



The Application of Performance Indicators

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What is he going to say?

Terms of Reference

How we met the Terms of Reference

Performance Indicator Navigator (PIN)

Good Practice before using the PIN

Good Practice after using the PIN

Demonstration of using the PIN

Terms of Reference

Application of Performance Indicators of the Road System

Strategies	Outputs
Investigate the performance indicators which are actually implemented by Road Administrations and how these indicators are obtained and used	 Overview of actually used Performance Indicators Good Practices to improve the transparency and efficiency of administration through the application of performance indicators
 Investigate policy evaluation based on performance indicators in accordance with a country's socio- economic development level How indicators match daily needs Means for data management Assess the level of achievement 	 Good practices for policy evaluation and the application of the results for integration into new projects

Terms of Reference

Application of Performance Indicators of the Road System

More specifically:

Actions	Outputs
Development of a performance indicator framework and the population of this framework with actual performance indicators used by member countries	Good practice framework identifying the issues relevant for the appropriate use of performance indicators by Road Administrations
Identification of management approaches for effective use of performance indicators	Means for selecting performance indicators, based on good practices for the use of performance indicators – the Performance Indicator Navigator
Identification of performance indicators used by countries in different stages of development	Overviews of actually used performance indicators by category



How do you

identify and describe good practice

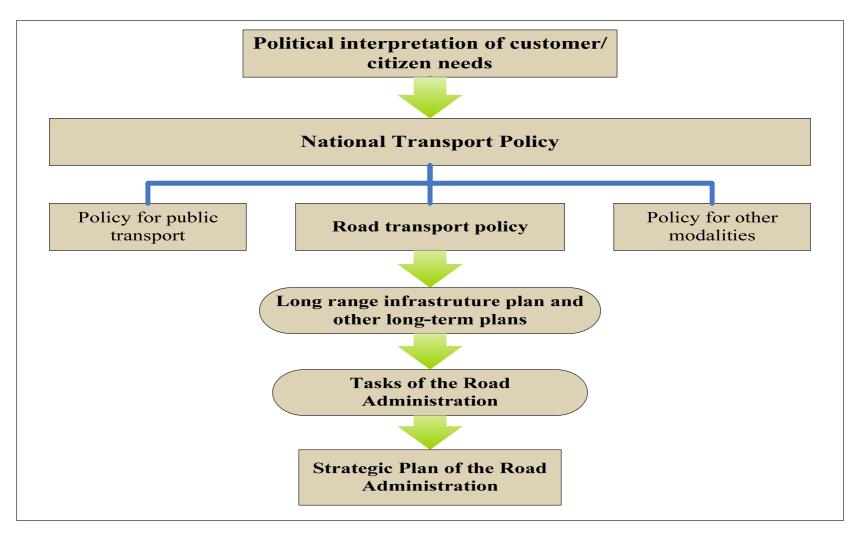
in the use of Performance Indicators

within an effective governance régime

for Roads Administrations?

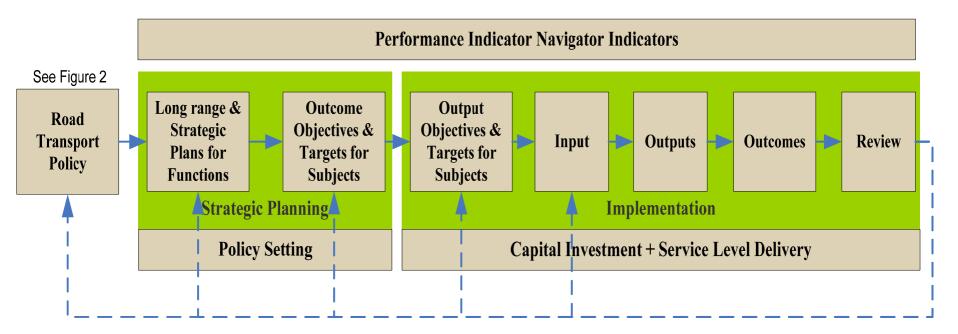
The How

1) Identify Good Governance



The How

1) Identified Good Governance



The Strategic Planning and Implementation Cycle

The How - continued

....then we

2) Found out how Administrations use Indicators (PIs)

3) Classified PIs in accordance with Good Governance

4) Then we developed a

Performance Indicator Navigator PIN

What is the Performance Indicator Navigator ?

The PIN is a downloadable software tool

Uses Performance Indicators already in use by RAs

Allows the user to apply the tests of good governance

The PIN will then automatically select PIs for the user

As with all software tools it comes with a Health Warning (See later)

So how does the PIN work?

The PIN - How does it work?

Starts with the full list of 172 Performance Indicators

Presents a series of questions and options to the user, which when answered eliminates Indicators that are not relevant.

Each question is based on good governance parameters identified by the Committee.

These are:

Function of the Road Administration

Phase of Activities

→ Policy Subject Area

→ Comparison with others

Not the complete answer on its own

Effective only if applied within a good governance régime

Classification of Indicators is widely drawn

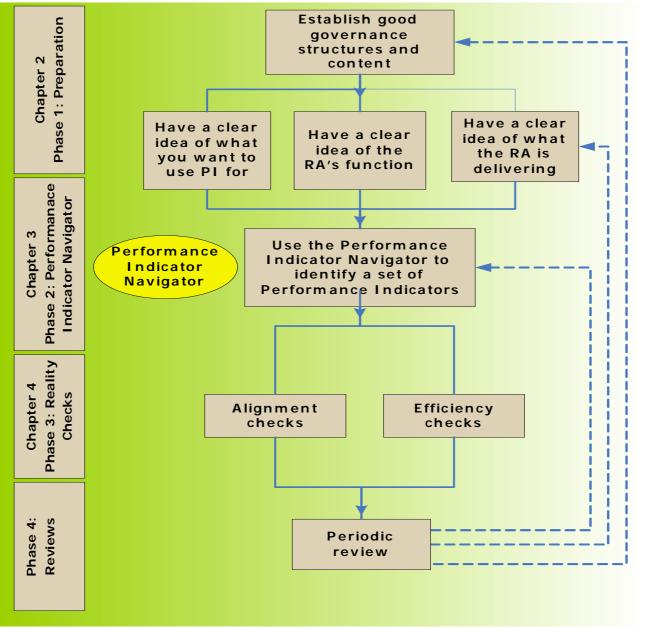
Must have a clear view of what you are delivering and how

Apply common sense reality checks after using the PIN

Contains actual indicators as described by the users

So where does the PIN fit in?

The Four Phases of Good Practice



Good Governance Phase 1: Preparation

Be clear on the Road Administration's Functions and Deliverables

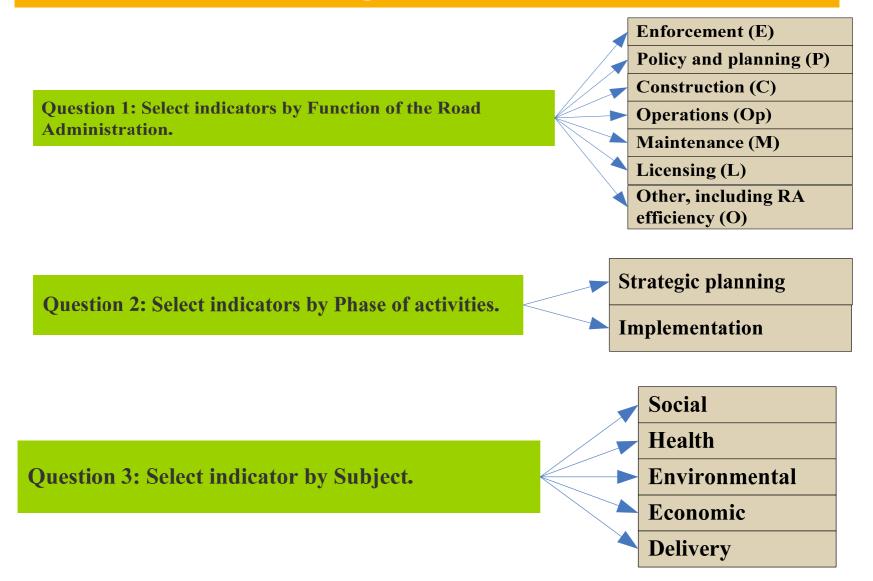
- Are you a Network Builder or Operator?
- Long-range Infrastructure Plans
- Strategic Plans for the Organisation
- What are the policy Drivers?
- Who are your stakeholders?

Be clear on what you want to use the Performance Indicators for

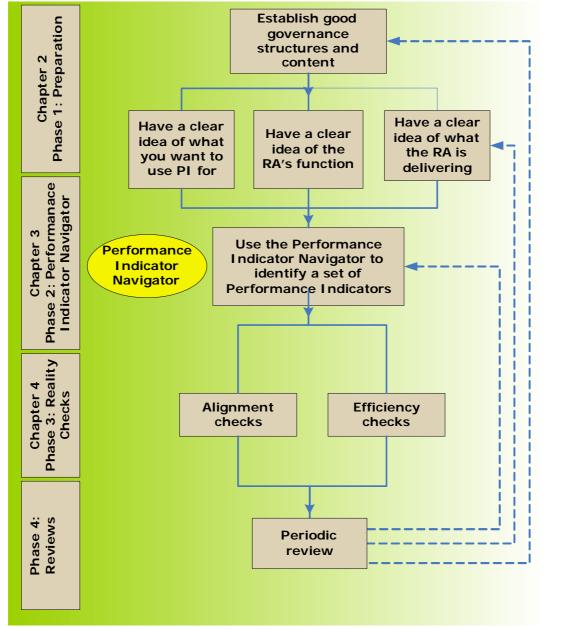
- Performance Monitoring or Management?
- → Controllability

With these factors clear – you can use the PIN

Phase 2: Using the PIN (Questions)



The Four Phases of Good Practice



Good Governance Phase 3: Reality Checks

After using the PIN then carry out your:

Alignment Checks – are your Indicators

- Appropriate for the intended Phase of activity?
- Do they fit the degree of control you have over the activity?
- Suitable for monitoring or management as required?
- Going to really measure the objective intended?
- Relevant and understandable politically?
- Evenly distributed to avoid distorting behaviour?

Followed by.....

Good Governance Phase 3: Reality Checks - cont'd

Efficiency Checks

- \rightarrow Is or can someone else measure it for you? (e.g.ONS)
- Do the Indicators add sufficient value?
- Can they be rationalised proxy indicators?
- Can you discontinue pre-existing indicators?

At the end of which time you should have a usable set of PIs, however.....

Good Governance Phase 4: Periodic review

Things change - Governments change

Political drivers alter during the life of a Government

- Strategic Planning leads to
- Programme delivery Implementation

External drivers become more or less important

- Economic, Social and Environmental blend
- Network Maturity
- Investment Impulses

Periodic Review ensures continued relevance

- Ongoing review every 2 years?
- Fundamental review every 4 years?

In Conclusion

Many PIs in use covering the 3 main functional areas of:

- Strategic Planning and Policy making
- Capital Investment (e.g. construction/upgrading)
- Service Level Delivery (e.g. maintenance and operations)

Performance measurement can inform all stakeholders

Accountability should = level of control

First understand the Functions and Deliverables:

- Policy drivers
- Long-range Infrastructure Plans
- Strategic Plan

Can then use the PIN to help select Performance Indicators Alignment + efficiency checks must be made after the PIN Periodic Review is necessary



PIN Demonstration

http://www.traffic-wales.com/resources

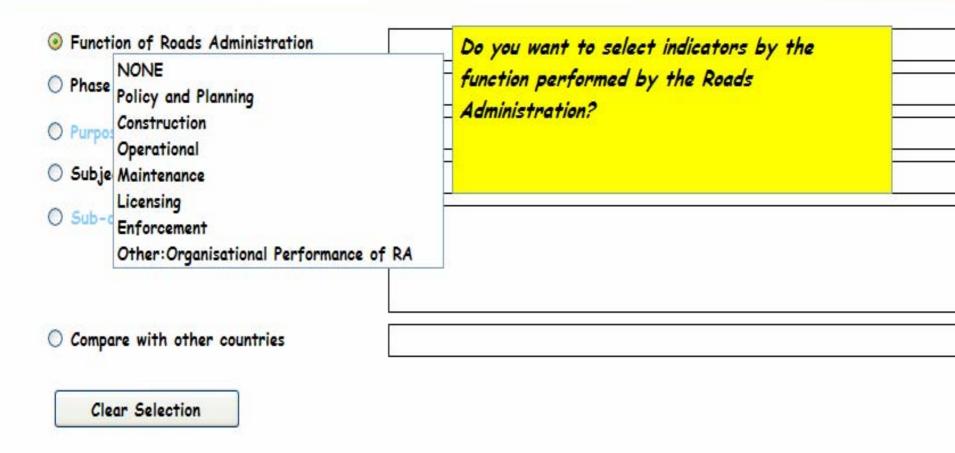
Worked Example

Performance Indicator Navigator	
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Function of Roads Administration	
Function of Roads Administration	
Phase of Activities	
Purpose of Control	
Subject of Performance Indicator	
Sub-categories	
Compare with other countries	
	ALPCR WODED DOAD ACCOCLATION
Clear Selection	WORLD ROAD ASSOCIATION
	ASSOCIATION MUNDIALE DE LA ROUTE
	PIARC "Exchange knowledge and techniques on roads and road transportation."
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Language			
Function of Roads Administration	Do you want to select indicators by the		
Phase Policy and Planning	⁻ function performed by the Roads		
Construction	Administration?		
Operational			
Subje Maintenance			
Licensing			
Sub- Enforcement			
Other:Organisational Performance of RA			
Compare with other countries			
o compare with other countries			
		AIPCR	WORLD ROAD ASSOCIATION
Clear Selection		R	ASSOCIATION MONDIALE DE LA ROU
		VITA	
		PIARC	"Exchange knowledge and techniques on roads and road transportation
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🛃 PIARC Performance Indicator Navigator

File Language



Total Number of Indicators Found = 172

1, Pavement Remaining Service Life (RSL) - in years.

C Performance Indicator Navigator	
Language	
Function of Roads Administration	Construction
) Phase of Activities	
) Purpose of Control	
Subject of Performance Indicator	
) Sub-categories	
) Compare with other countries	
	WORLD ROAD ASSOCIATION
Clear Selection	ASSOCIATION MONDIALE DE LA ROL
	PIARC "Exchange knowledge and techniques on roads and road transportation
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Function of Roads Administration	Construction;	
Phase of Activities Implementation (Outputs)	For which Phase of activities will the indicators	
Purpo: Strategic Planning (Outcomes)	be used?	
Subject of Performance Indicator		
) Sub-categories		
) Compare with other countries		
	WORLD ROAD ASSOCIATION	
Clear Selection	ASSOCIATION MONDIALE DE LA	ROL
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😸 PIARC Performance Indicator Navigator

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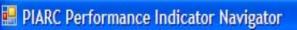
O Function of Roads Administration	Construction;
 Phase of Activities Implementation (Outputs) Purpoi Strategic Planning (Outcomes) 	For which Phase of activities will the indicators be used?
O Subject of Performance Indicator	
O Sub-categories	
O Compare with other countries	
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Clear Selection

Total Number of Indicators Found = 33

Performance Indicator Navigator		
Language		
		6
Function of Roads Administration	Construction:	
Phase of Activities	Implementation (Outputs);	
O Purpose of Control		3
Subject of Performance Indicator		9 9 9
D Sub-categories		
○ Compare with other countries		
Clear Selection	WORLD ROAD ASS ASSOCIATION MO	SOCIATION NDIALE DE LA ROUTE
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	25 budget).	
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Language		
Function of Roads Administration	Construction;	
Phase of Activities		
Phase of Activities	Implementation (Outputs);	
Purpose of Control	If used for Implementation Phase do you wish to use the	
) Subje Expense and Policy Capital Investment Project) Sub-c	indicator for Control purposes and if so, then which? Note: only available if Implementation Phase is chosen and for particular Roads Administration Functions.	
Compare with other countries		WORLD ROAD ASSOCIATION
Clear Selection		SSOCIATION MONDIALE DE LA ROUT
		LARC "Exchange knowledge and techniques on roads and road transportation."
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File Language

Phase of Activities	Implementation (Outputs);
Purpose of Control	If used for Implementation Phase do you wish to use the
Subje Expense and Policy Capital Investment Project	indicator for Control purposes and if so, then which?
) Sub-c	Note: only available if Implementation Phase is chosen and for particular Roads Administration Functions.
O Compare with other countries	
Clear Selection	

Total Number of Indicators Found = 25

Purchase of Activities Purpose of Control Purpose Pu	Processor of Roads Administration Phase of Control Phase of Administration Phase of Control	Performance Indicator Navigator	
Phase of Activities Emplementation (Outputs): Purpose of Control Septial Envestment Project Subject of Performance Indicator	Phase of Activities Implementation (Outputs): Purpose of Control Social Tradestment Program Subject of Performance Indicator	nguage	
Phase of Activities Implementation (Outputs): Purpose of Control Capital Investment Projects Subject of Performance Indicator Sub-categories Sub-categories Implementation Compare with other countries WORLD ROAD ASSOCIATION ASSOCIATION MONDIALE DE LA ROUTE	Phase of Activities Implementation (Outputs): Purpose of Control Sobject of Performance Indicator Sobject of Performance Indicator Subject of Performance Indicator Sob-categories Compare with other countries Sobject of Sobject Sobj	Function of Roads Administration	Construction
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98, Number of 'saved' lives thanks to investment operations. 118, Total number of contracts. 126, Road Capital Investments / Total Road Expenditure.	98, Number of 'saved' lives thanks to investment operations. 118, Total number of contracts. 126, Road Capital Investments / Total Road Expenditure.	28, Total Factor Productivity.	•2 ⁷
118, Total number of contracts. 126, Road Capital Investments / Total Road Expenditure.	118, Total number of contracts. 126, Road Capital Investments / Total Road Expenditure.	 Total Factor Productivity. Road construction costs/ sq.m. Annual works achievement index. Annual delivery achievement index. Delivery overhead (% of total works Capital works benefit cost ratio (ave Safety works benefit cost ratio. Return on Construction Expenditure (61, Economic evaluation of road constructor) Rate of comprehensive cost reduction Passenger Transport Roading Infrast Proportion of capital projects complete 	budget). rrage). (RCE). The weighted Internal Rate of Return of total capital construction expenditure per annum. IRR > 15%. ction projects. n of road projects. ructures Cost (\$M). eted within expected cost and time parameters.
		 Total Factor Productivity. Road construction costs/ sq.m. Annual works achievement index. Annual delivery achievement index. Delivery overhead (% of total works Capital works benefit cost ratio. Safety works benefit cost ratio. Return on Construction Expenditure (61, Economic evaluation of road constructor) Rate of comprehensive cost reduction Passenger Transport Roading Infrastment Proportion of capital projects complete Variation between actual large projete Actual project dollar benefits compare 	budget). trage). (RCE). The weighted Internal Rate of Return of total capital construction expenditure per annum. IRR > 15%. ction projects. n of road projects. ructures Cost (\$M). tet within expected cost and time parameters. ets commenced in the reporting year versus what was planned in each of the two previous years. ared to forecast benefits.
163, Trunk road area constructed/strengthened (million square metres)	163, I runk road area constructed/strengthened (million square metres)	 Total Factor Productivity. Road construction costs/ sq.m. Annual works achievement index. Annual delivery achievement index. Delivery overhead (% of total works Capital works benefit cost ratio. Ratery works benefit cost ratio. Return on Construction Expenditure (61, Economic evaluation of road constructor) Rate of comprehensive cost reduction Passenger Transport Roading Infrastment Proportion of capital projects completes Variation between actual large projetes Actual project dollar benefits compare Number of 'saved' lives thanks to in 	budget). trage). (RCE). The weighted Internal Rate of Return of total capital construction expenditure per annum. IRR > 15%. ction projects. n of road projects. ructures Cost (\$M). tet within expected cost and time parameters. ets commenced in the reporting year versus what was planned in each of the two previous years. ared to forecast benefits.
		 Total Factor Productivity. Road construction costs/ sq.m. Annual works achievement index. Annual delivery achievement index. Annual delivery achievement index. Delivery overhead (% of total works Capital works benefit cost ratio (ave Safety works benefit cost ratio. Return on Construction Expenditure (Economic evaluation of road construct Rate of comprehensive cost reduction Passenger Transport Roading Infrast Proportion of capital projects comple Actual project dollar benefits compa Number of 'saved' lives thanks to in Total number of contracts. Road Capital Investments / Total R 	budget). erage). (RCE). The weighted Internal Rate of Return of total capital construction expenditure per annum. IRR > 15%. ction projects. n of road projects. ructures Cost (\$M). eted within expected cost and time parameters. ets commenced in the reporting year versus what was planned in each of the two previous years. ared to forecast benefits. nvestment operations. toad Expenditure.



Total Number of Indicators Found = 19

- 11, Capital works benefit cost ratio.
- 28, Total Factor Productivity.
- 29, Road construction costs/ sq.m.
- 33, Annual works achievement index.
- 34, Annual delivery achievement index.
- 35, Delivery overhead (% of total works budget).
- 36, Capital works benefit cost ratio (average).
- 47, Safety works benefit cost ratio.
- 51, Return on Construction Expenditure (RCE). The weighted Internal Rate of Return of total capital construction expenditure per annum. IRR > 15%.
- 61, Economic evaluation of road construction projects.
- 76, Rate of comprehensive cost reduction of road projects.
- 81, Passenger Transport Roading Infrastructures Cost (\$M).
- 87, Proportion of capital projects completed within expected cost and time parameters.
- 88, Variation between actual large projects commenced in the reporting year versus what was planned in each of the two previous years.
- 89, Actual project dollar benefits compared to forecast benefits.
- 98, Number of 'saved' lives thanks to investment operations.
- 118, Total number of contracts.
- 126, Road Capital Investments / Total Road Expenditure.
- 163, Trunk road area constructed/strengthened (million square metres)

anguage				
	-			
Function of Roads Administration	Construction;			
Phase of Activities	Implementation (Outputs):			
Purpose of Control	Capital Investment Project;			
Subject of Performance Indicator	Which policy Subject areas	do you want		
Sub-a NONE Economic Social	the indicator to cover?			
Health	<mark>.</mark>			
Environmental Compe Delivery				
Denvery		AIPC		
Clear Selection			WORLD ROAD ASSOCIATION ASSOCIATION MONDIALE DE LA RO "Exchange knowledge and techniques on roads and road transportation	
 Capital works benefit cost ratio. 	19			~
 Capital works benefit cost ratio. Total Factor Productivity. Road construction costs/ sq.m. Annual works achievement index. 	: 19			2
28, Total Factor Productivity. 29, Road construction costs/ sq.m.				()
 28, Total Factor Productivity. 29, Road construction costs/ sq.m. 33, Annual works achievement index. 34, Annual delivery achievement index. 35, Delivery overhead (% of total works 36, Capital works benefit cost ratio (avertice) 	budget).			
 Total Factor Productivity. Road construction costs/ sq.m. Annual works achievement index. Annual delivery achievement index. Delivery overhead (% of total works Capital works benefit cost ratio (ave Safety works benefit cost ratio. 	budget). 2rage).		n angun TDD 1 15%	<
 Total Factor Productivity. Road construction costs/ sq.m. Annual works achievement index. Annual delivery achievement index. Delivery overhead (% of total works Capital works benefit cost ratio (ave Safety works benefit cost ratio. Return on Construction Expenditure 	budget). erage). (RCE). The weighted Internal Rate of Return of	f total capital construction expenditure pe	er annum. IRR > 15%.	
 Total Factor Productivity. Road construction costs/ sq.m. Annual works achievement index. Annual delivery achievement index. Delivery overhead (% of total works Capital works benefit cost ratio (ave Safety works benefit cost ratio. 	budget). erage). (RCE). The weighted Internal Rate of Return of ction projects.	f total capital construction expenditure pe	er annum. IRR > 15%.	
 Total Factor Productivity. Road construction costs/ sq.m. Annual works achievement index. Annual delivery achievement index. Delivery overhead (% of total works Capital works benefit cost ratio (ave Safety works benefit cost ratio. Return on Construction Expenditure Economic evaluation of road construction Rate of comprehensive cost reductio Passenger Transport Roading Infrast 	budget). erage). (RCE). The weighted Internal Rate of Return of ction projects. n of road projects. ructures Cost (\$M).		er annum. IRR > 15%.	
 Total Factor Productivity. Road construction costs/ sq.m. Annual works achievement index. Annual delivery achievement index. Delivery overhead (% of total works Capital works benefit cost ratio. Safety works benefit cost ratio. Return on Construction Expenditure Economic evaluation of road construction Rate of comprehensive cost reductio Passenger Transport Roading Infrast Proportion of capital projects completion 	budget). erage). (RCE). The weighted Internal Rate of Return of ction projects. n of road projects. ructures Cost (\$M). eted within expected cost and time parameters.	£		
 Total Factor Productivity. Road construction costs/ sq.m. Annual works achievement index. Annual delivery achievement index. Delivery overhead (% of total works Capital works benefit cost ratio. Return on Construction Expenditure Economic evaluation of road construction Rate of comprehensive cost reductio Passenger Transport Roading Infrast Proportion of capital projects complete Variation between actual large proje 	budget). erage). (RCE). The weighted Internal Rate of Return of ction projects. n of road projects. ructures Cost (\$M). eted within expected cost and time parameters. iots commenced in the reporting year versus who	£		
 Total Factor Productivity. Road construction costs/ sq.m. Annual works achievement index. Annual delivery achievement index. Annual delivery achievement index. Delivery overhead (% of total works Capital works benefit cost ratio (ave Safety works benefit cost ratio. Return on Construction Expenditure Economic evaluation of road construction Passenger Transport Roading Infrast Proportion of capital projects complete Variation between actual large proje Actual project dollar benefits compare 	budget). erage). (RCE). The weighted Internal Rate of Return of ction projects. n of road projects. ructures Cost (\$M). eted within expected cost and time parameters. icts commenced in the reporting year versus who ared to forecast benefits.	£		<
 Total Factor Productivity. Road construction costs/ sq.m. Annual works achievement index. Annual delivery achievement index. Delivery overhead (% of total works Capital works benefit cost ratio. Return on Construction Expenditure Economic evaluation of road construction Rate of comprehensive cost reductio Passenger Transport Roading Infrast Proportion of capital projects complete Variation between actual large proje 	budget). erage). (RCE). The weighted Internal Rate of Return of ction projects. n of road projects. ructures Cost (\$M). eted within expected cost and time parameters. icts commenced in the reporting year versus who ared to forecast benefits.	£		
 Total Factor Productivity. Road construction costs/ sq.m. Annual works achievement index. Annual delivery achievement index. Annual delivery achievement index. Delivery overhead (% of total works Capital works benefit cost ratio (ave Safety works benefit cost ratio. Return on Construction Expenditure Economic evaluation of road construction Passenger Transport Roading Infrast Proportion of capital projects complete Variation between actual large proje Actual project dollar benefits composition 	budget). erage). (RCE). The weighted Internal Rate of Return of ction projects. n of road projects. ructures Cost (\$M). eted within expected cost and time parameters. acts commenced in the reporting year versus who ared to forecast benefits. nvestment operations.	£		
 Total Factor Productivity. Road construction costs/ sq.m. Annual works achievement index. Annual delivery achievement index. Annual delivery achievement index. Delivery overhead (% of total works Capital works benefit cost ratio (ave Safety works benefit cost ratio. Return on Construction Expenditure Economic evaluation of road construction Passenger Transport Roading Infrast Proportion of capital projects complete Variation between actual large proje Actual project dollar benefits complete Number of 'saved' lives thanks to in Total number of contracts. 	budget). erage). (RCE). The weighted Internal Rate of Return of ction projects. n of road projects. ructures Cost (\$M). eted within expected cost and time parameters. acts commenced in the reporting year versus who ared to forecast benefits. nvestment operations. toad Expenditure.	£		
 Total Factor Productivity. Road construction costs/ sq.m. Annual works achievement index. Annual delivery achievement index. Annual delivery achievement index. Delivery overhead (% of total works Capital works benefit cost ratio. Return on Construction Expenditure Economic evaluation of road construction Passenger Transport Roading Infrast Proportion of capital projects complete Actual project dollar benefits compose Number of 'saved' lives thanks to in Total number of contracts. Road Capital Investments / Total R 	budget). erage). (RCE). The weighted Internal Rate of Return of ction projects. n of road projects. ructures Cost (\$M). eted within expected cost and time parameters. acts commenced in the reporting year versus who ared to forecast benefits. nvestment operations. toad Expenditure.	£		

🔜 PIARC Performance Indicator Navigator

File Language

Function of Roads Administration	Construction;
O Phase of Activities	Implementation (Outputs);
O Purpose of Control	Capital Investment Project;
Subject of Performance Indicator	Which policy Subject areas
Sub-c NONE	the indicator to cover?
Economic	
Social	
Health	
Environmental	
Compe Delivery	

do you want

Clear Selection

Total Number of Indicators Found = 19

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anguage		
Function of Roads Administration	Construction	
Phase of Activities	Implementation (Outputs);	
Purpose of Control	Capital Investment Project:	
) Subject of Performance Indicator	Economic;	
) Sub-categories		
) Compare with other countries		
compare with other countries		
Clear Selection	WORLD ROAD ASSOCIATION ASSOCIATION MONDIALE DE LA ROUTE	
	PIARC "Exchange knowledge and techniques on roads and road transportation."	
 Road construction costs/ sq.m. Capital works benefit cost ratio (av Safety works benefit cost ratio. Return on Construction Expenditure Economic evaluation of road construction Rate of comprehensive cost reduction Passenger Transport Roading Infras Actual project dollar benefits comp Number of 'saved' lives thanks to in Road Capital Investments / Total I 	(RCE). The weighted Internal Rate of Return of total capital construction expenditure per annum. IRR > 15%. uction projects. on of road projects. tructures Cost (\$M). pared to forecast benefits. investment operations.	

Clear Selection



Total Number of Indicators Found = 13

- 11, Capital works benefit cost ratio.
- 28, Total Factor Productivity.
- 29, Road construction costs/ sq.m.
- 36, Capital works benefit cost ratio (average).
- 47, Safety works benefit cost ratio.
- 51, Return on Construction Expenditure (RCE). The weighted Internal Rate of Return of total capital construction expenditure per annum. IRR > 15%.
- 61, Economic evaluation of road construction projects.
- 76, Rate of comprehensive cost reduction of road projects.
- 81, Passenger Transport Roading Infrastructures Cost (\$M).
- 89, Actual project dollar benefits compared to forecast benefits.
- 98, Number of 'saved' lives thanks to investment operations.
- 126, Road Capital Investments / Total Road Expenditure.
- 163, Trunk road area constructed/strengthened (million square metres)

	Language	
	Function of Roads Administration	Construction:
	O Phase of Activities	Implementation (Outputs);
	Purpose of Control	Capital Investment Project;
	Subject of Performance Indicator	Economic;
	Sub-categories	Do you wish to narrow the selection of indicators further?
	Compare with other countries	Note: only available if either Economic or
	Clear Selection	Delivery Subject areas are chosen. WORLD ROAD ASSOCIATION ASSOCIATION MONDIALE DE LA ROUTE PLARC "Exchange knowledge and techniques on roads and road transportation."
ЪÞ.	20 Dead sectors in the sector of the sector	
	 Road construction costs/ sq.m. Capital works benefit cost ratio (ave Safety works benefit cost ratio. Return on Construction Expenditure (Economic evaluation of road construction Rate of comprehensive cost reduction Passenger Transport Roading Infrastra Actual project dollar benefits compa Number of 'saved' lives thanks to in Road Capital Investments / Total R 	(RCE). The weighted Internal Rate of Return of total capital construction expenditure per annum. IRR > 15%. ction projects. n of road projects. ructures Cost (\$M). ared to forecast benefits. nvestment operations.

🛃 PIARC Performance Indicator Navigator

File Language

O Function of Roads Administration	Construction;
O Phase of Activities	Implementation (Outputs);
O Purpose of Control	Capital Investment Project;
O Subject of Performance Indicator	Economic;
O Sub-categories	Do you wish to narrow the selection of indicators further?
O Compare with other countries	Note: only available if either Economic or Delivery Subject areas are chosen.
Clear Selection	

😸 PIARC Performance Indicator Navigator

File Language

O Function of Roads Administration	Construction;	
O Phase of Activities	Implementation (Outputs);	
O Purpose of Control	Capital Investment Project;	
○ Subject of Performance Indicator	Economic;	
Sub-categories	De very wish to remain the coloction of	
 Composition Composition Composition Safety and Fatalities Construction Results, Costs, Del Cle Cle Traffic Incident Management Overhead Road Administration organisation 	ent	LD F DCIA e knowle

20 Deed construction control on m

C Performance Indicator Navigator		
Language		
Function of Roads Administration	Construction:	
) Phase of Activities	Implementation (Outputs):	
Purpose of Control	Capital Investment Project;	
) Subject of Performance Indicator	Economic;	
Sub-categories	Safety and Fatalities;	
Compare with other countries		
Clear Selection		WORLD ROAD ASSOCIATION ASSOCIATION MONDIALE DE LA ROUTE "Exchange knowledge and techniques on roads and road transportation."
61, Economic evaluation of road constru 98, Number of 'saved' lives thanks to in	ition projects. ivestment operations.	

Compare with other countries

Clear Selection



- 47, Safety works benefit cost ratio.
- 61, Economic evaluation of road construction projects.
- 98, Number of 'saved' lives thanks to investment operations.

🔜 PIARC Performance Indicator Navigator

File Language

- O Function of Roads Administration
- O Phase of Activities
- O Purpose of Control
- Subject of Performance Indicator
- Sub-categories

O Compare with other countries

Clear Selection

Economic; Safety and Fatalities;

🛃 PIARC Performance Indicator Navigator

File Language

O Sub-categories	Safety and Fatalities;					
O Subject of Performance Indicator	Economic;					
O Purpose of Control	Capital Investment Project;					
O Phase of Activities	Implementation (Outputs);					
O Function of Roads Administration	Construction;					

erformance Indicator Navigator			
guage			
Function of Roads Administration	Construction;		
Phase of Activities	Implementation (Outputs);		
Purpose of Control	Capital Investment Project;		
Subject of Performance Indicator	Economic;		
Sub-categories	Safety and Fatalities;		
Ocompare with other countries	Maturing;		
		AIPCR	WORLD ROAD ASSOCIATION
Clear Selection			WORLD ROAD ASSOCIATION ASSOCIATION MONDIALE DE LA ROUTE
		PIARC	"Exchange knowledge and techniques on roads and road transportation."
61, Economic evaluation of road constru 98, Number of 'saved' lives thanks to i	investment operations.		
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Performance Indicator Navigator			
nguage			
Function of Roads Administration	Construction;		
Phase of Activities	Implementation (Outputs):		
Purpose of Control	Capital Investment Project:		
) Subject of Performance Indicator	Economic:		
) Sub-categories	Safety and Fatalities;		
) Compare with other countries	Growing:		
Clear Selection		AIPCR	WORLD ROAD ASSOCIATION ASSOCIATION MONDIALE DE LA ROUTE "Exchange knowledge and techniques on roads and road transportation."
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12 61	Economic	evaluation	of road cor	nstruction pr	ojects.																
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- Function: Operations
- Phase: Implementation
- Control Type: Service Level
- Policy Class: Social



Total Number of Indicators Found = 10

41, Satisfaction with road transport system (%).

56, Incident Management Systems (IMS). Modification of existing and development of new protocols for improvement of traffic operations and road safety. To improve response time to incidents, as well as the time it takes to stabilise road environment after occurrence of an incident. An overall reduction of incidents on our national road network. Establishing additional IMS on our national road network.

- 63, Hours of road work.
- 80, Number of accident blackspots that are still in existence 12 months after identification.
- 85, Performance of 0800 service against level-of-service requirements.
- 95, Road user and stakeholder satisfaction with the visual amenity of state highways.
- 100, Traffic flow list of the roads having a damaged level of service.
- 114, Stakeholder satisfaction of Road Administration.
- 156, Percentage improvement of implementation of information system.
- 157, Number of online services integrated to the government's portal.

Presentation



- Function: Operations
- Phase: Implementation
- Control Type: Service Level
- Policy Class: Economic

Compare with other countries

Clear Selection



Total Number of Indicators Found = 15

28, Total Factor Productivity.

42, Road accident costs.

49, Low Rut Exposure (LRE). The proportion of travel undertaken each year on roads with rut depth (surface depressions that can hold water and cause a vehicle to aquaplane), conditions less than the specified level. 95% of travel on less than 20mm rut depth.

50, Bridge Condition Exposure (BCE). The proportion of vehicles per year that travel over or under bridges with conditions higher than the specified level. 90% of travel over or under bridges with OCI higher than 80.

56, Incident Management Systems (IMS). Modification of existing and development of new protocols for improvement of traffic operations and road safety. To improve response time to incidents, as well as the time it takes to stabilise road environment after occurrence of an incident. An overall reduction of incidents on our national road network. Establishing additional IMS on our national road network.

57, Overload control. Introducing measures to curb pavement damage due to overloading. Partnering with provincial authorities in the establishment of additional TCCs on our national road network. Introducing the LAP Accreditation system to all industries (e.g. paper and pulp, steel, coal, etc.) over the next three years.

63, Hours of road work.

80, Number of accident blackspots that are still in existence 12 months after identification.

100, Traffic flow - list of the roads having a damaged level of service.

- 135, Number of days used for getting an overweight traffic permission/ Number of overweight traffic permission.
- 136, Percentage of total traffic accident due to road condition at year N minus Percentage of total traffic accident due to road condition at year N+1.
- 137, (Km of unpaved road in good condition/ Total km of unpaved roads)*100.
- 141, % good roads, % average roads, % bad roads (quality).
- 151, Percentage compliance of requirements for winter maintenance.
- 156, Percentage improvement of implementation of information system.

- Function: Maintenance
- Phase: Strategic Planning
- Control Type: None
- Policy Class: Economic
- Sub-category: Asset Value + Economic evaluation

Clear Selection



Total Number of Indicators Found = 30
1, Pavement Remaining Service Life (RSL) - in years.
12, Road assets (net and % annual increase).
28, Total Factor Productivity.
49, Low Rut Exposure (LRE). The proportion of travel undertaken each year on roads with rut depth (surface depressions that can hold water and cause a vehicle to aquaplane),
conditions less than the specified level. 95% of travel on less than 20mm rut depth.
54, Road Maintenance Effectiveness (RME). A cost index reflecting the proportion of the road network, which is being maintained to target conditions and the expenditure per
kilometre required. Under development.
55, Asset Preservation Index (API). The ratio between expenditure and increase in pavement layer asset value. Under development.
60, Economic cost to achieve an optimal technical and economical condition for the existing road infrastructure.
76, Rate of comprehensive cost reduction of road projects.
90, Structural Maintenance per Unit cost (\$/km)(also same measure for corridor maintenance).
91, Proportion of network maintained to level-of-service for road condition.
92, Percentage forecast and actual annual dollar variance against state highway maintenance and improvement programme.
97, Preservation level of road asset.
100, Traffic flow - list of the roads having a damaged level of service.
107, Percentage of deck area rated deficient.
112, Economic outcomes budget (% of total).
113, Percentage of trunk road network in acceptable trafficability class.
115, Total length of paved roads in not acceptable surface condition.
116, Total length of gravel roads in not acceptable condition.
117, Number of bridges in not acceptable condition.

- Function: Maintenance
- Phase: Implementation
- Control Type: Service Level Delivery
- Policy Class: Economic
- Sub-category: Asset Value + Economic evaluation

Clear Selection



R C "Exchange knowledge and techniques on roads and road transportation."

Total Ni	umber of	Ind	icators	Found	=1	9
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- 1, Pavement Remaining Service Life (RSL) in years.
- 28, Total Factor Productivity.
- 30, Road maintenance costs/ sq.m.

49, Low Rut Exposure (LRE). The proportion of travel undertaken each year on roads with rut depth (surface depressions that can hold water and cause a vehicle to aquaplane), conditions less than the specified level. 95% of travel on less than 20mm rut depth.

- 54, Road Maintenance Effectiveness (RME). A cost index reflecting the proportion of the road network, which is being maintained to target conditions and the expenditure per kilometre required. Under development.
- 55, Asset Preservation Index (API). The ratio between expenditure and increase in pavement layer asset value. Under development.
- 90, Structural Maintenance per Unit cost (\$/km)(also same measure for corridor maintenance).
- 91, Proportion of network maintained to level-of-service for road condition.
- 92, Percentage forecast and actual annual dollar variance against state highway maintenance and improvement programme.
- 100, Traffic flow list of the roads having a damaged level of service.
- 107, Percentage of deck area rated deficient.
- 117, Number of bridges in not acceptable condition.
- 124, Status of road pavement (own quality system).
- 129, Number of bridges in sound condition.
- 137, (Km of unpaved road in good condition/ Total km of unpaved roads)*100.
- 141, % good roads, % average roads, % bad roads (quality).
- 142, maintenance costs / spare parts vehicles.
- 149, Percentage of AR network meeting the applicable International Roughness Index (IRI) thresholds (2 categories: strategic and other).
- 150, Percentage of structures on the AR network meeting the state of repair(?) and functionality criteria.

- Function: Maintenance
- Phase: Implementation
- Control Type: Service Level Delivery
- Policy Class: Economic
- Sub-category: Asset Value + Economic evaluation
- Comparison: Growing Network

Compare with

Growing;

Clear Selection



"Exchange knowledge and techniques on roads and road transportation."

Total Number of Indicators Found = 10

1, Pavement Remaining Service Life (RSL) - in years.

30, Road maintenance costs/ sq.m.

49, Low Rut Exposure (LRE). The proportion of travel undertaken each year on roads with rut depth (surface depressions that can hold water and cause a vehicle to aquaplane), conditions less than the specified level. 95% of travel on less than 20mm rut depth.

54, Road Maintenance Effectiveness (RME). A cost index reflecting the proportion of the road network, which is being maintained to target conditions and the expenditure per kilometre required. Under development.

55, Asset Preservation Index (API). The ratio between expenditure and increase in pavement layer asset value. Under development.

117, Number of bridges in not acceptable condition.

129, Number of bridges in sound condition.

137, (Km of unpaved road in good condition/ Total km of unpaved roads)*100.

141, % good roads, % average roads, % bad roads (quality).

142, maintenance costs / spare parts vehicles.

- Function: Maintenance
- Phase: Implementation
- Control Type: Service Level Delivery
- Policy Class: Economic
- Sub-category: Asset Value + Economic evaluation
- Comparison: Upgrading Network

○ Compare with

Upgrading;

Clear Selection



- 1, Pavement Remaining Service Life (RSL) in years.
- 28, Total Factor Productivity.
- 30, Road maintenance costs/ sq.m.
- 124, Status of road pavement (own quality system).

- Function: Maintenance
- Phase: Implementation
- Control Type: Service Level Delivery
- Policy Class: Economic
- Sub-category: Asset Value + Economic evaluation
- Comparison: Maturing Network

Clear Selection



- 28, Total Factor Productivity.
- 30, Road maintenance costs/ sq.m.
- 90, Structural Maintenance per Unit cost (\$/km)(also same measure for corridor maintenance).
- 91, Proportion of network maintained to level-of-service for road condition.
- 92, Percentage forecast and actual annual dollar variance against state highway maintenance and improvement programme.
- 100, Traffic flow list of the roads having a damaged level of service.
- 107, Percentage of deck area rated deficient.
- 117, Number of bridges in not acceptable condition.
- 149, Percentage of AR network meeting the applicable International Roughness Index (IRI) thresholds (2 categories: strategic and other).
- 150, Percentage of structures on the AR network meeting the state of repair(?) and functionality criteria.

