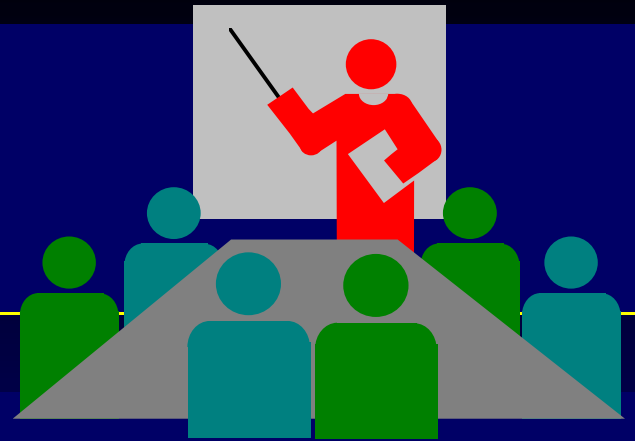


Performance-Based Contracts for Management and Maintenance of Roads (PMMR)

Case Study 1: Uruguay

Overview of Presentation



- **First Pilot Projects**
- **Small Scale Enterprises Formed by Former Road Administration Staff**
- **Pilot Projects Montevideo**
- **Conclusions**

First Pilot Project Uruguay



➤ Extension: 359 km

- 154 km bituminous concrete
- 88 km concrete
- 37 km bituminous surface treatment
- 21 km forced impregnation
- 59 km gravel

➤ Variable conditions

- 30 km of roads need initial rehabilitation and others require strengthening during the contract period.

First Pilot Project Uruguay

Examples of Performance Standards



- **Remaining thickness of gravel surface layer:**
 - 5 cm during and 10 cm at the end of the contract period
- **Roughness (IRI) of pavements:**
 - < 2,8 for bituminous concrete
 - < 3,4 for bituminous surface treatment
 - < 6 for gravel
- **Bituminous surfaces**
 - Absence of potholes
 - Settlements < 10 mm
- **Shoulders**
 - Absence of potholes and settlements

First Pilot Project Uruguay

Examples of Performance Standards (2)



- Drainage systems, like culverts and ditches, should be clean to allow for a permanent free flow of water.
- Right of way should be clear of trash and other foreign objects.
- Vegetation should not exceed 6 cm on the median strip and 15 cm up to 5 m from the borders of ditches.
- Traffic signs and markings: standards defined by the Traffic Department apply.

First Pilot Project Uruguay

Deadlines, Payments, and Sanctions



- **Contract period: 4 years**
- **Deadlines to comply with performance standards:**
 - **2 months for potholes**
 - **6 months for other defects on main roads**
 - **one year for all roads**
- **The contractor is being paid a fixed monthly fee per kilometre and type of road surface.**
- **Sanctions for non-compliance**
- **Joint inspections between road administration's own staff (Department of Control) and contractor**

First Pilot Projects Uruguay Monthly Reports



- Resources assigned
- Resources used
- Development of defects
- Operation executed
- Cost involved
- Use of new technologies
- Other information required by road administration

First Pilot Projects Uruguay Improvement in Road Conditions



Contractor	Year	Very good	Good	Regular	Bad
A	1996	0%	60%	40%	0%
	1998	25%	60%	15%	0%
B	1996	23%	13%	64%	0%
	1998	37%	46%	17%	0%

Other Pilot Projects Uruguay Redeployment of Displaced Staff



- **Started with 2 routine maintenance contracts and 1 maintenance contract for traffic signs and markings with former road agency's staff.**
- **Contracts have been let for 2+ 2 years.**
- **The former road agency's staff had the right to take up their former employment with the road agency, if they wish to do so, within one year of contract commencement.**

Small Scale Enterprises (SSE) Formed by Former Road Administration Staff

- Preferential treatment of SSE formed by former road administration staff in the tender evaluation
- Small surplus equipment of the road administration have been sold to SSE
- Some of the staff previously in charge of the respective roads were winning the first contracts
- Income of engineers forming the SSE more than doubled
- Expanded SSE into other work for the private sector



PMMR - Uruguay

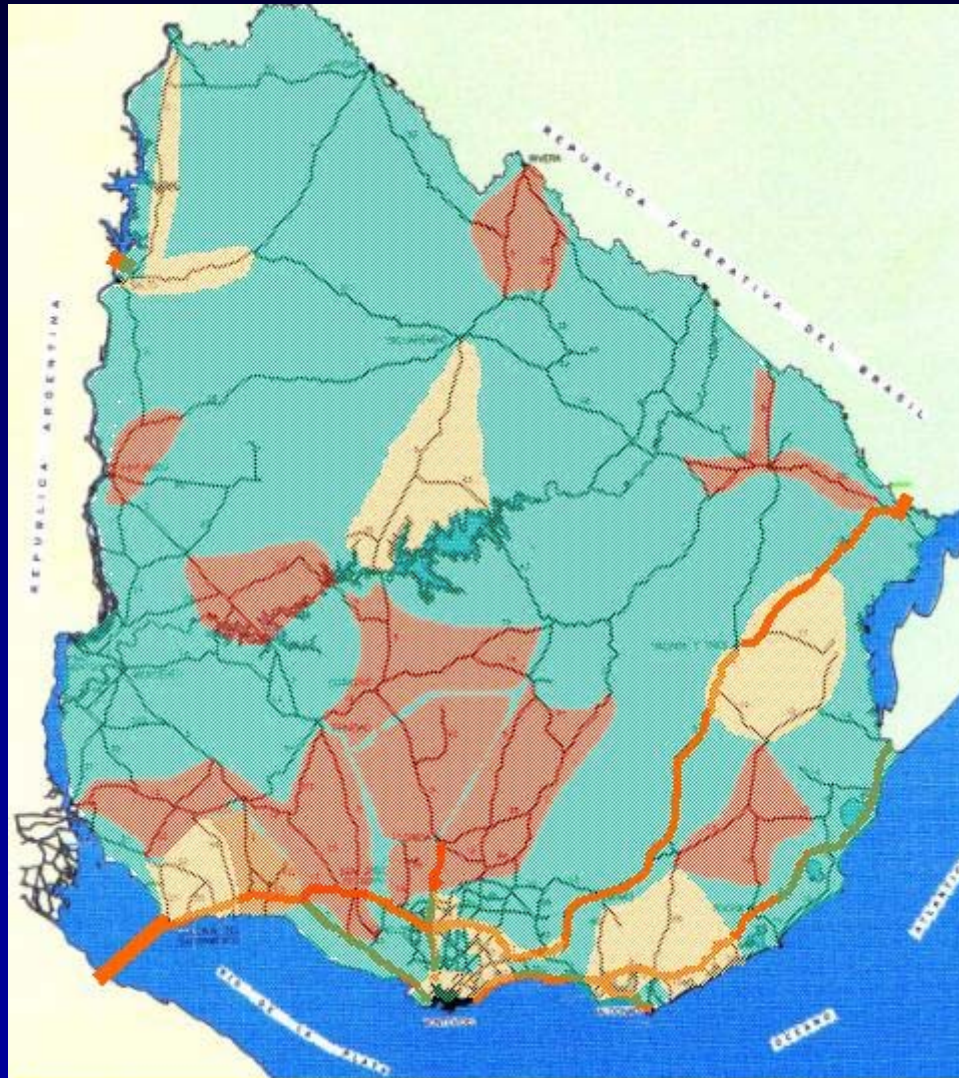


MINISTERIO DE TRANSPORTE Y OBRAS PUBLICAS
DIRECCION NACIONAL DE VIALIDAD
TIPO DE OBRA: MANTENIMIENTO DE SEÑALES
PERIODO: 1997 - 1999
RUTA 5 TRAMO: 97 K 000 AL 248 K 800
FUENTE DE FINANCIAMIENTO: FIMTOP
CONTRATISTA: CIMA SEÑALIZACIONES SRL
TELEFONO DE SUBGERENCIAS: 036 277.78 FAX

PMMR - Uruguay



PMMR - Uruguay



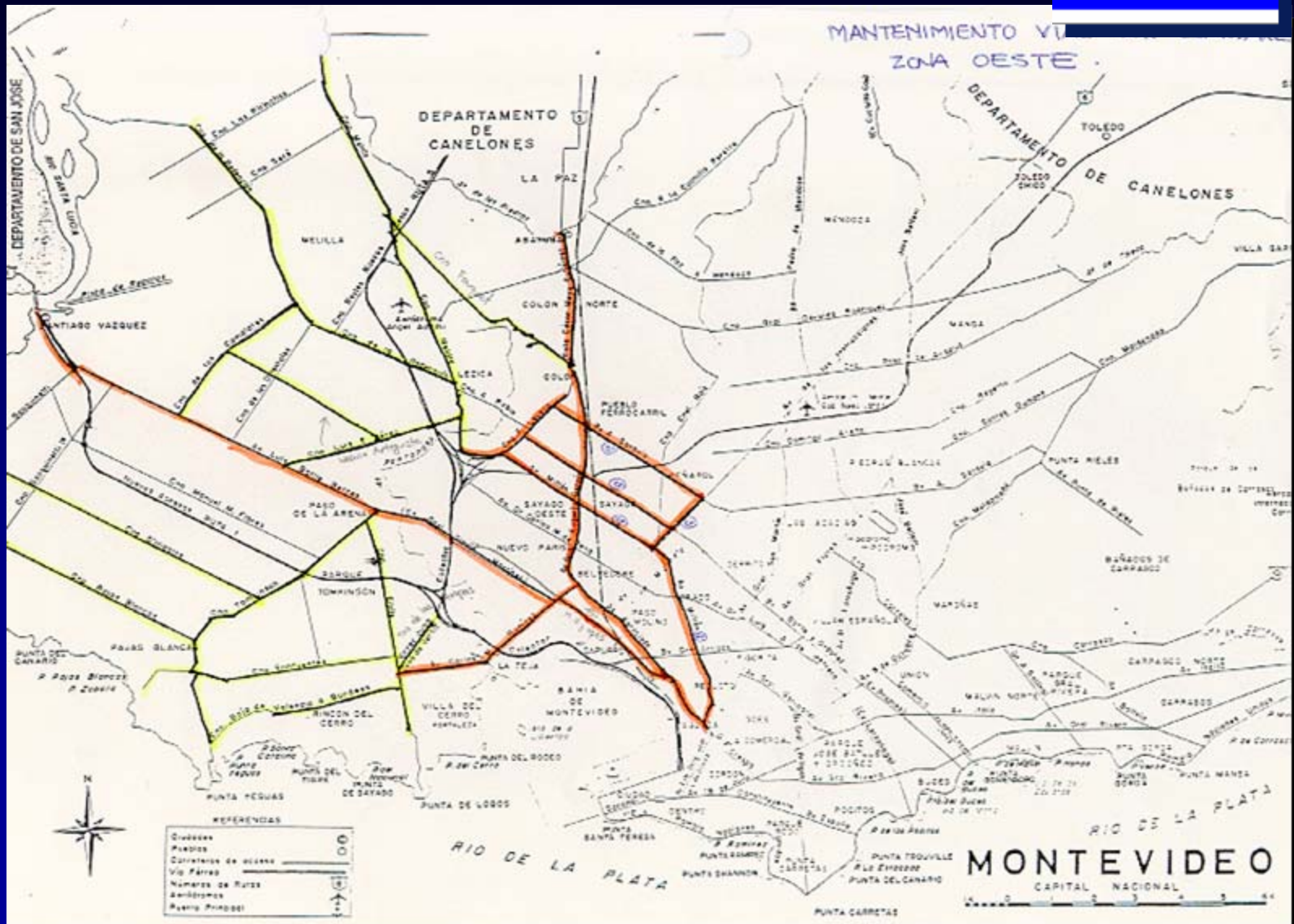
Uruguay

PMMR



- **Actually 46% of the national road network is being managed and maintained by PMMR**
- **Contracts are of fourth generation**
- **Contracts receive priority for financing**
- **Road Maintenance Teams of the Road Administration work under performance agreements**

First Pilot Project Montevideo (1)



First Pilot Project Montevideo (2)



- **Extension: 1 050 000 m² (150 km)**
 - asphalt concrete, concrete, cobble stones, gravel
- **Road conditions vary**
 - Some require initial rehabilitation
 - Others need rehabilitation during contract period
- **Duration of contract: 3 years with possibility of a 3 year extension**
- **Contract value: US\$ 8 millions**

First Pilot Project Montevideo (3)



- **Contract covers:**
 - rehabilitation works
 - routine maintenance by performance standards
 - emergencies
- **Method of payment**
 - initial rehabilitation based on unit prices (US\$ 2.25 millions)
 - fixed monthly payment per m² for each type of road surface for maintenance, rehabilitation after the first year and emergencies
 - after the initial 3 years of contracts, fixed monthly payments to be reduced by 40%

First Pilot Project Montevideo (4)



- **Performance measures (examples)**
 - potholes repaired within 24 hrs
 - minor cracks < 10% of road surface
 - cracks and joints sealed
 - drainage system clean to allow for unhindered flow of water
- **Evaluation for purposes of payment**
 - detailed analysis of 50 mts. each 500 mts.
 - every 10th drainage structure
 - traditional system used for initial rehabilitation works

First Pilot Project Montevideo (5)



Pothole repair
in concrete



First Pilot Project Montevideo (6)



Third Pilot Project Montevideo



**Gravel
Roads**

Pilot Projects Uruguay

Conclusions (1)



- Roads are in better conditions with the same amount of money spent on these roads and have provided a better service to the road user. This is due to:
 - Increase in efficiency in road management and maintenance procedures
 - Better quality of execution
 - Introduction of new and better technologies.

Pilot Projects Uruguay

Conclusions (2)



- Partnering is essential for PMMR to be successful.
 - Potential contractors have been involved in the development of Bidding Documents.
 - During the execution of the contract necessary adjustments have been made to the contract to share equal burden of changing circumstances or issues that have been overlooked in the first place.
- Strict controls and application of sanctions have resulted in a reduction of controls during execution of contract.