# COMPARISON OF WORLDWIDE VEHICLE CATEGORISATION TERMINOLOGY IN PREPARATION FOR A GLOBAL TECHNICAL REGULATION ON WORLDWIDE HARMONIZED LIGHT-DUTY TEST PROCEDURES (WLTP)

#### A. Objective of the document

In previous discussions around the subject of WLTP, and specifically in Informal Document GRPE-55-12, OICA has clearly declared its support for the worldwide harmonisation of the emissions regulation of light duty vehicles. In order to ensure the smooth running of future discussions of WLTP and to secure successful development of a harmonised regulation, OICA has initiated the process of compiling an understanding of the current diversity of vehicle categorisation.

The following paper describes the major items of this diversity and is proposed to form a prerequisite basis for initial work in the direction of a harmonised vehicle categorisation system.

#### B. Next Steps:

- Contracting Parties are requested to check the contents of the attached table, relating to their own country or region, and provide corrections or additions where necessary
- Discussion in WLTP Informal Group regarding feasibility of harmonisation of vehicle categorisation
- Proposal for harmonised vehicle categories.
- Proposal for clear scope of WLTP based on harmonised vehicle categories.

### C. Definition of Categories (Non US regions)

EC	ECE(1958 Agreement)	ECE (1998 Agreement)	Japan	India	China	Australia
Category M	Category M	"Category 1 vehicle" means a	Category M	Category M	Category M	Passenger Car (MA)
Motor vehicles with at least	Power-driven vehicles having	power driven vehicle with four	Power-driven vehicles having	Motor vehicles with at least	Power-driven vehicles having	A passenger vehicle, not
four wheels designed and	at least four wheels and used	or more wheels designed and	at least four wheels and used	four wheels used for the	at least four wheels and used	being an off-road passenger
constructed for the carriage	for the carriage of	constructed primarily for the	for the carriage of	carriage of passengers.	for the carriage of passengers	vehicle or a forward-control
of passengers.	passengers	carriage of (a) person(s).	passengers			passenger vehicle, having up
						to 9 seating positions,
						including that of the driver.
Category M1	Category M1	"Category 1-1 vehicle" means		Category M1	Category M1	Forward-control Passenger
Vehicles designed and	Vehicles used for the	a category 1 vehicle	Vehicles used for the	Vehicles used for the	Vehicles designed and	vehicle (MB)
constructed for the carriage	carriage of passengers and	comprising not more than	carriage of passengers and	carriage of passengers,	constructed for the carriage of	A passenger vehicle, not
of passengers and	comprising not more than	eight seating positions in	comprising not more than	comprising no more than	passengers and comprising no	being an off-road passenger
comprising no more than	eight seats in addition to the	addition to the driver's	eight seats in addition to the	eight seats in addition to the	more than eight seats in	vehicle, having up to 9
eight seats in addition to the	driver's seat.	seating position. A category	driver's seat.	driver's seat.	addition to the driver's seat	seating positions, including
driver's seat		1-1 vehicle cannot have				that of the driver, and in
		standing passengers.				which the centre of the
						steering wheel is in the
						forward quarter of the
						vehicle's "Total Length".
						MB1; up to 2.7 t "GVM"
						MB2; over 2.7 t "GVM"

EC	ECE(1958 Agreement)	ECE (1998 Agreement)	Japan	India	China	Australia
	Vehicles of category M2 and M3 belong to: (i) one or more of the three classes (Class I, Class II, Class III) (ii) one of the two classes (Class A, Class B)  Class I: Vehicles constructed with areas for standing passengers, to allow frequent passenger movement. Class II: Vehicles constructed principally for the carriage of seated passengers, and designed to allow the carriage of standing passengers in the gangway and/or in an area which does not exeed the space provided for two double seats. Class III: Vehicles constructed exclusively for the carriage of seated passengers. Class A: Vehicles designed to carry standing passengers; a vehicle of this class has seats and may have provisions for standing passengers. Class B: Vehicles not designed to carry standing passengers ; a vehicle of this class has no provisions for standing passengers.	"Category 1-2 vehicle" means a category 1 vehicle designed for the carriage of more than eight passengers, whether seated or standing, in addition to the driver.	Vehicles of category M2 and M3 belong to: (i) one or more of the three classes (Class I, Class II, Class III) (ii) one of the two classes (Class A, Class B)  Class I: Vehicles constructed with areas for standing passengers, to allow frequent passenger movement. Class II: Vehicles constructed principally for the carriage of seated passengers, and designed to allow the carriage of standing passengers in the gangway and/or in an area which does not exeed the space provided for two double seats. Class III: Vehicles constructed exclusively for the carriage of seated passengers. Class A: Vehicles designed to carry standing passengers; a vehicle of this class has seats and may have provisions for standing passengers. Class B: Vehicles not designed to carry standing passengers; a vehicle of this class has no provisions for standing passengers; a vehicle of this class has no provisions for standing passengers.		Vehicles of category M2 and M3 belong to: (i) one or more of the three classes (Class I, Class II, Class III) (ii) one of the two classes (Class A, Class B)  Class I: Vehicles constructed with areas for standing passengers, to allow frequent passenger movement; a vehicle of this class has 22 seats or more in addition to the driver.  Class II: Vehicles constructed principally for the carriage of seated passengers, and designed to allow the carriage of standing passengers in the gangway and/or in an area which does not exeed the space provided for two double seats; a vehicle of this class has 22 seats or more in addition to the driver.  Class III: Vehicles constructed exclusively for the carriage of seated passengers; a vehicle of this class has 22 seats or more in addition to the driver.  Class A: Vehicles designed to carry standing passengers; a vehicle of this class has not more than 22 seats except for the driver.  Class B: Vehicles not designed to carry standing passengers; a vehicle of this class has not more than 22 seats except for the driver.  Class B: Vehicles not designed to carry standing passengers; a vehicle of this class has not more than 22	Omnibuses A passenger vehicle having more than 9 seating positions, including that of the driver. An omnibus comprising 2 or more non-separable but articulated units shall be considered as a single vehicle.
more than eight seats in addition to the driver's seat, and having a maximum mass	Category M2 Vehicles used for the carriage of passengers, comprising more than eight seats in addition to the driver's seat, and having a maximum mass not exceeding 5 tonnes.		Category M2 Vehicles used for the carriage of passengers, comprising more than eight seats in addition to the driver's seat, and having a maximum mass not exceeding 5 tonnes.	Category M2 A vehicles used for the carriage of passengers, comprising nine or more seats in addition to the driver's seat and having a GVW not exceeding 5 tonnes.	Seats except for the driver.  Category M2  Vehicles designed and constructed for the carriage of passengers, comprising more than eight seats in addition to the driver's seat, and having a maximum mass not exceeding 5 tonnes.	Light Omnibus (MD) An omnibus with a "Gross Vehicle Mass" not exceeding 5.0 t. MD1 up to 3.5 tonnes 'GVM', up to 12 'Seats' MD2 up to 3.5 tonnes 'GVM', over 12 'Seats' MD3 over 3.5 tonnes, up to 4.5 tonnes 'GVM' MD4 over 4.5 tonnes, up to 5 tonnes 'GVM' MD5 up to 2.7 tonnes 'GVM' MD6 over 2.7 tonnes 'GVM'

EC	ECE(1958 Agreement)	ECE (1998 Agreement)	Japan	India	China	Australia
Category M3 Vehicles designed and constructed for the carriage of passengers, comprising more than eight seats in addition to the driver's seat, and having a maximum mass exceeding 5 tonnes.	Category M3 Vehicles used for the carriage of passengers, comprising more than eight seats in addition to the driver's seat, and having a maximum mass exceeding 5 tonnes.		Category M3 Vehicles used for the carriage of passengers, comprising more than eight seats in addition to the driver's seat, and having a maximum mass exceeding 5 tonnes.	Category M3 A vehicles used for the carriage of passengers, comprising nine or more seats in addition to the driver's seat and having a GVW exceeding 5 tonnes.		HEAVY OMNIBUS (ME) An omnibus with a 'Gross Vehicle Mass' exceeding 5.0 tonnes.
Category N Motor vehicles with at least four wheels designed and constructed for the carriage of goods.		"Category 2 vehicle" means a power driven vehicle with four or more wheels designed and constructed primarily for the carriage of goods. This category shall also include: i) tractive units ii) chassis designed specifically to be equipped with special equipment.  To determine whether a vehicle is to be regarded as a category 1 vehicle or a category 2 vehicle for the application of gtrs, the following shall apply in cases where it is not immediately apparent whether a vehicle is a category 1 or 2 vehicle: If a vehicle meets all of the following conditions:  P - (M + N x 68) > N x 68, N ≤ 6 and Pay mass as defined in paragraph 7. of Annex 3 exceeds 150 kg for the vehicle, as configured with the maximum mass of factory fitted optional equipment, the vehicle shall be deemed to be a category 1 vehicle. Where,  P = Gross vehicle mass as defined in paragraph 4 of Annex 3.  M = Mass in running order as defined in paragraph 3 of Annex 3.  N = Massimum number of simultaneous seating and standing positions excluding the driver seating position	Power-driven vehicles having at least four wheels and used for the carriage of goods	Category N Means Motor vehicles with at least four wheels used for the carriage of goods. These vehicles can carry persons in addition to the goods subject to the conditions of classification under M/N categories.	Category N Power-driven vehicles having at least four wheels and used for the carriage of goods	Good Vehicles A Motor vehicle constructed primarily for the carriage of goods and having at least 4 wheels; or 3 wheels and a "Gross Vehicle Mass" exceeding 1.0 t. A vehicle constructed for both the carriage of persons and the carriage of goods shall be considered to be primarily for the carriage of goods if the number of seating positions times 68kg is less than 50% difference between the "Gross Vehicle Mass" and the "Unladen Mass". The equipment and installations carried on certain special-purpose vehicles not designed for the carriage of passengers (crane vehicles, workshop vehicles, publicity vehicles etc.) are regerded as being equivalent to goods for the purposes of this definition. A goods vehicle comprising 2 or more non-separable by agricultured units shall be considered as being as a single vehicle.

EC	ECE(1958 Agreement)	ECE (1998 Agreement)	Japan	India	China	Australia
Category N1 Vehicles designed and constructed for the carriage of goods and having a maximum mass not exceeding 3,5 tonnes.	Category N1 Vehicles used for the carriage of goods and having a maximum mass not exceeding 3.5 tonnes.		Category N1 Vehicles used for the carriage of goods and having a maximum mass not exceeding 3.5 tonnes.	Category N1 Means a vehicle used for carriage of goods and having a GVW not exceeding 3.5 tonnes.	Category N1 Vehicles used for the carriage of goods and having a maximum mass not exceeding 3.5 tonnes.	Light Goods Vehicle (NA) A goods vehicle with a "Gross Vehicle Mass" not exceeding 3.5 t NA1; up to 2.7 t "GVM" NA2; over 2.7 t "GVM"
Category N2 Vehicles designed and constructed for the carriage of goods and having a maximum mass exceeding 3.5 tonnes but not exceeding 12 tonnes.	Category N2 Vehicles used for the carriage of goods and having a maximum mass exceeding 3.5 tonnes but not exceeding 12 tonnes.		Category N2 Vehicles used for the carriage of goods and having a maximum mass exceeding 3.5 tonnes but not exceeding 12 tonnes.	Category N2 A vehicle used for carriage of goods and having a GVW exceeding 3.5 tonnes but not exceeding 12 tonnes.	Category N2 Vehicles used for the carriage of goods and having a maximum mass exceeding 3.5 tonnes but not exceeding 12 tonnes.	MEDIUM GOODS VEHICLE (NB) A goods vehicle with a 'Gross Vehicle Mass' exceeding 3.5 tonnes but not exceeding 12.0 tonnes. NB1 over 3.5 tonnes, up to 4.5 tonnes 'GVM' NB2 over 4.5 tonnes, up to 12 tonnes 'GVM'
Category N3 Vehicles designed and constructed for the carriage of goods and having a maximum mass exceeding 12 tonnes.	Category N3 Vehicles used for the carriage of goods and having a maximum mass exceeding 12 tonnes.		Category N3 Vehicles used for the carriage of goods and having a maximum mass exceeding 12 tonnes.	Category N3 A vehicle used for carriage of goods and having a GVW exceeding 3.5 tonnes but not exceeding 12 tonnes.	Category N3 Vehicles used for the carriage of goods and having a maximum mass exceeding 12 tonnes.	HEAVY GOODS VEHICLE (NC) A goods vehicle with a 'Gross Vehicle Mass' exceeding 12.0 tonnes.

EC	ECE(1958 Agreement)	ECE (1998 Agreement)	Japan	India	China	Australia
Off-road vehicles G	Off-road vehicles G		Off-road vehicles G	Off-road vehicles G	Off-road vehicles G	OFF-ROAD PASSENGER
Vehicles in category N1 with	Vehicles in category N1 with		Vehicles in category N1 with	Vehicles in category N1 with	Vehicles in category N1 with a	VEHICLE (MC)
a maximum mass not	a maximum mass not		a maximum mass not	a maximum mass not	maximum mass not exceeding	A passenger vehicle having
exceeding two tonnes and	exceeding two tonnes and		exceeding two tonnes and	exceeding two tonnes and	two tonnes and vehicles in	up to 9 seating positions,
vehicles in category M1 are	vehicles in category M1 are		vehicles in category M1 are	vehicles in category M1 are	category M1 are considered to	including that of the driver
considered to be off-road	considered to be off-road		considered to be off-road	considered to be off-road	be off-road vehicles if they	and
vehicles if they have:	vehicles if they have:		vehicles if they have:	vehicles if they have:	have:	being designed with special
- at least one front axle and	- at least one front axle and		- at least one front axle and	- at least one front axle and	- at least one front axle and at	features for off-road
at least one rear axle	at least one rear axle		at least one rear axle	at least one rear axle	least one rear axle designed to	operation. A vehicle with
designed to be driven	designed to be driven		designed to be driven	designed to be driven	be driven simultaneously	special features
simultaneously including	simultaneously including		simultaneously including	simultaneously including	including vehicles where the	for off-road operation is a
vehicles where the drive to	vehicles where the drive to		vehicles where the drive to	vehicles where the drive to	drive to one axle can be	vehicle that:
one axle can be disengaged,	one axle can be disengaged,		one axle can be disengaged,	one axle can be disengaged,	disengaged,	(a) Unless otherwise
- at least one differential	- at least one differential		- at least one differential	- at least one differential	- at least one differential	'Approved' has 4 wheel drive;
_	locking mechanism or at least		locking mechanism or at least	locking mechanism or at least	_	and
one mechanism having a	one mechanism having a		one mechanism having a	one mechanism having a	one mechanism having a	(b) has at least 4 of the
	similar effect and if they can		similar effect and if they can	similar effect and if they can	similar effect and if they can	following 5 characteristics
climb a 30 % gradient	climb a 30 % gradient		climb a 30 % gradient	climb a 30 % gradient	climb a 30 % gradient	calculated when the vehicle
calculated for a solo vehicle.	calculated for a solo vehicle.		calculated for a solo vehicle.	calculated for a solo vehicle.	calculated for a solo vehicle.	is at its
In addition, they must satisfy	In addition, they must satisfy		In addition, they must satisfy	In addition, they must satisfy	In addition, they must satisfy at	'Unladen Mass' on a level
at least five of the following	at least five of the following		at least five of the following	at least five of the following	least five of the following six	surface, with the front wheels
six requirements:	six requirements:		six requirements:	six requirements:	requirements:	parallel to the vehicle's
- the approach angle must be	- the approach angle must be		- the approach angle must be	- the approach angle must be	- the approach angle must be	longitudinal
at least 25°,	at least 25°,		at least 25°,	at least 25°,	at least 25°,	centreline, and the tyres
- the departure angle must be	- the departure angle must be		- the departure angle must be			inflated to the
at least 20°,	at least 20°,		at least 20°,	at least 20°,	at least 20°,	'Manufacturer's'
- the ramp angle must be at	- the ramp angle must be at		- the ramp angle must be at	- the ramp angle must be at	- the ramp angle must be at	recommended
least 20°,	least 20°,		least 20°,	least 20°,	least 20°,	pressure:
- the ground clearance under	- the ground clearance under		- the ground clearance under	- the ground clearance under	- the ground clearance under	(i) 'Approach Angle' of not
the front axle must be at least	the front axle must be at least		the front axle must be at least	the front axle must be at least		less than 28 degrees;
180 mm,	180 mm,		180 mm,	180 mm,	180 mm,	(ii) 'Breakover Angle' of not
- the ground clearance under	- the ground clearance under		- the ground clearance under	- the ground clearance under	- the ground clearance under	less than 14 degrees;
the rear axle must be at least	the rear axle must be at least 180 mm,		the rear axle must be at least 180 mm,	the rear axle must be at least	the rear axle must be at least 180 mm,	(iii) 'Departure Angle' of not less than 20 degrees;
180 mm, - the ground clearance	- the ground clearance		- the ground clearance	180 mm, - the ground clearance	- the ground clearance	(iv) 'Running Clearance' of
between the axles must be at						not less than 200 mm;
least 200 mm.	least 200 mm.		least 200 mm.	least 200 mm.	least 200 mm.	(v) 'Front Axle Clearance',
least 200 mm.	least 200 mm.		least 200 mm.	least 200 mm.	least 200 mm.	'Rear Axle Clearance' or
						'Suspension Clearance' of
						not
						less than 175 mm each.
						MC1 up to 2.7 tonnes 'GVM'
						MC2 over 2.7 tonnes 'GVM'
				1		

EC	ECE(1958 Agreement)	ECE (1998 Agreement)	Japan	India	China	Australia
Vehicles in category N1 with	Vehicles in category N1 with		Vehicles in category N1 with	Vehicles in category N1 with	Vehicles in category N1 with a	
a maximum mass exceeding	a maximum mass exceeding		a maximum mass exceeding	a maximum mass exceeding	maximum mass exceeding two	
two tonnes or in category N2,	two tonnes or in category N2,		two tonnes or in category N2,	two tonnes or in category N2,	tonnes or in category N2, M2	
M2 or M3 with a maximum	M2 or M3 with a maximum		M2 or M3 with a maximum	M2 or M3 with a maximum	or M3 with a maximum mass	
mass not exceeding 12	mass not exceeding 12		mass not exceeding 12	mass not exceeding 12	not exceeding 12 tonnes are	
tonnes are considered to be	tonnes are considered to be		tonnes are considered to be	tonnes are considered to be	considered to be off-road	
off-road vehicles either if all	off-road vehicles either if all		off-road vehicles either if all	off-road vehicles either if all	vehicles either if all their	
their wheels	their wheels		their wheels	their wheels	wheels	
are designed to be driven	are designed to be driven		are designed to be driven	are designed to be driven	are designed to be driven	
simultaneously, including	simultaneously, including		simultaneously, including	simultaneously, including	simultaneously, including	
vehicles	vehicles		vehicles	vehicles	vehicles	
where the drive to one axle	where the drive to one axle		where the drive to one axle	where the drive to one axle	where the drive to one axle can	
can be disengaged, or if the	can be disengaged, or if the		can be disengaged, or if the	can be disengaged, or if the	be disengaged, or if the	
following three	following three		following three	following three	following three	
requirements are satisfied:	requirements are satisfied:		requirements are satisfied:	requirements are satisfied:	requirements are satisfied:	
- at least one front and at	- at least one front and at		- at least one front and at	- at least one front and at	- at least one front and at least	
least one rear axle are	least one rear axle are		least one rear axle are	least one rear axle are	one rear axle are designed to	
designed to be driven	designed to be driven		designed to be driven	designed to be driven	be driven	
simultaneously, including	simultaneously, including		simultaneously, including	simultaneously, including	simultaneously, including	
vehicles where the drive to	vehicles where the drive to		vehicles where the drive to	vehicles where the drive to	vehicles where the drive to one	
one axle can be disengaged,	one axle can be disengaged,		one axle can be disengaged,	one axle can be disengaged,	axle can be disengaged,	
- there is at least one	- there is at least one		- there is at least one	- there is at least one	- there is at least one	
differential locking	differential locking		differential locking	differential locking	differential locking mechanism	
mechanism or at least one	mechanism or at least one		mechanism or at least one	mechanism or at least one	or at least one	
mechanism having a similar	mechanism having a similar		mechanism having a similar	mechanism having a similar	mechanism having a similar	
effect,	effect,		effect,	effect,	effect,	
- they can climb a 25 %	- they can climb a 25 %		- they can climb a 25 %	- they can climb a 25 %	- they can climb a 25 %	
gradient calculated for a solo	gradient calculated for a solo		gradient calculated for a solo	gradient calculated for a solo	gradient calculated for a solo	
vehicle.	vehicle.		vehicle.	vehicle.	vehicle.	

## D . Definition of Categories (US region)

Cotogory	Exhaus	t Emission	Fuel Consumption
Category	EPA	CARB	NHTSA/EPA
Passenger vehicles	Light-duty Vehicle(LDV)	Passenger Car (PC)	Passenger automobile
	The passenger car or its derivation,	Vehicles used for the carriage of passengers	Vehicles used for the carriage of passengers and comprising not
	comprising not more than 12 seats.	and comprising not more than 12 seats.	more than 10 seats. (except for vehicles that can drive on Off-
			highway)
	Light-duty truck(LDT)	Light-duty truck(LDT)	Light truck
Cross-over vehicles	means the vehicle whose GVWR is not more	[LEV-I] The vehicle whose GVWR is not more	means the vehicle other than passenger vehicle, which meets
SUV	than 8500lbs, whose CW is not more than	than 6000 lbs.	either of following functions,
Mini van	6000lbs and the frontal project area is not	[LEV-II] The vehicle whose GVWR is not more	1. Vehicles used for the carriage of passengers comprising more
lviiii vaii	more than 45 ft <sup>2</sup> ,	than 8500 lbs, which meets either of following	than 10 seats.
	which meets either of following conditions,  1. Vehicles used for the carriage of goods or	conditions,  1. Vehicles used for the carriage of goods	<ul><li>2. Vehicles having tentative living space</li><li>3. Vehicles having an open deck</li></ul>
	its derivation	2. Its derivation.	4. Vehicles whose carriage capacity for goods is bigger than that
	2. Vehicles used for the carriage of	3. Vehicles having special structure that can	for passengers
	passengers and comprising more than 12	drive on Off-street and Off-highway	5. Vehicles that have a flat floor from the forward end of seat
	seats	drive on on succeand on highway	location to the rearward end of the cabin and that can use for
	3. Vehicles having special structure that can	Medium-duty vehicles(MDV)	carriage of goods by removing the seats with the standard tools
	drive on Off-street and Off-highway	means the Heavy-duty vehicle which meets	installed to the vehicle or simple tools, like screw drivers or
	The vehicle of No 3 is 4WD that must satisfy	following conditions,	wrenches
	at least four of the following five	1. The vehicles before 94MY, whose GVWR is	6. Vehicles that is 4WD or vehicles whose GVWR exceed 6000
	requirements:	not more than 8500lbs.	lbs., and that can drive on Off-highway, which meets at least four
	- the approach angle must be at least 28°,	2. The vehicles between 92-2006MY complying	of the following five requirements:
Trucks	- the breakover angle must be at least 14°,	with LEV-I, whose GVWR is not more than	- the approach angle must be at least 28°,
	- the departure angle must be at least 20°,	14000lbs.	- the breakover angle must be at least 14°,
	- the running clearance must be at least 8	3. The vehicles between 95-2002MY complying	- the departure angle must be at least 20°,
	inches,	with Tier1, whose GVWR is not more than	- the running clearance must be at least 20cm,
	- the front and rear axle clearance must be at	14000lbs.	- the front and rear axle clearance must be at least 18cm
	least 7 inches	4. The vehicles after 2000MY complying with	Non-passenger automobile
		LEV-II, whose GVWR is between 8500 and	Non-passenger car defined in 49 section 523.5
	Heave duty vehicle (HDV)	14000lbs.	[EPA section 600.002-93(a)(41)]
	Heavy-duty vehicle(HDV) means the vehicle which meets either of	Heavy-duty truck(HDV) [LEV-I] The vehicle other than passenger	Out of scope
	following conditions,	vehicles, whose GVWR is more than 6000lbs.	
Big segment vehicles	- GVWR is more than 8500lbs,	[LEV-II] The vehicle other than passenger	
	- CW is more than 6000lbs	vehicles, whose GVWR is more than 8500lbs.	
	- Frontal project area is more than 45 ft <sup>2</sup>	vernois, whose of vert is more than 0000bs.	
	Trontal project area is more than 40 it		1