



Indonesia Bridge Management

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Indonesia

- Largest economy in South East Asia and 16th in the world
- Archipelagic Country
- Located in ring of fire
- At least 3 times earthquake a day
- Heavy rainfall
- Mountainous area
- Population is 240 millions
- 95.000 bridges in national road

Distribution of bridge span length and types

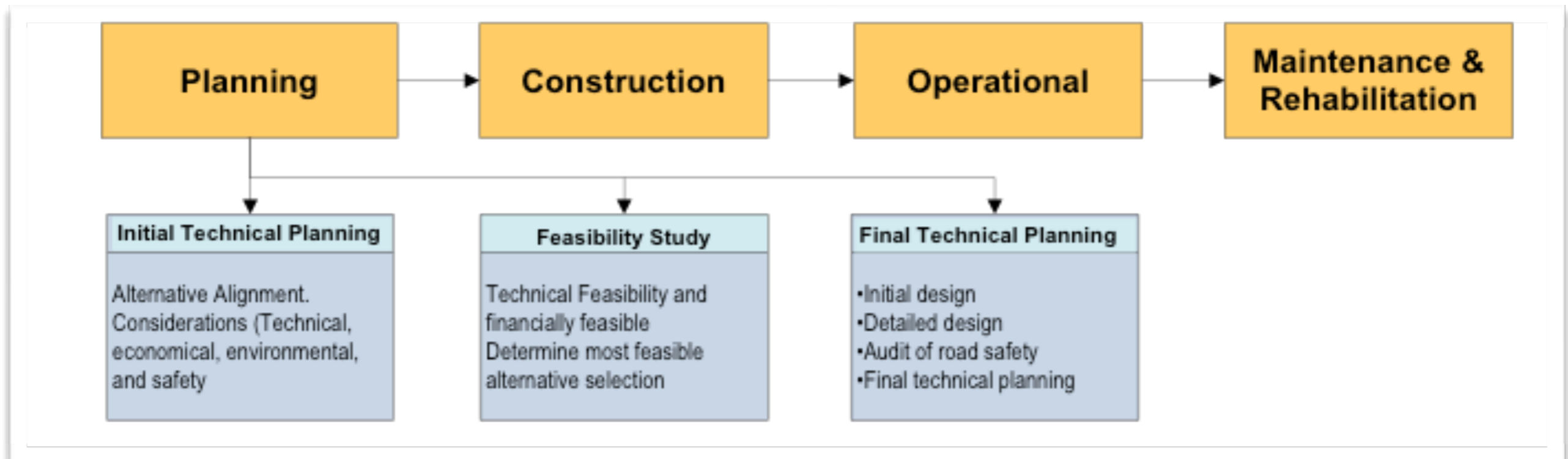
Bridge Span (m)	Percentage of distribution
0-20	78%
20-30	9%
30-60	9%
60-100	2%
> 100	2%



Bridge Type	Percentage of distribution
Culvert	17%
Girder	69%
Truss	10%
Other	5%



Bridge Life Cycle



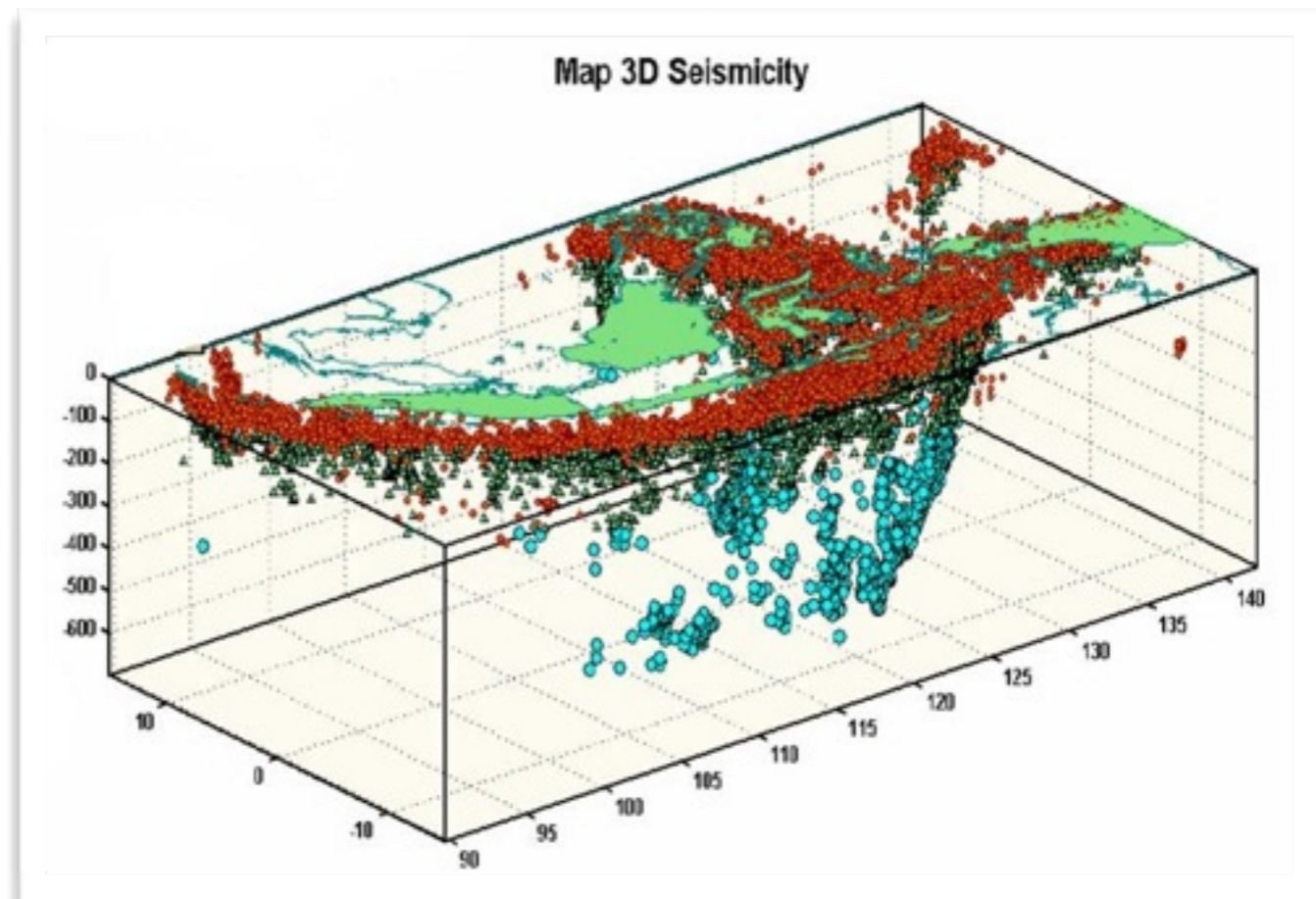
Major Issues (1)



Ignoring standards, procedures, manuals



Topography



Seismic condition

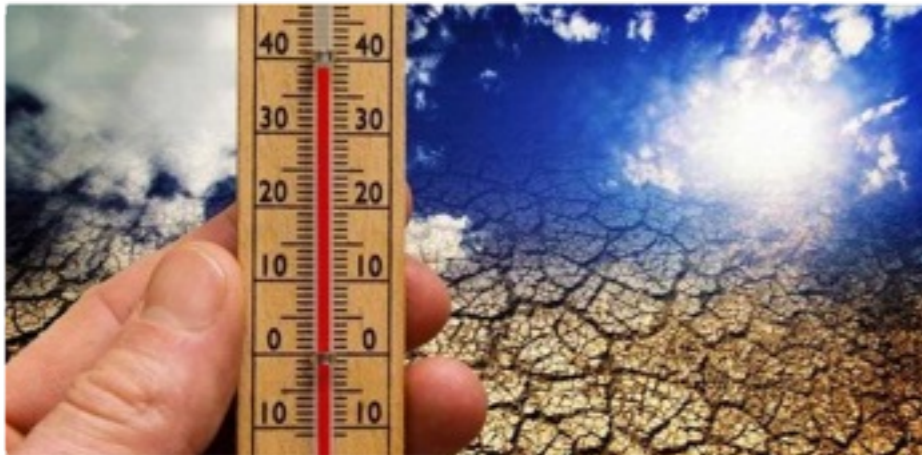
Major Issues (2)



Heavy rainfall



Overloading



High temperature



Maintenance Management

Failures(1)



Penggaron Bridge



Timpah Bridge

Failures(2)



Suramadu Bridge



Marunda-Cilincing Bridge

Failures (3)



Cipunagara Bridge



Yos Sudarso Fly Over

Failures (4)



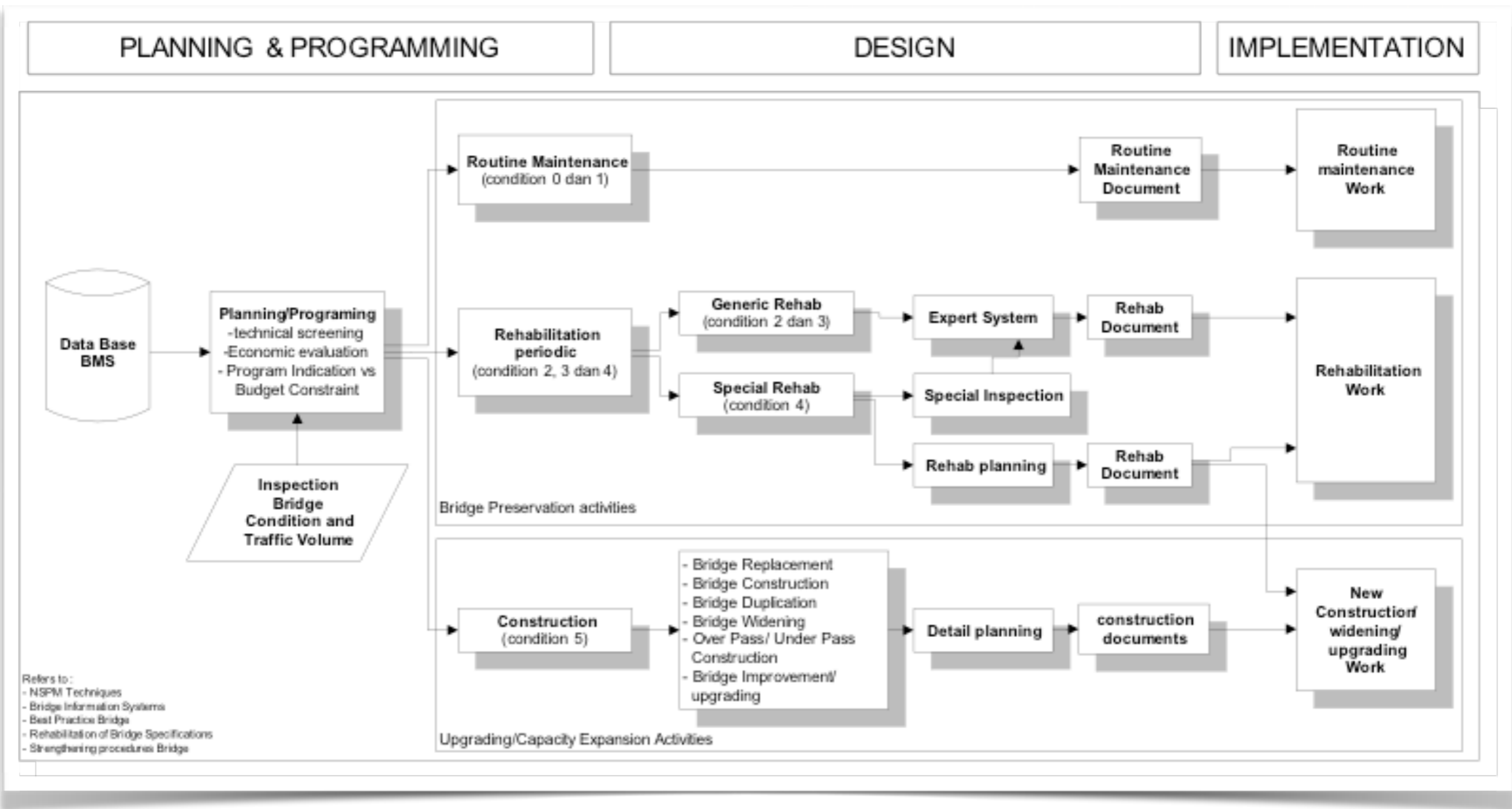
Kutai Kertanagara Bridge



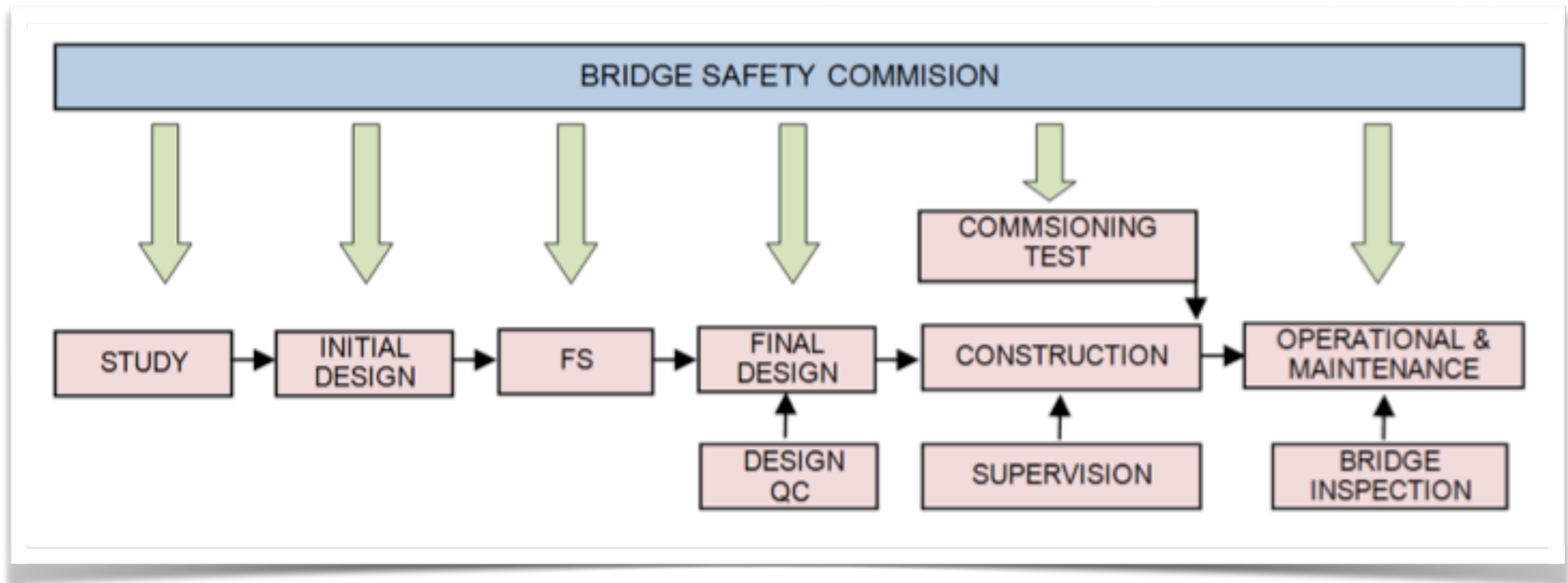
Components and Guidelines

Components	Guidelines
All	IBMS General Procedure Guideline
Inspection	Bridge Inspection Guideline
Emergency Action	Maintenance & Rehabilitation Guideline
IBMS Management Information System	IBMS Management Information System Guideline
Planning and Programming	IBMS Planning and Programming Guideline
Investigation and Technical Design	Bridge Investigation
	Bridge Design Manual
	Bridge Design Code
Bidding Document	Standard Specification for Bridge Construction
	Standard Specification for Bridge Rehabilitation
	Bridge Specification Guideline
Bidding Process	-
Bridge Material Management	Bridge Unit Supply System
	Storage Management Guideline
	Inventory System Guideline
Construction	Supervision Guideline
	Construction Guideline
Maintenance & Rehabilitation	Maintenance & Rehabilitation Guideline
Monitoring	General Procedures/ IBMS – MIS Guideline

Bridge Establishment from BMS



Needs of Bridge Safety Commission



Remarks

- Indonesia is the largest economy in Southeast Asia and 16th largest in the world with growth rate from 4-6% after suffering from 1998 economic crisis. Infrastructure is growing rapidly and Ministry Public Works (MPW) is expanding road access to potential economic areas as part of MP3EI (Master Plan for Acceleration and Expansion of Indonesian's Economic) strategy.
- Bridge Development in Indonesia is very challenging due to its conditions.
- Road and Bridge life cycle phases for a typical construction project are planning, design, construction, operation, maintenance, and rehabilitation
- All stages in life cycle are not working well caused by negligence, lack of SPM, and etc.
- To ensure each stage works in proper way, MPW need an independent commission that has role to maintain Quality Assurance and Control.
- Members of the commission are government officials, professionals, academics as well as road agencies.
- BMS is appropriate for bridge management but adding QA/QC in all stages by the commission will ensure security and safety for road users.



Thank You

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