



## **The Application of Performance Indicators**

## Tony Parker - Wales, United Kingdom

- Transport Wales, Welsh Assembly Government
- Chief Highway Engineer/Director of Rail and New Roads Division
- tony.parker@wales.gsi.gov.uk

## 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	<ul> <li>Overview of actually used Performance Indicators</li> <li>Good Practices to improve the transparency and efficiency of administration through the application of performance indicators</li> </ul>
<ul> <li>Investigate policy evaluation based on performance indicators in accordance with a country's socio- economic development level</li> <li>How indicators match daily needs</li> <li>Means for data management</li> <li>Assess the level of achievement</li> </ul>	<ul> <li>Good practices for policy evaluation and the application of the results for integration into new projects</li> </ul>

## **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 <b>framework</b> identifying the issues relevant for the <b>appropriate use</b> 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 <b>actually used</b> <b>performance</b> indicators by category



## How do you

## identify and describe good practice

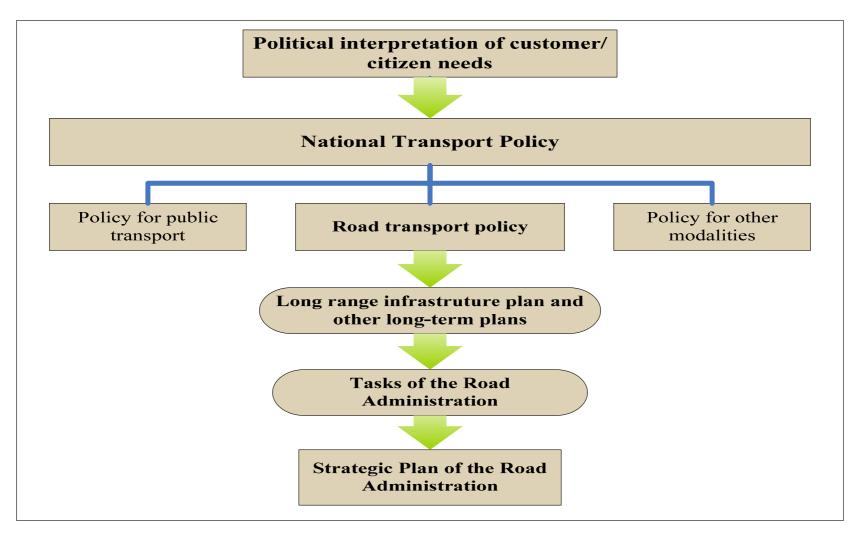
## in the use of Performance Indicators

## within an effective governance régime

## for Roads Administrations?

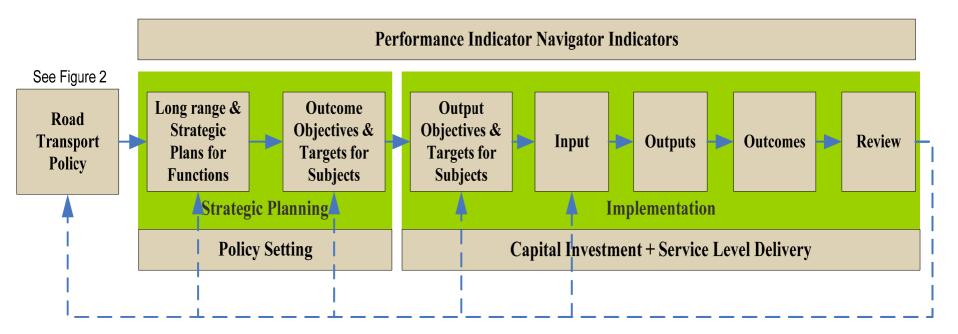
## The How

#### 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

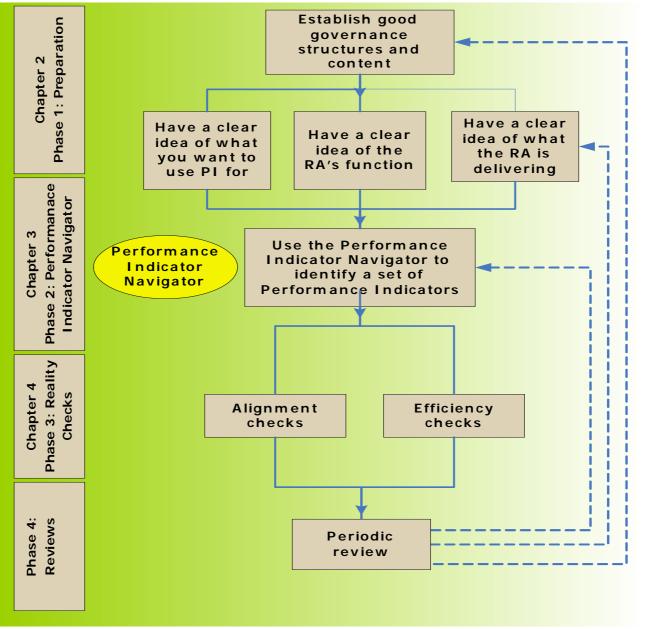
Must have a clear view of what you are delivering and how

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

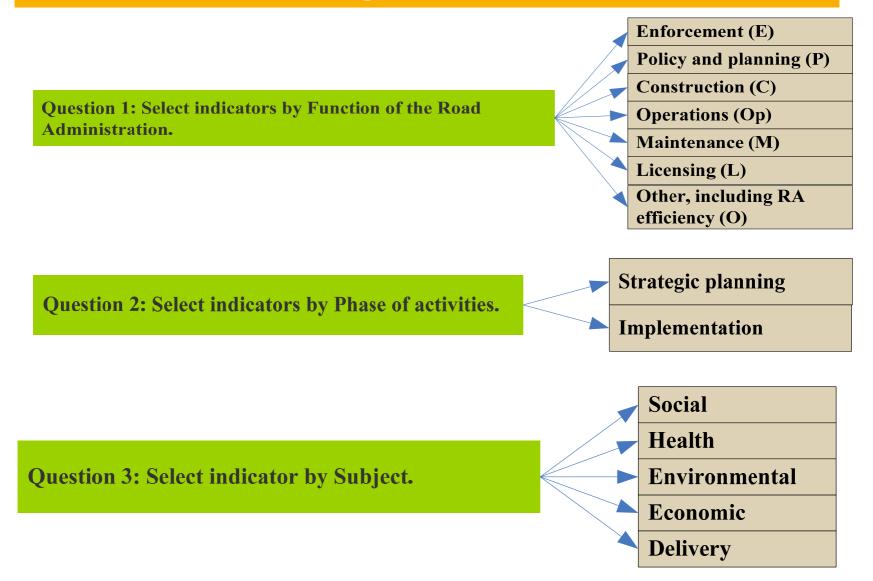
- Are you a Network Builder or Operator?
- Long-range Infrastructure Plans
- Strategic Plans for the Organisation
- What are the policy Drivers?
- Who are your stakeholders?

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

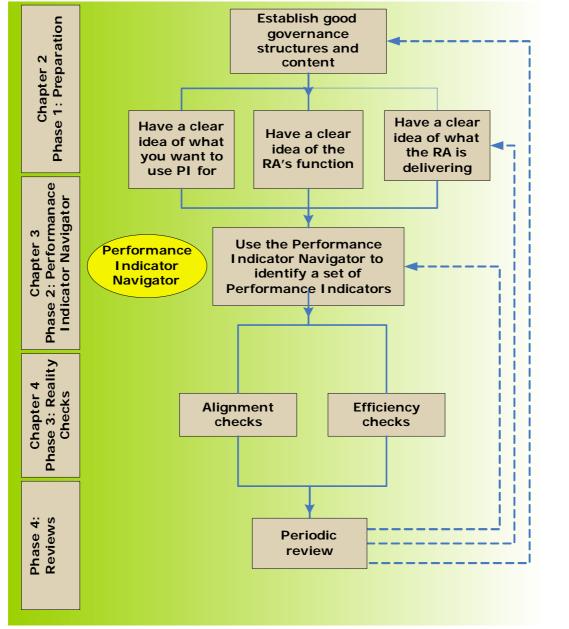
- Performance Monitoring or Management?
- → Controllability

## 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

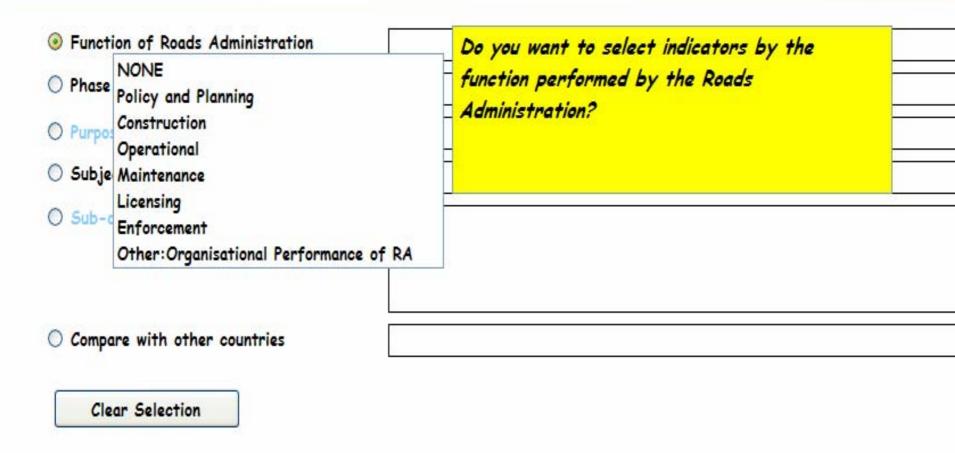
## Worked Example

Performance Indicator Navigator	
aliñnañc	
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."
otal Number of Indicators Found = 172	
l, Pavement Remaining Service Life (RSL) - in years.	
1, Pavement Remaining Service Life (RSL) - in years. 2, Paved roads (km/million people).	
1, Pavement Remaining Service Life (RSL) - in years. 2, Paved roads (km/million people). 3, Growth in paved network (%).	
1, Pavement Remaining Service Life (RSL) - in years. 2, Paved roads (km/million people). 3, Growth in paved network (%). 4, Paved lane-km/million people.	
1, Pavement Remaining Service Life (RSL) - in years. 2, Paved roads (km/million people). 3, Growth in paved network (%). 4, Paved lane-km/million people. 5, Motorways (km/million people).	
1, Pavement Remaining Service Life (RSL) - in years. 2, Paved roads (km/million people). 3, Growth in paved network (%). 4, Paved lane-km/million people. 5, Motorways (km/million people). 6, Motorized vehicles/thousand population.	
<ol> <li>Pavement Remaining Service Life (RSL) - in years.</li> <li>Paved roads (km/million people).</li> <li>Growth in paved network (%).</li> <li>Paved lane-km/million people.</li> <li>Motorways (km/million people).</li> <li>Motorized vehicles/thousand population.</li> <li>Growth in motorized vehicle fleet (%).</li> </ol>	
<ol> <li>Pavement Remaining Service Life (RSL) - in years.</li> <li>Paved roads (km/million people).</li> <li>Growth in paved network (%).</li> <li>Paved lane-km/million people.</li> <li>Motorways (km/million people).</li> <li>Motorized vehicles/thousand population.</li> <li>Growth in motorized vehicle fleet (%).</li> <li>Rigid trucks/thousand people.</li> </ol>	
<ol> <li>Pavement Remaining Service Life (RSL) - in years.</li> <li>Paved roads (km/million people).</li> <li>Growth in paved network (%).</li> <li>Paved lane-km/million people.</li> <li>Motorways (km/million people).</li> <li>Motorized vehicles/thousand population.</li> <li>Growth in motorized vehicle fleet (%).</li> </ol>	
<ol> <li>Pavement Remaining Service Life (RSL) - in years.</li> <li>Paved roads (km/million people).</li> <li>Growth in paved network (%).</li> <li>Paved lane-km/million people.</li> <li>Motorways (km/million people).</li> <li>Motorized vehicles/thousand population.</li> <li>Growth in motorized vehicle fleet (%).</li> <li>Rigid trucks/thousand people.</li> <li>Articulated trucks/thousand people.</li> <li>Freight (tonne-km/million people).</li> <li>Capital works benefit cost ratio.</li> </ol>	
<ol> <li>Pavement Remaining Service Life (RSL) - in years.</li> <li>Paved roads (km/million people).</li> <li>Growth in paved network (%).</li> <li>Paved lane-km/million people.</li> <li>Motorways (km/million people).</li> <li>Motorized vehicles/thousand population.</li> <li>Growth in motorized vehicle fleet (%).</li> <li>Rigid trucks/thousand people.</li> <li>Articulated trucks/thousand people.</li> <li>Freight (tonne-km/million people).</li> <li>Capital works benefit cost ratio.</li> <li>Road assets (net and % annual increase).</li> </ol>	
<ol> <li>Pavement Remaining Service Life (RSL) - in years.</li> <li>Paved roads (km/million people).</li> <li>Growth in paved network (%).</li> <li>Paved lane-km/million people.</li> <li>Motorways (km/million people).</li> <li>Motorized vehicles/thousand population.</li> <li>Growth in motorized vehicle fleet (%).</li> <li>Rigid trucks/thousand people.</li> <li>Articulated trucks/thousand people.</li> <li>Freight (tonne-km/million people).</li> <li>Capital works benefit cost ratio.</li> <li>Road assets (net and % annual increase).</li> <li>Rough roads.</li> </ol>	
<ol> <li>Pavement Remaining Service Life (RSL) - in years.</li> <li>Paved roads (km/million people).</li> <li>Growth in paved network (%).</li> <li>Paved lane-km/million people.</li> <li>Motorways (km/million people).</li> <li>Motorized vehicles/thousand population.</li> <li>Growth in motorized vehicle fleet (%).</li> <li>Rigid trucks/thousand people.</li> <li>Articulated trucks/thousand people.</li> <li>Freight (tonne-km/million people).</li> <li>Capital works benefit cost ratio.</li> <li>Road assets (net and % annual increase).</li> <li>Road assets (km/millions people).</li> </ol>	
<ol> <li>Pavement Remaining Service Life (RSL) - in years.</li> <li>Paved roads (km/million people).</li> <li>Growth in paved network (%).</li> <li>Paved lane-km/million people.</li> <li>Motorways (km/million people).</li> <li>Motorized vehicles/thousand population.</li> <li>Growth in motorized vehicle fleet (%).</li> <li>Rigid trucks/thousand people.</li> <li>Articulated trucks/thousand people.</li> <li>Freight (tonne-km/million people).</li> <li>Capital works benefit cost ratio.</li> <li>Road assets (net and % annual increase).</li> <li>Rough roads.</li> <li>Total roads (km/millions people).</li> <li>Growth in total road network (%).</li> </ol>	
<ol> <li>Pavement Remaining Service Life (RSL) - in years.</li> <li>Paved roads (km/million people).</li> <li>Growth in paved network (%).</li> <li>Paved lane-km/million people.</li> <li>Motorways (km/million people).</li> <li>Motorized vehicles/thousand population.</li> <li>Growth in motorized vehicle fleet (%).</li> <li>Rigid trucks/thousand people.</li> <li>Articulated trucks/thousand people.</li> <li>Freight (tonne-km/million people).</li> <li>Capital works benefit cost ratio.</li> <li>Road assets (net and % annual increase).</li> <li>Rough roads.</li> <li>Total roads (km/millions people).</li> <li>Growth in total road network (%).</li> <li>Buses/thousand population.</li> </ol>	
<ol> <li>Pavement Remaining Service Life (RSL) - in years.</li> <li>Paved roads (km/million people).</li> <li>Growth in paved network (%).</li> <li>Paved lane-km/million people.</li> <li>Motorways (km/million people).</li> <li>Motorized vehicles/thousand population.</li> <li>Growth in motorized vehicle fleet (%).</li> <li>Rigid trucks/thousand people.</li> <li>Articulated trucks/thousand people.</li> <li>Freight (tonne-km/million people).</li> <li>Capital works benefit cost ratio.</li> <li>Road assets (net and % annual increase).</li> <li>Rough roads.</li> <li>Growth in total road network (%).</li> <li>Buses/thousand population.</li> <li>Cars/thousand population.</li> </ol>	
<ol> <li>Pavement Remaining Service Life (RSL) - in years.</li> <li>Paved roads (km/million people).</li> <li>Growth in paved network (%).</li> <li>Paved lane-km/million people.</li> <li>Motorways (km/million people).</li> <li>Motorways (km/million people).</li> <li>Motorized vehicles/thousand population.</li> <li>Growth in motorized vehicle fleet (%).</li> <li>Rigid trucks/thousand people.</li> <li>Articulated trucks/thousand people.</li> <li>Freight (tonne-km/million people).</li> <li>Capital works benefit cost ratio.</li> <li>Road assets (net and % annual increase).</li> <li>Rough roads.</li> <li>Total roads (km/millions people).</li> <li>Growth in total road network (%).</li> <li>Buses/thousand population.</li> <li>Regional development budget (% of total).</li> </ol>	
<ol> <li>Pavement Remaining Service Life (RSL) - in years.</li> <li>Paved roads (km/million people).</li> <li>Growth in paved network (%).</li> <li>Paved lane-km/million people.</li> <li>Motorways (km/million people).</li> <li>Motorways (km/million people).</li> <li>Motorized vehicles/thousand population.</li> <li>Growth in motorized vehicle fleet (%).</li> <li>Rigid trucks/thousand people.</li> <li>Articulated trucks/thousand people.</li> <li>Freight (tonne-km/million people).</li> <li>Capital works benefit cost ratio.</li> <li>Road assets (net and % annual increase).</li> <li>Rough roads.</li> <li>Total roads (km/millions people).</li> <li>Growth in total road network (%).</li> <li>Buses/thousand population.</li> <li>Cars/thousand population.</li> <li>Regional development budget (% of total).</li> </ol>	
<ol> <li>Pavement Remaining Service Life (RSL) - in years.</li> <li>Paved roads (km/million people).</li> <li>Growth in paved network (%).</li> <li>Paved lane-km/million people.</li> <li>Motorways (km/million people).</li> <li>Motorways (km/million people).</li> <li>Motorized vehicles/thousand population.</li> <li>Growth in motorized vehicle fleet (%).</li> <li>Rigid trucks/thousand people.</li> <li>Articulated trucks/thousand people.</li> <li>Freight (tonne-km/million people).</li> <li>Capital works benefit cost ratio.</li> <li>Road assets (net and % annual increase).</li> <li>Rough roads.</li> <li>Total roads (km/millions people).</li> <li>Growth in total road network (%).</li> <li>Buses/thousand population.</li> <li>Regional development budget (% of total).</li> </ol>	

Language			
Function of Roads Administration	Do you want to select indicators by the		
Phase Policy and Planning	<sup>-</sup> 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
Total Number of Indicators Found = 172			
1, Pavement Remaining Service Life (RSL) - in y	ears.		
	ears.		
1, Pavement Remaining Service Life (RSL) - in y 2, Paved roads (km/million people). 3, Growth in paved network (%). 4, Paved lane-km/million people.	ears.		
<ol> <li>Pavement Remaining Service Life (RSL) - in y</li> <li>Paved roads (km/million people).</li> <li>Growth in paved network (%).</li> <li>Paved lane-km/million people.</li> <li>Motorways (km/million people).</li> </ol>	ears.		
<ol> <li>Pavement Remaining Service Life (RSL) - in y</li> <li>Paved roads (km/million people).</li> <li>Growth in paved network (%).</li> <li>Paved lane-km/million people.</li> <li>Motorways (km/million people).</li> <li>Motorized vehicles/thousand population.</li> </ol>	ears.		
<ol> <li>Pavement Remaining Service Life (RSL) - in y</li> <li>Paved roads (km/million people).</li> <li>Growth in paved network (%).</li> <li>Paved lane-km/million people.</li> <li>Motorways (km/million people).</li> <li>Motorized vehicles/thousand population.</li> <li>Growth in motorized vehicle fleet (%).</li> </ol>	ears.		
<ol> <li>Pavement Remaining Service Life (RSL) - in y</li> <li>Paved roads (km/million people).</li> <li>Growth in paved network (%).</li> <li>Paved lane-km/million people.</li> <li>Motorways (km/million people).</li> <li>Motorized vehicles/thousand population.</li> <li>Growth in motorized vehicle fleet (%).</li> <li>Rigid trucks/thousand people.</li> </ol>	ears.		
<ol> <li>Pavement Remaining Service Life (RSL) - in y</li> <li>Paved roads (km/million people).</li> <li>Growth in paved network (%).</li> <li>Paved lane-km/million people.</li> <li>Motorways (km/million people).</li> <li>Motorized vehicles/thousand population.</li> <li>Growth in motorized vehicle fleet (%).</li> <li>Rigid trucks/thousand people.</li> <li>Articulated trucks/thousand people.</li> </ol>	ears.		
<ol> <li>Pavement Remaining Service Life (RSL) - in y</li> <li>Paved roads (km/million people).</li> <li>Growth in paved network (%).</li> <li>Paved lane-km/million people.</li> <li>Motorways (km/million people).</li> <li>Motorized vehicles/thousand population.</li> <li>Growth in motorized vehicle fleet (%).</li> <li>Rigid trucks/thousand people.</li> <li>Articulated trucks/thousand people.</li> <li>Freight (tonne-km/million people).</li> </ol>	ears.		
<ol> <li>Pavement Remaining Service Life (RSL) - in y</li> <li>Paved roads (km/million people).</li> <li>Growth in paved network (%).</li> <li>Paved lane-km/million people.</li> <li>Motorways (km/million people).</li> <li>Motorized vehicles/thousand population.</li> <li>Growth in motorized vehicle fleet (%).</li> <li>Rigid trucks/thousand people.</li> <li>Articulated trucks/thousand people.</li> <li>Freight (tonne-km/million people).</li> <li>Capital works benefit cost ratio.</li> </ol>	ears.		
<ol> <li>Pavement Remaining Service Life (RSL) - in y</li> <li>Paved roads (km/million people).</li> <li>Growth in paved network (%).</li> <li>Paved lane-km/million people.</li> <li>Motorways (km/million people).</li> <li>Motorized vehicles/thousand population.</li> <li>Growth in motorized vehicle fleet (%).</li> <li>Rigid trucks/thousand people.</li> <li>Articulated trucks/thousand people.</li> <li>Freight (tonne-km/million people).</li> <li>Capital works benefit cost ratio.</li> <li>Road assets (net and % annual increase).</li> </ol>	ears.		
<ol> <li>Pavement Remaining Service Life (RSL) - in y</li> <li>Paved roads (km/million people).</li> <li>Growth in paved network (%).</li> <li>Paved lane-km/million people.</li> <li>Motorways (km/million people).</li> <li>Motorized vehicles/thousand population.</li> <li>Growth in motorized vehicle fleet (%).</li> <li>Rigid trucks/thousand people.</li> <li>Articulated trucks/thousand people.</li> <li>Freight (tonne-km/million people).</li> <li>Capital works benefit cost ratio.</li> <li>Road assets (net and % annual increase).</li> <li>Rough roads.</li> </ol>	ears.		
<ol> <li>Pavement Remaining Service Life (RSL) - in y</li> <li>Paved roads (km/million people).</li> <li>Growth in paved network (%).</li> <li>Paved lane-km/million people.</li> <li>Motorways (km/million people).</li> <li>Motorized vehicles/thousand population.</li> <li>Growth in motorized vehicle fleet (%).</li> <li>Rigid trucks/thousand people.</li> <li>Articulated trucks/thousand people.</li> <li>Freight (tonne-km/million people).</li> <li>Road assets (net and % annual increase).</li> <li>Rough roads.</li> <li>Total roads (km/millions people).</li> </ol>	ears.		
<ol> <li>Pavement Remaining Service Life (RSL) - in y</li> <li>Paved roads (km/million people).</li> <li>Growth in paved network (%).</li> <li>Paved lane-km/million people.</li> <li>Motorways (km/million people).</li> <li>Motorized vehicles/thousand population.</li> <li>Growth in motorized vehicle fleet (%).</li> <li>Rigid trucks/thousand people.</li> <li>Articulated trucks/thousand people.</li> <li>Freight (tonne-km/million people).</li> <li>Capital works benefit cost ratio.</li> <li>Road assets (net and % annual increase).</li> <li>Rough roads.</li> <li>Total roads (km/millions people).</li> <li>Growth in total road network (%).</li> </ol>	ears.		
<ol> <li>Pavement Remaining Service Life (RSL) - in y</li> <li>Paved roads (km/million people).</li> <li>Growth in paved network (%).</li> <li>Paved lane-km/million people.</li> <li>Motorways (km/million people).</li> <li>Motorized vehicles/thousand population.</li> <li>Growth in motorized vehicle fleet (%).</li> <li>Rigid trucks/thousand people.</li> <li>Articulated trucks/thousand people.</li> <li>Freight (tonne-km/million people).</li> <li>Capital works benefit cost ratio.</li> <li>Road assets (net and % annual increase).</li> <li>Rough roads.</li> <li>Total roads (km/millions people).</li> <li>Growth in total road network (%).</li> <li>Buses/thousand population.</li> </ol>	ears.		
<ol> <li>Pavement Remaining Service Life (RSL) - in y</li> <li>Paved roads (km/million people).</li> <li>Growth in paved network (%).</li> <li>Paved lane-km/million people.</li> <li>Motorized vehicles/thousand population.</li> <li>Growth in motorized vehicle fleet (%).</li> <li>Rigid trucks/thousand people.</li> <li>Articulated trucks/thousand people.</li> <li>Freight (tonne-km/million people).</li> <li>Capidat works benefit cost ratio.</li> <li>Road assets (net and % annual increase).</li> <li>Rough roads.</li> <li>Total roads (km/millions people).</li> <li>Growth in total road network (%).</li> <li>Buses/thousand population.</li> <li>Cars/thousand population.</li> </ol>	ears.		
<ol> <li>Pavement Remaining Service Life (RSL) - in y</li> <li>Paved roads (km/million people).</li> <li>Growth in paved network (%).</li> <li>Paved lane-km/million people.</li> <li>Motorways (km/million people).</li> <li>Motorized vehicles/thousand population.</li> <li>Growth in motorized vehicle fleet (%).</li> <li>Rigid trucks/thousand people.</li> <li>Articulated trucks/thousand people.</li> <li>Freight (tonne-km/million people).</li> <li>Capital works benefit cost ratio.</li> <li>Road assets (net and % annual increase).</li> <li>Rough roads.</li> <li>Total roads (km/millions people).</li> <li>Growth in total road network (%).</li> <li>Buses/thousand population.</li> <li>Cars/thousand population.</li> <li>Regional development budget (% of total).</li> </ol>	ears.		
<ol> <li>Pavement Remaining Service Life (RSL) - in y</li> <li>Paved roads (km/million people).</li> <li>Growth in paved network (%).</li> <li>Paved lane-km/million people.</li> <li>Motorways (km/million people).</li> <li>Motorized vehicles/thousand population.</li> <li>Growth in motorized vehicle fleet (%).</li> <li>Rigid trucks/thousand people.</li> <li>Articulated trucks/thousand people.</li> <li>Freight (tonne-km/million people).</li> <li>Capital works benefit cost ratio.</li> <li>Road assets (net and % annual increase).</li> <li>Rough roads.</li> <li>Total roads (km/millions people).</li> <li>Growth in total road network (%).</li> <li>Buses/thousand population.</li> <li>Regional development budget (% of total).</li> </ol>	ears.		
<ol> <li>Pavement Remaining Service Life (RSL) - in y</li> <li>Paved roads (km/million people).</li> <li>Growth in paved network (%).</li> <li>Paved lane-km/million people.</li> <li>Motorways (km/million people).</li> <li>Motorized vehicles/thousand population.</li> <li>Growth in motorized vehicle fleet (%).</li> <li>Rigid trucks/thousand people.</li> <li>Articulated trucks/thousand people.</li> <li>Freight (tonne-km/million people).</li> <li>Capital works benefit cost ratio.</li> <li>Road assets (net and % annual increase).</li> <li>Rough roads.</li> <li>Total roads (km/millions people).</li> <li>Growth in total road network (%).</li> <li>Buses/thousand population.</li> <li>Cars/thousand population.</li> <li>Regional development budget (% of total).</li> </ol>	ears.		

🛃 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
Total Number of Indicators Found =	
<ol> <li>Paved roads (km/million people).</li> <li>Growth in paved network (%).</li> <li>Paved lane-km/million people.</li> <li>Motorways (km/million people).</li> <li>Capital works benefit cost ratio.</li> <li>Total roads (km/millions people).</li> <li>Growth in total road network (%).</li> <li>Total Factor Productivity.</li> <li>Road construction costs/ sq.m.</li> <li>Annual works achievement index.</li> <li>Annual delivery achievement index.</li> <li>Delivery overhead (% of total works</li> <li>Capital works benefit cost ratio (aver</li> </ol>	33 budget).
<ol> <li>Paved roads (km/million people).</li> <li>Growth in paved network (%).</li> <li>Paved lane-km/million people.</li> <li>Motorways (km/million people).</li> <li>Capital works benefit cost ratio.</li> <li>Total roads (km/millions people).</li> <li>Growth in total road network (%).</li> <li>Total Factor Productivity.</li> <li>Road construction costs/ sq.m.</li> <li>Annual works achievement index.</li> <li>Annual delivery achievement index.</li> <li>Delivery overhead (% of total works</li> <li>Capital works benefit cost ratio.</li> <li>Return on Construction Expenditure (EEI).</li> </ol>	33 budget).
<ol> <li>Paved roads (km/million people).</li> <li>Growth in paved network (%).</li> <li>Paved lane-km/million people.</li> <li>Motorways (km/million people).</li> <li>Capital works benefit cost ratio.</li> <li>Total roads (km/millions people).</li> <li>Growth in total road network (%).</li> <li>Growth in total road network (%).</li> <li>Total Factor Productivity.</li> <li>Road construction costs/ sq.m.</li> <li>Annual works achievement index.</li> <li>Annual delivery achievement index.</li> <li>Delivery overhead (% of total works</li> <li>Capital works benefit cost ratio.</li> <li>Return on Construction Expenditure (53, Expenditure Efficiency Index (EEI).</li> <li>Urban road indicator.</li> </ol>	33 budget). irage). (RCE). The weighted Internal Rate of Return of total capital construction expenditure per annum. IRR > 15%. The percentage of annual expenditure spent on overhead costs. ≤5%.
<ol> <li>Paved roads (km/million people).</li> <li>Growth in paved network (%).</li> <li>Paved lane-km/million people.</li> <li>Motorways (km/million people).</li> <li>Capital works benefit cost ratio.</li> <li>Total roads (km/millions people).</li> <li>Growth in total road network (%).</li> <li>Growth in total road network (%).</li> <li>Total Factor Productivity.</li> <li>Road construction costs/ sq.m.</li> <li>Annual works achievement index.</li> <li>Annual delivery achievement index.</li> <li>Capital works benefit cost ratio (ave</li> <li>Safety works benefit cost ratio.</li> <li>Return on Construction Expenditure (EEI).</li> </ol>	33 budget). irage). (RCE). The weighted Internal Rate of Return of total capital construction expenditure per annum. IRR > 15%. The percentage of annual expenditure spent on overhead costs. ≤5%.
<ol> <li>Paved roads (km/million people).</li> <li>Growth in paved network (%).</li> <li>Paved lane-km/million people.</li> <li>Motorways (km/million people).</li> <li>Capital works benefit cost ratio.</li> <li>Total roads (km/millions people).</li> <li>Growth in total road network (%).</li> <li>Growth in total road network (%).</li> <li>Total Factor Productivity.</li> <li>Road construction costs/ sq.m.</li> <li>Annual works achievement index.</li> <li>Annual delivery achievement index.</li> <li>Delivery overhead (% of total works</li> <li>Capital works benefit cost ratio.</li> <li>Return on Construction Expenditure (53)</li> <li>Expenditure Efficiency Index (EEI).</li> <li>Urban road indicator.</li> <li>Economic evaluation of road construction</li> </ol>	33 budget). irage). (RCE). The weighted Internal Rate of Return of total capital construction expenditure per annum. IRR > 15%. The percentage of annual expenditure spent on overhead costs. ≤5%. ction projects. n of road projects.

anguage		
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
	PIARC "Exchange knowledge and techniques on roads and road transp	
	33	
<ol> <li>Paved roads (km/million people).</li> <li>Growth in paved network (%).</li> <li>Paved lane-km/million people.</li> <li>Motorways (km/million people).</li> <li>Capital works benefit cost ratio.</li> </ol>		
<ol> <li>Growth in paved network (%).</li> <li>Paved lane-km/million people.</li> <li>Motorways (km/million people).</li> <li>Capital works benefit cost ratio.</li> <li>Total roads (km/millions people).</li> </ol>		
<ol> <li>Growth in paved network (%).</li> <li>Paved lane-km/million people.</li> <li>Motorways (km/million people).</li> <li>Capital works benefit cost ratio.</li> <li>Total roads (km/millions people).</li> <li>Growth in total road network (%).</li> <li>Total Factor Productivity.</li> </ol>		
<ol> <li>Growth in paved network (%).</li> <li>Paved lane-km/million people.</li> <li>Motorways (km/million people).</li> <li>Capital works benefit cost ratio.</li> <li>Total roads (km/millions people).</li> <li>Growth in total road network (%).</li> <li>Total Factor Productivity.</li> <li>Road construction costs/ sq.m.</li> </ol>		
<ol> <li>Growth in paved network (%).</li> <li>Paved lane-km/million people.</li> <li>Motorways (km/million people).</li> <li>Capital works benefit cost ratio.</li> <li>Total roads (km/millions people).</li> <li>Growth in total road network (%).</li> <li>Total Factor Productivity.</li> <li>Road construction costs/ sq.m.</li> <li>Annual works achievement index.</li> </ol>		
<ol> <li>Growth in paved network (%).</li> <li>Paved lane-km/million people.</li> <li>Motorways (km/million people).</li> <li>Capital works benefit cost ratio.</li> <li>Total roads (km/millions people).</li> <li>Growth in total road network (%).</li> <li>Total Factor Productivity.</li> <li>Road construction costs/ sq.m.</li> </ol>		
<ol> <li>Growth in paved network (%).</li> <li>Paved lane-km/million people.</li> <li>Motorways (km/million people).</li> <li>Capital works benefit cost ratio.</li> <li>Total roads (km/millions people).</li> <li>Growth in total road network (%).</li> <li>Total Factor Productivity.</li> <li>Road construction costs/ sq.m.</li> <li>Annual works achievement index.</li> <li>Annual delivery achievement index.</li> <li>Delivery overhead (% of total works la</li> <li>Capital works benefit cost ratio (aver</li> </ol>	nudget).	
<ol> <li>Growth in paved network (%).</li> <li>Paved lane-km/million people.</li> <li>Motorways (km/million people).</li> <li>Capital works benefit cost ratio.</li> <li>Total roads (km/millions people).</li> <li>Growth in total road network (%).</li> <li>Total Factor Productivity.</li> <li>Road construction costs/ sq.m.</li> <li>Annual works achievement index.</li> <li>Annual delivery achievement index.</li> <li>Capital works benefit cost ratio (aver</li> <li>Safety works benefit cost ratio.</li> </ol>	udget). age).	
<ol> <li>Growth in paved network (%).</li> <li>Paved lane-km/million people.</li> <li>Motorways (km/million people).</li> <li>Capital works benefit cost ratio.</li> <li>Total roads (km/millions people).</li> <li>Growth in total road network (%).</li> <li>Total Factor Productivity.</li> <li>Road construction costs/ sq.m.</li> <li>Annual works achievement index.</li> <li>Annual delivery achievement index.</li> <li>Capital works benefit cost ratio (aver 47, Safety works benefit cost ratio.</li> <li>Return on Construction Expenditure (fit</li> </ol>	oudget). age). RCE). The weighted Internal Rate of Return of total capital construction expenditure per annum. IRR > 15%.	
<ol> <li>Growth in paved network (%).</li> <li>Paved lane-km/million people.</li> <li>Motorways (km/million people).</li> <li>Capital works benefit cost ratio.</li> <li>Total roads (km/millions people).</li> <li>Growth in total road network (%).</li> <li>Total Factor Productivity.</li> <li>Road construction costs/ sq.m.</li> <li>Annual works achievement index.</li> <li>Annual delivery achievement index.</li> <li>Capital works benefit cost ratio (aver 47, Safety works benefit cost ratio.</li> <li>Return on Construction Expenditure (I 53, Expenditure Efficiency Index (EEI).</li> </ol>	udget). age).	
<ol> <li>Growth in paved network (%).</li> <li>Paved lane-km/million people.</li> <li>Motorways (km/million people).</li> <li>Capital works benefit cost ratio.</li> <li>Total roads (km/millions people).</li> <li>Growth in total road network (%).</li> <li>Total Factor Productivity.</li> <li>Road construction costs/ sq.m.</li> <li>Annual works achievement index.</li> <li>Annual delivery achievement index.</li> <li>Capital works benefit cost ratio (aver 47, Safety works benefit cost ratio.</li> <li>Return on Construction Expenditure (I 53, Expenditure Efficiency Index (EEI).</li> <li>Urban road indicator.</li> </ol>	nudget). age). AGE). The weighted Internal Rate of Return of total capital construction expenditure per annum. IRR > 15%. The percentage of annual expenditure spent on overhead costs. <5%.	
<ol> <li>Growth in paved network (%).</li> <li>Paved lane-km/million people.</li> <li>Motorways (km/million people).</li> <li>Capital works benefit cost ratio.</li> <li>Total roads (km/millions people).</li> <li>Growth in total road network (%).</li> <li>Total Factor Productivity.</li> <li>Road construction costs/ sq.m.</li> <li>Annual works achievement index.</li> <li>Annual delivery achievement index.</li> <li>Capital works benefit cost ratio (aver 47, Safety works benefit cost ratio.</li> <li>Return on Construction Expenditure (I 53, Expenditure Efficiency Index (EEI).</li> </ol>	nudget). age). AGE). The weighted Internal Rate of Return of total capital construction expenditure per annum. IRR > 15%. The percentage of annual expenditure spent on overhead costs. <5%.	
<ol> <li>Growth in paved network (%).</li> <li>Paved lane-km/million people.</li> <li>Motorways (km/million people).</li> <li>Capital works benefit cost ratio.</li> <li>Total roads (km/millions people).</li> <li>Growth in total road network (%).</li> <li>Total Factor Productivity.</li> <li>Road construction costs/ sq.m.</li> <li>Annual works achievement index.</li> <li>Annual delivery achievement index.</li> <li>Capital works benefit cost ratio (aver 47, Safety works benefit cost ratio.</li> <li>Return on Construction Expenditure (I 53, Expenditure Efficiency Index (EEI).</li> <li>Urban road indicator.</li> <li>Economic evaluation of road construction</li> </ol>	udget). age). RCE). The weighted Internal Rate of Return of total capital construction expenditure per annum. IRR > 15%. The percentage of annual expenditure spent on overhead costs. ≤5%. ion projects. of road projects.	

#### 😸 PIARC Performance Indicator Navigator

#### File Language

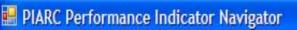
O Function of Roads Administration	Construction;
<ul> <li>Phase of Activities</li> <li>Implementation (Outputs)</li> <li>Purpoi Strategic Planning (Outcomes)</li> </ul>	For which Phase of activities will the indicators be used?
O Subject of Performance Indicator	
O Sub-categories	
O Compare with other countries	
U Uniper e mini Uniter UUdinnes	

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
Total Number of Indicators Found = 11, Capital works benefit cost ratio.		es on roads and road transportation."
	25 budget).	
<ol> <li>Capital works benefit cost ratio.</li> <li>Total Factor Productivity.</li> <li>Road construction costs/ sq.m.</li> <li>Annual works achievement index.</li> <li>Annual delivery achievement index.</li> <li>Delivery overhead (% of total works base fit cost ratio (aver 47, Safety works benefit cost ratio.</li> <li>Return on Construction Expenditure (F 38, Expenditure Efficiency Index (EEI).</li> <li>Urban road indicator.</li> <li>Economic evaluation of road construction</li> </ol>	25 budget). rage). RCE). The weighted Internal Rate of Return of total capital construction expenditure per annum. IRR > 15%. The percentage of annual expenditure spent on overhead costs. ≤5%.	
<ol> <li>Capital works benefit cost ratio.</li> <li>Total Factor Productivity.</li> <li>Road construction costs/ sq.m.</li> <li>Annual works achievement index.</li> <li>Annual delivery achievement index.</li> <li>Capital works benefit cost ratio (aver 47, Safety works benefit cost ratio.</li> <li>Return on Construction Expenditure (f Sa Expenditure Efficiency Index (EEI).</li> <li>Urban road indicator.</li> <li>Economic evaluation of road construct 3, Hours of road work.</li> <li>Rate of comprehensive cost reduction 81, Passenger Transport Roading Infrastruct</li> </ol>	25 budget). rage). RCE). The weighted Internal Rate of Return of total capital construction expenditure per annum. IRR > 15%. The percentage of annual expenditure spent on overhead costs. ≤5%. which projects. n of road projects.	
<ol> <li>Capital works benefit cost ratio.</li> <li>Total Factor Productivity.</li> <li>Road construction costs/ sq.m.</li> <li>Annual works achievement index.</li> <li>Annual delivery achievement index.</li> <li>Delivery overhead (% of total works to the sentitic cost ratio (aver 47, Safety works benefit cost ratio.</li> <li>Return on Construction Expenditure (f 53, Expenditure Efficiency Index (EEI).</li> <li>Urban road indicator.</li> <li>Economic evaluation of road construct</li> <li>Hours of road work.</li> <li>Rate of comprehensive cost reduction 81, Passenger Transport Roading Infrastrue</li> <li>Walking and Cycling Cost (\$M).</li> </ol>	25 budget). rage). RCE). The weighted Internal Rate of Return of total capital construction expenditure per annum. IRR > 15%. The percentage of annual expenditure spent on overhead costs. ≤5%. stion projects. n of road projects. ructures Cost (\$M).	
<ol> <li>Capital works benefit cost ratio.</li> <li>Total Factor Productivity.</li> <li>Road construction costs/ sq.m.</li> <li>Annual works achievement index.</li> <li>Annual delivery achievement index.</li> <li>Annual delivery achievement index.</li> <li>Delivery overhead (% of total works B</li> <li>Capital works benefit cost ratio (aver 47, Safety works benefit cost ratio.</li> <li>Return on Construction Expenditure (F</li> <li>Expenditure Efficiency Index (EEI).</li> <li>Urban road indicator.</li> <li>Economic evaluation of road construct</li> <li>Hours of road work.</li> <li>Rate of comprehensive cost reduction</li> <li>Passenger Transport Roading Infrastme</li> <li>Walking and Cycling Cost (\$M).</li> <li>Proportion of capital projects completed</li> </ol>	25 budget). rage). RCE). The weighted Internal Rate of Return of total capital construction expenditure per annum. IRR > 15%. The percentage of annual expenditure spent on overhead costs. ≤5%. stion projects. n of road projects. nuctures Cost (\$M). the d within expected cost and time parameters.	
<ol> <li>Capital works benefit cost ratio.</li> <li>Total Factor Productivity.</li> <li>Road construction costs/ sq.m.</li> <li>Annual works achievement index.</li> <li>Annual delivery achievement index.</li> <li>Annual delivery achievement index.</li> <li>Capital works benefit cost ratio (aver 47, Safety works benefit cost ratio.</li> <li>Return on Construction Expenditure (F 53, Expenditure Efficiency Index (EEI).</li> <li>Urban road indicator.</li> <li>Economic evaluation of road construct Anual of comprehensive cost reduction Passenger Transport Roading Infrastru 20, Walking and Cycling Cost (\$M).</li> <li>Proportion of capital projects complet 88, Variation between actual large projec</li> <li>Actual project dollar benefits compari- tional construction</li> </ol>	25 budget). rage). RCE). The weighted Internal Rate of Return of total capital construction expenditure per annum. IRR > 15%. The percentage of annual expenditure spent on overhead costs. ≤5%. stion projects. no froad projects. ructures Cost (\$M). tted within expected cost and time parameters. ots commenced in the reporting year versus what was planned in each of the two previous years. red to forecast benefits.	
<ol> <li>Capital works benefit cost ratio.</li> <li>Total Factor Productivity.</li> <li>Road construction costs/ sq.m.</li> <li>Annual works achievement index.</li> <li>Annual delivery achievement index.</li> <li>Annual delivery achievement index.</li> <li>Capital works benefit cost ratio (aver 47, Safety works benefit cost ratio.</li> <li>Return on Construction Expenditure (F 53, Expenditure Efficiency Index (EEI).</li> <li>Urban road indicator.</li> <li>Economic evaluation of road construct Anual of comprehensive cost reduction Passenger Transport Roading Infrastru 20, Walking and Cycling Cost (\$M).</li> <li>Proportion of capital projects complet 88, Variation between actual large projec</li> <li>Actual project dollar benefits compari- tional construction</li> </ol>	25 budget), rage). RCE). The weighted Internal Rate of Return of total capital construction expenditure per annum. IRR > 15%. The percentage of annual expenditure spent on overhead costs. <5%. tion projects. n of road projects. ructures Cost (\$M). the within expected cost and time parameters. tots commenced in the reporting year versus what was planned in each of the two previous years. red to forecast benefits. al dollar variance against state highway maintenance and improvement programme.	

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."
<ol> <li>28, Total Factor Productivity.</li> <li>29, Road construction costs/ sq.m.</li> <li>33, Annual works achievement index.</li> <li>34, Annual delivery achievement index.</li> <li>35, Delivery overhead (% of total works</li> </ol>		
<ol> <li>28, Total Factor Productivity.</li> <li>29, Road construction costs/ sq.m.</li> <li>33, Annual works achievement index.</li> <li>34, Annual delivery achievement index.</li> <li>35, Delivery overhead (% of total works</li> <li>36, Capital works benefit cost ratio (ava</li> </ol>		
<ol> <li>28, Total Factor Productivity.</li> <li>29, Road construction costs/ sq.m.</li> <li>33, Annual works achievement index.</li> <li>34, Annual delivery achievement index.</li> <li>35, Delivery overhead (% of total works</li> <li>36, Capital works benefit cost ratio (ave</li> <li>47, Safety works benefit cost ratio.</li> </ol>	erage).	re per annum. IRR ≿ 15%.
<ol> <li>28, Total Factor Productivity.</li> <li>29, Road construction costs/ sq.m.</li> <li>33, Annual works achievement index.</li> <li>34, Annual delivery achievement index.</li> <li>35, Delivery overhead (% of total works</li> <li>36, Capital works benefit cost ratio (ave</li> <li>47, Safety works benefit cost ratio.</li> <li>51, Return on Construction Expenditure</li> </ol>		re per annum. IRR > 15%.
<ol> <li>28, Total Factor Productivity.</li> <li>29, Road construction costs/ sq.m.</li> <li>33, Annual works achievement index.</li> <li>34, Annual delivery achievement index.</li> <li>35, Delivery overhead (% of total works</li> <li>36, Capital works benefit cost ratio (ava 47, Safety works benefit cost ratio.</li> <li>51, Return on Construction Expenditure</li> <li>53, Expenditure Efficiency Index (EEI).</li> <li>59, Urban road indicator.</li> </ol>	erage). (RCE). The weighted Internal Rate of Return of total capital construction expenditu . The percentage of annual expenditure spent on overhead costs. ≤5%.	re per annum. IRR > 15%.
<ol> <li>28, Total Factor Productivity.</li> <li>29, Road construction costs/ sq.m.</li> <li>33, Annual works achievement index.</li> <li>34, Annual delivery achievement index.</li> <li>35, Delivery overhead (% of total works</li> <li>36, Capital works benefit cost ratio (ava 47, Safety works benefit cost ratio.</li> <li>51, Return on Construction Expenditure</li> <li>53, Expenditure Efficiency Index (EEI).</li> <li>59, Urban road indicator.</li> <li>61, Economic evaluation of road constru</li> </ol>	erage). (RCE). The weighted Internal Rate of Return of total capital construction expenditu . The percentage of annual expenditure spent on overhead costs. ≤5%.	re per annum. IRR > 15%.
<ol> <li>28, Total Factor Productivity.</li> <li>29, Road construction costs/ sq.m.</li> <li>33, Annual works achievement index.</li> <li>34, Annual delivery achievement index.</li> <li>35, Delivery overhead (% of total works</li> <li>36, Capital works benefit cost ratio (ava 47, Safety works benefit cost ratio.</li> <li>51, Return on Construction Expenditure</li> <li>53, Expenditure Efficiency Index (EEI).</li> <li>59, Urban road indicator.</li> <li>61, Economic evaluation of road constru</li> <li>63, Hours of road work.</li> </ol>	erage). (RCE). The weighted Internal Rate of Return of total capital construction expenditu . The percentage of annual expenditure spent on overhead costs. 15%. ction projects.	re per annum. IRR > 15%.
<ol> <li>28, Total Factor Productivity.</li> <li>29, Road construction costs/ sq.m.</li> <li>33, Annual works achievement index.</li> <li>34, Annual delivery achievement index.</li> <li>35, Delivery overhead (% of total works</li> <li>36, Capital works benefit cost ratio (ava 47, Safety works benefit cost ratio.</li> <li>51, Return on Construction Expenditure</li> <li>53, Expenditure Efficiency Index (EEI).</li> <li>59, Urban road indicator.</li> <li>61, Economic evaluation of road construe</li> <li>33, Hours of road work.</li> <li>76, Rate of comprehensive cost reduction</li> </ol>	erage). (RCE). The weighted Internal Rate of Return of total capital construction expenditu . The percentage of annual expenditure spent on overhead costs. <5%. ction projects. on of road projects.	re per annum. IRR > 15%.
<ol> <li>28, Total Factor Productivity.</li> <li>29, Road construction costs/ sq.m.</li> <li>33, Annual works achievement index.</li> <li>34, Annual delivery achievement index.</li> <li>35, Delivery overhead (% of total works</li> <li>36, Capital works benefit cost ratio.</li> <li>31, Return on Construction Expenditure</li> <li>33, Expenditure Efficiency Index (EEI).</li> <li>39, Urban road indicator.</li> <li>40, Economic evaluation of road constru</li> <li>403, Hours of road work.</li> <li>76, Rate of comprehensive cost reduction</li> <li>81, Passenger Transport Roading Infrast</li> <li>82, Walking and Cycling Cost (\$M).</li> </ol>	erage). (RCE). The weighted Internal Rate of Return of total capital construction expenditu . The percentage of annual expenditure spent on overhead costs. 5%. action projects. on of road projects. tructures Cost (\$M).	re per annum. IRR > 15%.
<ol> <li>53, Expenditure Efficiency Index (EEI).</li> <li>59, Urban road indicator.</li> <li>61, Economic evaluation of road constru</li> <li>63, Hours of road work.</li> <li>76, Rate of comprehensive cost reduction</li> <li>81, Passenger Transport Roading Infrast</li> <li>82, Walking and Cycling Cost (\$M).</li> <li>87, Proportion of capital projects completed</li> </ol>	erage). (RCE). The weighted Internal Rate of Return of total capital construction expenditu . The percentage of annual expenditure spent on overhead costs. 5%. action projects. on of road projects. tructures Cost (\$M). eted within expected cost and time parameters.	
<ol> <li>Total Factor Productivity.</li> <li>Road construction costs/ sq.m.</li> <li>Annual works achievement index.</li> <li>Annual delivery achievement index.</li> <li>Annual delivery achievement index.</li> <li>Delivery overhead (% of total works</li> <li>Capital works benefit cost ratio.</li> <li>Safety works benefit cost ratio.</li> <li>Return on Construction Expenditure</li> <li>Expenditure Efficiency Index (EEI).</li> <li>Urban road indicator.</li> <li>Economic evaluation of road constru</li> <li>Hours of road work.</li> <li>Rate of comprehensive cost reduction</li> <li>Passenger Transport Roading Infrast</li> <li>Walking and Cycling Cost (\$M).</li> <li>Proportion of capital projects complete</li> </ol>	erage). (RCE). The weighted Internal Rate of Return of total capital construction expenditu . The percentage of annual expenditure spent on overhead costs. 5%. action projects. on of road projects. tructures Cost (\$M). eted within expected cost and time parameters. ects commenced in the reporting year versus what was planned in each of the two pro	
<ol> <li>Total Factor Productivity.</li> <li>Road construction costs/ sq.m.</li> <li>Annual works achievement index.</li> <li>Annual delivery achievement index.</li> <li>Annual delivery achievement index.</li> <li>Delivery overhead (% of total works</li> <li>Capital works benefit cost ratio (ave</li> <li>Safety works benefit cost ratio.</li> <li>Return on Construction Expenditure</li> <li>Expenditure Efficiency Index (EEI).</li> <li>Urban road indicator.</li> <li>Economic evaluation of road constru</li> <li>Hours of road work.</li> <li>Rate of comprehensive cost reductio</li> <li>Passenger Transport Roading Infrast</li> <li>Walking and Cycling Cost (\$M).</li> <li>Proportion of capital projects comple</li> <li>Actual project dollar benefits comprehesits</li> </ol>	erage). (RCE). The weighted Internal Rate of Return of total capital construction expenditu . The percentage of annual expenditure spent on overhead costs. 5%. action projects. by of road projects. tructures Cost (\$M). eted within expected cost and time parameters. ects commenced in the reporting year versus what was planned in each of the two pro ared to forecast benefits.	
<ol> <li>Total Factor Productivity.</li> <li>Road construction costs/ sq.m.</li> <li>Annual works achievement index.</li> <li>Annual delivery achievement index.</li> <li>Annual delivery achievement index.</li> <li>Delivery overhead (% of total works</li> <li>Capital works benefit cost ratio (ave</li> <li>Safety works benefit cost ratio.</li> <li>Return on Construction Expenditure</li> <li>Expenditure Efficiency Index (EEI).</li> <li>Urban road indicator.</li> <li>Economic evaluation of road constru</li> <li>Hours of road work.</li> <li>Rate of comprehensive cost reductio</li> <li>Passenger Transport Roading Infrast</li> <li>Walking and Cycling Cost (\$M).</li> <li>Proportion of capital projects comple</li> <li>Actual project dollar benefits comprehesits</li> </ol>	erage). (RCE). The weighted Internal Rate of Return of total capital construction expenditu . The percentage of annual expenditure spent on overhead costs. 5%. action projects. bructures Cost (\$M). eted within expected cost and time parameters. ects commenced in the reporting year versus what was planned in each of the two pro ared to forecast benefits. val dollar variance against state highway maintenance and improvement programme.	



#### 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
Purpose of Control Purpose of Control Purpose of Control Subject of Performance Indicator Subject of Performance Indicator Subject of Performance Indicator Clear Selection Clear Selection Clear Selection WORLD ROAD ASSOCIATION MONDIALE DE LA ROUTE L'Arc WORLD ROAD ASSOCIATION MONDIALE DE LA ROUTE "totage keeledge ad techniques on reds and red transportatios." Total Number of Indicators Found = 19  11. Cepital works banefit cost ratio. 29. Road construction Expenditure (RCE). The weighted Internal Rate of Return of total cepital construction expenditure per consum. IRR > 15%. 35. Cepital works banefit cost ratio. 35. Cepital works banefit cost retatio. 35. Cepital works banefit cost retatio. 35. Cepital works banefit cost retation of road cost retation of road cost retation of road cost retation of road cost retation. 36. Cepital works banefit cost retatio. 37. Fature of cost retation of road projects. 37. Fature of cost reduction of road cost (SM). 37. Fortune cost reduction of road cost (SM). 37. Fortune reporting project cost cost fatures of periation cost retation. 38. Annual devices cost and reader of periation. 39. Annual works cost reduction of road projects. 30. Annual devices cost and road projects. 31. Fortune cost reduction of road cost (SM). 37. Fortune project cost cost (SM). 37. Fortune pr	Purpose of Control  Centrol		
Subject of Performance Indicator Sub-catagories Cempore with other countries Total Number of Indicators Found = 19 Total Number of Indicators Found = 19 Total Factor Productivity. 29, Road construction Expenditure (Res. 19, 19, 19, 19, 19, 19, 19, 19, 19, 19,	Subject of Performance Indicator         Sub-categories         Clear Selection         Clear Selection         WORLD ROAD ASSOCIATION ASSOCIATION MONDIALE DE LA ROUTE D'LA CO         Clear Selection         Il, Capital works benefit cost ratio.         R. Total Factor Productivity.         29, Bood construction Expanding Base         Status construction Expanding Base         Social Selection         Social Selection         Total Factor Productivity.         29, Bood construction construction construction construction construction construction construction construction construction projects.         36, Capital works benefit cost ratio.         35, Capital works benefit cost ratio.         36, Capital works benefit cost rat	Phase of Activities	Implementation (Outputs);
Sub-cettgories         Compare with other countries         Clear Selection         WORLD ROAD ASSOCIATION MONDIALE DE LA ROUTE         File         PLARC         Works benefit cost ratio.         28, Aroul for productivity.         29, Road construction costs/ sq.m.         38, Annuel works benefit cost ratio.         29, Road construction costs/ sq.m.         38, Annuel works benefit cost ratio.         29, Road construction costs/ sq.m.         38, Annuel works benefit cost ratio.         29, Road construction costs/ sq.m.         38, Annuel works benefit cost ratio.         29, Road construction costs/ sq.m.         38, Annuel works benefit cost ratio.         29, Road construction costs/ sq.m.         39, Annuel works benefit cost ratio.         29, Solivery contraction for cost ratio.         20, Solivery costs benefit cost ratio.         21, Solivery costs benefit cost ratio.         30, Annuel works benefit cost ratio.         21, Solivery costs benefit cost ratio.         22, Solivery costs benefit cost ratio.         23, Annuel works benefit cost ratio.         24, Solivery costs benefit cost ratio.         25, Batilyery costs benefit cost ratio.         26, Road congrephenesite cost ratid.         27, Sof	Sub-categories      Compare with other countries      Clear Selection      WORLD ROAD ASSOCIATION     MONDIALE DE LA ROUTE     Transport function costs/ sq.m.      Annual works benefit cost ratio.      Annual works converted (% of transportations.      Annual delivery achievement index.      Annual delivery achievement	Purpose of Control	Capital Investment Project:
Compare with other countries  Clear Selection  WORLD ROAD ASSOCIATION Countries  I. Capital works benefit cost ratio.  A roug lower of Indicators Found = 19  I. Capital works benefit cost ratio.  A roug lower had the structure of structure of the structure of structure of capital projects completed with the spected cost and time parameters.  B, Variation between actual large projects completed benefits. B, Annual project dollar benefits compared to fore cost benefits. B, Annual structure cost (\$M). B, Annual structure cos	Compare with other countries  Clear Selection  WORLD ROAD ASSOCIATION  SSOCIATION MONDIALE DE LA ROUTE  Final  WORLD ROAD ASSOCIATION  SSOCIATION MONDIALE DE LA ROUTE  Total Number of Indicators Found = 19  ()  ()  ()  ()  ()  ()  ()  ()  ()  (	Subject of Performance Indicator	
Compare with other countries  Clear Selection  WORLD ROAD ASSOCIATION Countries  I. Capital works benefit cost ratio.  A roug lower of Indicators Found = 19  I. Capital works benefit cost ratio.  A roug lower had the structure of structure of the structure of structure of capital projects completed with the spected cost and time parameters.  B, Variation between actual large projects completed benefits. B, Annual project dollar benefits compared to fore cost benefits. B, Annual structure cost (\$M). B, Annual structure cos	2 Compare with other countries Clear Selection With other countries Clear Selection With other countries Fortal Number of Indicators Found = 19 Total Number of Indicators Found = 19 Total Factor Productivity. Condition Schement index. So Annual devices on tradis and read transportations. So Selective overhead (% of trail works benefit cost retio. So Selective overhead (% of trail works benefit is cost retio. So Selective overhead (% of trail works benefit is cost retio. So Selective overhead (% of trail works benefit is cost retio. So Selective overhead (% of trail works benefit is cost retio. So Selective overhead (% of trail works benefit is cost retio. So Selective overhead (% of trail works benefit is cost retio. So Selective overhead (% of trail works benefit cost retio	Sub-categories	
Clear Selection       WORLD ROAD ASSOCIATION ASSOCIATION MONDIALE DE LA ROUTE "Exclarge howledge and techniques on reads and read transportation."         Total Number of Indicators Found = 19       "Exclarge howledge and techniques on reads and read transportation."         11. Capital works benefit cost ratio.       "Sector Productivity."         29. Road construction costs? sq.m       33. Annual works achievement index.         34. Annual works achievement index.       Sector ratio (works benefit cost ratio.)         55. Delivery overhead (% of total works budget).       36. Capital works benefit cost ratio.         51. Return on Construction projects.       Sector ratio (coverage).         76. Ret of comprehensive cost reture (RCE). The weighted Internal Rate of Return of total capital construction expenditure per annum. IRR > 15%.         61. Decomplex evaluation of road construction froajects.         81. Passanger Transport Roading Infrastructures Cost (AM).         87. Proportion of capital projects completed within expected cost and time parameters.         88. Variation between actual large projects completed in the reporting year versus what was planned in each of the two previous years.         89. Actual project dollar benefits compared to forecest benefits.         94. Number of 'ssveri lives thanks to investment operations.         118. Total number of contracts.         126. Road Capital Investments / Total Road Expenditure.	Clear Selection WORLD ROAD ASSOCIATION ASSOCIATION MONDIALE DE LA ROUTE "scharge knowlege and techniques on rads and road transportation." Total Number of Indicators Found = 19 I. Capital works benefit cost ratio. 28. Total Factor Productivity. 29. Road construction costs/ sq.m. 33. Annual works achievement index. 33. Annual works benefit cost ratio. 35. Delivery overhead (% of total works budget). 35. Capital works benefit cost ratio. 35. Delivery overhead (% of total works budget). 35. Capital works benefit cost ratio. 37. Statum on Construction Expenditure (RCE). The weighted Internal Rate of Return of total capital construction expenditure per annum. IRR > 15%. 31. Return on Construction projects. 35. Return of construction projects. 36. Availa group construction projects. 37. Rete of comprehensive cost reductions from force projects. 38. Variation between actual large projects completed within expected cost and time parameters. 39. Availa work to investing of forecasts benefits. 39. Availa work to investing to investment operations. 31. Proportion of capital projects completed within expected cost and time parameters. 39. Availa project colume benefits compared to forecasts benefits. 39. Availa work to investment operations. 31. Total number of contracts. 39. Availa for contracts is a propring year versus what was planned in each of the two previous years. 39. Availa for contracts is a formed to investment operations. 31. Total number of contracts. 32. Read Capital Investment s / Total Road Expenditure.		
Clear Selection       WORLD ROAD ASSOCIATION ASSOCIATION MONDIALE DE LA ROUTE "Exclarge howledge and techniques on reads and read transportation."         Total Number of Indicators Found = 19       "Exclarge howledge and techniques on reads and read transportation."         11. Capital works benefit cost ratio.       "Sector Productivity."         29. Road construction costs? sq.m       33. Annual works achievement index.         34. Annual works achievement index.       Sector ratio (works benefit cost ratio.)         55. Delivery overhead (% of total works budget).       36. Capital works benefit cost ratio.         51. Return on Construction projects.       Sector ratio (coverage).         76. Ret of comprehensive cost reture (RCE). The weighted Internal Rate of Return of total capital construction expenditure per annum. IRR > 15%.         61. Decomplex evaluation of road construction froajects.         81. Passanger Transport Roading Infrastructures Cost (AM).         87. Proportion of capital projects completed within expected cost and time parameters.         88. Variation between actual large projects completed in the reporting year versus what was planned in each of the two previous years.         89. Actual project dollar benefits compared to forecest benefits.         94. Number of 'ssveri lives thanks to investment operations.         118. Total number of contracts.         126. Road Capital Investments / Total Road Expenditure.	Clear Selection WORLD ROAD ASSOCIATION ASSOCIATION MONDIALE DE LA ROUTE "scharge knowledge and techniques on reds and road transportation." Total Number of Indicators Found = 19 I. Capital works benefit cost ratio. 28. Total Factor Productivity. 29. Road construction costs/ sq.m. 33. Annual works achievement index. 33. Annual works benefit cost ratio. 35. Delivery overhead (% of total works budget). 35. Capital works benefit cost ratio. 35. Delivery overhead (% of total works budget). 35. Capital works benefit cost ratio. 31. Raturn on Construction Expenditure (RCE). The weighted Internal Rate of Return of total capital construction expenditure per annum. IRR > 15%. 31. Raturn on Construction projects. 35. Return of construction projects. 36. Availa group construction projects. 37. Rate of comprehensive cost reductions from projects. 38. Variation between actual large projects completed within expected cost and time parameters. 39. Availa group construction of coad projects. 39. Availa group construction for tool projects. 39. Availa group construction from the projects completed within expected cost and time parameters. 39. Availa group construction from the projects completed within expected cost and time parameters. 39. Availa group construction for comprehensity in the reporting year versus what was planned in each of the two previous years. 39. Availa group construction for comprehensity to investment operations. 31. Total number of contracts. 31. Capital more from to total schemefits. 33. Total availabut to investment operations. 34. Availa group contracts. 35. Read Capital Investment for Contracts. 36. Read Capital Investment for Contracts. 37. Rate of comprehensity of total construction projects. 38. Variation between actual large projects completed within expected cost and time parameters. 39. Availa project colume benefits compared to forecest benefits. 39. Availa project colume benefits compared for forecest benefits. 39. Availa project Informatione forecest contracts. 30. Read Capital Investment J T		
Clear Selection       WORLD ROAD ASSOCIATION ASSOCIATION MONDIALE DE LA ROUTE "Exclarge howledge and techniques on reads and read transportation."         Total Number of Indicators Found = 19       "Exclarge howledge and techniques on reads and read transportation."         11. Capital works benefit cost ratio.       "Sector Productivity."         29. Road construction costs? sq.m       33. Annual works achievement index.         34. Annual works achievement index.       Sector ratio (works benefit cost ratio.)         55. Delivery overhead (% of total works budget).       36. Capital works benefit cost ratio.         51. Return on Construction projects.       Sector ratio (coverage).         76. Ret of comprehensive cost reture (RCE). The weighted Internal Rate of Return of total capital construction expenditure per annum. IRR > 15%.         61. Decomplex evaluation of road construction froajects.         81. Passanger Transport Roading Infrastructures Cost (AM).         87. Proportion of capital projects completed within expected cost and time parameters.         88. Variation between actual large projects completed in the reporting year versus what was planned in each of the two previous years.         89. Actual project dollar benefits compared to forecest benefits.         94. Number of 'ssveri lives thanks to investment operations.         118. Total number of contracts.         126. Road Capital Investments / Total Road Expenditure.	Clear Selection WORLD ROAD ASSOCIATION ASSOCIATION MONDIALE DE LA ROUTE "scharge knowledge and techniques on reds and road transportation." Total Number of Indicators Found = 19 I. Capital works benefit cost ratio. 28. Total Factor Productivity. 29. Road construction costs/ sq.m. 33. Annual works achievement index. 33. Annual works benefit cost ratio. 35. Delivery overhead (% of total works budget). 35. Capital works benefit cost ratio. 35. Delivery overhead (% of total works budget). 35. Capital works benefit cost ratio. 31. Raturn on Construction Expenditure (RCE). The weighted Internal Rate of Return of total capital construction expenditure per annum. IRR > 15%. 31. Raturn on Construction projects. 35. Return of construction projects. 36. Availa group construction projects. 37. Rate of comprehensive cost reductions from projects. 38. Variation between actual large projects completed within expected cost and time parameters. 39. Availa group construction of coad projects. 39. Availa group construction for tool projects. 39. Availa group construction from the projects completed within expected cost and time parameters. 39. Availa group construction from the projects completed within expected cost and time parameters. 39. Availa group construction for comprehensity in the reporting year versus what was planned in each of the two previous years. 39. Availa group construction for comprehensity to investment operations. 31. Total number of contracts. 31. Capital more from to total schemefits. 33. Total availabut to investment operations. 34. Availa group contracts. 35. Read Capital Investment for Contracts. 36. Read Capital Investment for Contracts. 37. Rate of comprehensity of total construction projects. 38. Variation between actual large projects completed within expected cost and time parameters. 39. Availa project colume benefits compared to forecest benefits. 39. Availa project colume benefits compared for forecest benefits. 39. Availa project Informatione forecest contracts. 30. Read Capital Investment J T		
Clear Selection       WORLD KUAD ASSOCIATION SOCIAL ROUTE Exclamation MONDIALE DE LA ROUTE Exclamation MONDIALE DE LA ROUTE         Total Number of Indicators Found = 19       Total Pactor Productivity.         11, Capital works benefit cost ratio.       ************************************	Clear Selection	Compare with other countries	
Clear Selection       ASSOCIATION MONDIALE DE LA ROUTE         "Exchange knowledge and techniques on reads and read transportation."       "Exchange knowledge and techniques on reads and read transportation."         Total Number of Indicators Found = 19       III. Capital works benefit cost ratio.       III. Capital works benefit cost ratio.         28. Total Factor Productivity.	Clear Selection EVEN Description EVEN De		WORLD ROAD ASSOCIATION
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.         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 comprehensity east reduction of road projects.         81. Yasitalin no thewan actual large projects completed within expected cost and time parameters.         83. 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 'saved' lives thanks to investment operations.         118. Total number of 'saved' lives thanks to investment operations.         116. Road Capital Investments / Total Road 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 benefit cost ratio (average).           47. Softy works benefit cost ratio (average).           51. Selivery overhead (% of total works budget).           36. Copital works benefit cost ratio (average).           51. Return on Construction Expanditure (RCE). The weighted Internal Rate of Return of total capital construction expenditure per annum. IRR > 15%.           51. Return on Construction for coad construction of road construction of road projects.           62. Rate of comprehensive coat ratio.           83. Variation of coad projects completed within expected cost and time parameters.           84. Variation between actual large projects compared to forecast benefits.           89. Actual project dollar benefits compared to forecast benefits.           89. Number of 'saved' lives thanks to investment operations.           118. Total number of contracts.           126. Road Capital Investments / Total Road Expenditure.	Clear Selection	ASSOCIATION MONDIALE DE LA ROUTE
<ul> <li>11. Capital works benefit cost ratio.</li> <li>28. Total Factor Productivity.</li> <li>29. Road construction costs/ sq.m.</li> <li>33. Annual works achievement index.</li> <li>34. Annual delivery achievement index.</li> <li>35. Delivery overhead (% of total works budget).</li> <li>36. Capital works benefit cost ratio (average).</li> <li>47. Safety works benefit cost ratio (average).</li> <li>47. Safety works benefit cost ratio (average).</li> <li>47. Safety works benefit cost ratio.</li> <li>51. Return on Construction Expenditure (RCE). The weighted Internal Rate of Return of total capital construction expenditure per annum. IRR &gt; 15%.</li> <li>61. Economic evaluation of road construction projects.</li> <li>76. Rate of comprehensive cost reduction of road projects.</li> <li>81. Passenger Transport Roading Infrastructures Cost (\$M).</li> <li>87. Proportion of cogital projects completed within expected cost and time parameters.</li> <li>88. Variation between actual large projects completed within expected cost and time parameters.</li> <li>89. Variation between orbits compared to forecast benefits.</li> <li>98. Number of 'asved' lives thanks to investment operations.</li> <li>118. Total number of contracts.</li> <li>126. Road Capital Investments / Total Road Expenditure.</li> </ul>	<ul> <li>11, Capital works benefit cost ratio.</li> <li>28, Total Factor Productivity.</li> <li>29, Road construction costs/ sq.m.</li> <li>33, Annual works achievement index.</li> <li>34, Annual delivery achievement index.</li> <li>35, Delivery overhead (% of total works budget).</li> <li>36, Capital works benefit cost ratio (average).</li> <li>47, Safety works benefit cost ratio.</li> <li>51, Return on Construction Expenditure (RCE). The weighted Internal Rate of Return of total capital construction expenditure per annum. IRR &gt; 15%.</li> <li>14, Economic evaluation of road construction projects.</li> <li>16, Rate of comprehensive cost reduction of road projects.</li> <li>17, Proportion of capital projects completed within expected cost and time parameters.</li> <li>18, Variation between actual large projects commenced in the reporting year versus what was planned in each of the two previous years.</li> <li>18, Actual project dollar benefits compared to forecast benefits.</li> <li>18, Actual number of caratrats.</li> <li>118, Total number of cartrats.</li> <li>126, Road Capital Investments / Total Road Expenditure.</li> </ul>		PIARC "Exchange knowledge and techniques on roads and road transportation."
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 <sup>7</sup>
118, Total number of contracts. 126, Road Capital Investments / Total Road Expenditure.	118, Total number of contracts. 126, Road Capital Investments / Total Road Expenditure.	<ol> <li>Total Factor Productivity.</li> <li>Road construction costs/ sq.m.</li> <li>Annual works achievement index.</li> <li>Annual delivery achievement index.</li> <li>Delivery overhead (% of total works</li> <li>Capital works benefit cost ratio (ave</li> <li>Safety works benefit cost ratio.</li> <li>Return on Construction Expenditure (61, Economic evaluation of road constructor)</li> <li>Rate of comprehensive cost reduction</li> <li>Passenger Transport Roading Infrast</li> <li>Proportion of capital projects complete</li> </ol>	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.
		<ol> <li>Total Factor Productivity.</li> <li>Road construction costs/ sq.m.</li> <li>Annual works achievement index.</li> <li>Annual delivery achievement index.</li> <li>Delivery overhead (% of total works</li> <li>Capital works benefit cost ratio.</li> <li>Safety works benefit cost ratio.</li> <li>Return on Construction Expenditure (61, Economic evaluation of road constructor)</li> <li>Rate of comprehensive cost reduction</li> <li>Passenger Transport Roading Infrastment</li> <li>Proportion of capital projects complete</li> <li>Variation between actual large projete</li> <li>Actual project dollar benefits compare</li> </ol>	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)	<ol> <li>Total Factor Productivity.</li> <li>Road construction costs/ sq.m.</li> <li>Annual works achievement index.</li> <li>Annual delivery achievement index.</li> <li>Delivery overhead (% of total works</li> <li>Capital works benefit cost ratio.</li> <li>Ratery works benefit cost ratio.</li> <li>Return on Construction Expenditure (61, Economic evaluation of road constructor)</li> <li>Rate of comprehensive cost reduction</li> <li>Passenger Transport Roading Infrastment</li> <li>Proportion of capital projects completes</li> <li>Variation between actual large projetes</li> <li>Actual project dollar benefits compare</li> <li>Number of 'saved' lives thanks to in</li> </ol>	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.
		<ol> <li>Total Factor Productivity.</li> <li>Road construction costs/ sq.m.</li> <li>Annual works achievement index.</li> <li>Annual delivery achievement index.</li> <li>Annual delivery achievement index.</li> <li>Delivery overhead (% of total works</li> <li>Capital works benefit cost ratio (ave</li> <li>Safety works benefit cost ratio.</li> <li>Return on Construction Expenditure (</li> <li>Economic evaluation of road construct</li> <li>Rate of comprehensive cost reduction</li> <li>Passenger Transport Roading Infrast</li> <li>Proportion of capital projects comple</li> <li>Actual project dollar benefits compa</li> <li>Number of 'saved' lives thanks to in</li> <li>Total number of contracts.</li> <li>Road Capital Investments / Total R</li> </ol>	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	
<ol> <li>Capital works benefit cost ratio.</li> </ol>	19			~
<ol> <li>Capital works benefit cost ratio.</li> <li>Total Factor Productivity.</li> <li>Road construction costs/ sq.m.</li> <li>Annual works achievement index.</li> </ol>	: 19			2
28, Total Factor Productivity. 29, Road construction costs/ sq.m.				()
<ol> <li>28, Total Factor Productivity.</li> <li>29, Road construction costs/ sq.m.</li> <li>33, Annual works achievement index.</li> <li>34, Annual delivery achievement index.</li> <li>35, Delivery overhead (% of total works</li> <li>36, Capital works benefit cost ratio (avertice)</li> </ol>	budget).			
<ol> <li>Total Factor Productivity.</li> <li>Road construction costs/ sq.m.</li> <li>Annual works achievement index.</li> <li>Annual delivery achievement index.</li> <li>Delivery overhead (% of total works</li> <li>Capital works benefit cost ratio (ave</li> <li>Safety works benefit cost ratio.</li> </ol>	budget). 2rage).		n angun TDD 1 15%	<
<ol> <li>Total Factor Productivity.</li> <li>Road construction costs/ sq.m.</li> <li>Annual works achievement index.</li> <li>Annual delivery achievement index.</li> <li>Delivery overhead (% of total works</li> <li>Capital works benefit cost ratio (ave</li> <li>Safety works benefit cost ratio.</li> <li>Return on Construction Expenditure</li> </ol>	budget). erage). (RCE). The weighted Internal Rate of Return of	f total capital construction expenditure pe	er annum. IRR > 15%.	
<ol> <li>Total Factor Productivity.</li> <li>Road construction costs/ sq.m.</li> <li>Annual works achievement index.</li> <li>Annual delivery achievement index.</li> <li>Delivery overhead (% of total works</li> <li>Capital works benefit cost ratio (ave</li> <li>Safety works benefit cost ratio.</li> </ol>	budget). erage). (RCE). The weighted Internal Rate of Return of ction projects.	f total capital construction expenditure pe	er annum. IRR > 15%.	
<ol> <li>Total Factor Productivity.</li> <li>Road construction costs/ sq.m.</li> <li>Annual works achievement index.</li> <li>Annual delivery achievement index.</li> <li>Delivery overhead (% of total works</li> <li>Capital works benefit cost ratio (ave</li> <li>Safety works benefit cost ratio.</li> <li>Return on Construction Expenditure</li> <li>Economic evaluation of road construction</li> <li>Rate of comprehensive cost reductio</li> <li>Passenger Transport Roading Infrast</li> </ol>	budget). erage). (RCE). The weighted Internal Rate of Return of ction projects. n of road projects. ructures Cost (\$M).		er annum. IRR > 15%.	<li></li>
<ol> <li>Total Factor Productivity.</li> <li>Road construction costs/ sq.m.</li> <li>Annual works achievement index.</li> <li>Annual delivery achievement index.</li> <li>Delivery overhead (% of total works</li> <li>Capital works benefit cost ratio.</li> <li>Safety works benefit cost ratio.</li> <li>Return on Construction Expenditure</li> <li>Economic evaluation of road construction</li> <li>Rate of comprehensive cost reductio</li> <li>Passenger Transport Roading Infrast</li> <li>Proportion of capital projects completion</li> </ol>	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.	£		
<ol> <li>Total Factor Productivity.</li> <li>Road construction costs/ sq.m.</li> <li>Annual works achievement index.</li> <li>Annual delivery achievement index.</li> <li>Delivery overhead (% of total works</li> <li>Capital works benefit cost ratio.</li> <li>Return on Construction Expenditure</li> <li>Economic evaluation of road construction</li> <li>Rate of comprehensive cost reductio</li> <li>Passenger Transport Roading Infrast</li> <li>Proportion of capital projects complete</li> <li>Variation between actual large proje</li> </ol>	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	£		
<ol> <li>Total Factor Productivity.</li> <li>Road construction costs/ sq.m.</li> <li>Annual works achievement index.</li> <li>Annual delivery achievement index.</li> <li>Annual delivery achievement index.</li> <li>Delivery overhead (% of total works</li> <li>Capital works benefit cost ratio (ave</li> <li>Safety works benefit cost ratio.</li> <li>Return on Construction Expenditure</li> <li>Economic evaluation of road construction</li> <li>Passenger Transport Roading Infrast</li> <li>Proportion of capital projects complete</li> <li>Variation between actual large proje</li> <li>Actual project dollar benefits compare</li> </ol>	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.	£		<
<ol> <li>Total Factor Productivity.</li> <li>Road construction costs/ sq.m.</li> <li>Annual works achievement index.</li> <li>Annual delivery achievement index.</li> <li>Delivery overhead (% of total works</li> <li>Capital works benefit cost ratio.</li> <li>Return on Construction Expenditure</li> <li>Economic evaluation of road construction</li> <li>Rate of comprehensive cost reductio</li> <li>Passenger Transport Roading Infrast</li> <li>Proportion of capital projects complete</li> <li>Variation between actual large proje</li> </ol>	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.	£		
<ol> <li>Total Factor Productivity.</li> <li>Road construction costs/ sq.m.</li> <li>Annual works achievement index.</li> <li>Annual delivery achievement index.</li> <li>Annual delivery achievement index.</li> <li>Delivery overhead (% of total works</li> <li>Capital works benefit cost ratio (ave</li> <li>Safety works benefit cost ratio.</li> <li>Return on Construction Expenditure</li> <li>Economic evaluation of road construction</li> <li>Passenger Transport Roading Infrast</li> <li>Proportion of capital projects complete</li> <li>Variation between actual large proje</li> <li>Actual project dollar benefits composition</li> </ol>	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.	£		
<ol> <li>Total Factor Productivity.</li> <li>Road construction costs/ sq.m.</li> <li>Annual works achievement index.</li> <li>Annual delivery achievement index.</li> <li>Annual delivery achievement index.</li> <li>Delivery overhead (% of total works</li> <li>Capital works benefit cost ratio (ave</li> <li>Safety works benefit cost ratio.</li> <li>Return on Construction Expenditure</li> <li>Economic evaluation of road construction</li> <li>Passenger Transport Roading Infrast</li> <li>Proportion of capital projects complete</li> <li>Variation between actual large proje</li> <li>Actual project dollar benefits complete</li> <li>Number of 'saved' lives thanks to in</li> <li>Total number of contracts.</li> </ol>	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.	£		
<ol> <li>Total Factor Productivity.</li> <li>Road construction costs/ sq.m.</li> <li>Annual works achievement index.</li> <li>Annual delivery achievement index.</li> <li>Annual delivery achievement index.</li> <li>Delivery overhead (% of total works</li> <li>Capital works benefit cost ratio.</li> <li>Return on Construction Expenditure</li> <li>Economic evaluation of road construction</li> <li>Passenger Transport Roading Infrast</li> <li>Proportion of capital projects complete</li> <li>Actual project dollar benefits compose</li> <li>Number of 'saved' lives thanks to in</li> <li>Total number of contracts.</li> <li>Road Capital Investments / Total R</li> </ol>	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

and the second second 1.2

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."	
<ol> <li>Road construction costs/ sq.m.</li> <li>Capital works benefit cost ratio (av</li> <li>Safety works benefit cost ratio.</li> <li>Return on Construction Expenditure</li> <li>Economic evaluation of road construction</li> <li>Rate of comprehensive cost reduction</li> <li>Passenger Transport Roading Infras</li> <li>Actual project dollar benefits comp</li> <li>Number of 'saved' lives thanks to in</li> <li>Road Capital Investments / Total I</li> </ol>	(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	
	<ol> <li>Road construction costs/ sq.m.</li> <li>Capital works benefit cost ratio (ave</li> <li>Safety works benefit cost ratio.</li> <li>Return on Construction Expenditure (</li> <li>Economic evaluation of road construction</li> <li>Rate of comprehensive cost reduction</li> <li>Passenger Transport Roading Infrastra</li> <li>Actual project dollar benefits compa</li> <li>Number of 'saved' lives thanks to in</li> <li>Road Capital Investments / Total R</li> </ol>	(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	
<ul> <li>Composition</li> <li>Composition</li> <li>Composition</li> <li>Safety and Fatalities</li> <li>Construction Results, Costs, Del</li> <li>Cle</li> <li>Cle</li> <li>Traffic Incident Management</li> <li>Overhead</li> <li>Road Administration organisation</li> </ul>	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.		
			<u>v</u>

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."
	0		4
	~		
	, 		

. @ 🛛

Eile Edit View																					
🗅 😅 🖪 🛔									?) 🗸 🛛 Arial		• 10 •	B / U	E E	= <b>a g</b>	7%, %	8 <b>;</b> 00 €≢	<b>f</b>	<u>ð</u> - <u>A</u> -	-		
	-	= PIARC	Performan	nce Indicator	Navigator O	utput, 13/0	09/2007 14	:02:20						4							11 - 4
A 1 PIARC Pe	В	С	D	E	F	G	Н	1	J	K	L	М	N	0	P	Q	R	S	Т	U	
1 PIARC Pe	formance l	ndicator Na	avigator Ou	tput, 13/09/2	2007 14:02:2	20						-	-			-	-		·		
2																					
3 Function: 4 Phase: Im			1000																		
5 Control: C			outs).				-	-				-	-								
6 Subject: E		unent Froje	зы,																		+++
7 Sub-Categ	nories: Safe	ty and Eats	lities																		+
8 Compared			antico,				-						-								44
9		ling,																			-
10 PI Index	PI							-													
11 47	Safety wo	rks benefit	cost ratio.																		
12 61	Economic	evaluation	of road cor	nstruction pr	ojects.																
13 98				o investment																	
14																					
15			_					-						_							
16																					
17	÷				· · · · · ·										÷						
18			_																		
19		-						-											-		11
20				_																	-
21																					
22 23																					
24	-	-					1		- married			1				· · · · · · · · · · · · · · · · · · ·					
25								Microsof	t Excel				≙_								
26		-						~							-						
27								1	Do you want t	o save the cha	anges you ma	de to 'Book1'	2								-
28					· · · · · · · · · · · · · · · · · · ·																
29	-								Yes	No	Cance										-
30							Ļ	1	50 CO				-								
31																					
32																					
33			-											-							
34																					
35																					1
36																					
37								-													
38																					
39		-					-						-							-	
40 41																					
41		-					-						-			· · · · · · · · · · · · · · · · · · ·			·		<u>1957</u>
43																					
44	+			-				-							-						
45			-					-			-			-	÷						-
46																					
47																					t
48																					
49																					
50	10/00	10 / 01	12.1			_															
	neet1 / She	et2 / Shee			8 4	A =						1									
Draw - 🔓 🕲	AutoShap	es + / )			<u>∽</u> • <u>-</u> •	A · =		•													
Ready					3.11.1	Terranet service							_								
🐮 start	🔰 🗀 Pre	sentation		🛃 PIARC Per	formance I	C Micr	osoft Power	Point	Microsoft	Excel - Book1							EN 🕑	Norton*	< 🛯 🖉 🕯	8 📃 1	4:02

- 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
----------	----------	-----	---------	-------	----	---

- 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.

