



**Asia-Pacific  
Economic Cooperation**

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## **Current Situation of Heavy Vehicle Overloading in Malaysia**

Submitted by: Malaysia



**Workshop on Regulating High Mass Heavy Road  
Vehicles for Safety, Productivity and Infrastructure  
Outcomes  
Brisbane, Australia  
3-6 April 2017**

# **Current Situation of Heavy Vehicle Overloading in Malaysia**

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**Road Transport Department (JPJ)**  
Automotive Engineering Division

**5<sup>th</sup> April 2017**

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### **Introduction of Axle Load in Malaysia**

- Regulation : Weight Restriction Order (Federal Road)

### **Current the Regulation of Axle Load for Commercial Vehicle**

- Criteria of determination the axle load
- Permissible Limit of Gross Vehicle Weight of Vehicle

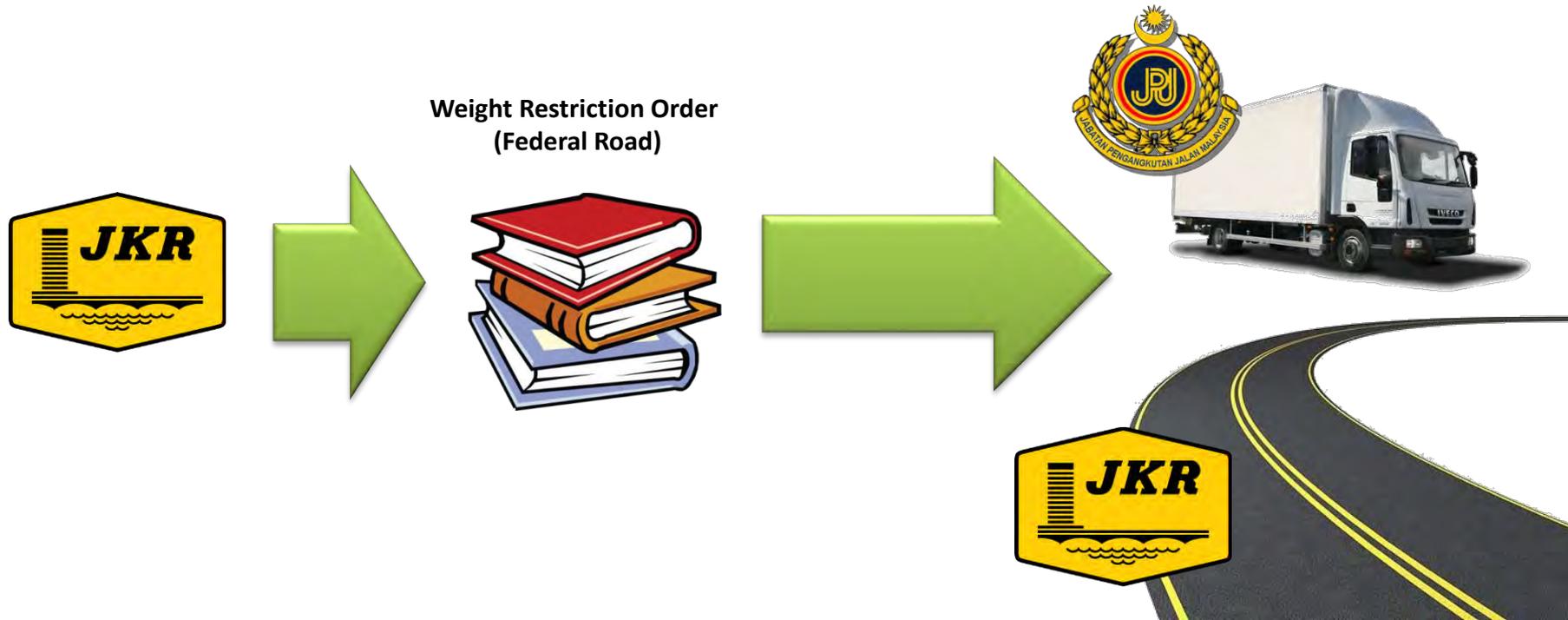
### **Implementation & Enforcement the Regulation of Axle Load**

- Enforcement on the road ( axle load & type of load carry)

## Introduction of Axle Load in Malaysia

### Regulation of Weight Restriction Order (Federal Road)

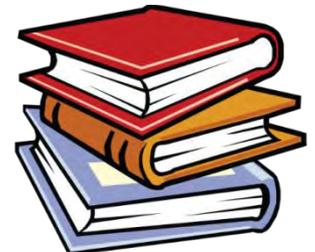
- ❑ Determination of weight restriction of a vehicle is subjected to the Weight Restriction Order (Federal Road).
- ❑ The Weight Restriction Order is prepared by Public Works Department (JKR).



### Content of Weight Restriction Order (Federal Road)

- ❑ List of roads ( List i – iv );
- ❑ Permissible Limit of Gross Vehicle Weight (rigid & articulated vehicle);
- ❑ Special requirement for certain type vehicle (Multi axle, low loader, Self-driven construction plants, ISO containers, tanker & B-Double);
  - Permissible Limit Axle Load;
  - Safety fixture on vehicle;
  - Driving condition;

Weight Restriction Order  
(Federal Road)



# Current the Regulation of Axle Load for Commercial Vehicle

specification of motor vehicle

Criteria to determine the axle load of motor vehicle

axle rating

(GVW, GCW, power engine, dimension of body, wheelbase, axle spread)



axle configuration

tyre rating + number of tyre



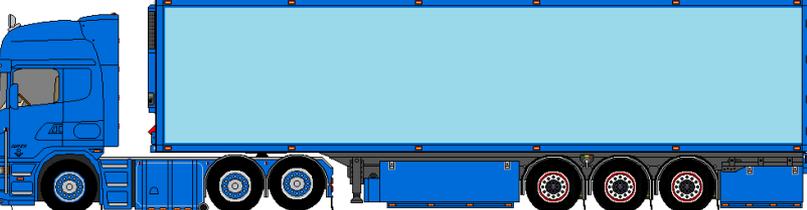
## Summary of Weight Restriction Order(Rigid Vehicle) – List 1

Category of Vehicle	Permissible Weight / GVW (TONNE)	Criteria WRO
<p>Rigid Vehicle - 2 Axle ( 1 + 1 )</p> 	16 – 18 tonne	Depend on wheelbase
<p>Rigid Vehicle - 3 Axle ( 1 + 2 )</p> 	20 – 25 tonne	Depend on wheelbase & wheel spread
<p>Rigid Vehicle - 4 Axle ( 2 + 2 )</p> 	25 – 27 tonne	

## Summary of Weight Restriction Order(Articulated Vehicle ) – List 1

Category of Vehicle	Permissible Weight / GVW (TONNE)	Criteria WRO
<p>Articulated Vehicle - 3 Axle ( 1 + 1 + 1 )</p> 	26 – 30 tonne	Depend on wheelbase
<p>Articulated Vehicle - 4 Axle ( 1 + 1 + 2 )</p> 	27 – 37 tonne	Depend on wheelbase & wheel spread
<p>Articulated Vehicle - 5 Axle ( 1 + 1 + 3 )</p> 	27 – 39 tonne	

## Summary of Weight Restriction Order(Articulated Vehicle ) – List 1

Category of Vehicle	Permissible Weight / GVW (TONNE)	Criteria WRO
<p>Articulated Vehicle - 5 Axle ( 1 + 2 + 2 )</p> 	<p>28 – 40 tonne</p>	<p>Depend on wheelbase &amp; wheel spread</p>
<p>Articulated Vehicle - 6 Axle ( 1 + 2 + 3 )</p> 	<p>34 – 44 tonne</p>	<p>Depend on wheelbase &amp; wheel spread</p>
<p>Articulated Vehicle - 7 Axle ( 1 + 2 + 4 )</p> 	<p>34 – 51 tonne</p>	

## Special Commercial Vehicle



### B-Double Vehicle

- Maximum overall length < 25 meter
- Permissible weight : 65 tonne with axle configuration 1+2+2+2
- specified road only (approval from JKR)



**Mobile Crane**



**Multi Axle Vehicle**

# Implementation & Enforcement the Regulation of Axle Load



Road Block + Notice



Portable Weight Machine



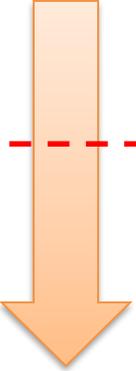
Weight in Motion System (WiM)



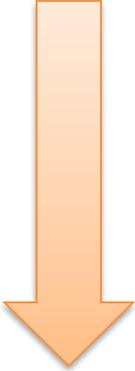
# Implementation & Enforcement the Regulation of Axle Load

## Implementation the regulation of Axle Load in Malaysia

Documentation  
& Inspection



Approval of Vehicle  
Technical Plan & Weight  
Certification (WC)



**Vehicle**  
Enforcement on the road  
(axle load & type of load)



portable  
weighing  
machines



## Implementation & Enforcement the Regulation of Axle Load

### Enforcement on the road (axle load & type of load)

Enforcement Issue on the road :-

- Authorities who carrying out enforcement on the road : JPJ & SPAD
- Vehicles carrying load not according to technical plan approved.
- Frequently overloading case – tipper/ dumper, ISO Container.
- Always happen in sub-urban and industrial area



**Road Transport Act 1987**



**Land Public Transport Act 2010**

## Focus of enforcement on the road :-

- ❑ Overloading; and
- ❑ Oversize load (height, weight & length)

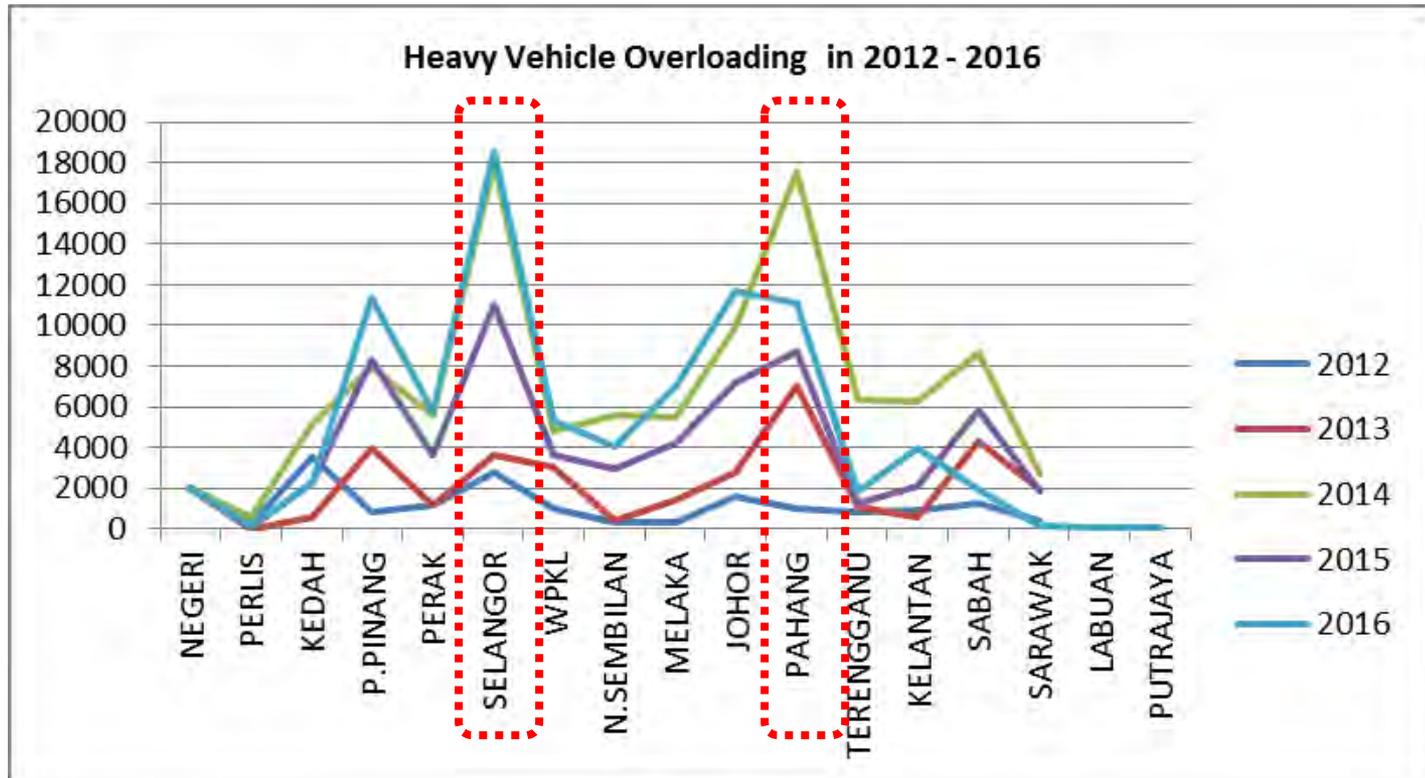
Overloading vehicle



Oversize vehicle



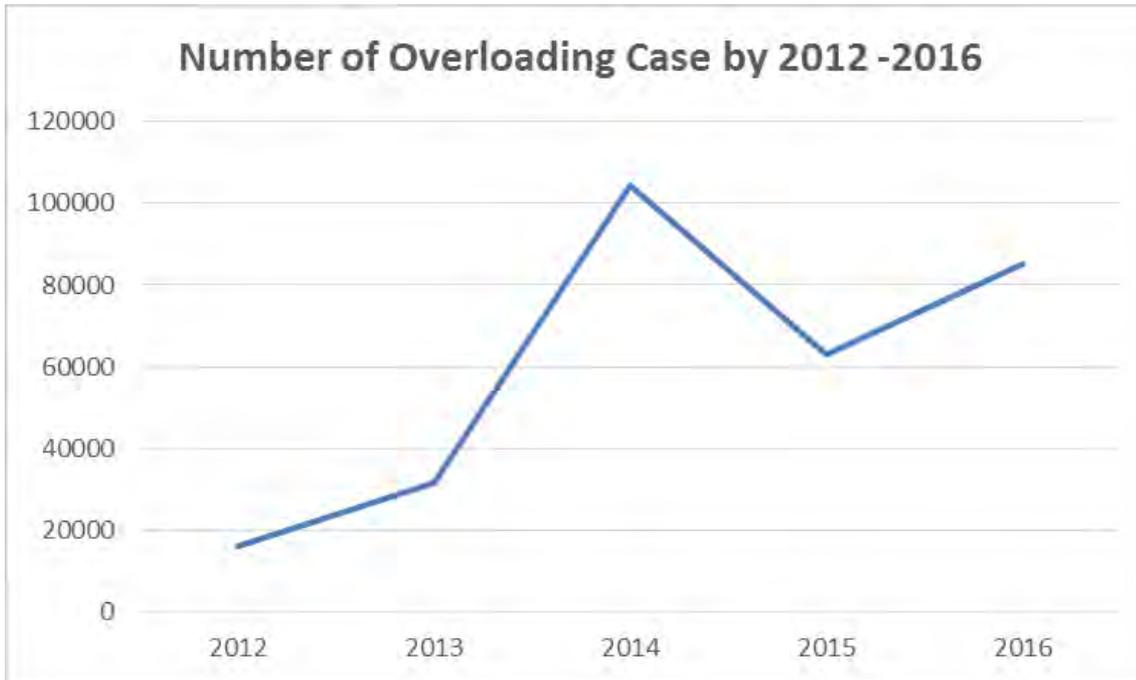
## Statistical Data of Overloading Case in Malaysia



Most cases of overloading occur in an advanced state in the manufacturing industry and have high forest products / minerals (timber, bauxite, coal)

Year	Num. of Overloading Cases	
	Selangor	Pahang
2012	2785	1002
2013	3604	7049
2014	17992	17521
2015	11037	8686
2016	18588	11131

## Statistical Data of Overloading Case in Malaysia



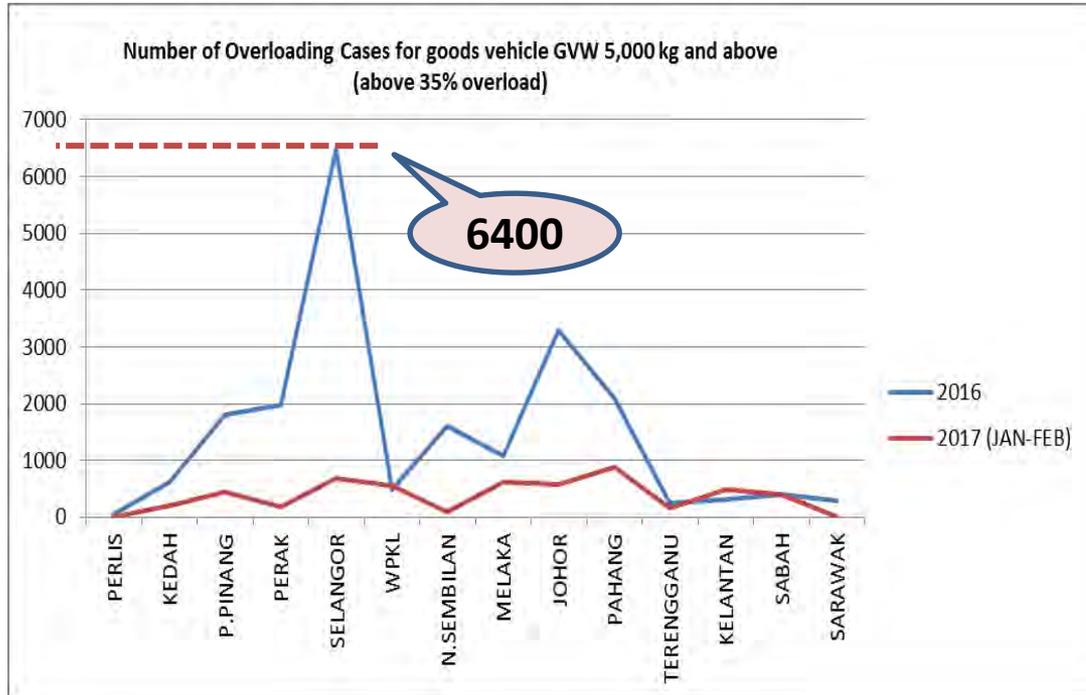
Year	Overloading Cases
2012	16052
2013	31690
2014	104475
2015	62918
2016	85300



There is an increasing case of overloading of goods vehicles in 2013 - 2014 because there are **two enforcement agencies** that carry out overloading enforcement activities on the road

## Statistical Data of Overloading Case in Malaysia

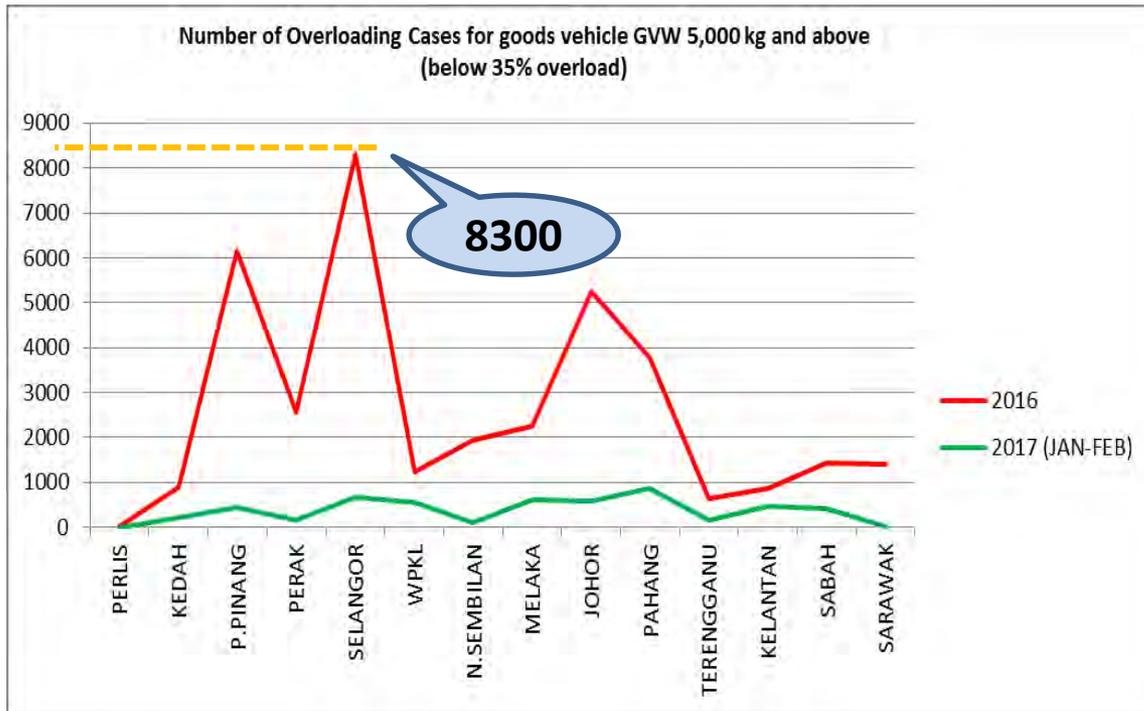
### Number of Overloading Cases for goods vehicle GVW 5,000 kg and above (above 35% overload)



STATE	2016	2017 (JAN-FEB)
PERLIS	57	2
KEDAH	611	88
P.PINANG	1,807	269
PERAK	1,985	307
SELANGOR	6,477	1,151
WPKL	482	226
N.SEMBILAN	1,607	245
MELAKA	1,078	71
JOHOR	3,288	383
PAHANG	2,094	295
TERENGGANU	256	23
KELANTAN	317	32
SABAH	408	80
SARAWAK	281	50
<b>TOTAL</b>	<b>20,748</b>	<b>3,222</b>

## Statistical Data of Overloading Case in Malaysia

### Number of Overloading Cases for goods vehicle GVW 5,000 kg and above (below 35% overload)



STATE	2016	2017 (JAN-FEB)
PERLIS	32	4
KEDAH	889	138
P.PINANG	6,143	1,163
PERAK	2,572	401
SELANGOR	8,301	1,565
WPKL	1,222	323
N.SEMBILAN	1,940	274
MELAKA	2,242	264
JOHOR	5,250	788
PAHANG	3,768	568
TERENGGANU	644	76
KELANTAN	880	124
SABAH	1,446	277
SARAWAK	1,412	303
<b>TOTAL</b>	<b>36,741</b>	<b>6,268</b>

## Summary

- ❑ **Axle load of commercial vehicle** is subjected to specific regulation is **Weight Restriction Order – Federal Road (WRO)**.
- ❑ Criteria to determine the axle load of motor vehicle are technical specification of vehicle, axle rating, tyre and axle configuration.
- ❑ There are two authorities who carrying out **enforcement on the road** : **JPJ & SPAD**
- ❑ Major issue of enforcement on the road : **overloading and over-size load**

**THE END**

**THANK YOU**