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Car



From Wikipedia, the free encyclopedia

For other types of motorized vehicles, see [Motor vehicle](#). For the 2006 Pixar film, see [Cars \(film\)](#). For other uses, see [Car \(disambiguation\)](#) and [Automobile \(disambiguation\)](#).

A **car** (or **automobile**) is a wheeled [motor vehicle](#) used for [transportation](#). Most definitions of *car* say they run primarily on roads, seat one to eight people, have four [tires](#), and mainly transport people rather than goods.^{[2][3]}

Cars came into global use during the 20th century, and [developed economies](#) depend on them. The year 1886 is regarded as the birth year of the modern car when German inventor [Karl Benz](#) patented his [Benz Patent-Motorwagen](#). Cars became widely available in the early 20th century. One of the first cars accessible to the masses was the 1908 [Model T](#), an American car manufactured by the [Ford Motor Company](#). Cars were rapidly adopted in the US, where they replaced [animal-drawn carriages](#) and carts, but took much longer to be accepted in Western Europe and other parts of the world.

Cars have controls for driving, parking, passenger comfort, and a variety of lights. Over the decades, additional features and controls have been added to vehicles, making them progressively more complex. These include rear reversing cameras, [air conditioning](#), [navigation systems](#), and [in-car entertainment](#). Most cars in use in the 2010s are propelled by an [internal combustion engine](#), fueled by the [combustion](#) of [fossil fuels](#). [Electric cars](#), which were invented early in the [history of the car](#), began to become commercially available in 2008.

There are costs and benefits to car use. The costs to the individual include acquiring the vehicle, interest payments (if the car is financed), repairs and [maintenance](#), fuel, [depreciation](#), driving time, [parking fees](#), taxes, and insurance.^[4] The costs to society include [maintaining roads](#), [land use](#), [road congestion](#), [air pollution](#), [public health](#), health care, and

Car



Modern cars and [trucks](#) driving on an [expressway](#) in [Ontario](#), Canada

Classification	Vehicle
Industry	Various
Application	Transportation
Fuel source	Gasoline , diesel , natural gas , electric , hydrogen , solar , vegetable oil
Powered	Yes
Self-propelled	Yes
Wheels	3–4
Axles	2
Inventor	Karl Benz ^[1]

- Arpetan
- Asturiano
- Avañe'ẽ
- Azərbaycanca
- تۆرکجه
- বাংলা
- Bân-lâm-gú
- Башҡортса
- Беларуская
- Беларуская (тарашкевіца)
- भोजपुरी
- Български
- Boarisch
- Bosanski
- Brezhoneg
- Буряад
- Català
- Čeština
- Corsu
- Cymraeg
- Dansk
- Deutsch
- Deutsch
- Diné bizaad
- Eesti
- Ελληνικά
- Español
- Esperanto
- Euskara
- فارسی
- Fiji Hindi
- Føroyskt
- Français
- Frysk
- Gaeilge
- Gaelg
- Galego
- 贛語
- گیلیکی
- ગુજરાતી
- 客家語/Hak-kâ-ngî
- 한국어
- Hausa
- Հայերեն
- हिन्दी
- Hrvatski
- Ido
- Bahasa Indonesia
- Interlingua
- Interlingue
- Ирон
- Íslenska

disposing of the vehicle at the end of its life. Road traffic accidents are the largest cause of injury-related deaths worldwide.^[5]

The personal benefits include on-demand transportation, mobility, independence, and convenience.^[6] The societal benefits include economic benefits, such as job and wealth creation from the **automotive industry**, transportation provision, societal well-being from leisure and travel opportunities, and revenue generation from the **taxes**. People's ability to move flexibly from place to place has far-reaching implications for the nature of societies.^[7] There are around 1 billion cars in use worldwide. The numbers are increasing rapidly, especially in **China**, **India** and other **newly industrialized countries**.^[8]

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Etymology

The word *car* is believed to originate from the Latin word *carrus* or *carrum* ("wheeled vehicle"), or the **Middle English** word *carre* (meaning "two-wheel **cart**", from **Old North French**). In turn, these originated from the **Gaulish** word *karros* (a **Gallic chariot**).^{[9][10]} It originally referred to any wheeled **horse-drawn vehicle**, such as a cart, carriage, or wagon.^{[11][12]} "Motor car" is attested from 1895, and is the usual formal name for cars in **British English**.^[3] "Autocar" is a variant that is also attested from 1895, but that is now considered archaic. It literally means "self-propelled car".^[13] The term "**horseless carriage**" was used by some to refer to the first cars at the time that they were being built, and is attested from 1895.^[14]

- Italiano
- עברית
- Jawa
- Kabyɛ
- ಕನ್ನಡ
- ქართული
- Kaszëbsczi
- Қазақша
- Kiswahili
- Kongo
- Kreyòl ayisyen
- Кыргызча
- Ladino
- ລາວ
- Latina
- Latviešu
- Lëtzebuergesch
- Лезги
- Lietuvių
- Lingála
- Livvinkarjala
- Lumbaart
- Magyar
- Македонски
- Malagasy
- മലയാളം
- Malti
- Māori
- मराठी
- مصرى
- Bahasa Melayu
- Mìng-dĕng-ngṳ̂
- Монгол
- မြန်မာဘာသာ
- Dorerin Naoero
- Nederlands
- Nedersaksies
- Nēhiyawēwin / ᓂᐦᐃᓴᐦᐱᓂᐦ
- नेपाली
- नेपाल भाषा
- 日本語
- Нохчийн
- Nordfriisk
- Norsk
- Norsk nynorsk
- Nouormand
- Occitan
- O‘zbekcha/Ўзбекча
- ਪੰਜਾਬੀ
- پنجابی
- Patois
- Picard

The word "automobile" is a [classical compound](#) derived from the [Ancient Greek](#) word *autós* (αὐτός), meaning "self", and the [Latin](#) word *mobilis*, meaning "movable". It entered the [English language](#) from [French](#), and was first adopted by the [Automobile Club of Great Britain](#) in 1897.^[15] Over time, the word "automobile" fell out of favour in Britain, and was replaced by "motor car". "Automobile" remains chiefly North American, particularly as a formal or commercial term.^[16] An abbreviated form, "auto", was formerly a common way to refer to cars in English, but is now considered old-fashioned. The word is still very common as an adjective in American English, usually in compound formations like "auto industry" and "[auto mechanic](#)".^{[17][18]} In [Dutch](#) and [German](#), two languages historically related to English, the abbreviated form "auto" (Dutch) / "Auto" (German), as well as the formal full version "automobiel" (Dutch) / "Automobil" (German) are still used — in either the short form is the most regular word for "car".

History

Main article: [History of the automobile](#)

The first working steam-powered vehicle was designed — and quite possibly built — by [Ferdinand Verbiest](#), a [Flemish](#) member of a [Jesuit mission in China](#) around 1672. It was a 65-cm-long scale-model toy for the Chinese Emperor that was unable to carry a driver or a passenger.^{[6][19][20]} It is not known with certainty if Verbiest's model was successfully built or run.^[20]

[Nicolas-Joseph Cugnot](#) is widely credited with building the first full-scale, self-propelled mechanical vehicle or car in about 1769; he created a steam-powered tricycle.^[21] He also constructed two steam tractors for the French Army, one of which is preserved in the [French National Conservatory of Arts and Crafts](#).^[22] His inventions were, however, handicapped by problems with water supply and maintaining steam pressure.^[22] In 1801, [Richard Trevithick](#) built and demonstrated his [Puffing Devil](#) road locomotive, believed by many to be the first demonstration of a steam-powered road vehicle. It was unable to maintain sufficient steam pressure for long periods and was of little practical use.



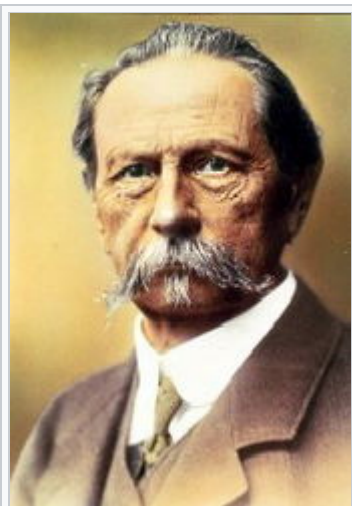
Cugnot's 1771 *fardier à vapeur*, as preserved at the [Musée des Arts et Métiers](#), Paris

The development of external combustion engines is detailed as part of the [history of the car](#) but often treated separately from the development of true cars. A variety of steam-powered road vehicles were used during the first part of the 19th century, including [steam cars](#), [steam buses](#), [phaetons](#), and [steam rollers](#). Sentiment against them led to the [Locomotive Acts](#) of 1865.

In 1807, [Nicéphore Niépce](#) and his brother Claude created what was probably the world's first [internal combustion engine](#) (which they called a [Pyréolophore](#)), but they chose to install it in a boat on the river [Saone](#) in France.^[23] Coincidentally, in 1807 the Swiss inventor [François Isaac de Rivaz](#) designed his own '[de Rivaz internal combustion engine](#)' and used it to develop the world's first vehicle to be powered by such an engine. The Niépces' *Pyréolophore* was fuelled by a mixture of [Lycopodium powder](#) (dried spores of the

Piemontèis
Polski
Повтиакá
Português
Qaraqalpaqsha
Română
Romani
Runa Simi
Русиньскый
Русский
Саха тыла
Scots
Seeltersk
Shqip
සිංහල
Simple English
سنڌي
Slovenčina
Slovenščina
Словѣньскъ /
ꙗꙁꙋкъ ꙗꙁꙋжєꙋ
Ślůnski
Soomaaliga
کوردی
Српски / srpski
Srpskohrvatski /
српскохрватски
Basa Sunda
Suomi
Svenska
Tagalog
தமிழ்
తెలుగు
ไทย
Тоҷикӣ
Tsetsêhestâhese
Türkçe
Тыва дыл
ತುಳುಗು
Українська
اردو
ئۇيغۇرچە / Uyghurche
Vahcuengh
Vèneto
Vepsän kel'
Tiếng Việt
Võro
Walon
文言
Winaray
吴语
粵語

Lycopodium plant), finely crushed coal dust and resin that were mixed with oil, whereas de Rivaz used a mixture of [hydrogen](#) and [oxygen](#).^[23] Neither design was very successful, as was the case with others, such as [Samuel Brown](#), [Samuel Morey](#), and [Etienne Lenoir](#) with his [hippomobile](#), who each produced vehicles (usually adapted carriages or carts) powered by internal combustion engines.^[1]



Karl Benz, the inventor of the modern car

In November 1881, French inventor [Gustave Trouvé](#) demonstrated the first working (three-wheeled) car powered by electricity at the [International Exposition of Electricity, Paris.](#)^[24]



Gustave Trouvé's tricycle, the first ever electric automobile to be shown in public

Although several other German engineers (including [Gottlieb Daimler](#), [Wilhelm Maybach](#), and [Siegfried Marcus](#)) were working on the problem at about

the same time, **Karl Benz** generally is acknowledged as the inventor of the modern car.^[1]


In 1879, Benz was granted a patent for his first engine, which had been designed in 1878. Many of his other inventions made the use of the internal combustion engine feasible for powering a vehicle. His first *Motorwagen* was built in 1885 in Mannheim, Germany. He was awarded the patent for its invention as of his application on 29 January 1886 (under the auspices of his major company, Benz & Cie., which was founded in 1883). Benz began promotion of the vehicle on 3 July 1886, and about 25 Benz vehicles were sold between 1888 and 1893, when his first four-wheeler was introduced along with a model intended for affordability. They also were powered with four-stroke engines of his own design. By 1893, Benz was already producing Benz engines under license, now sold as Daimler products. Because France was more open to the early automobile than Germany, Benz sold in France through Roger de la Plante. In 1888, Karl Benz, undertook the first road trip by car, to Pforzheim, with his wife and two children, in his husband's invention.



The original **Benz Patent-Motorwagen**, first built in 1885 and awarded the patent for the concept

In 1896, Benz designed and patented the first internal-combustion **flat engine**, called *boxermotor*. During the last years of the nineteenth century, Benz was the largest car company in the world with 572 units produced in 1899 and, because of its size, Benz & Cie., became a **joint-stock company**. The first motor car in central Europe and one of the first



[Bertha Benz](#), the first long distance driver 

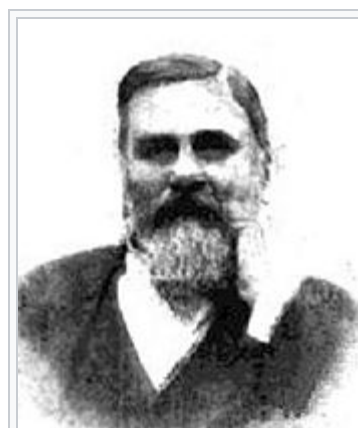
factory-made cars in the world, was produced by [Czech](#) company Nesselsdorfer Wagenbau (later renamed to [Tatra](#)) in 1897, the [Präsident](#) automobil.


Daimler and Maybach founded [Daimler Motoren Gesellschaft](#) (DMG) in [Cannstatt](#) in 1890, and sold their first car in 1892 under the brand name *Daimler*. It was a horse-drawn stagecoach built by another manufacturer, which they retrofitted with an engine of their design. By 1895 about 30 vehicles had been built by Daimler and Maybach, either at the Daimler works or in the Hotel Hermann, where they set up shop after disputes with their backers. Benz, Maybach and the Daimler team seem to have been unaware of each other's early work. They never worked together; by the time of the merger of the two companies, Daimler and Maybach

were no longer part of DMG. Daimler died in 1900 and later that year, Maybach designed an engine named *Daimler-Mercedes* that was placed in a specially ordered model built to specifications set by [Emil Jellinek](#). This was a production of a small number of vehicles for Jellinek to race and market in his country. Two years later, in 1902, a new model DMG car was produced and the model was named Mercedes after the Maybach engine, which generated 35 hp. Maybach quit DMG shortly thereafter and opened a business of his own. Rights to the *Daimler* brand name were sold to other manufacturers.

Karl Benz proposed co-operation between DMG and Benz & Cie. when economic conditions began to deteriorate in Germany following the [First World War](#), but the directors of DMG refused to consider it initially. Negotiations between the two companies resumed several years later when these conditions worsened and, in 1924 they signed an Agreement of Mutual Interest, valid until the year 2000. Both enterprises standardized design, production, purchasing, and sales and they advertised or marketed their car models jointly, although keeping their respective brands. On 28 June 1926, Benz & Cie. and DMG finally merged as the Daimler-Benz company, baptizing all of its cars Mercedes Benz, as a brand honoring the most important model of the DMG cars, the Maybach design later referred to as the 1902 Mercedes-35 hp, along with the Benz name. Karl Benz remained a member of the board of directors of Daimler-Benz until his death in 1929, and at times, his two sons also participated in the management of the company.

In 1890, [Émile Levassor](#) and [Armand Peugeot](#) of [France](#) began producing vehicles with Daimler engines, and so laid the foundation of the [automotive industry in France](#). In 1891, [Auguste Doriot](#) and his Peugeot colleague Louis Rigoulot completed the longest trip by a gasoline-powered vehicle when their self-designed and built Daimler powered [Peugeot Type 3](#) completed 2,100 km (1,300 miles) from [Valentigney](#) to Paris and Brest and back again. They were attached to the first [Paris–Brest–Paris](#) bicycle race, but finished 6 days after the winning cyclist, [Charles Terront](#).



Émile Levassor 

The first design for an American car with a gasoline internal combustion engine was made in 1877 by [George Selden](#) of [Rochester, New York](#). Selden applied for a patent for a car in 1879, but the patent application expired because the vehicle was never built. After a delay of sixteen years and a series of attachments to his application, on 5 November 1895, Selden was granted a United States patent ([U.S. Patent 549,160](#)^[25]) for a [two-stroke](#) car engine, [which hindered, more than encouraged](#), development of cars in the United States. His patent was challenged by [Henry Ford](#) and others, and overturned in 1911.



Armand Peugeot



In 1893, the first running, gasoline-powered [American car](#) was built and road-tested by the [Duryea brothers](#) of [Springfield, Massachusetts](#). The first public run of the [Duryea Motor Wagon](#) took place on 21 September 1893, on Taylor Street in [Metro Center](#) Springfield.^{[25][26]} The [Studebaker Automobile Company](#), subsidiary of a long-established wagon and coach manufacturer, started to build cars in 1897^[27]:p.66 and commenced sales of electric vehicles in 1902 and gasoline vehicles in 1904.^[28]

In Britain, there had been several attempts to build steam cars with varying degrees of success, with [Thomas Rickett](#) even attempting a production run in 1860.^[29] [Santler](#) from Malvern is recognized by the Veteran Car Club of Great Britain as having made the first gasoline-powered car in the country in 1894,^[30] followed by [Frederick William Lanchester](#) in 1895, but these were both one-offs.^[30] The first production vehicles in Great Britain came from the [Daimler Company](#), a company founded by [Harry J. Lawson](#) in 1896, after purchasing the right to use the name of the engines. Lawson's company made its first car in 1897, and they bore the name *Daimler*.^[30]

In 1892, German engineer [Rudolf Diesel](#) was granted a patent for a "New Rational Combustion Engine". In 1897, he built the first [diesel engine](#).^[1] Steam-, electric-, and gasoline-powered vehicles competed for decades, with gasoline internal combustion engines achieving dominance in the 1910s. Although various [pistonless rotary engine](#) designs have attempted to compete with the conventional [piston](#) and [crankshaft](#) design, only [Mazda's](#) version of the [Wankel engine](#) has had more than very limited success.

All in all, it is estimated that over 100,000 patents created the modern automobile and motorcycle.^[31]

Mass production

See also: [Automotive industry](#)

Large-scale, [production-line](#) manufacturing of affordable cars was started by [Ransom Olds](#) in 1901 at his [Oldsmobile](#) factory in [Lansing, Michigan](#) and based upon stationary [assembly line](#) techniques pioneered by [Marc Isambard Brunel](#) at the [Portsmouth Block Mills](#), England, in 1802. The assembly line style of mass production and interchangeable parts had been pioneered in the U.S. by [Thomas Blanchard](#) in 1821, at the [Springfield Armory](#) in [Springfield, Massachusetts](#).^[32] This concept was greatly expanded by [Henry Ford](#), beginning in 1913