



3D LiDAR Taxonomy

Class Name	Attributes		
	Attribute Name	Attribute Values	
Bicycle	with-rider	yes	no
	emergency	yes	no
Motorcycle	with-rider	yes	no
	emergency	yes	no
Truck	emergency	yes	no
TruckCab	emergency	yes	no
Trailer			
Bus			
Articulated Bus			
Van	emergency	yes	no
Car	emergency	yes	yes
Person			
Pushable Pullable Object			
Personal Mobility Device			

Class

Definition

Bicycle

A vehicle consisting of (usually) 2 wheels held in a frame one behind the other, propelled by pedals and steered with handlebars attached to the front wheel. Usually the rider takes a sitting position on the seat and propels the bicycle pedalling while controlling the steering through the handlebar

Motorcycle

A rideable vehicle consisting of (usually) 2 wheels held in a frame one behind the other, propelled by a motor and steered with a handlebar linked to the front wheel. (different from personal mobility devices such as scooters)

Truck

A truck is a large and heavy vehicle designed for carrying goods, materials, animals or troops. Trucks have at least four wheels, often even more (sometimes arranged in pairs). Large vehicles in this class have the passengers cabin and the cargo containers rigidly connected to each other through a unique chassis. Distinguished from Van mostly from a noticeable distinction between cab and cargo spaces in the vehicle's body

TruckCab

A cab-tractor unit is a heavy-duty towing engine that provides motive power for hauling a towed or traileed load. Together with the engine, the cab where the driver and passengers sit is the fundamental design feature of a cab-tractor. Cab tractors can have 2 or more axles and can tow a variety of trailers which are linked non-rigidly to the cab-tractor structure

Trailer

Trailers are any unpowered vehicles/cargos towed by another vehicle with a propulsion system. Trailers are linked to the towing vehicle through a non-rigid link

Bus

A large motorized vehicle designed for the transportations primarily of passengers. Buses have usually 2 or more axles and are designed to accommodate both seated and standing passengers. Buses travel within urban contexts and have a stop-and-go behaviour due to frequent stops to allow flow of passengers. Usually buses do not travel on highways

Articulated Bus

A large motorized vehicle designed for the transportations primarily of passengers. Buses have usually 2 or more axles and are designed to accommodate both seated and standing passengers. Buses travel within urban contexts and have a stop-and-go behaviour due to frequent stops to allow flow of passengers. Usually buses do not travel on highways
In addition, the articulated bus is made of multiple (usually 2) rigid bodies connected by junctions that allow constrained relative motion between the rigid bodies.

Van

A Van is a type of road drivable vehicle used for transporting goods or people. It is normally larger than a regular passenger car but does not fall under the Large Vehicle

class hierarchy since it shares many of the design features typical of a passenger car: a unique chassis and unique body. Despite sometimes being similar to a truck, a Van can be recognized by the fact that the seamlessly combines the cab hosting passengers, to the cargo space hosting either goods or other passengers

Car

A car is a road drivable vehicle, typically with four wheels, powered by an internal engine and designed to carry a small amount of passengers, usually between 2 and 7

Person

any human performing any action

Pushable Pullable Object

Any object designed to be moved by a human or a bicycle through pushing or pulling, usually with 2 or more wheels. Include strollers, bike trailers, etc.

Personal Mobility Device

Personal mobility devices are small vehicles, motorized or not, that are designed for agile mobility of a single person normally. They are not considered rideable or drivable vehicles due to their low weight (<15 kg) and small dimensions and due to the fact that they do not offer any structural protection to the rider, nor have any articulated systems designed to control such vehicles (steering wheels, pedals etc.). The rider is completely exposed, usually standing on the device.