

1. A door shall be defined as any object of material makeup, who's principle design is to allow passage through any opening that can and is otherwise prevented by that same object. This shall be determined at a human scale.
2. A wheel shall be defined as any object, circular in nature, whose principal purpose is to allow an object, or itself, to move across a surface via a rolling action. This shall be determined at a human scale.
3. Such definitions as given above are to weed out any objects which may complicate the process of gathering the necessary numbers to come to a satisfying conclusion. Both the wheels and doors must be designed for or able to be used by human beings in a reasonable fashion, thereby disqualifying such objects as Toys or miscellaneous circular objects.

Below, a list of objects shall be given, which have been chosen as evidence of the prevalence of the Wheel.

These objects shall be studied in detail to determine their overall wheel count Globally. Where applicable, the same shall be done for their doors, however this will be studied in detail in Section 2

Section 1 - Wheel Objects

Wheels on cars

“the best estimate put the figure at around 1.32 billion cars, trucks and buses in 2016” - Cars Guide ([link](#))

Due to these figures being representative of all Cars, Buses and Trucks, we will have to take an average across their wheel count.

Such an action will obviously tilt the wheel count above the genuine average, wherein you would typically expect more 4 wheel cars than the other vehicles.

This shall be accounted for in 2 Primary Ways.

Firstly, we shall use the average as we find it to account for the 6 years since the study was conducted.

Secondly, we shall take the average door count for every vehicle at face value also, where you would expect 4 door vehicles to be the Primary type.

Average number of wheels for:

Car - 4

Bus - 6 - In the United Kingdom, the Tri-Axle design is now used by Law for safety purposes, and accommodates 6 wheels. As there exists very few legitimate numbers for the number of wheels on a bus, and the number can fall from anywhere between 4 and 10, we will use 6 for our measurements.

Truck - 18 - Typical long haul Semi Trucks are 18 wheeler 4 axle vehicles.

Average comes to: 9.33 or 9 wheels

Average number of doors for:

Car - 4

Bus - 2

Truck - 2

Average comes to: 2.66 or 3 doors

Therefore, there exists approximately:

1.18×10^{10} or 11,800,000,000 wheels

3.96×10^9 or 3,960,000,000 doors

Wheels on bikes

When discussing bikes, the distinction must be made between Motorcycles and Bicycles as the data for existing numbers of both may differ. With that in mind, there exists approximately:

Bicycles:

“Nobody knows exactly how many bikes exist in the world, but it is estimated that there are somewhere around 1 billion” - Pioneer Sports [\(link\)](#)

Motorcycles:

“About 200 million motorcycles, including mopeds, motor scooters, motorised bicycles, and other powered two and three-wheelers, are in use worldwide” - Wikipedia [\(link\)](#)

This data complicates our measurements slightly, as it includes some types of vehicle which we can not be certain were not present in the prior data. However, we shall ignore this for the most part, as it does not mention Bicycles directly, and so we can assume that the data is separate.

In order to compensate however, we will not take the increased number of wheels present on such vehicles as the 3 wheeler Motorcycles. This is due to them being far fewer in number and due to the data being possibly cross contaminated.

Therefore, the approximate number of wheels present on Bikes is:

2.4×10^9 wheels

Wheels on escalators/elevators

“Over the recent years, the total number of elevators and escalators in operation around the world increased continuously. In 2021, there were over 18 million elevators and escalators making the lives of individuals easier” - Statista [\(link\)](#)

This data includes both escalators and elevators, so an average will need to be reached. Average wheel count for Escalators - Escalators typically utilise a pulley system, with 2 large Axles present at either end. Therefore, there are an average of 2 wheels present in every escalator

Average wheel count for Elevators - The data on the wheel count of an Elevator system is vague at best, with little in the way of concrete numbers to work with. However, this quote:

“The wheel and axle is a simple machine made with a rod running through the middle of a wheel. The momentum the spinning wheel creates is used to pull heavy objects with ease. In an elevator, the wheel and axle works together with a pulley to pull the metal cars to the floors above” - Nationwide Lifts [\(link\)](#)

This implies that the mechanical workings of the Elevator rely simply on 1 large wheel in a Pulley system.

Moreover, while I initially assumed that the Elevator Rail System that the Elevator must ride would utilise many wheels to make it work, this [File](#) makes no mention of such, even in the diagrams and examples they demonstrate.

As such, we shall take an average of 2 for the number of wheels on these systems

This is to account for any mistakes with the Data.

Therefore, the approximate number of wheels on Elevators/Escalators is:

3.6×10^7

Wheels on scooters

Data on scooters is somewhat complicated as there exists no particular data on this specific vehicle. Instead, the data is generally shared with Motorcycles, so we will unfortunately have to ignore this vehicle.

Wheels on a train

“A standard railway vehicle will have two bogies, generally located near the vehicle’s ends. Each bogie is a 4-wheeled or 6-wheeled truck that provides the support for the vehicle body and which is used to provide its traction and braking” - The Railway Technical ([link](#))

On both an Engine Car and a Carriage, this will mean roughly 8 wheels as an average. The actual number of Trains is difficult to find, with only 1 source I found on the number being from an anonymous Amazon Customer.

However, I was able to find a reliable source for the United States, that being from the Union Pacific Railroad:

“With more than 28,000 locomotives, 1.6 million rail cars”

With such data, we will assume that there are probably around 5 million Trains/Carriages worldwide.

Therefore, there are approximately:

4×10^7 wheels on Trains worldwide

We must also take into account the doors present on these carriages and trains. Because we cannot determine an accurate Ratio between Passenger Carriages, Freight Carriages and Engine Carts, we will instead take an average between them all.

Average:

Engine: Engine Carts typically have 3 doors, one to enter from the rear and 2 on either side

Passenger: The average London Underground Passenger Train has 8 doors, as arranged below



Freight: 0

Average: 3.66 or 4 doors

Therefore, the approximate number of doors all trains are:

2×10^7

Wheels on fucking horse wagons

Horse Wagons have obviously fallen out of fashion over the last century and there is no such data that exists to confirm their numbers, so they will have to be ignored.

Wheels on lego cars

Banned by the rules set above

Wheels on roller skates

“In 2017, there were approximately 5.3 million participants in inline skating in the U.S., while 2x2 wheel skating proved the more popular of the two engaging around 6.3 million U.S. participants.” - Statista ([link](#))

Therefore, we can assume a number of approximately 11.6 million people in the US are participating in this activity.

Extrapolating this data, we will assume that there are perhaps 40 million people globally participating in this activity.

This is because, according to Statista again:

“The number of U.S. citizens aged six and above that participated roller skating amounted to approximately 11.8 million in 2017. This number has almost halved in size over the past 10 years.”

With this decline in mind, it feels reasonable that the number globally by today would not be very high at all, so we only multiplied by around 4.

With the average Roller Skate having 4 wheels, whether a 2x2 formation or an inline formation, and a person requiring 2 to skate, we will assume first that there are:

40 million Roller skates - This is because the data does not make clear whether or not each person had their own skater, or if they were a part of a club. Therefore, we will assume that, since their numbers continue to decline, at least half of those skating were borrowing a pair, so while there would have to be 80 million skates, we will say there are 40 million.

Therefore, we can assume that there is approximately:

1.6×10^8 wheels on all roller skates

Wheels on skateboards

“In 2017, reports reveal that there were 85 million skateboarders worldwide” - SurferToday ([link](#))

This data is, for once, pretty conclusive, so this will be simple.

The average skateboard has 4 wheels

Therefore, we can assume there is approximately:

3.4×10^8 wheels on all skateboards

Wheels on wheelchairs

“However, unfortunately, the number of people who need wheelchairs in the world is almost certainly much more than 67 million and the number who actually have wheelchairs is almost certainly much less than 67 million.” - Rehadesign ([link](#))

This number is difficult to find exact details on, however we will simply assume the number of Wheelchairs to be 67 million. This is because the number of the disabled nor the number of wheelchairs in this source cannot be confirmed with any degree of accuracy, so we will assume that the figure of 67 million is accurate.

Therefore, with most Wheelchairs having 4 wheels, we can assume there is approximately:

2.68×10^8 wheels on all Wheelchairs

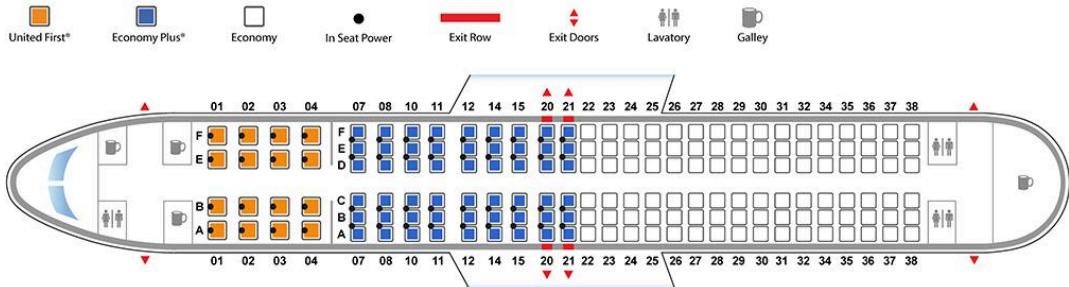
Wheels on aeroplanes

“While the active global commercial fleet currently stands at 25,368 aircraft” - Oliver Wyman ([link](#))

So, with the average global fleet being made primarily of Passenger liners, we will use this data to determine the number of doors and of wheels.

“The most popular aircraft in the inventory remains the Boeing 737-800” - Aeroweb ([link](#))

Knowing this, we will extrapolate all of our data from the Boeing 737-800, for wheel count and door count.



This is the floorplan of the Boeing 737-800. As can be seen, it has 8 exit doors, and likely 3 more inside, for the 2 present Toilets and the Cockpit. In all, 11 doors.

The Boeing 737-800 has a wheel load of 6 wheels.

Therefore, with this data, we can assume that:

Wheels: 152,208

Doors: 279,048

Wheels on shopping carts

“Thus, according to our data-based calculation, a typical shopping cart lasts 5.9 years” - Wonder ([link](#))

This data allows us to assume how many shopping carts there are which are still serviceable

“With an estimated 1.25 million new shopping carts manufactured every year” - StarKart ([link](#))

If all shopping carts last roughly 5.9 years, then there should exist 5.9 years worth of Carts. So, if 1.25 million are produced annually, we will assume that there are 6 years of production. Therefore, there are 7,500,000 or 7.5 million carts in circulation.

Therefore, with every cart having 4 wheels, we can approximate that:

There are 30,000,000 wheels from shopping carts

Wheels on a suitcase

“This statistic displays the annual sales volume of trunks, suitcases and the like made by manufacturers in the United Kingdom (UK) from 2008 to 2020. In 2020, UK manufacturers sold approximately 673 thousand luggage cases” - Statista ([link](#))

Therefore, we will assume an Annual Global Production of around 4 million suitcases.

If 1 suitcase is good for roughly 5 years, then we can assume a global backlog of 20,000,000 cases.

Assuming half of these have wheels, with the typical number of wheels being 2, we can therefore calculate there are approximately:

20 million wheels on all suitcases

Wheels on the suitcase car that jeremy clarkson uses in that one episode

As a unique model, this is simple. The modified suitcase had 4 wheels before its modifications, with 4 more added to allow it to “speed”.

So, it had 8 wheels total

Wheels on an office chair

Data on office chairs is inconclusive, so will be ignored

Wheels on a wheelbarrow

“2,000,000 wheelbarrows are produced in the United States per year for the North American market” - Sidmartinbio ([link](#))

Using this data, we will assume an average annual production of around 6 million.

Assuming these are mostly to replace existing ones, we will say that there are around 9 million Wheelbarrows at any given time.

With one centre wheel on each, that is an even:

9 million wheels

Wheels on a tractor

According to [Nation Master](#), there are approximately 16 million tractors globally, though the Stats are difficult to display.

Therefore, we can approximate there are:

64,000,000 wheels on all tractors

Wheels on a baby stroller

“*Strollers sold in the United States each year: 4 million.*” - *MassLive* ([link](#))

Assuming a baby stroller will last up to 3 years, and that Globally there may be approximately 20 million baby strollers sold, there is an approximate:

60 million strollers around today, making an approximate

240 million wheels globally

Wheels on a vacuum

“*40-50 million vacuums are sold every year in the United States, the majority of which are upright vacuums.*” - *Getonedesk* ([link](#))

Assuming people keep their Vacuum's for about a decade, and assuming there are 200 million vacuum's sold globally annually, there are:

2 billion vacuum cleaners

The average vacuum cleaner has 3-4 wheels, so there are approximately:

8 billion wheels

Overall, the approximate number of Wheels in the World is:

$2.340715221 \times 10^{10}$ or 23,407,152,210 wheels

Section 2 - Doors

Motor Vehicles

3,960,000,000 doors (see Section 1)

Houses

While a number does not exist for every door in every home, I will use my own house's data as a basis.

My house has 11 doors, which will be the average.

Besides these, there are also other miscellaneous doors in my house, which match the criteria. These are Cupboards, Cabinets, Wardrobes, Tumble Dryer, Washing Machine, Oven Door, Fridges and Freezers. These totalled 43

In all then, there are around 54 doors in the average household

“*As of 2021, there are somewhere in the vicinity of 2.3 billion houses in the world.*” - *ArchitectureAndDesign* ([link](#))

Therefore, there are approximately:

1.242×10^{11} doors in all houses or 124,200,000,000

Therefore, there can be no question. Doors outnumber Wheels by an immense amount.