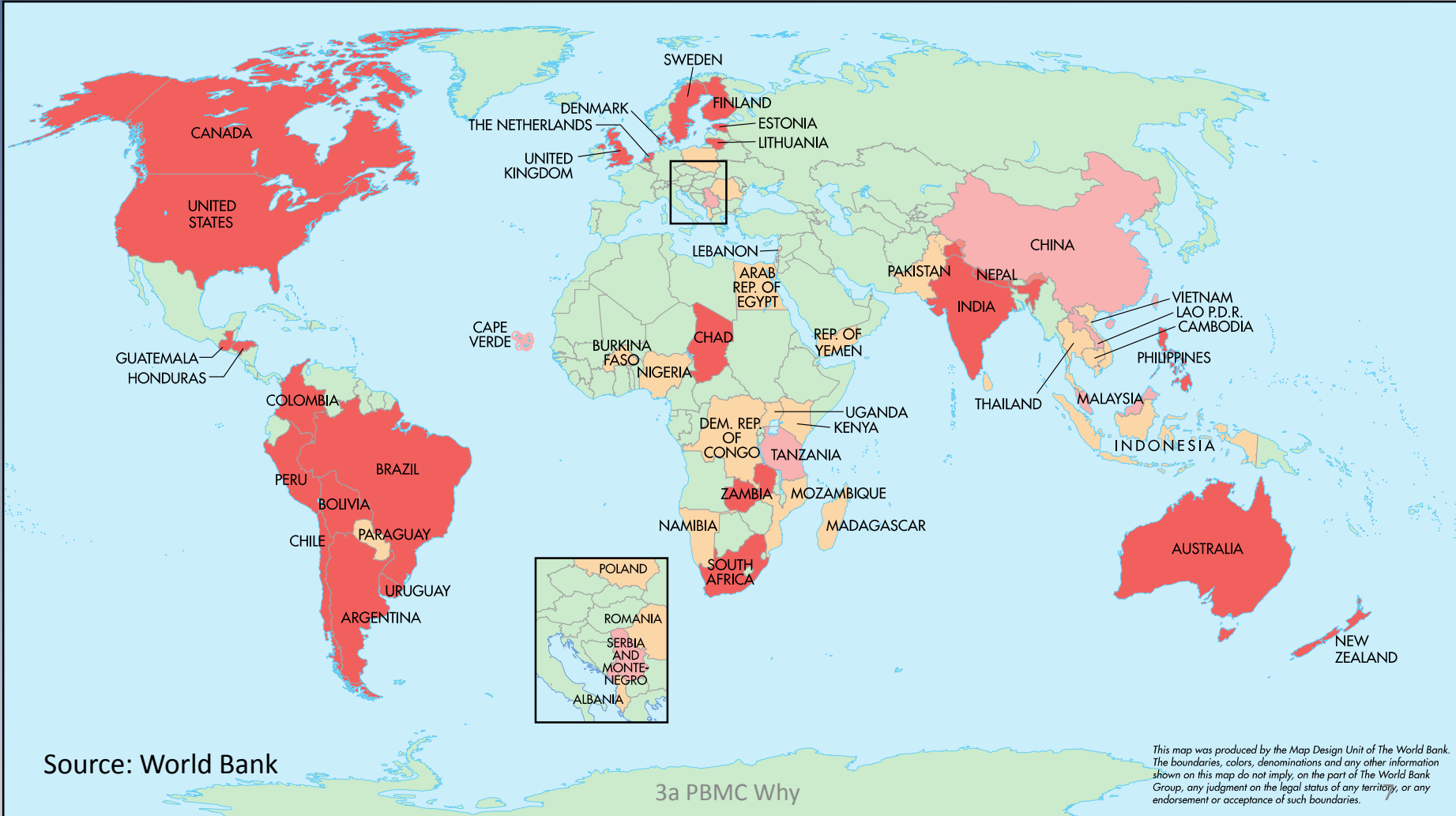
1988	British Columbia, Canada Alberta and Ontario followed	100% highway network 47,000 km
1995	Sydney, Australia NSW, Tasmania, others followed	Urban network
1995	Argentina Uruguay then most Latin America followed	44% of national highways
1996	Virginia, USA Alaska, Florida, Oklahoma, Texas followed	State highways
1998	New Zealand	405 km expanded to 15% of national network
	UK, Sweden, Finland, Netherlands, Norway, France, Estonia	Mix of pure and hybrid PMBC
	South Africa Zambia, Chad followed	100% of national highways
	India, Nepal, Bangladesh	Various initiatives

Source: World Bank

APPLICATION OF PERFORMANCE-BASED CONTRACTING TO MANAGE AND MAINTAIN ROADS ACROSS THE WORLD

- COUNTRIES THAT HAVE ESTABLISHED PBC PROGRAMS
- COUNTRIES THAT ARE AT EARLY STAGES OF PBC PROGRAM IMPLEMENTATION
- COUNTRIES THAT ARE PREPARING TO LAUNCH PBC's
- COUNTRIES THAT DO NOT USE PBC's OR COUNTRIES FOR WHICH NOT RELATED DATA WAS LOCATED

NOTE: This does not imply that every province/region/state has PBC's: the data pertains to the national level only, not sub-national ones.



Source: World Bank

3a PBMC Why

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Reasons for PBMC

Improve delivery of maintenance services



- Reduce government and make better use of private sector
- Reduce road maintenance costs
- Increase efficiency in use of maintenance funds
- Ensure adequate and stable maintenance funding
- Strengthen road agency management



Improved road conditions



Higher benefits to road users

Support for PBMC

- Government policy:
 - Reduce size of public service
 - Improve efficiency in providing infrastructure
 - Promote private sector
 - Respond to public demands for better roads
- Road agency:
 - Better fulfill mandate to manage road infrastructure
 - Secure stable funding for road maintenance
 - Insufficient in-house technical resources
- Funding agencies:
 - Sustainable maintenance for road investments

Savings in Maintenance Costs

- Lower direct costs from private sector
 - Competitive bidding (*)
 - Greater flexibility = increased efficiency
 - Freedom to experiment and innovate
 - Well-defined performance standards = reduced waste
- Lower indirect road agency costs (**)
 - Reduced staff and administration costs
 - Reduced facilities and equipment

Assumptions: * Transparent procedure
** Effective government reform

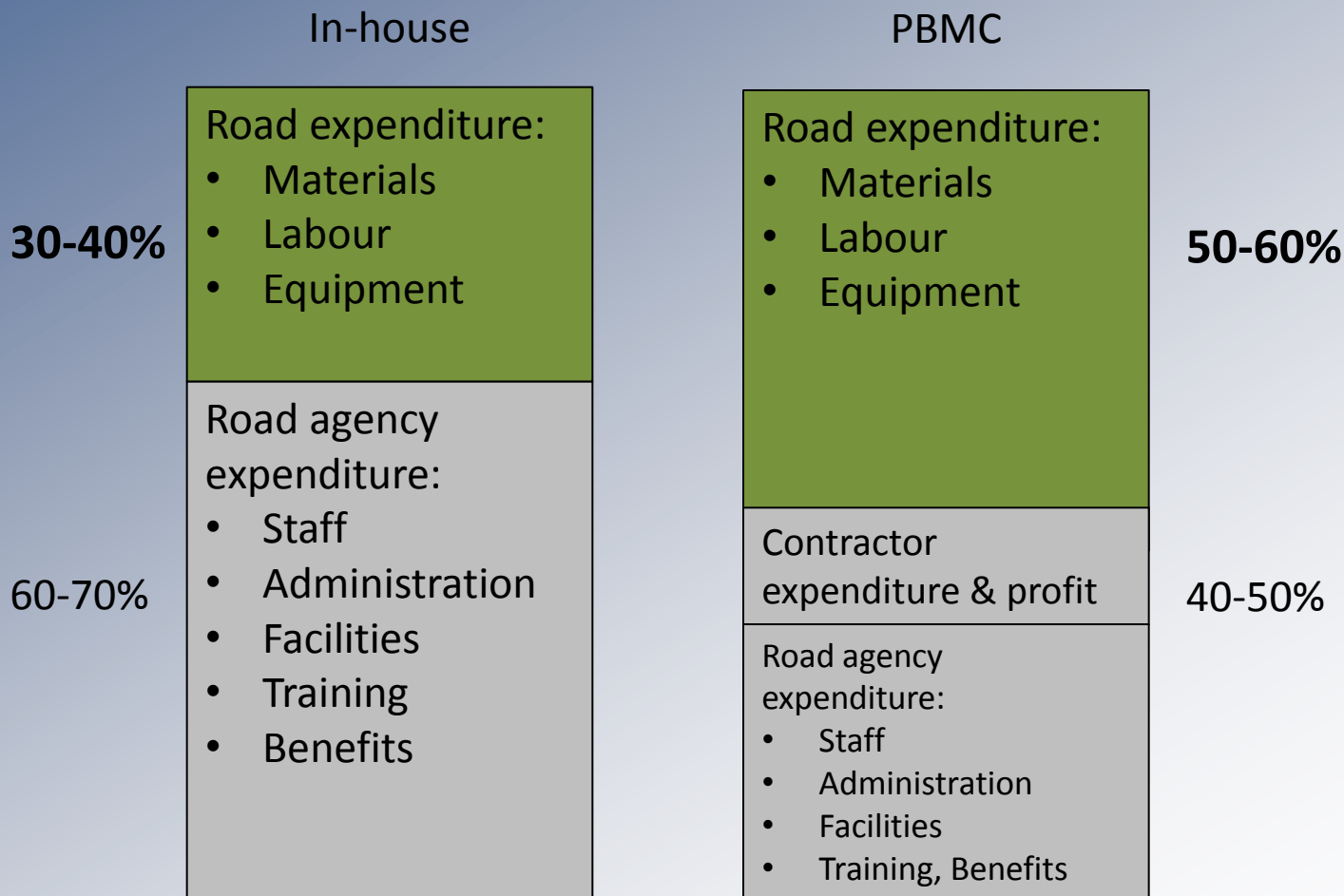
Examples of Cost Savings

British Columbia, Alberta, Ontario	10% and up to 20%
England	10% minimum
USA	10-15%
Australia	10—40%
Norway, Estonia	20-40%
Sweden	30%
Finland	30-35%
Netherlands	30-40%

Source: World Bank

More Efficient Use of Maintenance Funds

% of total maintenance budget spent on the road



Greater Stability of Funding

- Road agency programme and budget for multi-year contracts
- Government commits to provide funding in future years
- Maintenance contracting becomes a specific line item in budget
- Difficult for government to reduce funding during term of contracts
- Avoids reductions in direct expenditure on road maintenance

Strengthening of Road Agency

- Frees road agency from day-to-day maintenance operations
- Change from a maintenance organisation to a road manager
- Focus on higher-level road management activities:
 - Asset management
 - Level of service to road users
 - Road safety
 - Environmental measures
 - Strategic planning
 - Technical innovation
- But: requires strengthening of road agency in PBMC preparation, procurement and contract administration



Development of Private Sector Capacity

- Opportunity to attract investment in road engineering, construction and equipment
- Opportunity for contractors of all sizes
- Leads to beneficial spiral:
 - More competition
 - Higher technical and financial capacity
 - More upskilling and professionalism
 - Improved efficiency and reduced prices

“A country’s roads are only as good as its road contractors”

Types of Road Maintenance Contracts

Type		Examples
Lengthman and labour-based contract		ROW vegetation, litter, drainage cleaning
Input-based contracting		Structural repairs, pavement periodic maintenance
PBMC	Simple	Pavement markings, lighting
	Comprehensive	All road elements (exceptions e.g. major bridges)
	Pure	All maintenance based on performance standards
	Hybrid	Most maintenance based on performance standards with other activities based on BOQ (e.g. initial improvements, emergency repairs)
Concession		Entire road operated and maintained by concessionaire

Differences Between Input-Based and PBMC

Input-Based	PBMC
<ul style="list-style-type: none"> • Employer prepares BOQ for all maintenance works 	<ul style="list-style-type: none"> • Employer specifies performance standards for each road element • Contractor estimates method and quantities needed to comply with performance standards
<ul style="list-style-type: none"> • Employer bears all risk for variations in quantities 	<ul style="list-style-type: none"> • Contractor bears risk for variations in quantities unless specified in contract
<ul style="list-style-type: none"> • Employer or Supervision Engineer measures all quantities provided by Contractor for payment 	<ul style="list-style-type: none"> • Employer or Supervision Engineer inspects compliance with performance standards and only measures defects for payment
<ul style="list-style-type: none"> • Payments based on quantities and vary each period 	<ul style="list-style-type: none"> • Fixed lump sum payment each period less any penalties for defects
<ul style="list-style-type: none"> • Employer retains Supervision Engineer full time for measurement and quality checks 	<ul style="list-style-type: none"> • Employer requires Supervision Engineer for spot checks and monthly inspections
<ul style="list-style-type: none"> • Employer responsible for all emergencies and closures 	<ul style="list-style-type: none"> • Contractor responsible for all emergencies and closures except specified in contract

Advantages of PBMC

- Simplified contract administration
- Reduced Employer workload and supervision costs
- Risks between Employer and Contractor can be balanced
- Opportunity and stimulus for innovation
- Greater % of total maintenance budget spent on the road
- Long-term contracts provide stable financial environment for both Employer and Contractor
- Employer can focus on higher-level road management activities

Caveats

- Contract roads in reasonable condition overall
- Network of >100 km to attract qualified bidders
- Well-developed road construction industry with sufficient technical capacity
- Transparent procurement procedure to select best value
- Risk between Employer and Contractors balanced
- Bid prices may be much higher than estimated
- Sufficient funding for performance standards specified in the contract
- Pilot projects advisable to test procedures