PAVEMENT ISSUES IN INDONESIA

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Major Issues of Indonesian Pavement

1. The road pavement on North Java Coridor have early damage

   - Weak Soil Support
   - Very Heavy Traffic volume
   - High pavement temperature
   - High precipitation and poor drainage

2. Less utilization of local material, such as Buton Rocks Asphalt

   - Huge deposits
   - Not yet available an adequate technologies

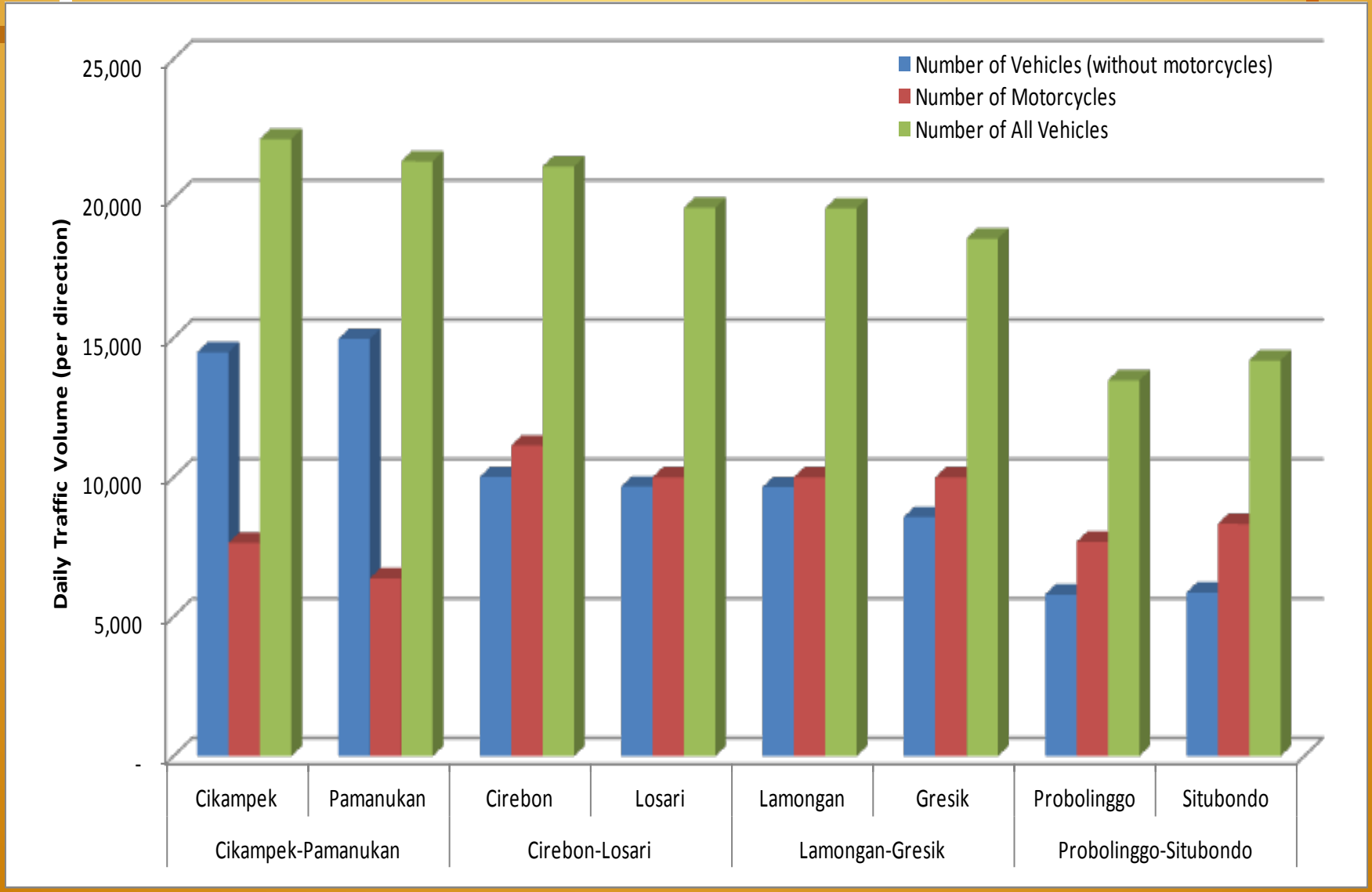
2. Performance Base Contract (PBC

1. North Java Corridor (PANTURA)

ISSUES 1 : North Java Corridor

- The Corridor has a very strategic role in the social, economic, cultural and defense sector. This road section supports the acceleration and expansion of Indonesia's economic development years 2011-2025. However, almost every year the condition of the infrastructure, especially pavement always encountered problems that interfere the traffic flow.
- Mostly on alluvial soils and have weak soil support (CBR ; 2 – 6 %
- Poor drainage and also have high water level, that is around 0.5-3m from the ground surface

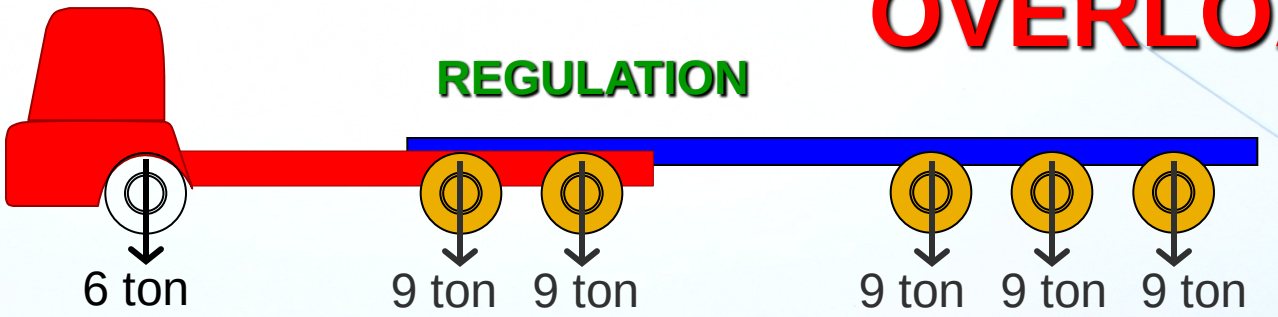
TYPICAL TRAFFIC VOLUME



Heavy Vehicles on North Java Corridor

OVERLOADING

OVERLOADING

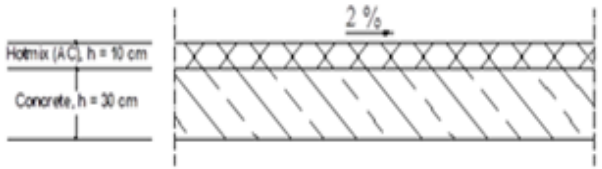


REALITY

CIPUNAGARA BRIDGES

TYPICAL PAVEMENT CONSTRUCTION

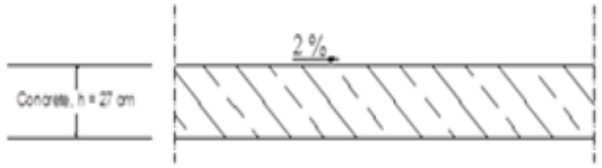
TYPE 1



Information:

- Design period is 100 million CESA on the design lane
- This contruction found in the Cikampek-Pemanukan-Eretan segment
- Build between the year 2002-2007

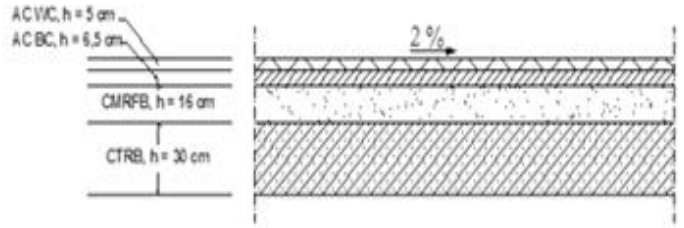
TYPE 2



Information:

- Design period is 50 million CESA on the design lane
- This construction found in the Jatibarang segment
- Build in the year 2004

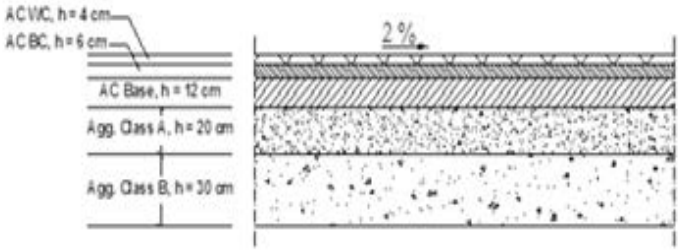
TYPE 3



Information:

- Design period is 50 million CESA on the design lane
- This construction found at the Jatibarang-Cirebon-Losari segment
- Build between the year 2006-2011

TYPE 4



Information:

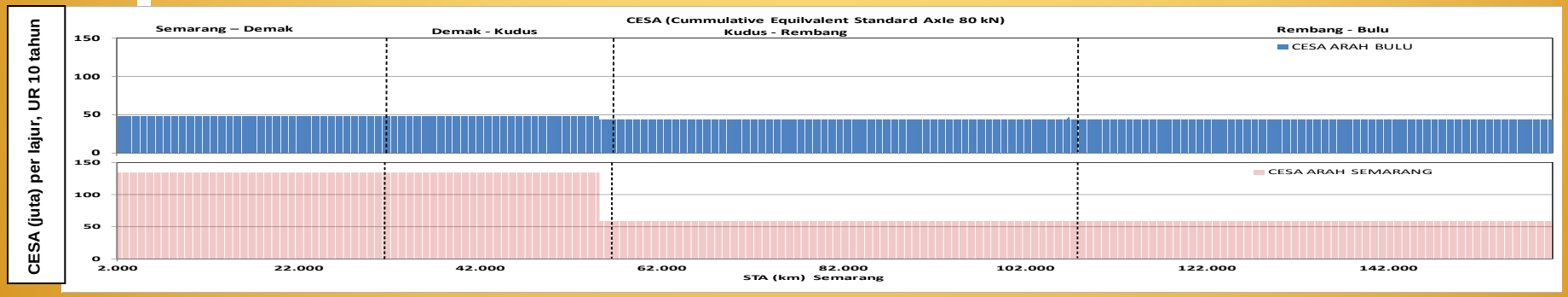
- Design period is 45 million CESA on the design lane
- This construction found at the Losari-Semarang segment
- Build between the year 1997-2004

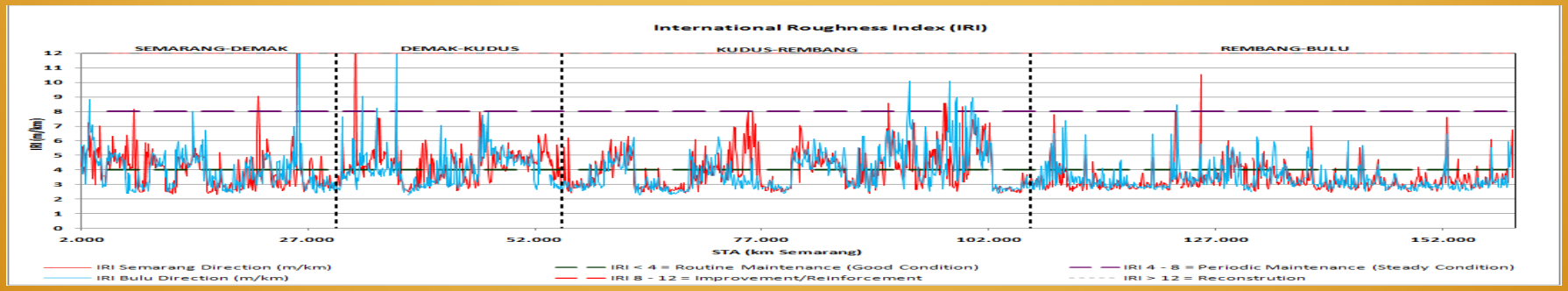
TYPICAL DISTRESS (RIGID PAVEMENT)

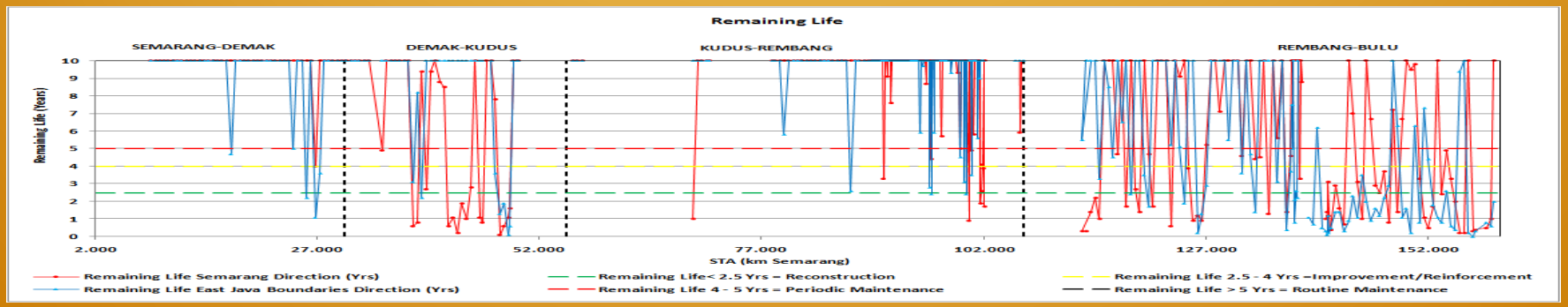
TYPICAL DISTRESS (FLEXIBLE PAVEMENT)

TYPICAL ROUGNESS & REMAINING LIFE

Central Java (Semarang-Bulu), 2011







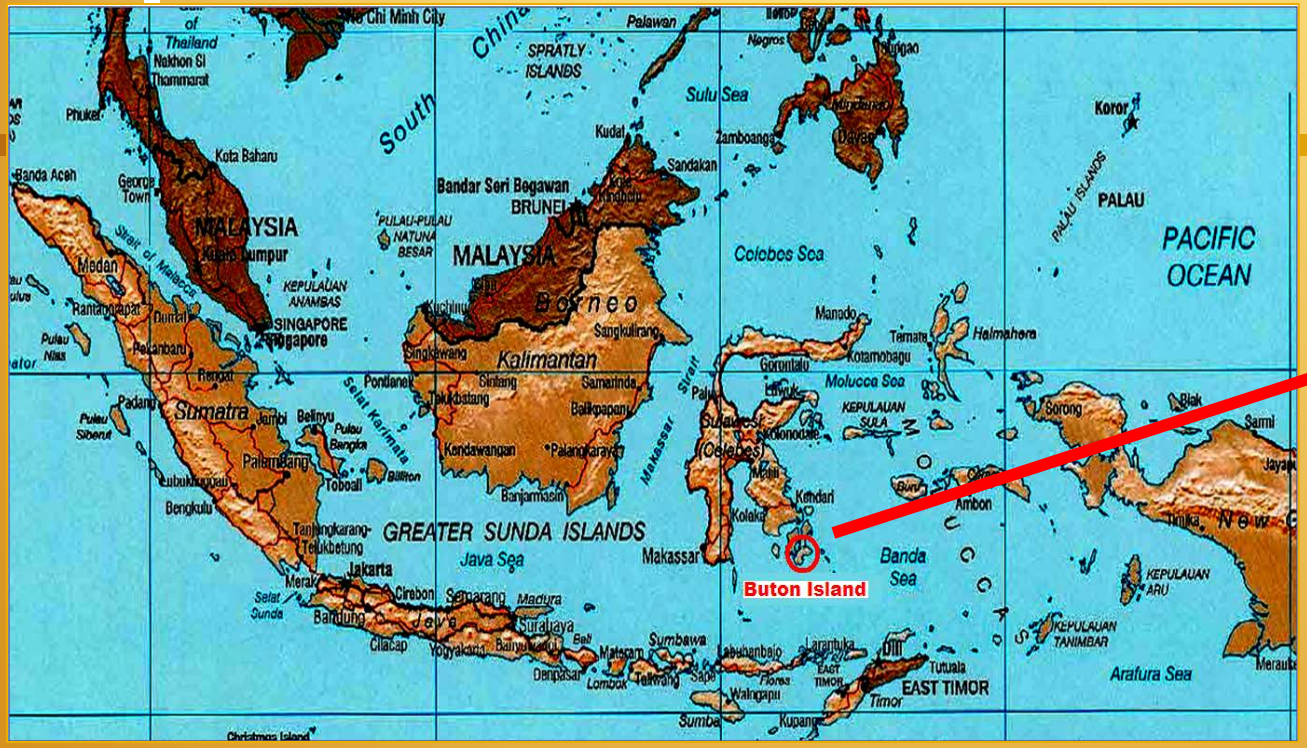
Nort Java Proposed Research 2010 - 2014

1.Reseach on alternative pavement technologies, using modifier on asphalt mixture or on cement concrete pavement and propose design life of 10 years or more with the existing actual load and environmental condition to avoid the cost of high traffic congestion.

2.Research on Long Life Pavement (Perpetual pavement) or Superpave 50

2. Utilization of Asbuton

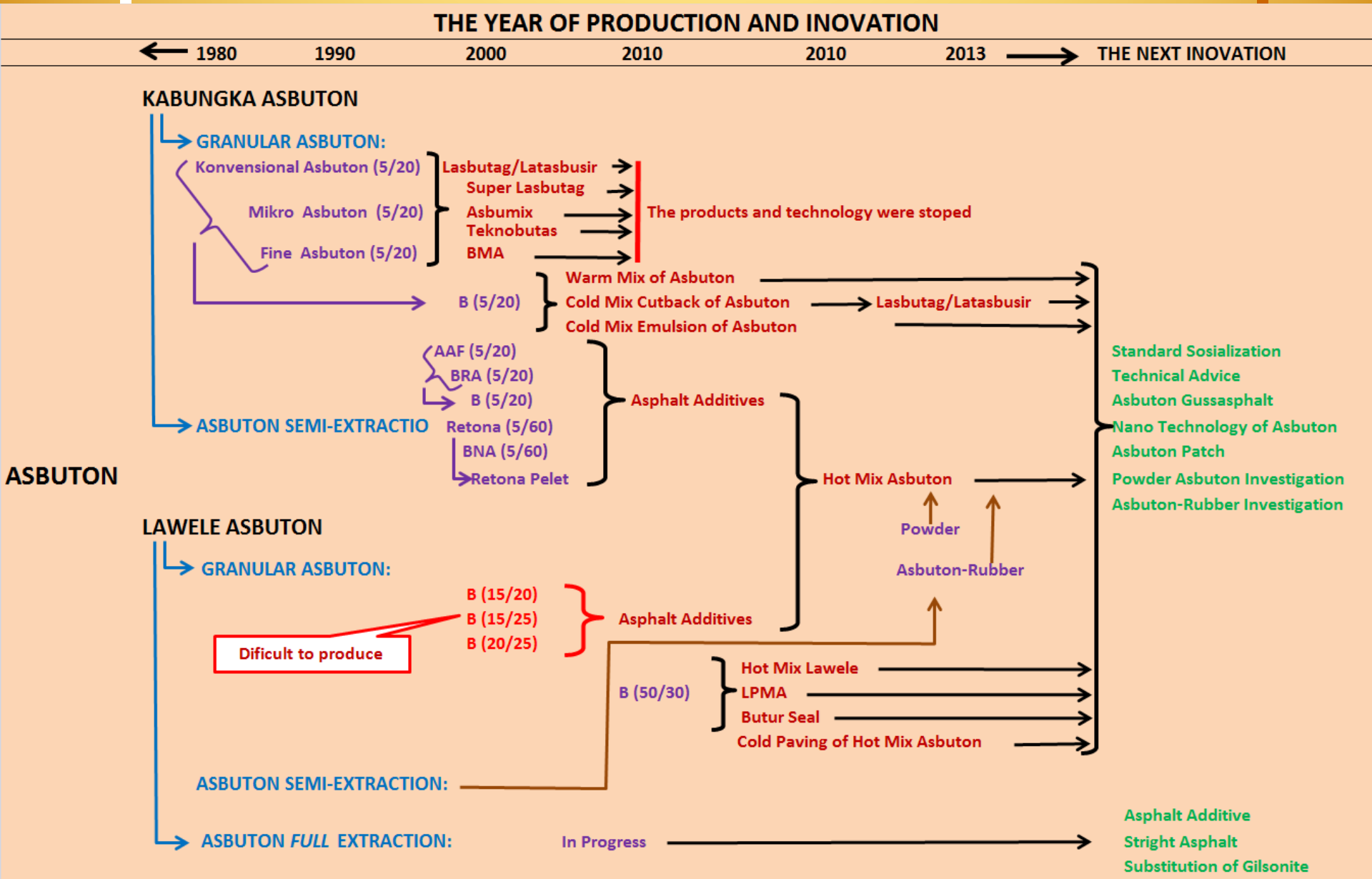
2.1 Deposit of Asbuton



Asbuton Exploration in Kabungka

Asbuton Exploration in Lawele

2.2 ASBUTON PRODUCT AND USING TECHNOLOGY



Asbuton Proposed Research 2010 - 2014

1. **Asbuton processing studies** focused on the development of method and tools for the asbuton extraction (liquid) and granular asbuton, so Asbuton this type can be directly used as asphalt substitution in the asphalt mixture or as modifier.

2. **Develoment of pavement technology using asbuton and full-scale construction** to optimize Asbuton application for road construction.

3. Performance Base Contract (PBC)

Performance Base Contract (PBC
Will be presented by Mr. Nazib Faizal

Establishment and Operation of Technical Standards

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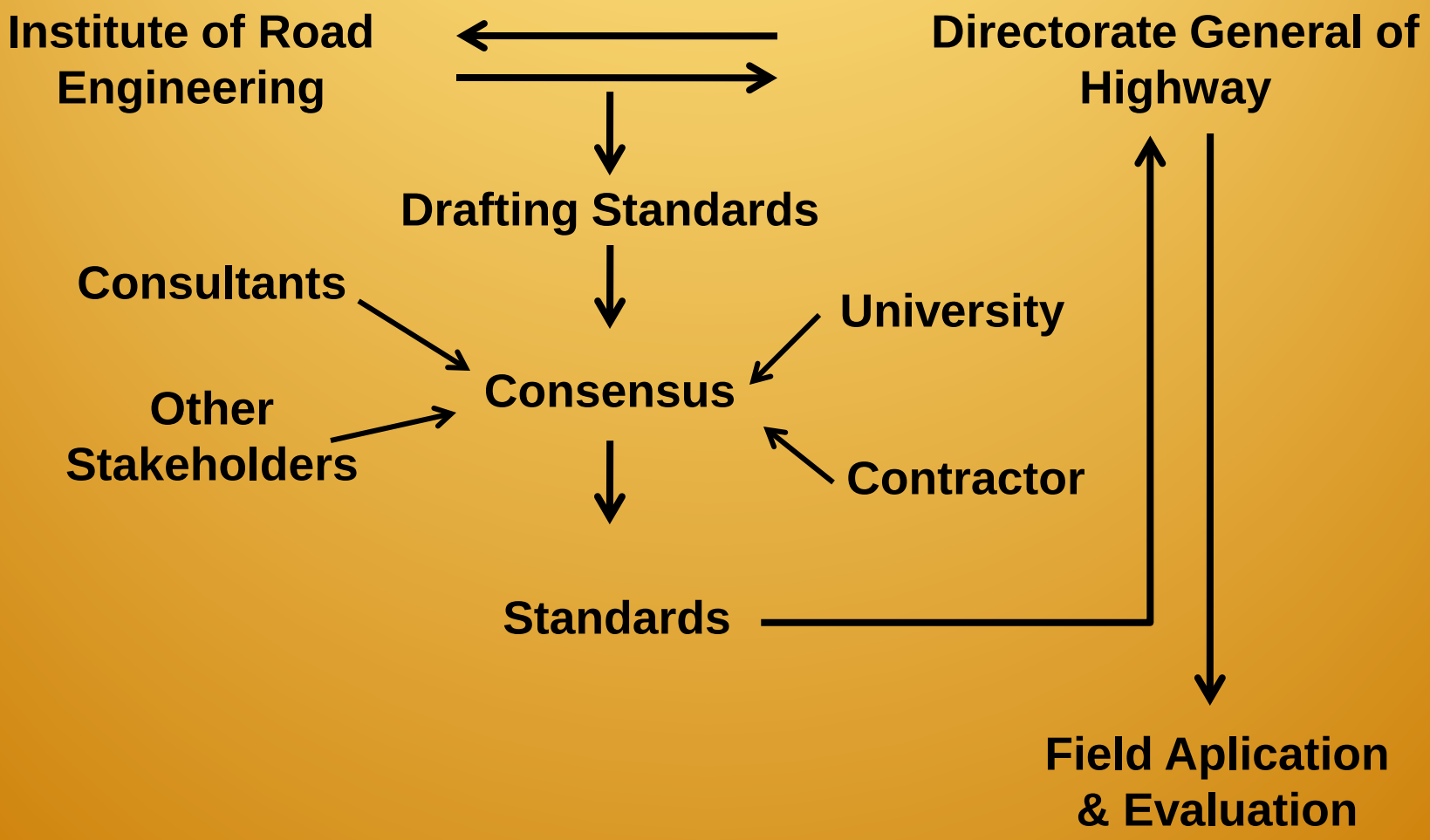

Expected Technical Supports in Relation to Japan

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1. Human resources development
   - Training,
   - Workshop,
2. Procurement equipment
   - Asbuton Center Laboratory,
   - IRE Laboratory,
3. Research collaboration
   - Asbuton for Steel Deck Bridges
   - Modified Asphalt for Pantura Road
   - Nano technology for highway materials

Thank You Very Much